

CHAPTER 8: IMPLEMENTATION MECHANISM

This section presents the mechanism through which the activities envisaged under TNSAPCC will be implemented. TNSAPCC will be implemented by multiple sectoral departments with the overall coordination responsibility of nodal department of climate change. This chapter also highlights the steering mechanism through which proposed interventions will be planned, operationalized, and monitored.

8.1 IMPLEMENTATION ARRANGEMENT OF THE TNSAPCC

A Climate Change Steering Committee has been set up as the apex authority, for initiating all the strategic decisions on climate change for the State. The council is headed by the Chief Secretary. The operating arm of the Climate Change Steering Committee is the Executive Council chaired by the Chief Secretary of the State. A nodal Climate Change Cell within the Department of Environment has been formulated for overseeing the implementation TNSAPCC. Additionally, Centre for Climate Change and Disaster Management, Anna University Tamil Nadu is mandated to provide the knowledge management components envisaged in the TNSAPCC. The responsibility for various Missions will rest under individual departments who designate climate change nodal officers and shall strive to attain all listed objectives within stipulated time frames and ensure its integration with the National Mission objectives of the National Action Plan on Climate Change. The Implementation arrangement for TNSAPCC is illustrated in Figure 8.1.

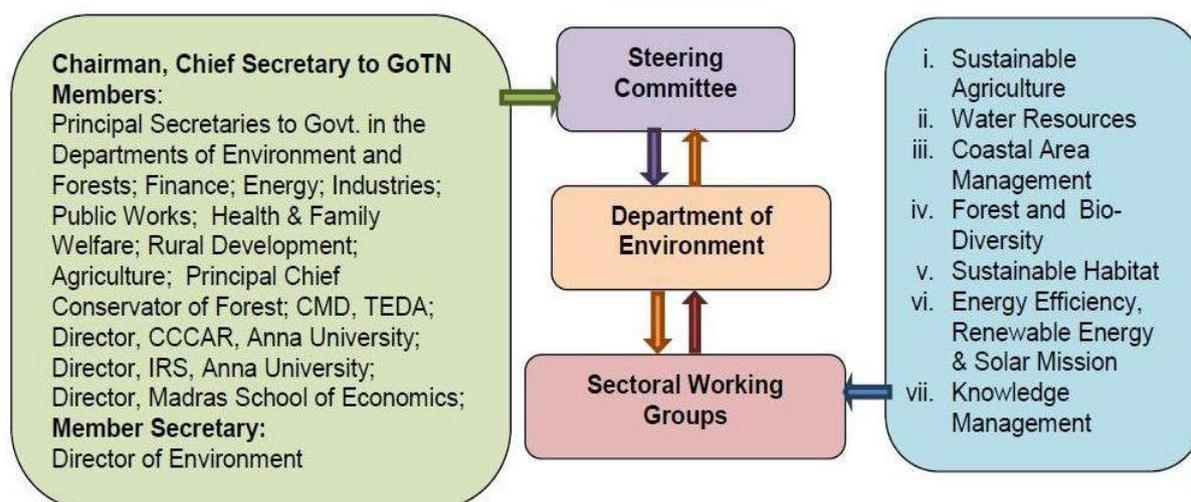


Figure 8.1 Implementation Arrangement of TNSAPCC

The State is committed to ensure that TNSAPCC implementation is complemented by a robust framework and mechanisms not only as a means of ensuring that the detailed operational plans are implemented as planned, but more importantly, as a tool for systematic review and programme improvement as the needs of the State evolve with implementation regularly.

In implementing the climate relevant strategies for achieving the desired outcomes effectively, the interdepartmental coordination plays a crucial role. The proposed strategies will require sincere efforts along with systematic and synchronized approach. Figure 8.1 shows implementation framework broadly highlights an approach that the line departments will initiate. With every proposed activity, the principle implementing agency along with supporting departments has also been identified. However, if required, a further alliance with other departments as well as agencies is also possible depending on the scale and planned interventions (Figure 8.2).

