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Planning and Implementation of Tamil Nadu State Action Plan on Climate Change for Coastal Area Management in Tamil Nadu, India

H. Malleshappa¹, M. Jayanthi¹, S.K. Divya^{1*} and Edward J.K. Patterson²

¹Climate Change Cell, Department of Environment, Panagal Building, Saidapet, Chennai, India

²Suganthi Devadasan Marine Research Institute, Tuticorin, India

**Corresponding author*

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A B S T R A C T

Climate change has become an unavoidable global phenomenon with far reaching implications to human well being. In view of the fact that local vulnerabilities due to climate change can be addressed more adequately at local level itself. The State of Tamil Nadu has prepared the Tamil Nadu State Action Plan on Climate Change (TNSAPCC) keeping in mind the overall Vision Tamil Nadu 2023 and the National Action Plan on Climate Change. Tamil Nadu is endowed with a long coastline and hence Coastal Area Management has been included as a separate sector among the seven vulnerable sectors of TNSAPCC. The key identified issues are coastal inundation and damages to infrastructure; impacts on coastal ecosystem and biodiversity and climate impacts on accretion. The strategies for adaptation to climate change envisaged by the TNSAPCC for Coastal Area Management have been framed in a manner that it is integrated within coastal zone planning process. Steady progress has been made so far and a project has been approved by the National Steering Committee on Climate Change, Government of India under the National Adaptation Fund for Climate Change. It is emphasized that step wise planning and execution is essential in order to respond in time to the ever changing climatic conditions.

Introduction

Climate Change is a global phenomenon. With increasing scientific evidence from the modeling community, it is proven that climate change is inevitable. The effects of climate change are felt in all day to day activities. Increase in summer temperatures, inconsistent rainfall and unpredicted

extreme events are manifestation of climate change caused by anthropogenic activities. Various efforts are being taken at all levels to tackle climate change issues. The United Nations Convention on Climate Change convenes the Conference of Parties (CoP). In the recent 21st Conference of Parties at

Paris, around 194 countries participated and they have concluded that the temperature of the globe has to be curtailed at 2°C above pre-industrial levels.

Fifth assessment report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) states with very high confidence that coastal systems are sensitive to three key drivers of climate change which are sea level rise, rise in ocean temperature and ocean acidity (IPCC,2014). It has been recorded that global mean sea level rose at a mean rate of 1.7 [1.5 to 1.9] mm/year between 1900 and 2010 and at a rate of 3.2 [2.8 to3.6] mm/year from 1993 to 2010. Ocean thermal expansion and melting of glaciers have been the largest contributors, accounting for more than 80% of the Global Mean Sea Level Rise (GMSLR) during the latter period. Future rates of GMSLR during the 21st century are projected to exceed the observed rate for the period 1971–2010 of 2.0 [1.7 to 2.3] mm/year (IPCC, 2014).

As a consequence of climate change, induced sea-level rise, coastal systems and low-lying areas face the threat of submergence, coastal flooding, and coastal erosion. Subsequently acidification and warming of coastal waters are predicted to continue with significant negative consequences for coastal ecosystems. Human pressures on coastal ecosystems will increase significantly in the coming decades due to population explosion. Thus managing the coast in light of climate change is highly imperative.

Coastal Area Management in the face of climate change involves both ecosystem based adaptation measures and community based adaptation measures. Coastal adaptation and risk management includes number of activities related to the social and institutional processes of framing the

adaptation problem, identifying and appraising adaptation options, implementing options, and monitoring and evaluating outcomes. The IPCC classification of coastal adaptation strategies consisting of retreat, accommodation, and protection (Nicholls *et al.*, 2007) are now widely used and applied in both developed and developing countries (Boateng, 2010; Linham and Nicholls, 2012).

India's coastal zone has to address the demands of all the stakeholders ranging from traditional local communities, administrators, to academic researchers etc. After facing tremendous challenges, regulatory measures like Coastal Regulation Zone (CRZ) was issued in 1991 in India with provisions and prohibitions for various activities. The concept of Integrated Coastal Zone Management (ICZM) has been taken with the support of spatial decision-support tools derived from satellite data including National programmes on inter-sectoral approaches towards ICZM.

