1. AGRICULTURE

1. Introduction

Fostering sustainable agriculture and rural development remain the key national priorities. Agriculture is the key to economic development and poverty alleviation in rural areas. It is the largest private enterprise operated in the state mainly with small-scale investments by the rural masses. The social harmony will suffer serious setback if the food security is not achieved. Though the industries play a pivotal role in the growth of a nation, agriculture continues to play a supportive role to these industries due to the powerful boost given to this sector.

Given the importance of Agriculture in the income of the poor, growth in Agriculture output plays a significant role in reducing the rural poverty of small producers, specifically small and marginal farmers and earn higher real wages for agricultural labourers through higher farm yields.

As Agricultural development increasingly becomes technology propelled, the relative importance of introducing various innovative technologies for achieving higher production and productivity increases. The Government will implement various schemes to increase the food grain production and place agriculture on a high growth trajectory benefitting small and marginal farmers, SC and ST farmers. The State Government has also planned to give more emphasis on rainfed agriculture by adopting various water conservation methods like micro irrigation , creation of farm ponds, etc.

2. Second Green Revolution

By adopting frontier agricultural technologies in a larger extent of various crops cultivated in Tamil Nadu and with complete involvement of farmers and extension officers of the Agriculture Department with due research support, the Government has planned to take up several measures to achieve '**SECOND GREEN REVOLUTION**' which will be a mission of the people.

The major strategies to spur **SECOND GREEN REVOLUTION** will be:

- Crop Specific Strategies and marketing (Production led to market led)
- Adoption of Precision farming and Micro-irrigation for efficient utilization of irrigation water
- Shift in the cropping pattern towards high value crops
- Augmenting timely supply of quality inputs to targeted farmers
- Adopting Extension with renewed vigour
- Capacity building on adoption of technologies

2.1. Crop Specific Strategies and Marketing

- **System of Rice Intensification (SRI) –** To increase the production of rice substantially by promoting SRI in a larger extent and adopting specific technologies over a period of five years.
- **Pulses Procurement Policy -** To meet the protein requirement of people of Tamil Nadu and with an aim of cultivating pulses in an increased area and to get more yield by adopting innovative technologies, a pulses procurement policy (as that of Paddy procurement) through Government Agencies will be evolved.
- **Implementing Sustainable Sugarcane Initiatives** comprising innovative technologies like Precision farming for increasing the production and productivity of sugarcane by bringing 1 lakh ha. under Micro Irrigation in five years period.
- **Augmenting Cotton Production** - To increase the production and productivity of cotton, preference will be given to distribute quality seeds, adoption of precision farming and integrated plant protection measures.
- **Strengthening Market led Agriculture** – Establishment of appropriate godown and marketing facilities to enrich the marketing knowledge of the farmers.

2.2. Adoption of Precision Farming and Micro-Irrigation for effective Utilization of Irrigation Water

Judicious and efficient use of water, deft handling of inputs by reducing the usage of irrigation water will help in enhancing the productivity by a minimum of 50 percent. Further it will help in reducing the cost of cultivation including labour besides increasing fertilizer and water use efficiency. This practice will be popularized for wider adoption.

2.3. Shift in the Cropping Pattern towards high value crops

Cultivation of commercial crops like Cotton, Maize, Sugarcane, Horticulture and Medicinal crops will fetch higher income to the farmers in comparison to cultivating low value crops without affecting the food grain production. Technical guidance, financial support and marketing facilities will be extended to bring more area towards achieving the goal.

2.4. Supply of Quality Inputs

To increase the production of crops, adequate quantity of quality inputs will be made available in time through Government, Quasi Government and Private sale outlets. Government will take efforts for creating additional capacity with modern machineries and strengthening the existing seed processing units. The supply of quality inputs

is ensured by the quality control wing of the Department of Agriculture and Seed Certification Department.

2.5. Extension

The requirement of Agricultural inputs by the farmers will be assessed by conduct of meetings at village Panchayat level and bottom up planning will be given top priority so as to meet the local needs effectively. The Agricultural Extension service of the Department will be given much importance to disseminate and ensure full adoption of technologies.

2.6. Capacity Building

Conduct of seasonal training to extension officials by the experts and pre-season campaigns to farmers by extension officials and exposure visits to States to learn new technology will be accorded due priority to cope up with current requirements in Agriculture.

3. Season

3.1. Rainfall

The season wise rainfall received during 2009 & 2010 is as follows:-

(in mm)

Season	Normal Rainfall	Actual Rainfall		Deviation % w.r.to normal	
		2009	2010	2009	2010
Winter Season (Jan. – Feb.)	36.8	7.8	11.5	(-)79.0	(-)68.7
Summer season (March- May)	129.7	129.2	126.7	(-) 0.4	(-) 2.3
South West Monsoon (June – Sept.)	332.8	315.3	383.7	(-)5.3	(+)15.3
North east Monsoon (Oct. – Dec.)	431.4	482.6	605.2	(+) 11.9	(+)40.3
Total	**930.7**	**934.9**	**1127.1**	**(+)0.5**	**(+)21.1**

Rainfall 2011 (in mm)

Season	Normal Rainfall	Actual Rainfall	Deviation (%)
Winter Season (Jan. – Feb.)	36.8	34.7	(-) 5.7
Summer season (March- May)	129.7	140.0	(+)7.9
South West Monsoon (June–Sept.) (Upto 03.08.2011)	121.3	99.9	(-) 18.0

During 2010-2011, the delayed opening of Mettur Dam on 28th July instead of the scheduled date of 12th June due to insufficient storage in dam resulted in shortfall of Kuruvai paddy cultivation area.

During the current year, the water storage in Mettur Reservoir is quite comfortable. Hence the Government ordered to open the Mettur dam on 06th June,2011, as against the scheduled date of 12th June, which is first time in the history since Independence. This decision of the present Government has enthused the delta farmers in taking up Kuruvai cultivation well in advance as the crop will have fair chance of escaping from North East Monsoon rain during the harvest period and the crop will be harvested well in time to take up Thaladi cultivation in the same area.

3.2. Crop damage due to North East Monsoon rains during 2010-2011

Though the rains were initially favourable for Rabi crops, heavy and scattered rainfall during third and fourth week of November, 2010 resulted in crop inundation in 26 districts. The low depressions formed at frequent intervals wrecked havoc in all the coastal districts of

Tamil Nadu. Due to this, the Samba Paddy crop raised during August, 2010 was severely affected and the yield loss was more than 50% in most of the districts especially in Cauvery delta regions. Other major crops such as Millets, Pulses, Oilseeds, Cotton and Sugarcane were also affected.