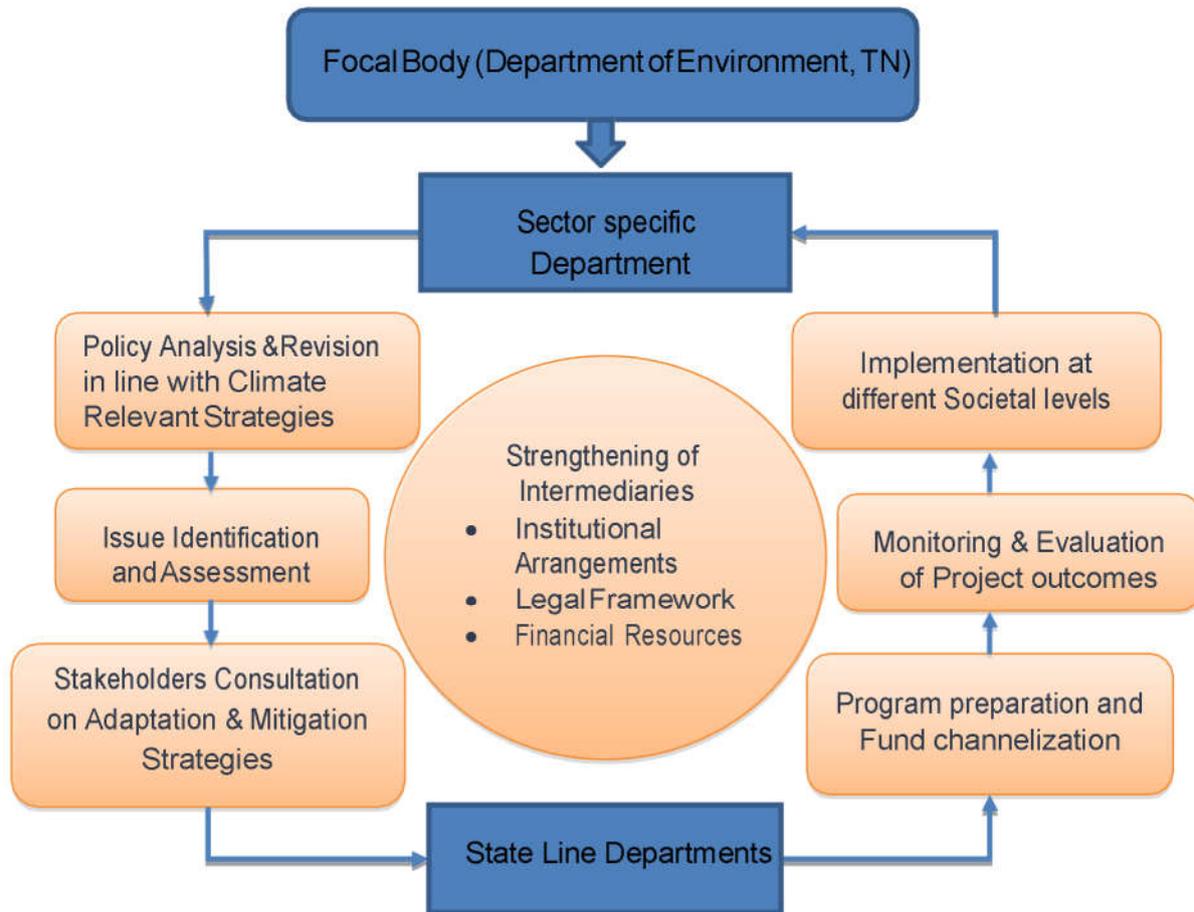


Figure 8.2: Implementation framework of TNSAPCC

8.2 PROPOSED ACTIVITIES & IMPLEMENTING AGENCIES

Addressing the challenges of climate change requires integrative thinking. For example, anticipated changes in water availability driven by climate change will spill over to decisions about urban development, agriculture, and forest and broader land use considerations. To address these linkages, different sectoral perspectives and priorities need to be brought into conversation with the climate science. Hence, climate change needs to be mainstreamed within existing departments by pointing out the activities that are cross-departmental in each of the seven sectors listed in TNSAPCC. Strategies along with their implementation agencies for all the sectors have been listed in the tables below:

a. State Mission on Agriculture

In the agriculture sector, six activities are solely implemented by Department of Agriculture (DoA), six activities are solely implemented by Tamil Nadu Agricultural University (TNAU), three activities are solely implemented by Department of fisheries, two activities are solely implemented by Department of Animal Husbandry (DoAH), one activity is solely implemented by SDMA and one activity is solely implemented by Department of Horticulture (DoH). Rest of the activities enlisted in Table 8.1 are cross departmental.