With growing consensus on climate change issues across the globe, the Government of India has prepared the National Action Plan on Climate Change (NAPCC) with eight National Missions which includes strategies to promote integrated water resources management, development of sustainable agriculture, greening of forests, maintaining the sustainability of the Himalayan ecosystems, developing sustainable habitat, increasing the share of renewables in the total energy mix and promoting energy efficiency in residential, commercial sectors and in industries. It also has a mission that aims to develop strategic knowledge required for informed decision making for addressing the climate change challenges.

The State of Tamil Nadu has been a forerunner in taking effective initiatives to

address environmental issues. The Department of Environment being the nodal agency for all climate change related activities was entrusted to draft the Tamil Nadu State Action Plan on Climate Change (TNSAPCC). The approach of the TNSAPCC is to create and define an overarching climate response framework at the State Government level to reduce vulnerability; reduce hazards and exposure; pool, transfer, and share risks; prepare and respond effectively; and increase capacity to cope with unforeseen events, while articulating flexible sector specific response strategies and actions keeping in mind the overall Vision Tamil Nadu – 2023.

After numerous consultation workshops and meetings seven vulnerable sectors were identified. The seven sectors identified are 1) Sustainable Agriculture, 2) Water Resources, 3) Coastal Area Management, 4) Forest and Biodiversity, 5) Energy Efficiency, Renewable Energy and Solar Mission, 6) Sustainable Habitat and 7) Knowledge Management. It has to be noted that Tamil Nadu is the only State to have a separate sector for Coastal Area Management.

This paper specifically addresses the impacts and challenges of Tamil Nadu Coast and strategies to combat climate change in Tamil Nadu and the State's initiatives to implement the strategies of Tamil Nadu State Action Plan on Climate Change.

Planning suitable strategies to combat climate change impact on Tamil Nadu Coast

During the framing and drafting of the TNSAPCC, a stepwise strategic approach was adopted for framing the State specific strategies for the coast of Tamil Nadu. The steps taken in this direction are depicted in the figure 1.

Complete profiling of Tamil Nadu Coast

The Tamil Nadu coast is 1,076 km long and there are 13 districts along the coast. The continental shelf extends to about 41,000 sq.km. The Exclusive Economic Zone covers an area of 0.19 million sq.km into the sea. The coastal part of the State covers an area of approximately 4,456 sq.km.

The State capital Chennai and the union territory of Puducherry lie along the coast line having high population density which ranges from as low as 320 people per sq.km to more than 3,000 people per sq.km. The other districts in Tamil Nadu have population density varying between 300 and 800 persons per sq.km. The coastal region of the State falls into the following agro-climatic zones - North Eastern Zone, Cauvery Delta Zone and Southern Zone. In terms of land use, the state's coastal zone is divided into 59 categories. As can be seen, the coastal zone is dotted with habitations, industries, desalination plants, power plants, ports, mining operations and airports amongst many other anthropogenic influences.

The Tamil Nadu coastline has several small existing and potential mangrove sites. The total mangrove cover of the state is 39 sq.km (SFR report 2011). The major mangrove areas are Muthupet in Thiruvavur district and Pichavaram in Cuddalore district and other districts with smaller mangroves are Ramanathapuram, Thanjavur and Thoothukudi. The Gulf of Mannar is located on the south-eastern tip of India in the state of Tamil Nadu. The Gulf is known to harbour marine biodiversity of global significance, falling within the Indo-Malayan realm, the world's richest region from a marine biodiversity perspective. The Gulf's estimated 4,223 plant and animal

species make it one of the richest coastal regions in India. The Tamil Nadu coastal wetlands attract migratory birds in large numbers, particularly the Point Calimere wetland complex, which was declared as Ramsar Site as this wetland supports a large number of bird species.

Identifying key Challenges along Tamil Nadu Coast

Coastal Erosion

A number of locations along the Tamil Nadu coast have witnessed rapid coastal erosion since the 1970s/80s which include eroding land mass, converting larger beaches to smaller ones and sand dunes or islands to disappear. High Erosion Zones along the Tamil Nadu coast include the districts of Kanyakumari, Tirunelveli, Tuticorin, Ramanathapuram, Pudukkottai, Thanjavur, Thiruvarur, Nagapattinam, Cuddalore, Villupuram, Kanchipuram, Chennai and Thiruvallur.