4. Area and Production during 2010-2011 and Programme for 2011-12

The estimates for Area & Production during 2010-2011 are as follows:-

Crop	Area (L.Ha.)		Production (L.MT)	
	Target	**Achmt.**	**Target**	**Achmt.**
Rice	21.50	20.16	81.50	62.53
Millets	12.00	8.00	23.00	19.15
Pulses	12.00	8.32	7.50	3.67
Total food grains	**45.50**	**36.48**	**112.00**	**85.35**
Oilseeds	10.00	5.35	18.00	11.30
Cotton (L.Bales)	1.50	1.21	4.00	2.46
Sugarcane	3.50	3.36	472.50	346.28
Total	**60.50**	**46.40**		

Area and Production Programme for 2011-2012

Crop	Area (L.Ha.)	Production (L.MT)
Rice	22.00	85.50
Millets	10.00	23.50
Pulses	10.00	6.00
Total foodgrains	**42.00**	**115.00**
Oilseeds	6.50	14.62
Cotton (L.Bales)	1.50	4.00
Sugarcane	3.50	472.50
Total	**53.50**	

4.1. Strategies to attain the targeted production during 2011-2012

With the objectives of doubling the income of about 75 lakh small and marginal farmers in 5 years, it is proposed to increase the productivity by 50% and above, increase the cropping intensity , increase the irrigation intensity and bring fallow land under cultivation. The Government has taken initiatives to ensure scheme benefits to reach the farmers directly in a transparent manner. As a first step, to ensure sustainable agricultural production, the Department of Agriculture has envisaged farm level interventions through **"Farm level planning"** for 2011-2012, 2012-2013 & 2013-2014.

The following are the thrust areas for assured development in Agriculture

1) **Soil Health Care**
2) **Water Management**
3) **Augmenting Crop Production**
   a. Quality Inputs supply
   b. Increasing productivity
   c. Increasing the use of Machineries in Agriculture
   d. Technical advisories at a faster pace
4) **Strengthening Agricultural Extension to make effective information delivery**
5) **Risk Mitigation**

4.1.1. Soil Health Care

Intensive cropping, indiscriminate use of fertilizers and insufficient usage of organic resources resulted in the deterioration of physical, chemical and biological health of soil. Appropriate soil management technologies to improve the soil health to increase crop yields are;

- ❖ Ensuring balanced fertilizer application through distribution of Soil Health Cards.

- ❖ Emphasizing and encouraging Organic farming.
- ❖ Reclamation of saline and alkaline soils
- ❖ Correcting Micro Nutrient deficiencies

4.1.2. Water Management

In Tamil Nadu, water, a scarce resource for agricultural operations affects Agricultural production to a greater extent. To ensure "more crop per drop of water", special emphasis will be given for the cultivation of ***high value – less water intensive crops*** for effective land use system. To improve the water use efficiency and to enhance the productivity, the following scientific approaches are promoted.

- ❖ Promotion of crop diversification
- ❖ Augmenting adoption of Integrated Farming System
- ❖ Expansion of SRI technology to a larger extent.
- ❖ Promoting Precision farming
- ❖ Adoption of Micro Irrigation
- ❖ Improving the water holding capacity of the sub-basins and bringing more cropped area under irrigated condition.
- ❖ Construction of water harvesting structures such as farm ponds, check dams, percolation ponds besides de-silting of tanks and ponds to create more water resources.
- ❖ Rain water harvesting for recharging ground water

4.1.3. Augmenting Crop Production

Due to burgeoning population and industrialization, there is increased pressure on land for various uses resulting in reduction in area under cultivation. To stabilize the area under cultivation and to bridge the productivity gap, slew of measures are being taken by the Government.

4.1.3.1. Quality inputs.

Efforts will be taken to make available prime inputs like seeds, fertilizers, micro nutrients, biofertilizers, Plant Protection chemicals, credit, etc., to the farmers at vantage points to enable them to take up various cultivation activities in the appropriate seasons without hassles.

- ❖ Supply of region specific varietal seeds
- ❖ Ensuring adequate stocking and timely supply of quality seeds to farmers
- ❖ Sensitizing the farmers on production and usage of certified seeds.
- ❖ Encouraging the private entrepreneurs in quality seed production.
- ❖ Involving farmers, women self help groups and NGOs in seed processing activities
- ❖ Improving the infrastructure facilities for seed production, processing and storage
- ❖ Enhancing Seed Replacement Rate
- ❖ Ensuring availability of quality fertilizers and pesticides to farmers besides creating awareness on judicious use of inputs.
- ❖ Promoting usage of bio-fertilizers and micro nutrients
- ❖ Providing sufficient credit in time.

4.1.3.2. Increasing Productivity

- ❖ **Expansion of Area under foodgrains**
  - o Adoption of two pronged approach in districts having larger extent but lesser productivity and districts having higher productivity and lesser extent.

- Identification of constraints and formulation of zonewise / region specific strategies and production technologies.
- Programme to increase the area under paddy from 21.50 L.ha. to 22.00 L.ha so as to increase the area sown more than once.
- Extending the System of Rice Intensification technology from 8.50 L.ha. to 9.00 lakh hectares.
- Promoting pulses as pure crop by identifying additional areas in potential districts.
- Nutritional Security through Nutri Cereals Promotion Programme.

❖ **Increasing the area under irrigation**

- Encouraging Precision farming and fertigation in cotton, maize, oilseeds and sugarcane to cover more area and production improvement besides better quality of agricultural produce.
- Expanding the area under Micro Irrigation to conserve water by providing Micro irrigation equipments at subsidized cost.
- Identification of current fallows and motivating farmers to cultivate less water intensive and more remunerative crops.

4.1.3.3. Mechanization

To ensure timely and efficient farm operations without missing the season, increased usage of machineries for agricultural operations is inevitable.

❖ Distribution of farm machineries such as paddy transplanter, rotavator, power weeder, lazer land leveller, power tiller, combined harvester, weeder, marker, etc., at subsidized rates to minimize drudgery.

❖ Hiring tray nursery, tractor, rotavator, power tiller, lazer land leveller, harvester at Government fixed nominal rate.

❖ Training on operation and repairing of agricultural machineries and implements.

4.1.3.4. Technical guidance

❖ Conduct of demonstrations at large scale and method demonstrations on
- System of Rice Intensification technology
- Hybrid rice, Pulses (pure crop), Millets, Oilseeds cultivation
- Application of Micro Nutrients in oilseeds
- Organic Farming

❖ Training to farmers on
- Seed Production Technology
- Water Management
- Integrated Nutrient Management
- Integrated Pest Management, Farmers Field Schools
- Precision Farming
- Crop diversification

4.1.4. Strengthening Extension for effective delivery

❖ **Extension**
- Single window system to provide quality inputs, best services, information, transfer of technology to farmers in time at block level, by integration of all sister departments and synergising the activities of Agriculture and allied departments to improve the status of farmers.
- Implementing Agricultural Technology Management Agency (ATMA) to
  - Encourage a new approach in transfer of technologies by providing vital link between the extension functionaries and farmers at village level

- promote group based approach
- involve farmers in planning and execution of schemes to suit their needs
- encourage public private partnership
- provide man power and technical support at various levels
- recruit Farmer's Friend to mobilize Farmer's Groups and facilitate dissemination of information to farming community.