Table 8.1: State's priorities under State Mission on Agriculture

Code	Strategy	Implementing Agency
AG/5	Extension strategies to popularize climate resilient management practices to mitigate extreme weather events	KVK/ DoA
AG/7	Climate proofing with Integrated Farming Systems: Popularizing the Integrated Farming System for wider adoption	TNAU / DoA / Veterinary Dept.
AG/8	Recharging the aquifers using the abandoned open wells and defunct bore wells and artificial recharge shaft	Dept. of Water Resources/ AED
AG/9	Constructions of sub-surface dykes	TWAD/AED / Dept. of Water Resources
AG/10	Diversion of excess flood water at upper reaches to water deficit areas	Dept. of Water Resources/ AED
AG/11	Deep ploughing to break sub surface hard pan to increase infiltration efficiency and improve ground water quality and check sea water incursion	AED/DoA
AG/13	Promote minimum/no tillage during fallow period, compartmental bunding, contour farming, deep ploughing, mulching for all crops besides conducting awareness programmes and training	AED/DoA/KVK/NGOs
AG/15	Bringing fallow land and degraded land back to cultivation through Integrated wasteland development Programme	DoA/ DoF
AG/16	Organic farming including horticultural crops	DoA / Dept. of Hort. And plantation crops / Dept. of organic certification
AG/18	Increase the use of Micro Irrigation technology Viz., drip, Sprinkler, Rain gun, Mobile Sprinkler in dry land, Garden land and Horticultural farming system	DoA/ DoH/ AED
AG/19	Strengthening existing water harvesting structures and repairing and replacing the shutters in the irrigation tanks and drainage channels	Dept. of Water Resources/ AED
AG/20	Creation of additional farm ponds to capture the runoff water and utilise the harvested water to critical stages of crop growth and to recharge the aquifers to improve the quality of irrigation water	Dept. of Water Resources/ AED
AG/21	Ensuring the livelihood of the farmers in non- delta districts having surface irrigation potential with piped irrigation network by providing collection wells at regulating structures to increase the cropping intensity with assured yield and employment opportunities	Dept. of Water resources / Dept. of Agri. / Dept. of Human resources
AG/23	Establishment of network of seed banks, food banks and cold storage to ensure supply at times of contingencies	TNAU / DoA.
AG/24	GIS based village mapping for agro management system to enhance input use efficiency and overcome effect of climate change and increase farm productivity including horticulture crops	TNAU / Dept. of Hort. And plantation crops / DoA
AG/25	Integrated voice message on weather based agro advisories, market demand & price forecasting	TNAU / DoA / Dept. of marketing / KVK / NGOs

Code	Strategy	Implementing Agency
AG/28	Research project on comprehensive crop insurance products that would cover increasing extreme events	TNAU, DoA
AG/29	Development of vegetative shield for east coastal region against wind, cyclones, etc. Management and conservation of vegetative shield	TNAU / Dept. Environment / SDMA
AG/30	Development of technology for improving inland fishing; new breeds; Popularization of technology.	TNJFU / Dept. of Fisheries
AG/31	Increasing fish production and fish farming area for rural livelihood through Inland Fisheries Reservoir fisheries development, fish culture in pens and cages, establishment of hatcheries	Dept. of Fisheries / DFFDA
AG/34	To increase per hectare production and encourage new species advocating Culture of SPF <i>Litopenaeus vannamei</i>	TNJFU / Dept. of Fisheries
AG/36	Ensure year-round feed and fodder availability	TNAU/DOAH, TANUVAs, Dept. of Agri., TCMPF
AG/37	Ensure adequate animal housing and dedicated ponds for bathing in villages to protect livestock from extreme heat	Dept. of Animal Husbandry / Dept. of water resources
AG/38	Intensify Disease surveillance and develop forecasting of disease outbreaks for short& long term	DoAH, TANUVAS
AG/39	Promote breeding with indigenous varieties to improve resilience to climate change	DoAH, SEVA, TNLDA, TANUVAS, TCMPF
AG/40	Promote dairy development by training women in villages on animal care, animal disease reporting, and nutrition for optimising milk production at household level of small and marginal farmers and enabling them to participate in milk cooperatives	Dept. of Animal Husbandry and dairy
AG/N/1	Development of nutritionally enhanced climate resilient premium quality rice varieties	TNAU/DoA
AG/N/2	Enhancing maize productivity by identification and popularization of agro techniques	TNAU/DoA
AG/N/3	Revitalization of millets for nutritional security and enhanced productivity	TNAU/DoA
AG/N/4	Enhancing pulses production in delta and non-delta districts	TNAU/DoA
AG/N/5	Special package for increasing the productivity of cotton	TNAU/DoA
AG/N/6	Special package for increasing the productivity of sugarcane - Sustainable Sugarcane Initiative	TNAU/DoA
AG/N/13	Development of contingency plans for extreme weather events and implanting on the ground	TNAU/DoA
AG/N/14	Solar driers and water pumping system for irrigation	Dept. of Water Resources/ AED