Cyclones, Storm surges and Coastal Flooding

The state's coast also experiences periodic coastal flooding due to extreme storm surges, as well as storm surges riding over tides and cyclones. The coast of Tamil Nadu has been affected by cyclonic storms about 30 times with disastrous effects from 1900 to 2004. The districts affected include Chennai, Cuddalore (formerly South Arcot), Nagapattinam, Thanjavur, Ramanathapuram and Kanyakumari. Storm surges ranging from 4 to 12 m have been experienced by the Tamil Nadu coast (Sundar and Sundaravadivelu, 2005).

Salt Water Intrusion

Sea Water encroachment is a serious problem in some coastal areas of Tamil

Nadu due to deficient rainfall as well as over extraction of freshwater for domestic as well as industrial uses. Sea Water Intrusion is monitored along all the coastal districts of Tamil Nadu.

Pollution

The immediate sea water near the shore gets polluted by a variety of activities along the coast. The State has several major polluting sources such as industries, power plants and desalination plants along the coastal zone. Pollution from sea-based activities include sources such as near shore oil exploration; vessel maintenance (waste oils, paints, solvents, repair wastes & batteries); fuelling (pipe leaks); on-board tanks (sewage, vessel cleaning wastes, oily wastes & washings); and cargo handling operations (leakages, washings & spillages). Pollution from land-based activities include pollution spilling from sewage (especially from municipalities); effluents from variety of industries (cooling water discharge from thermal power plants, common marine disposal facilities, etc.); aquaculture farms (washings from hatcheries, aquaculture, and processing); fisheries harbours (discharges from fishing boats & disposal of used nets); non point sources (surface runoffs & agricultural runoffs); and sand mining.

While the industrial discharges are regulated under the statutory provisions, the coastal areas are also affected by discharge of sewage generated by the habitations located nearby. The programme on Coastal Ocean Monitoring and Prediction System (COMAPS) is being operated along the Indian coastal areas since 1991. Data on nearly 25 environmental parameters including physical, chemical, biological and microbial characteristics of water and sediments at about 76 locations are being collected with the participation of research and development institutions and academia,

within the 10 km sector of the coastline of the country, covering the maritime states and UTs.

Delineating Likely Impacts of Climate Change on Tamil Nadu coast

There are many major existing and proposed economic and infrastructure developments including ports, power plants, highways and even airports, are being planned very close to the shoreline along India's coast. Keeping the existing activities in view and the key challenges identified, various possible implications of climate change on the coastal area of Tamil Nadu are described as follows.

Damage to critical infrastructure

Tamil Nadu being a coastal State is highly vulnerable to seasonal fluctuations in terms of rainfall, temperature, relative humidity, wind speed etc. causing uncertainty in agricultural production. Cyclones and monsoon in the Bay of Bengal causes heavy damage to the crops in coastal areas almost every year. The saline and alkaline soil in coastal areas is a major setback to agricultural activities in coastal areas. It is likely that sea level rise will affect the coastline of India in a variety of ways, including inundation, flood and storm damage associated with severe cyclones and surges, erosion, saltwater intrusion and wetland loss.

Coastal Inundation

A district level analysis was done by Byravan *et al.*, (2011) which showed that the area at greatest risk are following five coastal districts, Nagapattinam, Thiruvavarur, Thanjavur, Pudukottai, and Ramanathapuram as these districts are below 10m of the current mean sea level. They are constantly at risk because of the

storm surges. For the remaining eight coastal districts, the coastal areas that lie below 5m elevation relative to current mean sea level is estimated to be at risk a 1m SLR.

A 1m rise in average sea level would permanently inundate about 1091 square kilometres along the Tamil Nadu coast, but the total area at risk would be nearly six times as much. The same report estimates that the total replacement value of infrastructure (ports, power plants and major roads) impacted by sea level rise to be between Rs. 47,418 and Rs. 53,554 crore (in 2010 terms). The study indicated that very significant value is at risk along the coast of Tamil Nadu due to sea level rise alone.

Further, analysis of storm surge that can have return periods upto 50 years indicates that the return period of storms with pressure systems at 66 hPa can be every 50 years. Based on this return period, it's seen that the storm surge height along the sea coast of Tamil Nadu can be as high as 3-6 m at the northern tip of the state and in Ramanathapuram and Kanyakumari districts inundating a large area land ward.