❖ **Extensive Use of Information and Communication Technology**

➢ Providing hand held Personal Digital Assistants (PDA) to extension functionaries on pilot basis to
  - implement farm level interventions thereby bridging the yield gap
  - enable them to plan farm level activities in advance
  - ensure availability of inputs in time
  - record bio-metric observations of the crops
  - identify and control out-break of pests and diseases
  - implement improved cultivation technologies and
  - develop a frame work required for individual based crop insurance settlement

➢ Provision of Touch Screen Kiosks at sub-block level on pilot basis to empower the farmers to have an access to
  - farm level plan
  - availability of inputs
  - information about various schemes of the department

  - medium range weather forecast
  - information on market intelligence and
  - connectivity with the department and scientists

❖ Facilitating technology transfer, quality inputs distribution and testing of soil samples through Agri clinics established at block level.

❖ Forecasting for timely planning of farm operations through Automatic Weather Stations.

❖ Training on innovative technologies for involving Farmers Interest Groups, Farm Women Groups and NGOs in extension.

4.1.5. Risk Mitigation

❖ Providing insurance coverage and financial support to protect the livelihood of the farmers in the event of crop failure due to natural calamities and crop damages due to pest and diseases besides protecting their interest in Agriculture.

❖ Encouraging farmers to challenge risks in agriculture for adopting scientific cultivation technologies & practices and usage of high value inputs.

5. Schemes

With an objective to provide food and nutritional security to the growing population , Government is planning and implementing various schemes to enhance the productivity of agricultural crops, increase the income of the farmers, increase the production of raw materials required for industries and remove regional imbalances in farm productivity by adopting location specific strategies and make agriculture a profitable venture.

Government has envisaged four types of plan schemes taking cognizance of the welfare of the farming community.

- State Schemes
- Centre-State Shared Schemes
- Centrally Sponsored Schemes
- Externally Aided Projects

5.1. State Schemes

Government of Tamil Nadu is implementing various schemes with an aim to uplift the status of farmers and sustain their livelihood. The schemes are fully sponsored by the State Government and the main focus is on soil health management, procurement and distribution of quality seeds, plant protection, crop insurance, crop yield competition, etc., to increase the area and productivity.

5.1.1. Soil survey and land use organization

The detailed soil survey is conducted through four Soil Survey Units at Coimbatore, Thanjavur, Vellore and Tirunelveli and inventory on soil resources including nature of soils is prepared. The morphological, physical and chemical characteristics of the soils are assessed through field studies, laboratory analysis and soils are classified according to internationally recognized system. The extent of soil is mapped on standard topographic base maps and finally interpreted for various uses. The Detailed Soil Survey will be conducted in an area of 0.99 Lakh ha. during 2011-2012.

5.1.2. Reclamation of saline and alkaline lands

This scheme is implemented to reclaim problematic soils in an area of 1600 hectares at 200 hectares per district in Nagapattinam, Tiruvarur, Kancheepuram, Thiruvallur,

Vellore, Tiruvannamalai, Salem and Namakkal districts. This scheme will be continued during 2011-2012.

5.1.3. Soil Health

To ensure need based Macro and Micro Nutrient application, Soil Health Cards are distributed to all farm holdings in Tamil Nadu. The Central Control Laboratory is the Apex Organization located at Kudumianmalai, which provides technical competence through training to the laboratory personnel and ensures the precision and accuracy of analysis in the laboratories. 30 Soil Testing Laboratories and 16 Mobile Soil Testing Laboratories are functioning in the state with total annual analytical capacity of 11.33 lakh Nos. of soil samples. The farmers have also been provided access to test the soil samples at the block level through Agri clinic, besides quality input distribution and providing technical assistance. About 31.93 lakh Soil Health Cards have been distributed so far, against 81.93 lakh farm holdings. The scheme will be continued in 2011-2012.

5.1.4. Organic Farming

The organic matter content in the soil has gone down from 1.20% in 1971 to 0.68% in 2008 in Tamil Nadu due to intensive cropping, indiscriminate use of chemical fertilizers and inadequate availability of organic manures. The decline in organic matter content has brought undesirable changes in soil which affects soil fertility and productivity. Therefore Government is promoting balanced use of organic and inorganic fertilizers in the cropping system. In order to increase the productivity, Composting of Farm Wastes using Pleurotus, Vermicomposting, application of Bio-fertilizers, Green Manures are being popularized during 2011-2012 to motivate the farmers in a massive scale.

- To produce **compost from farm waste using Pleurotus,** every year kits containing 1 Kg of Pleurotus, 5 Kg of Urea with Pamphlet are distributed to the farmers at free of cost. The demonstrations will be conducted at 5000 locations at a cost of ` 7 lakhs.

- To encourage the farmers to produce the required organic manure in their own lands, efforts will be taken to implement the scheme **Vermicomposting of agricultural waste** wherein 300 demonstrations and training to benefit 15000 farmers will be conducted at a cost of ` 11.55 lakhs.

- **Bio-fertilizer**, an important component in Integrated Nutrient Management, is an eco friendly and cost effective input produced in six Bio-fertilizer Production Units functioning at Cuddalore, Ramanathapuram, Salem, Kudumianmalai, Sakkottai and Tiruchirapalli with an annual production capacity of 1600 MT (80 lakh packets of 200 gm each). The quality of bio-fertilizers produced in these six units is monitored through Bio-fertilizer quality control laboratory functioning at Tiruchirapalli. It is programmed to produce and supply 3850 MT (192.50 lakh packets) through nine more Bio Fertilizer Production Units that have been established at Kattankulathur (Kancheepuram), Polur (Tiruvannamalai), Palacode, (Dharmapuri), Avinasi (Tiruppur), Bhavani(Erode), Needamangalam (Tiruvarur), Uthamapalayam (Theni), Tenkasi (Tirunelveli) and Thoothukudi (Thoothukudi)

- **The Blue Green Algae and Azolla** fix atmospheric Nitrogen and make it available to the rice crop. It has been programmed to produce 525 MT of Blue Green Algae and 500 MT of Azolla.

- **Green manure crops** like Sunhemp, Daincha, Kolinji and Sesbania are capable of fixing atmospheric nitrogen and improve the soil health. Daincha and Kolinji are also capable of removing salinity and acidity of the soil. To encourage the usage of Green Manures, annually 250 MT of green manure seeds are procured and distributed at a total cost of ` 50 lakhs with 25% subsidy.