b. State Mission on Water

In the Water Sector, two activities are solely implemented by PWD. Rest of the activities enlisted in Table 8.2 is cross departmental

Table 8.2: State's priorities under State Mission on Water

Code	Strategy	Implementing Agency
WR/N/1	Climate change adaptation programme in Cauvery Delta	PWD, TNAU
WR/N/3	Irrigated Agriculture Modernisation and Water- Bodies Restoration and Management (IAMWARM) Project	Agriculture, Horticulture, Agricultural Engineering, Agri-Marketing Board, Animal Husbandry, Fisheries and TNAU and WRD, PWD
WR/N/5	Desilting of Dams and Water Bodies - Desilting of Vaigai, Pechipparai, Mettur, Amaravathy Reservoirs and Srivaikundam Anicut for increasing the area under irrigation	WRD, PWD
WR/N/6	Desilting of Parappalar Reservoir to increase the command area	WRD, PWD
WR/N/7	Desilting of Veeranam tank for providing drinking water to Chennai and surrounding area	WRD, PWD
WR/N/8	Dam Rehabilitation and Improvement Project (DRIP)	WRD, PWD
WR/N/9	Increasing water use efficiency	WRD and DoA
WR/N/10	Capacity building to various stakeholder including Officials, Irrigation engineers, field level staff on maintenance of irrigation system and increasing the water use efficiency	TNAU, IMTI

c. State Mission on Forest

In the Forest Sector, nine activities are solely implemented by Forest Department, 1 activity is solely implemented by Department of Environment and 1 activity is solely implemented by Horticulture Department. Rest of the activities enlisted in Table 8.3 is cross departmental.

Table 8.3: State's prioritises under State Mission on Forest

Code	Strategy	Implementing Agency
FR/14	Establishment of biodiversity corridors	Forest Department, Biodiversity Authority of Tamil Nadu, Forest College
FR/19	Mapping of floral and faunal biodiversity in State at a high spatial resolution incorporating GPS coordinates and on GIS platform	Forest Department, Biodiversity Authority of Tamil Nadu, Forest College
FR/26	Large scale field testing of different forest species for lower strata diversification in different agro-climatic Zones	Forest Department, Dept. of Environment
FR/32	Estimating mitigation potential of forest in Tamil Nadu	TNAU, Forest Department
FR/39	Capacity building through seminars and trainings for scientists and researchers to meet the challenges of climate change	TNAU, Forest Department
FR/N/2	Increasing the green cover outside the forest area: Plantations in urban areas, industrial sites and recreational forestry	Forest and Agri Department
FR/N/3	Promotion of private social forestry, plantation in farmlands and current fallow, agro-forestry and shelterbelt plantation	Forest and Agri Department
FR/N/10	Eco restoration and conservation of Pallikaranai Marshland	Forest Department, Dept. of Environment
FR/N/11	Conservation and management of Mangroves	Forest Department, Dept. of Environment
FR/N/12	Gulf of Mannar Biosphere Reserve protection	Forest Department, Dept. of Environment
FR/N/14	Enrichment of Non-Timber Forest Product Resources in Forest Areas	Forest Department, TBGP
FR/N/16	Drought relief measures	Forest Department, JOINT forest Management Group
FR/N/17	Creation of fodder resources and improvement of wildlife habitats	TNAU, Forest Department
FR/N/18	Awareness creation and capacity building on forest fire control as well as escaping from the forest fires	TNAU, Forest Department, Dept. of Environment
FR/N/19	Sustainability of afforestation activities using carbon financing options like REDD+	TNAU, Forest Department