Impact on Coastal ecosystem and biodiversity

In Tamil Nadu the coastal ecosystem is vulnerable to climate change. Climate change may have a wide range of possible effects on ocean currents and processes that can affect fish resources (Everett, 1996). Aquaculture enterprises are likely to be very vulnerable to impacts of climate change. Aquaculture activities on shore are usually in low-lying coastal areas. These are likely to be inundated as sea level rises. They are also likely to be threatened by loss of protection to the coast such as degradation of mangroves, sea grasses and coral reefs. Many impacts are envisaged in the coastal

areas/ecosystems harbouring a variety of biodiversity and associated livelihoods. However, more focused and systematic studies in these areas with respect to climate change impacts on the living resources is required for protection and conservation of coastal biodiversity. Also the impact of climate change is clearly visible in the Indian Ocean with many reefs, previously regarded as near pristine, are seriously affected. The maximum numbers of affected corals are in the shallow waters. Any adverse changes to the number or intensity of the frequent seasonal cyclonic storms in the Bay of Bengal could also adversely impact the State. Enhanced climate impacts on accretion or erosion rates along Tamil Nadu coast is alarming. The natural littoral transport processes along the coastal region led to changes in the shoreline during the past 25 years.

A large number of manmade developments towards seaward alter the coastal dynamics. The maximum accretion/erosion has occurred in the coastal areas of Mahabalipuram (5,450m), Manakudi (3,650m), Ammapattinam (3,600m), Rameswaram (3,295m), Ennore (3265m) and Marina beach (2,968m). However, due to climate change it is perceived that there will be stronger storm surges and more intense cyclones, further erosion may extend to larger areas along the coast thus affecting infrastructure and livelihoods.

Existing Projects, Programme and Policies for Tamil Nadu Coast

Numerous programmes, projects and policies exist in Tamil Nadu for protecting the long coastline and conserve the resources from the coastal areas of Tamil Nadu. The important policies, projects and programmes are tabulated in Table 1.

Strategies to combat climate change along the Tamil Nadu coast

In the TNSAPCC, coastal area management has been identified as a separate sector to undertake exclusive adaptation strategies to face climate change impacts in the fragile coastal tract of Tamil Nadu. The strategies to manage climate change impacts to coastal areas of Tamil Nadu as envisaged by the TNSAPCC are as follows:

The first strategy is to develop a Tamil Nadu-Integrated Coastal Protection Plan to adapt to projected sea level rise, enhanced intensities of cyclones, storm surges, and extreme rainfall. The key components under this strategy are to assess the intensity and recurrence frequency of cyclones and storm surges and their land fall and to evaluate the individual and combined impacts of sea level rise, cyclones, storm surges, extreme rain fall and tsunami on TN coast due to Climate Change. These two activities in turn would stress upon revising the norms for coastal zone infrastructure development like housing, bridges, roads, power installations, ports, waste management etc.

The second strategy is to avert enhanced coastal erosion due to climate change and protect the coastal zone. These include activities to undertake a study to assess impacts of different climate scenarios on coastal erosion and to assess the design augmentation

requirement/retrofitting/preserve of different coastal protection works such as sea wall, groynes, jetties, sand dunes etc. and giving protection to river banks, dredging and desiltation, restoring river runoff, coastal soil profile budgeting, identification and plantation of appropriate heat tolerant location specific mangrove species for rejuvenation / afforestation in moderate and high erosion areas along the TN coast line

for preventing enhanced erosion and for enhancing carbon sequestration. The other activities include increasing tree cover along the coastal zone with appropriate trees and identify stretches where it can be done and improve and/or create channels for rainwater/river water drainage into the sea in view of extreme rainfall and for facilitation of draining out of inundated coastal water in a climate change scenario.

The third important strategy directly affecting the people's livelihood is to strengthen resilience of coastal communities in view of projected climate change. This is planned by implementing activities to strengthen resilience of fishing communities by assessing the likely impact on fish catch off the coast of Tamil Nadu; design programmes to adjust to the changes and ensuring livelihoods. There is a need for demonstration of technologies using resilient species and assess the health of resources and diversity; approach towards strengthening resilience of farmers (agriculture) through –Identification of cultivars that can grow in farm conditions in a warming scenario and cultivars that are tolerant to saline soils; importantly strengthen resilience of coastal rural habitats by advising measures on retrofitting/relocation of coastal rural housing in view of the recurrence and intensity of extreme events and sea level rise due to climate change; facilitate through policy formulation for support of the above measures financially and build/retrofit dykes or apply appropriate locality specific measures in view of climate change impacts.