5.1.5. Macro Nutrients

Inorganic fertilizer, one of the integral components of Integrated Nutrient Management, when applied based on soil fertility and requirement of the crops ensures increased productivity. For this purpose, based on the seasonal crop coverage, district wise, season wise and month wise fertilizer requirements are arrived. Government is taking concerted efforts for allocation of fertilizers from Government of India and a supply plan is prepared to ensure adequate availability of fertilizers in time through fertilizer firms.

Fertilizer distribution during 2010-2011 and requirement for 2011-2012 are furnished below:-

(L.MT)

Fertilizer	Distribution 2010-2011	Requirement 2011-2012
Urea	10.15	11.12
MOP	4.72	4.80
DAP	3.15	3.66
Complex	6.53	6.52

Anticipating short supply of DAP, this Government soon after assuming the charge has taken action well in advance to make it available as per requirement.

5.1.5.1 Quality Control

Fertilizer Control Order, 1985 is enforced to ensure distribution of quality fertilizers and legal action is taken against the distributors who sell spurious fertilizers. 14 notified Fertilizer Control Laboratories are functioning in the State with annual analyzing capacity of 17,500 samples. During 2010-2011, 18,011 samples have been tested in which 702 samples were found non-standard and suitable departmental and legal action taken up against the defaulters. This programme will be continued in 2011-2012.

5.1.6. Micro Nutrients

The Micro Nutrient deficiency in the soil is analysed using Atomic Absorption Spectro Photometer installed in 19 Soil Testing Laboratories and 9 Mobile Soil Testing Laboratories. Annually 1400 MT of 14 types of notified Micro Nutrient Mixtures are produced at Micro Nutrient Mixture Production Centre, Kudumianmalai, tested for quality at six Fertilizer Control Laboratories and are distributed to the farmers through the Agricultural Extension Centres. It is programmed to produce and distribute 1400 MT of Micro Nutrient Mixtures during 2011-2012 for the benefit of farming community.

5.1.7. Seeds

It is imperative that region / location specific quality seeds, with high yielding potential suitable for different seasons, are to be made available to the farmers at affordable price adequately.

The recommended Seed Replacement Rate is 33% for self pollinated crops such as Paddy, Ragi, Pulses and Groundnut, 50% for cross pollinated crops such as Cholam, Cumbu and Cotton and 100% for hybrids.

The SRR for paddy, millets and cotton are achieved without any shortfall, except for pulses and oilseeds. Hence necessary thrust is given to increase SRR for pulses and oilseeds by increasing the area under seed farms, enhancing production and distribution of quality seeds through various subsidy schemes involving private seed producers, farm women groups and NGOs. Albeit, the private seed producers are producing low volume, high value hybrid seeds of Maize, Sunflower and Cotton in larger quantities and distribute through 5313 private seed sale outlets. The seed quality is ensured by the Department of Seed Certification at various stages.

During 2011-2012, it is programmed to distribute 18,000 MT of paddy seeds, 450 MT of millet seeds, 4,500 MT of pulses seeds, 6,376 MT of oilseeds and 100 MT of cotton seeds through the Agricultural Extension Centres. The breeder seeds are obtained from Tamil Nadu Agricultural University and Indian Council for Agricultural Research and multiplied as foundation seeds through 41 State Seed Farms. These foundation seeds are further multiplied as certified seeds in the seed farms of selected progressive farmers.

The seeds thus produced are processed in the 16 major, 2 medium and 63 mini Seed Processing Units with an annual processing capacity of 29,600 MT. In order to strengthen the seed distribution, Government is encouraging private seed agencies. So far, 83 private Seed Processing Units have been established each with an annual capacity of 1000 MT.

The details of quality seed distribution and the seed replacement rate programmed for 2011-2012 are as follows:-

Crop	Seed distribution Plan for 2011-2012 (in Metric tonnes)			
	Total Require-ment	Department Certified Seeds	Private Certified / Truthfully labeled Seeds	Seed Replacement Rate
Paddy	110000	18000	57250	68
Millets	12153	450	6243	55
Pulses	24000	4500	300	20
Oilseeds	80612	6376	5716	15
Cotton	555	100	455	100

5.1.8. Plant Protection

5.1.8.1. Pest / Disease Surveillance

The occurrence of pest and diseases is intensively monitored by conducting roving survey and fixed plot surveys at weekly intervals besides forewarning on pest and diseases attack and need based control measures are recommended to the farmers through radio, television and other local media. Awareness training on Integrated Pest Management imparted to farmers from seed to harvest to encourage the use of bio pesticides and bio control agents instead of chemical pesticides. Also, seed treatment is popularized among farmers to prevent the incidence of seed borne disease at the early stage of the crops. Thus forewarning and Integrated Pest Management helps to reduce the cost of cultivation of crops besides preventing environmental pollution and pesticide residues in agricultural produce due to indiscriminate use of pesticides.

5.1.8.2. Integrated Pest Management

Farmers' Field Schools are exclusively conducted to inculcate on incidence of pests and diseases during different stages of crop from sowing to storage. In this training, farmers are educated on nature of pests / diseases, symptoms of attack, natural defenders, weather parameters, etc. Effective implementation of this programme has helped to reduce the consumption of technical grade pesticides from 10926 MT in 1984-1985 to 2360 MT in 2010-2011, thus preventing pest resurgence and reducing the ill effects of pesticide residues in crops. This scheme will be continued in 2011-2012.

5.1.8.3. Production of Bio-control agents and Bio fungicides in Bio-control Labs and Integrated Pest Management Centres.

Increasing demand for organic produce and high returns made the farmers lean towards organic farming in which the usage of Bio-fungicides and Bio-control agents are essential. Hence, to ensure adequate availability of bio-control inputs, Government has established 10 Bio-control labs and 2 Integrated Pest Management Centres for production and distribution to the farmers at subsidized cost through Agriculture Extension Centres.

Trichogramma chilonis, an egg parasitoid to control Sugarcane Internode borer is reared in 21 centres. During 2011-2012, the egg parasitoid will be released in an area of 11000 ha. of Sugarcane Crop.

Bethylid, Braconid and Eulophid parasites of Coconut Crop are reared in 20 centres. During 2011-2012, these parasites are to be released in an area of 10500 ha of Coconut.

To control coconut Rhinoceros beetle, 2 bio-centres are producing Green Muscardine fungus, 4 centres are producing NPV to control Groundnut Red hairy caterpillar,

Prodenia and cotton boll worm. Further, 12 centres are producing Bio pesticides, Pseudomonas, Trichoderma viridi to control diseases in cotton, pulses and paddy.

5.1.8.4. Pesticide Testing Laboratories

Quality Plant Protection Chemicals are manufactured through 138 Pesticide Manufacturing Units and distributed to the farmers through 12,936 private sale outlets. Insecticide Act 1968 and Insecticide Rules 1971 are enforced to ensure supply of quality Plant Protection chemicals to the farmers. The pesticide samples drawn from the manufacturing units and private sale outlets are analysed in the 15 notified Pesticide Testing Laboratories functioning at Kancheepuram, Cuddalore, Salem, Coimbatore, Erode, Thanjavur, Tiruchirapalli, Madurai, Thoothukudi, Vellore, Dharmapuri, Nagapattinam, Theni, Sivagangai and Tirunelveli districts with the total annual analysing capacity of 21850 samples.