Code	Strategy	Implementing Agency
FR/N/20	Impact of climate change on coral reefs and associated biodiversity	TNAU, Forest Department, Dept. of Environment
FR/N/21	Capacity building programmes to JFM groups, Farmers in fringe villages, NTFP collectors, Forest officials and other stakeholders on sustainable forest Management	TNAU, Forest Department, Dept. of Environment
FR/N/22	Eco restoration and conservation of wetlands	Forest Department, Dept. of Environment
FR/N/23	Community wasteland development programme	Forest Department, Dept. of Environment
FR/N/24	Development of wildlife sanctuaries	Forest Department, Dept. of Environment
FR/N/25	Establishment of advanced institute of wildlife conservation and tribal welfare school	Forest Department, Dept. of Environment
FR/ N/26	Forest communication – Roads	Forest Department, Dept. of Environment
FR/ N/27	Project elephant	Forest Department, Dept. of Environment
FR/ N/28	Project tiger	Forest Department, Dept. of Environment
FR/ N/29	Water conservation and canopy improvement	Forest Department, Dept. of Environment
FR/ N/30	Women empowerment and medicinal plants	Forest Department, Dept. of Environment

d. State Mission on Strategic Knowledge

In the Strategic Knowledge Management Sector, 5 activities are solely implemented by Department of Horticulture, 3 activities are solely implemented by Department of Environment, 2 activities are solely implemented by SDMRI and 1 activity is solely implemented by DHAN Foundation. Rest of the activities enlisted in Table 8.4 is cross departmental.

Table 8.4: State's priorities under State Mission on Strategic Knowledge

Code	Strategy	Implementing Agency
KM/N/11	Agro-advisory to farmers using NICE platform to adapt Climate Change in Tamil Nadu	DHAN Foundation and District Administration Tiruvannamalai

e. State Mission on Coastal Area Management

In the Coastal Area Management Sector 6 activities are solely implemented by Department of Environment, 6 activities are solely implemented by GoMBRT, 5 activities are solely implemented by CAM, 4 activities are solely implemented by MSSRF, 1 activity is solely implemented by RDPR, 1 activity is solely implemented by IOM, 1 activity is solely implemented by TWAD, 1 activity is solely implemented by TNSGDC, 1 activity is solely implemented by PWD and 1 activity is solely implemented by SDMA. Rest of the activities enlisted in Table 8.5 are cross departmental.

Table 8.5: State's prioritises under State Mission on Coastal Area Management

Code	Strategy	Implementing Agency
CAM/N/18	Capacity building for integrated coastal zone management of Tamil Nadu	TN ENVIS, IOM with DoE & CAS MB
CAM/N/20	Preparation of local level Coastal Zone Management Plan in 1:5000 scale	DoE/IRS
CAM/N/24	Eco restoration of sacred groves	MoEF&CC (DoE), SICOM

f. State Mission on Enhanced Energy Efficiency & Solar

In the Energy Sector, 9 activities are solely implemented by CEIG, 8 activities are solely implemented by TANGEDCO, 2 activities are solely implemented by BEE, 1 activity is solely implemented by CMA, 1 activity is solely implemented by REC, 1 activity is solely implemented by MoP and 1 activity is solely implemented by EESL. Rest of the activities enlisted in Table 8.6 are crossdepartmental:

Table 8.6: State's prioritises under State Mission on Enhanced Energy Efficiency & Solar