The fourth strategy is to avert enhanced salt water intrusion in the ground water and ensure water security in coastal Tamil Nadu. This can be achieved by increasing network monitoring of wells to assess water quality on a regular basis and take appropriate

timely action, identifying appropriate areas for new bore wells, encouraging soil management through soil moisture retention measures, and continuous vegetation to support soil infiltration and groundwater recharge besides reducing erosion risk in rural areas, reducing extraction of ground water through mandatory use of low horse power pumping machines, identifying areas where ground water has become saline and salinity is likely to increase with climate change, establishing desalination plants in such areas and undertaking artificial recharge of wells to secure water availability, locally captured surface water runoff into derelict wells to restore groundwater levels and engineer infiltration with recycled wastewater.

Biodiversity Conservation in the coastal zone is the fifth strategy. For this activities planned are:

- i. To assess baseline flora and fauna data on biodiversity of the TN coastal zone – richness, distribution, present status, threats, anthropogenic impacts etc
- ii. To conserve and protect marine biodiversity in Gulf of Mannar, all marine and coastal sanctuaries, endangered and vulnerable bar mouths, estuaries, salt marshy lands, mangroves, in view of warming of the sea
- iii. To ensure livelihood of fishermen in the Gulf of Mannar, Tamil Nadu through alternate technologies (solar energy/ wind energy for fishing, open sea cage culture, low intensive sea food production systems like mussels & seaweeds)
- iv. Coastal marine habitat enhancement / restoration programmes, sea ranching, transplantation and germplasm conservation.

Sixth strategy is to avert water and soil pollution in the coastal zones caused by industrial (power plants and other industries) and domestic wastewater and solid waste management practices like implementing integrated waste water and solid waste management plan in coastal areas. Harness energy from municipal solid waste (MSW) including provision of new technologies that reduce waste water discharge through sedimentation and filtration microbial conversion, nutrient and mineral extraction and by composting / fermentation / biogas. Further, to undertake additional cooling of wastewater from power plants, RO plants, and nuclear plants by mixing with domestic effluents to reduce thermal load on the coast and reuse waste water through biological treatment (social or community water budgeting-air conditioners, generators, furnaces, heaters, chimneys, ice plants, cold storages and introduction of heat tax).

Implementation of TNSAPCC strategies for Coastal Area Management in Tamil Nadu

The Ministry of Environment, Forests and Climate Change, Government of India (MoEF&CC, GoI) is the National Body responsible for funding all the climate change related projects in the India. The Tamil Nadu State Action Plan on Climate Change was also endorsed by the MoEF&CC, GoI in March 2015. According to the Tamil Nadu State Action Plan on Climate Change, the way forward for the implementation arrangement of the climate change related activities in the state of Tamil Nadu was to establish the Tamil Nadu State Climate Change Cell. The cell acts as the nodal body in the state for coordinating and overseeing all operational aspects of the TNSAPCC implementation and coordination at the state level. The Tamil Nadu State Climate Change Cell is housed

at the Department of Environment. The Department of Environment had approached the National Adaptation Fund for Climate Change (NAFCC), by the (MoEF&CC) for starting the implementation of TNSAPCC strategies.

With this background, the Department of Environment has progressed in planning and effective strategies towards climate change impacts in the coastal area management. It was identified that the Gulf of Mannar (GoM) region is vulnerable to climate change impacts and accordingly a project was prepared in line with the TNSAPCC strategies as an adaptation for the Coral and seagrass ecosystem and the dependant coastal fishing communities. The concept note and the detailed project report was prepared in consultation with the consultants identified by the MoEF&CC, GoI. The project was reviewed by the National Bank for Agriculture and Rural Development (NABARD) which is the National Implementing Entity for climate change projects under the National Adaptation Fund for Climate Change and the Green Climate Fund. The project has been approved by the National Steering Committee on Climate Change.

Issues addressed in the Project

The coral diversity in the GoM region is affected by the rise in Sea Surface Temperature (SST) as evidenced through the coral bleaching (Figure 3) (Arthur, 2000; Jeevamani *et al.*, 2013).