It is programmed to analyse 21850 pesticide samples during 2011-2012.

5.1.9. Strengthening Extension for Effective Delivery

- Inputs and integrated extension services are provided in time to facilitate the farmers to avail the benefits of all the schemes implemented by Departments of Agriculture, Horticulture and Plantation crops, Agricultural Marketing and Agri Business, Seed Certification and Organic Certification.
- Inputs such as quality seeds, Micro Nutrients, bio fertilizers etc. are distributed through 379 Main Agricultural Extension Centres and 506 Sub-Agricultural Extension Centres of this Department.
- Information on availability of inputs required for speedy implementation of schemes is provided to the farmers

through Computers installed at all Agricultural Extension Centres.

- Automatic Weather Stations established in 224 blocks and linked with Tamil Nadu Agricultural University website, provide medium range weather forecast to carry out agriculture related activities by the farmers in time.
- Farmers Training Centres and State Agricultural Extension Management Institute conduct trainings to the farmers, Farm Women Groups and Farmers Interest Groups.
- Scientific workers conference organized at State level every year provides solutions to agriculture related problems.
- Monthly zonal workshops conducted in co-ordination with University scientists at district level find solutions for the field level problems encountered by the extension workers and also finalize the agricultural activities to be carried out for succeeding month.

5.1.9.1. Farmers Training Centre

Village based training, Convenors training, Method demonstration and sensitization trainings are conducted through 22 Farmers Training Centres functioning in the State. These centres impart training on management practices and technologies such as Quality Seed Production, Crop diversification, Precision Farming, Integrated Pest and Disease Management, Integrated Nutrient Management, System of Rice Intensification, value addition etc.

5.1.9.2. Water Management Training Centre

The Water Management Training Centre at Vinayagapuram, Madurai district functioning from 1985, imparts integrated training programmes to field functionaries and farmers on irrigation technologies to increase the crop production efficiency.

5.1.9.3. State Agricultural Extension Management Institute (STAMIN)

This pioneer training institute in Tamilnadu functioning since 1975 at Kudumianmalai in Pudukottai district conducts training on office administration, office management cum computer training to the extension officers and officers of non-governmental organizations. The technical competence and management capacity of the officers are being ensured through these trainings. The details of training to be given in 2011-2012 are furnished below.

Sl. No	Details of training	No. of officers to be trained
1	Office Management training	150
2	Computer training	24
	Total	**174**
	Finance (Rupees in lakhs)	**1.496**

5.1.10. Crop Yield Competition

With an objective to motivate the farmers to adopt best cultivation practices to obtain the highest productivity and production in crops such as Paddy, Groundnut, Cholam, Cumbu, Maize, Greengram and Blackgram, crop yield competitions at State and District levels are conducted every year.

An enrolment fee of `100/- for Paddy and Groundnut and ` 50/- for other crops for State Level entry and ` 50/- for

Paddy and Groundnut and ` 25/- for other crops for district level entry is collected. The following prize amount is awarded to the farmers who get the highest productivity at State and District levels.

(in Rs)

Crop	State Level		District Level	
	1st Prize	2nd Prize	1st Prize	2nd Prize
Paddy and Groundnut	25000	15000	15000	10000
Other crops	15000	10000	10000	5000

The scheme will be continued during 2011-2012.

5.2. CENTRE - STATE SHARED SCHEMES

5.2.1. Integrated Scheme for Oilseeds, Pulses, Oilpalm and Maize (ISOPOM)

This scheme is implemented from 2004-2005 with an objective to increase the productivity of Oilseeds, Pulses, Oilpalm and Maize by formulating region specific strategies. The expenditure is shared between Government of India and State on 75:25 basis. From 2010-2011, the scheme for pulses was integrated with NFSM pulses and ISOPOM scheme is implemented only for Oilseeds, Oilpalm and Maize.

5.2.1.1. Oil Seeds

The demand for oilseeds is steadily increasing due to increased consumption. There is an urgent need to increase the productivity of oilseeds crops to meet the demand. Hence activities like production of Foundation and Certified seeds, distribution of certified seeds, demonstration in Groundnut, Gingelly, Sunflower crops, demonstration on

IPM, distribution of Gypsum, Bio-fertilizers, weedicides, Bio-pesticides, Nuclear Polyhedrosis virus, Hand and Power operated Sprayers, and pipelines to supply water from source to field are carried out besides training farmers on latest technologies.

5.2.1.2. Oilpalm

Oilpalm cultivation fetches high income to the farmers besides meeting out the domestic requirement of cooking oil. With an objective to increase the oil production through expansion of area under Oilpalm cultivation, this scheme is under implementation in 11 districts. M/s. Cauvery Oil Palm Ltd (Tiruchirapalli, Thanjavur, Tiruvarur, Nagapattinam, Karur, Perambalur, Cuddalore, Villupuram) M/s. Godrej Agrovet Ltd (Tirunelveli), M/s. Vaidegi properties private Ltd (Vellore) and M/s. Ruchi Soya industries Ltd (Theni), have signed Memorandum of Understanding with the Government to expand the area under Oilpalm, set up extraction units and also generate employment opportunities.

5.2.1.3. Maize

Maize constitutes 25% of human food. Due to increasing demand of maize grains for poultry (49%) and animal feed industries (12%), area under Maize is increasing. To increase the productivity of maize, components like production and distribution of certified seeds, demonstrations, Integrated Pest Management, training to farmers and distribution of pipelines to carry water from the source are being implemented under this scheme.

The financial allocation under ISOPOM during 2011-2012 is as follows:-

Crop	Approved Outlay (Rs. in lakhs)
Oilseeds	1615.030
Oilpalm	160.755
Maize	96.312
Total	**1872.097**

5.2.2. Technology Mission on Cotton – Mini Mission-II

Technology Mission on Cotton is being implemented from the year 2000-2001 with the financial assistance extended by the central and state Government in the ratio of 75:25 in all the districts of Tamil Nadu except Kancheepuram, Thiruvallur, Kanyakumari and The Nilgiris with the objectives to increase the production of cotton through distribution of quality inputs and conduct of training.

The scheme will be continued with an outlay of ` 61.50 lakhs during 2011-2012.

5.2.3. Macro Management Scheme for Agriculture

Macro Management of Agriculture is under implementation since 2000 and the expenditure is shared between Government of India and State Governments in the ratio of 90:10. This scheme is implemented with an aim to increase the yield and improve the economic status of farmers by formulating various schemes based on the States' needs.

