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TAMIL NADU
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"SUSTAINABLE AGRICULTURE
FOR PROSPERITY"

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TAMIL NADU AGRICULTURE

“SUSTAINABLE AGRICULTURE FOR PROSPERITY”

Located in the southernmost part of the Indian Peninsula and bordered by the union territory of Puducherry and the states of Kerala, Karnataka, and Andhra Pradesh, Tamil Nadu is the eleventh largest state in India by area and the sixth most populous state in India. The state was ranked sixth among states in India according to the Human Development Index in 2011 and it was the second largest state economy in India in 2012. The state has the highest number (10.56 per cent) of business enterprises and stands second in total employment (9.97 per cent) in India, compared to the population share of about 6 per cent. In the 2013 Raghuram Rajan panel report, Tamil Nadu was ranked as the third most developed state in India based on a “Multidimensional Development Index”.

Tamil Nadu has been historically an agricultural state and is a leading producer of many agricultural products in India. The state government has taken many far reaching policy decisions to usher in Second Green Revolution in Tamil Nadu, by introducing numerous path breaking initiatives to bring in a paradigm shift in agriculture - from a subsistence production to a highly diversified, technology driven and market oriented commercial production. High priority has been accorded to agriculture sector to achieve the goal of inclusive growth through Sustainable Agriculture initiatives.

TN Vision 2023 document

The document is a strategic plan for infrastructure development in Tamil Nadu. The state is poised for an economic leap in a decade to come with thoughtfully designed growth strategies, all-inclusive sectoral investment plan with more provision for participation of private sector, wherein ag-



riculture is defined as no more an activity limited to crop production alone but its dimension has been expanded to include the food system, health system and sustainable environmental system. The plan also promotes secondary agriculture within primary sector as well as services under the ambit of agriculture. An amount of Rs.1,21,400 crores has been earmarked for agriculture-irrigation sector to achieve five per cent growth in agriculture, focusing on quality input supply through robust seed supply chain, soil quality improvement and wasteland rehabilitation, judicious use of irrigation water through micro irrigation, massive farm mechanization, horticulture development, integrated market development, post harvest supply chain and infrastructure support for agro food processing industries.

Appropriate Land Use System

Government is giving thrust to preserve the prime agricultural lands and control its diversion to non-agricultural purposes. The Government's focus is to bring more area under cultiva-

tion by bringing the degraded lands into productive use under non-forest wasteland area through Integrated Wasteland Development Programme (IWDP) implemented in 96 blocks of 24 districts. So far 4.576 lakh ha of wasteland has been treated. Under Soil and Water Conservation, 6033 structures have been completed at a cost of Rs.51.83 Crores benefiting 24,684 farmers in the last three years.

Soil Health

Tamil Nadu has conducted a detailed soil survey and collected detailed database of 71.36 Lakh farmers' assets base which has been made available on the AGRISNET portal. The results of detailed Soil Analysis of 52.02 lakh soil samples have been uploaded in website for the past 3 years. Farmers Integrated Handbook (FIHB), a comprehensive record that contain personal information of farmers, digitised soil test results, season wise crop wise nutrient recommendation and scheme benefits valid for three years, with cropping programme and input requirement details - has been devel-

oped and distributed to 45 Lakh farmers. TN has also roped in the help of GIS for soil mapping which was done on pilot basis in six districts. Micro nutrient testing facility, IT infrastructure and 16 new mobile Soil Testing Laboratories have helped in strengthening soil testing facilities in the state.

Tamil Nadu government has given equal weightage to organic farming in the state. The government has drafted a comprehensive organic farming policy to achieve sustainability in agriculture production without affecting the food security initiatives. Apart from establishing five model organic villages, the government has been pro active in improving soil organic content at the rate of 50,000 acres of land every year by production and distribution of 1000 MT of quality green manure seeds. To complement the organic farming in the state, 15 Bio Fertilizer Production Units, seven new liquid bio-fertiliser laboratories in addition to 15 existing labs, two new laboratories for the analysis of organic fertilizers and a laboratory complex at Tamil Nadu agricultural university to standardise the organic practices and promote research activities in organic

cultivation were established. Development of 150 model "Eco-Friendly Integrated Pest Management Villages", 250 demonstration cum training to benefit 12500 farmers, production and distribution of 525 MT of BGA and 500 MT of Azolla and 753 Vermi compost units have been established to boost organic farming in the state.