It was projected by Vivekanandan *et al.*, (2009) that the annual average SST may increase by 3.0°C to 3.5°C in the Indian seas. The maximum SST in summer months may rise up to 34° C or more. Subsequently, the degree heating months greater than 2.5, which are indicators based on the coral

threshold, may also increase. Given the implications that the reefs will not be able to sustain catastrophic events more than three times in a decade and reef building corals would lose dominance.

It is projected that during the decade 2030-2040, the corals in the GoM region may begin to decline and during the decade 2050-2060, the reef building corals would lose their dominance.

Table.1 Existing Policies/projects and programmes for Tamil Nadu coast

Policies/Projects/Programmes on Tamil Nadu Coast	Activities
Developing an Integrated Coastal Zone Management Plan for Tamil Nadu	Plan for development of an integrated GIS based State coastal data base for Tamil Nadu; preparation of a land use map, land capacity assessment, data collection on river discharge, sewage discharge from industry as well as from domestic waste etc.
National Assessment of Shoreline Change for India	National ICZM Programme implemented by the MoEF&CC, GoI, mapping has been completed for all the Coastal States/ UTs along the east and west coast of India on a 1:50,000 scale.
Coastal Sediment Cell Delineation	Provide information useful for necessary policy changes towards coastal shore protection, land-use planning, and coastal resources management.
Disaster Risk Management Programme	Emergency Control Centres, one at State level and six in coastal districts in order to disseminate timely disaster information.
National Cyclone Risk Mitigation Project	Construction of Cyclone Shelter, Construction/Renovation of coastal canals and embankments for improved drainage, Shelterbelt Plantation, Plantation and regeneration of mangroves, Construction of Missing Road Links/Bridges etc
National Coastal Protection Project	Protection of coastal areas of Maritime States/ Union Territories from sea erosion is under formulation.
Coastal Area Management Project of Tamil Nadu Forest Department	Shelterbelt plantations and mangrove plantations by the Tamil Nadu Forest Department.
Gulf of Mannar Biosphere Reserve (GoMBR)	Enhanced protection through infrastructure development, capacity building of all stakeholders through training, awareness creation, undertaking research and monitoring works.
Biodiversity Conservation	Coral reef and sea grass monitoring, conservation, management, awareness generation and supporting alternative livelihoods on communities dependent on the coral reefs in Gulf of Mannar and Palk Bay.