Code	Strategy	Implementing Agency
ES/9	Implementing energy Efficiency Improvements in the Small and Medium Enterprises through policy initiatives like waste heat recovery etc. by means of VAT, subsidy and grants for procurement/ implementation of Energy Efficient programme/products.	BEE, MoP, Dept. of Industries and Commerce
ES/10	Awareness Generation programs on Energy Conservation and Efficiency	Dept. of Industries and Commerce
ES/20	Grid connected Renewable Energy Generation – Hydro Electric Projects	REC, TN Infrastructure Development Board
ES/21	Reduction of AT&C losses (Set of activities to reduce ATC losses of 18percent-15percent in 12th plan and 15percent-12 percent in 13th plan)	MoP, REC

g. State Mission on Sustainable Habitat

In the Sustainable Habitat Sector, 5 activities are solely implemented by GCC, 2 activities are solely implemented by CMWSSB, 2 activities are solely implemented by RDPR, 2 activities are solely implemented by BEE, 1 activity is solely implemented by CEIG, 1 activity is solely implemented by TNHB and 1 activity is solely implemented by DTP. Rest of the activities enlisted in Table 8.7 is cross departmental.

Table 8.7: State's prioritises under State Mission on Sustainable Habitat

Code	Strategy	Implementing Department
SH/7	Development in flood prone areas, protecting and resettling encroachments	PWD, TNSCB, GCC
SH/8	Implementation of compulsory plantation of trees in all sectors (Housing, Institutional) to reduce heat island effect	DTP, RDPR, DTCP, CMA
SH/9	Providing water supply scheme and 24 X 7 ready water supply in extended areas	TWADB, CMWSSB, CMA
SH/10	Revamping existing water supply schemes to avoid loss of water by laying new pipelines in place of damaged pipelines	CMWSSB, TWADB, DTP
SH/19	Rainwater Harvesting Structures	DTP, RDPR
SH/21	Undertake regular water monitoring by establishing labs in all districts	Surface and Ground Water Board
SH/24	Reuse of Grey Water	CMWSSB, DTP, RDPR
SH/25	Recharge of Ground Water	DTP, RDPR
SH/33	Ensure 100% sanitized and open defecation	DTP, GCC, RDPR
SH/36	Sustainable solid waste management (urban)	DTP, GCC
SH/64	Improvement to all existing roads and maintenance at regular intervals	DTP, RDPR
SH/79	Development of green parks	DTP, GCC, DTCP

8.3 STEERING MECHANISM FOR TNSAPCC

TNSAPCC is proposed to be steered through three committees which are as follows:

- State Steering Committee on Climate Change
- Technical Committee on Climate Change and
- Mission specific Working Groups on Climate Change

Details regarding their proposed composition and functions are given in Table 8.8.

Table 8.8: Proposed composition and functions of committees for operationalising TNSAPCC

S. No.	Name of Committee	Key function	Composition	Frequency of meeting
1.	State Steering Committee on Climate Change (SSCCC)	This committee will be overall responsible for endorsement of intervention proposed under TNSAPCC. This committee will also review the progress of the interventions against the agreed timelines.	SSCCC exists in the State headed by Chief Secretary with Principal Secretaries/Head of Departments as members. The committee will continue to operate and implement strategies and actions proposed in this document. New policy needs, technology etc. on climate change will be reviewed by this committee as well.	This committee should meet annually to review the progress of TNSAPCC. However, this committee can also meet based on the requirement.
2.	Technical Committee on Climate Change (TCCC)	It will advise in financial and technical implementation of Tamil Nadu SAPCC, ensuring full implementation of interventions envisaged under TNSAPCC. TCCC will be responsible for: <ul style="list-style-type: none"> •Preparation of an implementation plan •Oversee the execution of activities, fund administration of and procurement of goods and services 	Technical Advisory Committee headed by Principal Secretary, Department of Environment with members from various line departments (listed in Figure 8.1) responsible for implementing TNSAPCC.	This committee should review the progress on a quarterly basis.
3.	Mission specific Working Groups on Climate Change	TNSAPCC has 7 missions working groups on agriculture, water, coastal area management, forest & biodiversity, habitat, energy, and strategic knowledge. These working groups will be responsible for planning, implementing, financing and monitoring the prioritised interventions envisaged under TNSAPCC	These working groups will be headed by mission directors of respective 7 missions with various responsible implementing departments as its members.	This committee shall review the progress of the activities bi-monthly.