Management of water resources

A water starved state, Tamil Nadu has embarked upon on a journey to conserve water, promoting the policy of "More Crop per drop of water". Apart from farm ponds, rain gun and mobile sprinklers, the state has made some impressive investments in rain water harvesting. In the past three years, 908 rain water harvesting-structures have been constructed at a cost of Rs.9.97Crores. Micro Irrigation is another area in which the state has excelled. Considering its importance and to encourage farmers, first time in India, the State Government is providing Micro Irrigation System with 100 per cent subsidy for small farmers / marginal farmers and 75 per cent for other farmers. Micro irrigation has been covered in 1,27,458 ha of

land so far at a cost of Rs Rs.490.47 Crore, in the last three years. Micro irrigation exclusively for pulses was promoted. Intensive Redgram cultivation through transplantation coupled with micro irrigation had increased the area of pulses to 8.80 Lakh Ha during 2013-14 which was the highest in the past decade.

Quality input supply

Tamil Nadu has been quite focussed on assuring the supply of quality inputs to the farmers. The state government has developed a wide and diverse network to share the information on availability of inputs in the AGRISNET portal of Agriculture Department. A Special Purpose Vehicle (SPV) with a revolving fund of Rs.50 Crores manages the assured and timely supply of quality inputs to the farmers under the various Agricultural and Horticultural schemes. Several future plans are underway such as "Tamil Nadu State Seed Development Agency(TANSDA)" and "Integrated Agricultural Extension Centres" which would assure supply of seeds. Quality of seeds are also of utmost importance and the state government



has made some notable achievements in this sector. Coimbatore seed testing laboratory of Seed Certification department has received accreditation of International Seed Testing Association (ISTA). This is an exclusive and unique achievement which has not been achieved by any other public sector undertaking in the country. State Horticulture Farms Model nurseries and Tissue culture units ensure the timely supply of quality planting materials.

Besides seeds, the TN government has elaborate plans for assuring the quality of fertilizers. The Government checks the veracity of fertilizers through strict periodical sampling and analysis in 14 notified Fertilizer Control Laboratories. To protect the farmers from escalating fertilizer cost due to the introduction of NBS by GOI, TN has exempted 4% VAT levied on chemical fertilizers besides exemption for biofertilizers, agricultural implements and other inputs which is first time across the country.

Farm Mechanization

TN government has embarked upon a mission mode approach to intensify farm Mechanization. The government has adopted a three pronged approach i.e., Purchase of heavy duty high value machinery for the Agricultural Engineering Department for custom hiring at first level, Procurement of medium sized agricultural ma-

chinery / implements by the PACCS for custom hiring to farmers at second level and Subsidy assistance to farmers, Farmers Group and Self Help Group to acquire agricultural machinery / implements at third level. Besides this, several custom hiring centres and Agriculture Skill Development centres have been established to augment the state government's efforts in mechanization.

Agri Extension

"Farmer Oriented Integrated Agricultural Extension System" was introduced in TN to encourage adoption of scientific cultivation practices for increased productivity. The government established Integrated Agricultural Extension Centres" in Agriculture and Horticulture Departments for all the activities of agriculture and allied departments; ICT tools were a big part of it. A village level mass contact programme, 'Uzhavar Peruvizha', was also conducted benefitting 80.86 lakh farmers.

IT in Agriculture

Farmer Crop Management System (FCMS) coupled with SMS advisories through automated Bulk SMS system have been developed to provide interface between individual



farmer with extension and Research wing. TN is propagating "Farm level planning" concept through FCMS. Tamil Nadu stands first at all India level in providing SMS and Voice advisories to farmers' mobile. The state's Agro Marketing Intelligence & Business Promotion Centre disseminates timely information on prices and market which has been linked to Farm Crop-Management System for generating messages on Post Harvest Management practices and market advisories. Besides this, another system, PHMS (Post Harvest Management System), an extension of FCMS, is under development wherein the farmers growers' clusters formed for various commodities at village level in the node would be directly connected to traders in the hub for realization of fair and remunerative price for agricultural produce. Input Supply Management System and Online Farm Machinery Booking system are the other IT linked systems in TN.

Enhancing Crop Production by Crop-Specific Technologies

To bring in a paradigm shift from food security to food surplus, Food Grain Mission has been launched in TN with three sub missions viz., Paddy, Millets and Pulses, by bundling the frontier technologies to bridge the yield under the leadership of District Collector, in a period of three years. Due to efforts taken by the State Government, the food grain production estimation has crossed an all time high level of 110.65 Lakh MT for 2014-15. With an aim to increase the rice yield with



minimum use of water, labour and cultivation expense, SRI method of cultivation with package of 12 technologies is being encouraged in the State as Whole village approach. During 2013-14, 2000 SRI villages have been organized covering 1.968 Lakh Ha.