Fig.1 Planning for suitable TNSAPCC strategies for Coastal Area Management

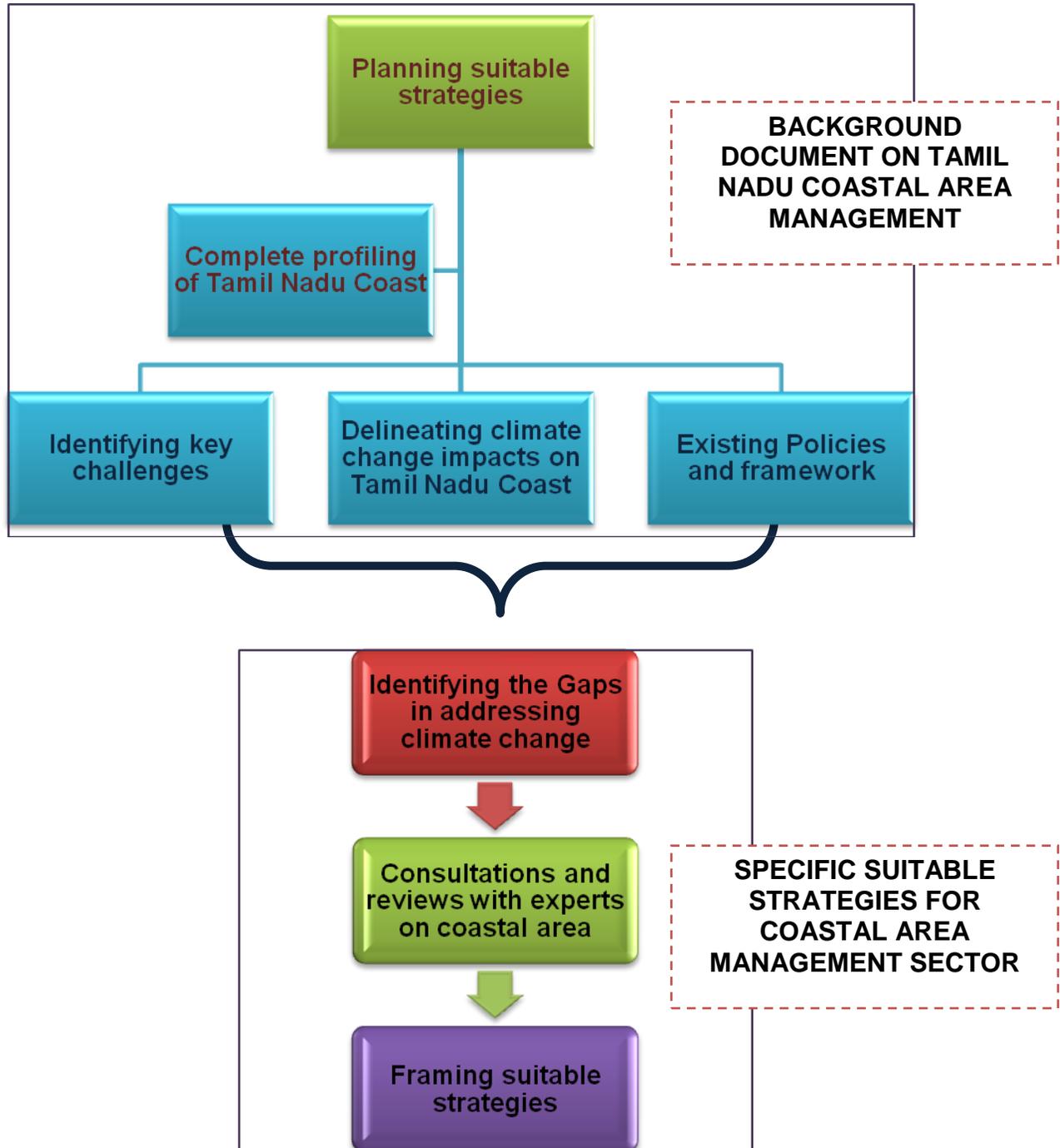


Fig.2 TNSAPCC Strategies for Coastal Area Management

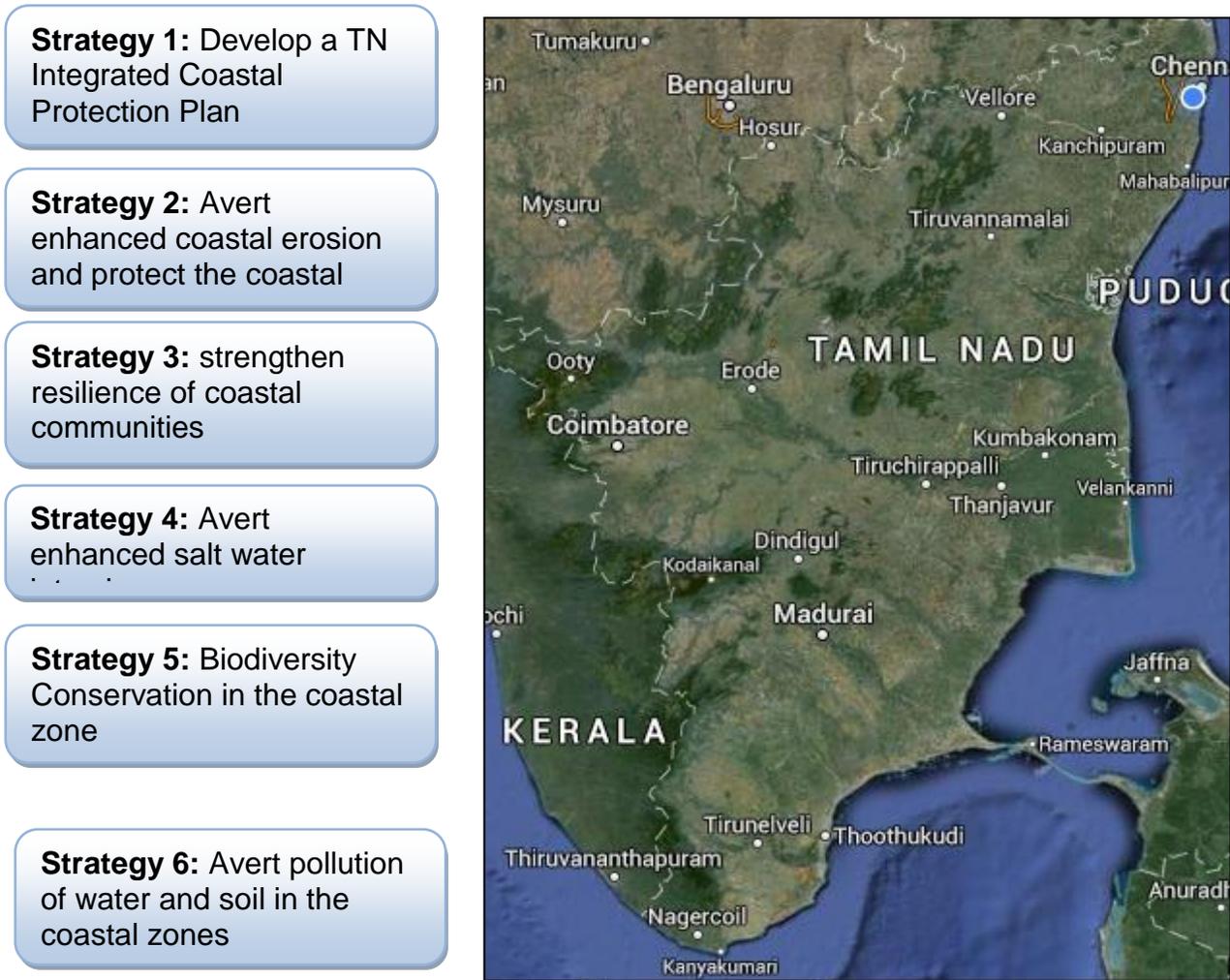


Fig.3 Bleached Corals in Gulf of Mannar



Secondly there are 21 uninhabited islands in GoM region. Rampant coral mining around these islands till the year 2005 had led to the substratum becoming unstable and the island shores becoming vulnerable to the impacts of climate change leading to erosion. Two islands have already submerged and the third island is on the verge of submergence. The islands are also serving as a resting ground and protective area to the traditional fishermen during rough climatic conditions.

Moreover the livelihoods along the coast are also affected by climate change impacts. Over 100,000 traditional fishermen live along the coasts between Rameswaram and Tuticorin and are dependent on the associated fishing resources. The loss of fishery due to habitat destruction and migration of fish species is impacting the sustained livelihood of the dependent fishermen communities. Thus it is planned to undertake eco-development activities to strengthen resilience of coastal communities in view of projected climate change that substantiates the 3rd Strategy of the TNSAPCC.

Based on the above mentioned immediate concerns in the Gulf of Mannar region, the following objectives form the crux of the project.

Objective 1: To carry out a baseline study to assess vulnerability to climate change of both coastal ecosystems (including biodiversity and fishery) and coastal communities in the Gulf of Mannar. The baseline data will provide the basis for adaptation planning and implementation of the restoration and rehabilitation activities and the eco development activities. Specific tools will be used to carry out the baseline survey and assessment.