5.2.3.1. Cereals Development Programme

This programme is implemented in all the districts except Chennai and Nilgiris, and NFSM – Rice operating districts of Pudukottai, Tiruvarur, Nagapattinam, Ramanathapuram and Sivagangai. It has been programmed

to distribute quality seeds to increase the rice production. This scheme will be implemented during 2011-2012 with an outlay of ` 657.50 lakhs.

5.2.4. Support to State Extension Programme for Extension Reforms (ATMA)

The purpose of Extension Reforms Scheme is to strengthen the existing extension system through a new institutional arrangement namely Agricultural Technology Management Agency (ATMA). The key concepts of the scheme is to decentralize the decision making to the district level, to increase the farmer input into programme planning and resource allocation, especially at block level and to increase accountability to stakeholders and converging the programmes of all line departments. It is operating on gap filling mode by formulating Strategic Research and Extension Plan (SREP) and Annual Work Plans. The other objectives of the scheme are encouraging Public Private Extension Services, ensuring an integrated, broad-based extension delivery mechanism consistent with farming system approach, adopting group approach for extension and addressing gender concerns by mobilizing farm women into groups and providing training to them.

Extension Reforms Scheme is being implemented since 2005-2006 and now it is operational in all the districts except The Nilgiris and Chennai covering 381 Blocks. The funding pattern is 90:10 sharing basis by Government of India and State Government. It is implemented in all the districts through TAWDEVA (Tamil Nadu Watershed Development Agency) which is the State Nodal agency. State Agricultural management Extension Training Institute (SAMETI) is catering to the training and HRD needs of extension functionaries.

At district level, Agricultural Technology Management Agency (ATMA), an autonomous institution is responsible for all the technology dissemination activities. It has linkages with all the line departments, research organizations, non-governmental organizations and agencies associated with agricultural development in the district. ATMA Governing Board (GB) under the chairmanship of district collector provides overall policy direction and ATMA Management Committee (MC) headed by Project Director will execute the implementation of the scheme. District Farmers Advisory Committee provides farmer's feedback for district level planning and implementation.

At block level, two bodies viz., Block Technology Team (BTT), a team comprising of block level officers of agriculture and all line departments and Block Farmers Advisory Committee (BFAC), a group exclusively of farmers of the block will execute the implementation of the scheme.

The revised scheme 2010 also provides specialist and functionary support to strengthen the extension system at different levels viz., State Coordinator and faculty and supporting staff for SAMETI at state level, Project Director, Deputy Project Directors and supporting staff for management of Agricultural Extension activities at the district level, Block Technology Manager and subject matter specialist at the block level to co-ordinate ATMA related activities and Farmer Friend at village level to facilitate dissemination of information to farmers.

ATMA is fulfilling the needs of training, demonstration, mobilizing farmers' interest group through capacity building and providing revolving fund for entrepreneurial activities, inter-State and inter-District

exposure visits besides giving awards to best performing farmer and farmer groups at block, district and state Level.

This scheme will be continued in 2011-2012.

5.2.5. Coconut Development Board Schemes

Coconut Development Board Schemes aim at improving productivity of coconut and also promoting coconut based industries in Tamil Nadu through area expansion and adoption of scientific technologies to sustain coconut farming. Keeping this in view, quality 'Tall x Dwarf ' and 'Dwarf X Tall' coconut seedlings are produced in the Navlock coconut nursery, Vellore district and distributed to the farmers besides carrying out activities such as strengthening of Regional Coconut Nurseries and conducting demonstrations to popularize scientific management techniques. The financial assistance for the above activities are equally shared both by central and state Government except for conduct of demonstrations, which is 100% fully funded by Coconut Development Board. Every year 3.50 lakh coconut seedlings are produced and distributed.

5.2.6. Agricultural Insurance

5.2.6.1. National Agricultural Insurance Scheme

National Agricultural Insurance Scheme is implemented in Tamil Nadu from Kharif 2000 onwards, to provide insurance coverage to the farmers for the notified crops, financial support to the farmers in the event of failure of crops as a result of natural calamities, encourage the farmers to adopt progressive farming practices and high value inputs and help them to stabilize their farm income, particularly in disaster years.

All food crops, oilseeds, cotton, sugarcane, annual / commercial crops are insured under the scheme. All loanee

farmers growing notified crops are enrolled compulsorily, while non-loanee farmers are enrolled on voluntary basis.

Farmers can insure the amount equivalent to the value of threshold yield of the crops insured. Farmers can insure their crop beyond the value of threshold yield level upto 150% of average yield of notified area on payment of premium at commercial rates.

The present premium subsidy pattern is as follows:-

(percentage)

Details of Beneficiaries		Government of India Subsidy	Government of Tamil Nadu subsidy	Total subsidy
Loanee farmers	Small & Marginal Farmers	5	45	50
	Other Farmers	--	50	50
Non-Loanee Farmers	Small & Marginal Farmers	5	50	55
	Other Farmers	--	50	50

The scheme is operated on the basis of " Area Approach" (i.e) defined areas for each notified crop for widespread calamities. The defined area for crops such as paddy, maize, cotton, sugarcane, groundnut, potato, chillies, onion, turmeric, etc., is at firka and for other crops is at block level.

This scheme will be continued during 2011-2012.

5.2.6.1.1. Compensation under National Agricultural Insurance Scheme

In the event of crop loss due to natural calamities, Agricultural Insurance Company pays compensation upto 100% for food and oilseed crops and 150% for annual and commercial crops, if the claim is less than the premium collected. If the claim exceeds the premium amount, then the amount is equally shared between Central and State Government.

5.2.6.2. Modified National Agricultural Insurance Scheme

Modified National Agricultural Insurance scheme will be implemented on pilot basis in the districts of Cuddalore, Sivagangai and Namakkal from Kharif 2011. The additional benefits under this scheme are as follows**:**

- Accuracy in crop loss
- Interim compensation to farmers
- Loss assessment based on weather and yield parameters
- Reducing the insurance unit from firka / block to village Panchayat level
- Indemnity also payable for standing crop (sowing to harvesting), prevented sowing and failed sowing/ planting risk, post harvest losses
- On account payment upto 25% of likely claim for immediate relief
- Calculation of threshold yield i.e., average yield of last 7 years excluding 2 years of declared natural calamities
- Minimum indemnity level of 70% instead of 60% as in NAIS.

5.2.6.3. Weather Based Crop Insurance Scheme

Weather Based Crop Insurance Scheme is implemented on pilot basis from Kharif 2008 onwards in 8 districts to mitigate the hardship of the insured farmers

against the likelihood of financial loss on account of anticipated crop loss due to adverse weather conditions. The critical stages of a crop such as sowing, vegetative, flowering and harvest stages are insured for weather parameters like excess / deficit rainfall, temperature, relative humidity, consecutive dry days, wind speed, etc.

During 2011–2012, the scheme will be continued in the districts of Theni, Tirunelveli, Tiruppur, Salem, Dharmapuri, Virudhunagar, Perambalur, Ariyalur, Villupuram, Dindigul and Coimbatore.