TN has also launched, System of Pulses Intensification to augment the pulses production and to meet the dietary protein requirement with seven key technologies being promoted as whole village approach. Further, in Redgram cultivation, transplanting technique with MI is popularized. The state's efforts have yielded results as the pulses production has been estimated as 5.06 L.MT as against the previous highest of 3.69 L.MT during 2011-12.

Sustainable Sugarcane Initiative (SSI), is yet another package of technologies which involves raising shade-net nursery using single chip bud, wider spacing and precision farming for better nutrient management besides promoting mechanized harvesting.

Precision Farming method of cultivation, which has been adopted in the state to an extent of 23,178 acres is mainly intended to save water through adoption of micro irrigation and save nutrient through adoption of drip fertigation with water soluble fertilizers, for synchronized maturity.

High Density planting and Protected Cultivation are vigorously promoted in horticultural crops in Tamil Nadu. Besides this, the State Government has established Centre of Excellences for Vegetables at Reddiarchatram, Dindigul district, for Cut flowers at Thally in Krishnagiri district and for millets in Athiyendhal in the past three years.

Taking in to consideration the rising demand for vegetables from cities, the government has decided to popularize urban farming. With this aim, TN is promoting cultivation of vegetables in roof tops of households in Metropolitan cities like Chennai and Coimbatore. Kits containing vegetables seeds, small implements, bio-pesticides, bio-fertilizers, growing media were distributed to urban residents with 50% subsidy along with technical information.

During 2013-14, 4,968 Do-it yourself kits were distributed to the beneficiaries.

Marketing Initiatives

Farmers Producers Organizations (FPOs) are being actively pursued in the state thereby facilitating access to fair and remunerative markets including linking of producer groups to marketing opportunities through market aggregators. The State Govern-



ment has strengthened the regulated markets by providing sufficient facilities like Godowns, drying yards, transaction sheds, traders, shops, market complexes, cold storage, rural business hubs etc., in the regulated markets for the benefit of farmers.

TN has strengthened the regulated markets by providing 88 modern storage godowns with capacity of 2000 MT to 10000 MT and 70 cold storage with 25 MT capacity. Market complex with Cold Storage facilities had been created for mango at Krishnagiri, for tomato at Dharmapuri and Salem, for grapes at Theni, for onion at Tiruppur and Perambalur, for hilly vegetables at Karamadai, for Chillies at Paramakudi and for fruits and vegetables at Dindigul, Villupuram and Coimbatore districts.

The State Government has initiated to establish Agro processing industries with appropriate models in 10 backward districts to strengthen the post harvest management including value addition and Processing of agricultural produce with adequate arrangements for forward and backward linkages

for ensuring remunerative price to the farmers and employment generation at local level at a cost of Rs. 25.00 crore.

At present, 10 Rural Business Hubs are functioning in the State Regulated Markets. Rural Business Hubs provide infrastructure facilities like input shop, storage shed, drying yard, electronic balance, moisture meter and also serve as a knowledge centre. They help in aggregating products enabling larger buyers and processors to make direct purchase from farmers.

With the objective to link farmers to markets by shortening supply chain of perishables, Terminal Market Complex project are being established on Built, Owned and Operated (BOO) model by the selected Private Enterprise through competitive bidding process. Terminal Market Complex is the Hub and the Collection Centers in the main production centers will act as Spokes. In Tamil Nadu, Terminal Market Complexes are being established at Chennai, Madurai and Coimbatore regions.

Another interesting programme, Peri Metro Vegetable Cluster Development Programme is under implementation. Under this scheme, 700 clusters with 12,070 farmers have been formed in 9 districts around Chennai and Coimbatore which will be further extended to other Metros. This programme will help to have a price gain for both the producers and consumers besides ensuring continuous supply of fresh vegetables to the burgeoning urban markets and to create forward linkages from rural to urban areas.

Considering high cost involved in cultivation and to avoid distress sale by the farmers, every year the State Government is extending additional incentive over and above the MSP announced by the GOI for paddy. Likewise, for the Sugarcane Fair and Remunerative Price announced by GOI, the State Government is extending State Advisory Price.

Special Initiatives

TN has taken up several initiatives for women empowerment in agriculture.