Objective 2: To restore Habitats (Coral reef and sea grass rehabilitation) in Kariyachalli

and Vilanguchalli Islands as a climate adaptation strategy.

Objective 3: To build climate change resilience to the fast eroding Vaan Island through deployment of artificial reef modules. While this method is practiced for several purposes such as fishing and recreational activities, in this instance it will be carried out only for the purpose of rehabilitation and as a climate change adaptation measure, focusing mainly to protect the island.

Objective 4: To promote Eco development activities among coastal communities to enhance their adaptive capacity and to sustain livelihood and food security.

Conclusion

The Tamil Nadu State Action Plan on Climate Change (TNSAPCC) endorsed by the Ministry of Environment, Forests and Climate Change (MoEF&CC) is a holistic document that compiles the basic details on all the seven vulnerable sectors of the state of Tamil Nadu. Being a coastal state this paper reviews the progress made in planning and implementation of the TNSAPCC strategies for the Coastal Area Management Sector. At present the Coastal Area Management Sector has been addressed through a project under the National Adaptation Fund for Climate Change aimed at providing a solution to the impact of climate change on coral reefs, seagrass, enhanced erosion due to climate change in islands and improving the resilience capacity of the coastal communities and livelihoods.

It is planned that such implementation frameworks and further progress will be made for all the other sectors in a systematic and step-wise manner in the State of Tamil

Nadu. These frameworks would help in achieving the strategies of the TNSAPCC and thereby take concrete mitigation and adaptation measures to confront climate change issues at the local level.

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