The scheme is applicable to both loanee and non-loanee farmers and all crops in the identified districts are insured under this scheme. This scheme is implemented by AIC, ICICI-Lombard GIC, IFFCO-TOKIO GIC, Cholamandalam GIC, HDFC Ergo GIC.

5.2.6.4. Coconut Palm Insurance Scheme

Coconut Palm Insurance Scheme is proposed to be implemented in 11 districts viz., Vellore, Krishnagiri, Salem, Erode, Coimbatore, Thanjavur, Theni, Dindigul, Tirupur, Tirunelveli and Kanyakumari during 2011-2012. The objectives are as follows:

- To provide insurance coverage to coconut palms against natural and other perils.
- To provide relief against income loss, minimize risks and encourage replanting
- Healthy nut bearing coconut palms grown as mono or intercrop, on bunds or homestead and all varieties of coconut (tall, dwarf and hybrids) are insured
- Tall varieties – eligible for coverage from 7 to 60 years
- Dwarf and Hybrids – eligible for coverage 4 to 60 years
- Individual farmers / growers cultivating atleast 10 healthy, nut bearing palms eligible for enrollment.
- 25% premium to be paid by the farmers.

Sum Insured and Premium

Coconut Palm age in years	Sum Insured Per Palm (Rs.)	Premium Per Palm Per Year (Rs.)
4 to 15	600	4.25
16 to 60	1150	5.75

The Subsidy pattern followed is as follows

Coconut Development Board (%)	State Govt. (%).	Farmer (%)
50	25	25

5.3. Centrally Sponsored Schemes

5.3.1 National Agricultural Development Programme (Rashtriya Krishi Vikas Yojana)

Agriculture is a holistic approach which includes Horticulture, Animal Husbandry, Dairy, Fisheries and also Minor Irrigation. To integrate the activities of these sectors, a special additional Central Assistance Scheme namely **National Agricultural Development Programme** is implemented with 100% Government of India assistance, wherein greater flexibility and autonomy are given to the states to develop and implement projects on the basis of priorities by formulating district and state agricultural plans to achieve 4% growth in Agriculture.

Objectives

- To increase public investment in agriculture
- To reduce yield gap in key crops through focused interventions
- To maximize returns to the farmers
- Bringing quantifiable changes in the production and productivity of agriculture and allied sectors.

Government of India has sanctioned ` 314.89 Crores to implement National Agricultural Development Programme in 2011-2012 for Agriculture and allied Departments.

The Schemes to be implemented by Agriculture Department during 2011-2012 are as follows.

Sl. No.	Projects proposed	Amount (Rs. in lakhs)
1	Precision farming in Agricultural crops	1043.00
2	DAP Foliar spray in Pulses	625.00
3	Intensification of Redgram cultivation through demonstration	524.00
4	Application of Gypsum to Groundnut	753.00
5	Development of infrastructure facilities in State Seed farms	500.00
6	Promoting SRI through Demonstration	3000.00
7	Application of Zinc Sulphate in rice growing areas	439.00
8	Farmers Hub/ Kisan Bhavan (Uzhavar Maiyam)	1500.00
9	Modernization of Micro Nutrient Mixture Unit at CCL, Kudumiyanmalai	60.00
10	Oilpalm Area Expansion	1171.40
11	Integrated Development of Pulses Villages	732.00
12	Initiatives for Nutritional security through Intensive Millets Promotion (INSIMP)	1051.00
13	Rainfed Area Development Programme	1385.03
14	Distribution of Power Rotary Weeder to Sugarcane growers	35.00
.15	Distribution of Maize Sheller	12.50
16	Distribution of Coconut seedlings	112.50
17	Reclamation of Saline and Alkaline soils	399.20
18	Construction of MN Mixture godown	130.00
19	Construction of Lignite storage godown for Bio-fertilizer Production units	300.00
20	TANWABE	157.50
	TOTAL	**13930.13**

5.3.2. National Food Security Mission

National Food Security Mission aims to ensure food and nutritional security for all. This scheme was introduced in the year 2007-2008 with an objective to increase the production and productivity of Rice and Pulses. Government of Tamil Nadu has adopted a two pronged approach wherein districts having larger extent but lesser productivity and districts having higher productivity and lesser extent have been selected for implementation of the scheme.

National Food Security Mission for Rice is implemented in 5 districts viz., Pudukottai, Tiruvarur, Nagapattinam, Ramanathapuram and Sivagangai, while it is implemented for pulses in all the districts (except Chennai and The Nilgiris).

Under National Food Security Mission – Rice, activities viz., demonstrations on SRI and Hybrid Rice Technology, subsidized distribution of quality seeds of High Yielding varieties & hybrids, distribution of seed minikits, micro nutrients, weeders / other implements, Plant Protection Chemicals and bio inputs, distribution of pumpsets, rotavators, sprayers, power weeders, lazer land leveller and power tiller at 50% subsidy and farmers training will be taken up at project cost of ` 2144.19 lakhs in 2011-2012.

Under National Food Security Mission – Pulses, activities such as production of Foundation Seed, production and distribution of Certified Seeds, distribution of Gypsum, Micro nutrient mixtures, Rhizobium, Plant Protection Chemicals, Plant Protection Equipments, Sprinklers, Rotavators, laser land levellers, pipes and power tillers are proposed to be distributed in 2011-2012 at an outlay of ` 1006.138 lakhs.

5.3.3. Accelerated Pulses Production Programme (A3P)

Accelerated Pulses Production Programme is implemented in Tamil Nadu to promote pulses as pure crop and increase the production and productivity of major pulses, blackgram & redgram with the objectives to:

- ✓ demonstrate plant nutrient and plant protection centric improved technologies
- ✓ demonstrate Management practices in compact blocks covering larger area
- ✓ Participating farmers to motivate other farmers in the adjoining areas to adopt these technologies.

This scheme will be implemented in a compact area of 1000 hectares per unit in 5 blocks under NADP and 7 blocks under NFSM- Pulses. Under NADP, A3P scheme will be implemented in Vellore, Krishnagiri, Tiruvannamalai, Dharmapuri and Thoothukudi districts with one unit in each district with the financial outlay of ` 252.00 lakhs. Under NFSM, A3P scheme will be implemented in Vellore, Krishnagiri, Nagapattinam, Tiruvannamalai, Pudukottai, Thoothukudi, and Villupuram districts with one unit in each district with the financial outlay of ` 348.00 lakhs. A sum of ` 5400/- towards Redgram and ` 4800/- towards Blackgram is being extended as 100% subsidy for distribution of Integrated Nutrient Management (INM), Integrated Pest Management(IPM), inputs, minikits and e-pest surveillance for an area of one hectare.