The State Government has established a Horticultural College and Research Institute for Women at Trichy. In this International year of Family Farming, the Government of Tamil Nadu has decided to encourage full participation of women in agriculture by launching 'Amma Farm Women Empowerment Programme'. During 2014-15, 770 Farm women groups are expected to be formed by imparting training, capacity building and providing revolving fund with credit linkages for entrepreneurial activities relating to agriculture including land development, seed production, farm mechanisation services, post harvest, value addition, agro-processing and marketing of Agro-produce, at a cost Rs.113.26 crores.

The government is also taking special care to create awareness among the public about the values and importance of traditional agro products like tender coconut, Shikakai, cotton and millets. A massive promotion campaign has been launched throughout the State with the outlay of Rs.10 Crores by organizing seminars at state, district and block levels, exhibitions, wall paintings, rallies, hoardings and advertisements through documentary films.

TN is a stellar example in the area of solar power utilization in Agriculture. In fact, Tamil Nadu is the pioneer state in encouraging use of solar energy and has come out with 'Solar Energy policy 2012', with an aim to promote the use of Solar power in various aspects including agriculture. As there is a growing demand of power in agriculture sector mainly for irrigation operation, to encourage and popularise use of Solar energy in Agriculture sector and to improve water use efficiency, the state has already taken initiative by sanctioning 500 Solar PV pump sets (5Hp AC submersible type) to the farmers with 80% subsidy assistance for the year 2012-13. The State Government is also promoting solar energy to increase the shelf life of agricultural produce and to reduce the post harvest losses. Steps are being taken to install Solar driers in 500 Villages

in a phased manner at a cost of Rs. 20 Crores with 50% subsidy.

To safeguard the interests of onion farmers, the State Government has provided Scientific Onion Storage structure of 2 to 20 MT capacity with 50 % subsidy to onion farmers at an outlay of Rs.6 Crores. This will help onion farmers to fetch more price.

Initiatives to mitigate disasters and calamities

Certain rehabilitation measures were taken up by the state government to help the farmers who fell victim to climate vagaries and unfortunate circumstances.

Thane Special Rehabilitation Programme

Cyclone Thane hit Tamil Nadu in December, 2011 which affected 4.65 Lakh ha of agricultural crops and 1.20



lakh ha of horticultural crops. Hence, to help the affected farmers, a Special Thane Livelihood Package has been sanctioned for an outlay of Rs.790.196 Crores to be implemented in a period of five years. Removal and Replanting of perennial crops like coconut and cashew with subsidy for intercropping and Maintenance and Nutrient application extended to farmers. For taking up resowing of annual crops, minikits were distributed. Further, 270 Community borewells have also been dug to provide irrigation facility.

Samba Special packages 2012

Due to deficient monsoon rain and non-opening of Mettur dam on the

scheduled date during 2012-13, Samba Special Package was implemented in all delta districts for an outlay of Rs.68.10 Crores for distribution of critical inputs and organizing Community nursery to motivate the farmers to take up the samba cultivation. Further, due to failure of North East Monsoon in the month of November and December, 2012, crop growth was affected. Hence, to protect the Samba / Thaladi crop from withering, additional Samba package was implemented to the tune of Rs.39.88 Crores for providing diesel subsidy, water carrying pipes, portable sprinklers, boom sprinklers, spraying of Pink Pigmented Facultative Methylo-troph (PPFM) using multipurpose Boom sprayers besides Universal Crop Insurance through payment of farmers' share of premium cost for Rs.30 Crores. Despite all efforts, an area of 3.61 Lakh acre of paddy was affected in delta districts and 22.89 Lakh acres was affected in non-delta districts under different crops. Hence all districts have been declared as drought affected and a sum of Rs.1328.50 Crores has been disbursed as drought compensation which is inclusive of Rs.524.26 Crores in delta districts.

Agriculture in Tamil Nadu still remains exposed to the vagaries of the monsoon and it is beset with a number of characteristics such as wide seasonal variations, fragmented land holdings predominance of small and marginal farmers (92%), stress of cultivable land and water resources, degraded and problem soils, soil nutrient deficiency in the cultivable area, low productivity, non-availability of sufficient farm labourers, etc. Despite these challenges, agriculture in Tamil Nadu has registered an impressive growth. Understanding that a strong base of primary sector is the prerequisite for accelerated growth of state economy, the Tamil Nadu government has initiated multi faceted approaches to solve major problems prevailing from sowing till marketing in agriculture.