5.3.4. Seed Village

Seed is a critical input that decides the productivity of crops. Government and private seed companies contribute substantially to quality seed production and timely distribution. To meet the growing demand of quality seeds,

especially pulses and oilseeds, farmers are trained under Seed Village scheme from 2006-2007 onwards, on scientific methods of quality seed production to produce quality seeds to meet their own seed requirement and increase their farm income. Under this Scheme, Foundation/Certified seeds of Paddy, Millets, Oilseeds, Pulses are also distributed to the farmers at 50% subsidy per acre.

This scheme will be continued during 2011-2012.

5.3.5. Tamil Nadu Agricultural Information Service Network (TN-AGRISNET)

AGRISNET is a work flow automation process of the Department of Agriculture, Government of Tamil Nadu. The objective of the Web portal is to provide updated information to the end users i.e., farmers on availability of all the inputs at any point of time and at any place.

The Government of India has approved a total sum of ` 831.40 lakhs to implement AGRISNET project in Tamil Nadu. Of which a sum of ` 302.40 lakhs was released as first instalment during 2007-08. This project envisages provision of computers and related accessories to all the offices upto Block level (385 block offices and 31 District level offices) and broad band connectivity service for online updation of data. In recognition of successful implementation of "AGRISNET Project" in Tamil Nadu, Government of India awarded a **Specific Sectoral Award – GOLD** for e-governance initiatives.

The main focus is given on Soil Health Card, Village level Fertility index, information on Market trend of commodities, Rainfall forecast, contact details of Agriculture department, etc., This web portal also helps the farmers to update their knowledge on the availability of inputs like Seeds, Fertilisers etc., and also the details on welfare

schemes and beneficiaries since the details are showcased in a transparent manner. Efforts are being taken to automate the sale of fertilizers at the retail points through introduction of Hand Held Billing Machine which is a mandatory requirement for the retailer to comply with the provisions of the Fertilizer Control Order, 1985.

The basic data of about 24 lakh farmers have been registered in the website so far. The farmers' data base is utilised for identification of beneficiaries for various schemes and also to display the beneficiary list to maintain transparency. Efforts are taken concomitantly to enhance the communication to farmers through Short Message Service (SMS) after completion of database.

5.4. Externally Aided Projects

5.4.1. TN IAMWARM PROJECT – Irrigated Agriculture Modernization and Water Bodies Restoration and Management (IAMWARM) Project

This project is a six year project (from 2007-2008 to 2012-2013) implemented with the assistance of World Bank to improve water resources in 60 selected sub basins integrating the activities of the departments of Agriculture, Horticulture, Agricultural Engineering, Agriculture Marketing & Agri Business, Animal Husbandry, Fisheries and Tamil Nadu Agricultural University.

Objectives

- More income per drop of water.
- Enhancing irrigation efficiency by improving modern water saving technologies like micro irrigation and Agricultural practices.
- Agricultural intensification and diversification.
- Enhancing marketing access and Agri Business opportunities.
- Strengthening water users association and its function.

Under this scheme, Agriculture department is in the process of increasing the productivity by effective management of land and water resources in 60 sub basins in an area of 6.17 lakh hectares with an assistance of ` 98 crores.

The scheme activities are as follows:

1. Conducting demonstrations on cultivation of various crops and organic farming.
2. Distribution of important Agricultural inputs such as Bio-fertilizers, Micro nutrient mixtures, Gypsum and Blue Green algae.
3. Distribution of farm implements such as Hand sprayers and Power operated sprayers.
4. Information, Education, Communication and Capacity Building activities like publicity, Exposure visits.

The details of scheme implementation are as follows.

Rupees in Crores.

Year	Sub-basins	Allocation	Expenditure
Phase – I (2007-2011)	**9 Sub-Basins -** Varaganathi (Villupuram / Tiruvannamalai), Uppervellar (Salem), Palar (Coimbatore/Erode), Aliyar (Coimbatore), Southvellar (Pudukottai / Tiruchirapalli), Pambar (Pudukottai / Sivagangai), Kottakaraiyaru (Sivagangai / Ramanathapuram), Manimuthar (Sivagangai / Ramanathapuram / Madurai) and Arjunanadhi (Virudhunagar)	16.21	15.53

Year	Sub-basins	Allocation	Expenditure
Phase II (2008-2011)	**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), Nisabanadhi (Tirunelveli), Kalinagalar (Tirunelveli), Sindapalli-Uppodai (Virudhunagar), Sinkottaiyar (Virudhunagar), Upper Gundar (Madurai) and Therkaru (Madurai)	6.64	6.60
Phase III (2010-2011)	**30 Sub-Basins –** Deviar (Tirunelveli & Virudhunagar), Gomukinadhi (Villupuram & Cuddalore), Hanumanadhi - Nambiyar(Tirunelveli & Kanyakumari), Kanal odai (Virudhunagar, Sivagangai & Madurai), Lower Gundar (Ramnad & Virudhunagar), Palar (Ramnad), Pambanar, Varattar (Tiruvannamalai), Thurinjalar (Tiruvannamalai), Uthirakosamangai (Ramnad), Araniar (Thiruvallur), Gadilam (Cuddalore & Villupuram), Kambainallur (Dharmapuri), Korampallam Aru (Thoothukudi), Kosasthalaiyar (Tiruvallur & Vellore), Kovilar (Dharmapuri), Markandanadhi (Krishnagiri),	9.06	8.82

Year	Sub-basins	Alloca-tion	Expen-diture
	Nagarier (Virudhunagar), Nallavur (Villupuram), Ongur (Kancheepuram, Villupuram & Tiruvannamalai), Girdhamal (Sivagangai, Madurai, Virudhunagar & Ramanathapuram), Karumeniyar (Tirunelveli & Thoothukudi), Pambar to Tirukoilur (Villupuram & Tiruvannamalai), Salikulamaru (Thoothukudi), Sevalaperiyar (Virudhunagar), Theniar (Theni), Uppathurar (Thoothukudi & Virudhunagar), Uppodai (Tirunelveli & Thoothukudi), Vaippar (Main River) (Thoothukudi & Virudhunagar), Vallampatti (Virudhunagar, Tirunelveli & Thoothukudi), Vembar (Thoothukudi, Ramnad & Virudhunagar)		
	TOTAL (55 sub-basins)	**31.91**	**30.95**

The Administrative Sanction has been received so far for a sum of ` 31.91 crores. Further the World Bank has now approved a sum of ` 12.05 crores to implement the IAMWARM Project in Phase IV in 5 more sub basins namely Coovam (Kancheepuram, Thiruvallur, Vellore), Cheyyar – Kiliyar (Kancheepuram, Tiruvannamalai), Paralayar (Sivagangai, Ramanathapuram, Virudhunagar), Kayalkuzhiyar (Virudhunagar), Adyar (Thiruvallur & Kancheepuram) and ` 20.37 crores to implement Additional activities in Phase I, II & III sub basins.