

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Climate policy and planning has become imperative in the recent years with the effects of global climate change becoming increasingly manifested and visible at the local level. Owing to India's federal structure, and introduction of India's National Action Plan on Climate Change (NAPCC) in 2008, State Governments were also encouraged to prepare their own State Action Plan on Climate Change (SAPCC) consistent with the strategies in the NAPCC. States/UTs were encouraged to integrate State-level variations in ecosystems, geographic conditions, socio-economic scenario, and other factors, while converging with the existing policies and ongoing programmes and schemes being implemented. 33 SAPCCs of States and Union Territories have been approved and are operational. Dedicated climate change institutions/cells have been established in most of the States/UTs to coordinate activities related to climate change. States/UTs have initiated capacity building activities and demonstration projects to implement SAPCCs since the formulation of SAPCCs. Tamil Nadu had formulated the Tamil Nadu State Action Plan on Climate Change (TNSAPCC) in 2014.

The National and International Climate Action and Policy Landscape have evolved since the formulation of SAPCCs. Paris Agreement has been agreed upon in the year 2015 to limit global mean temperature within 2 degree and working towards to limit 1.5 degree Centigrade. India has submitted its Nationally Determined Contributions (NDC) goals for post-2020 with eight different goals including three major quantifiable goals related to emission reduction, renewable energy and forestry. Over the years, India has pursued major domestic policies and schemes in areas of climate change mitigation and adaptation actions, particularly in the fields of clean and renewable energy, enhancing energy efficiency, development of less carbon-intensive and resilient urban development, promotion of waste to wealth, electric vehicles, etc.

The scientific and socio-economic understanding and knowledge on climate change have also advanced over the past few years. The dedicated climate change institutions/cells established in the States/UTs, with the active support of scientific, academic and research institutions, carried out several regional and sectoral vulnerability studies highlighting the impacts of climate change. The enhanced capacities and improved understanding of sectoral and regional climate variabilities and projections, Green House Gas Emissions (GHG), long-term vulnerabilities, mapping vulnerable regions/ social groups/sectors, etc. will help in the identification and prioritization of mitigation/ adaptation strategies and refining regional specific action plans and strategies.

In this context, SAPCCs need to be revised and strengthened further considering the evolving context of climate science, policy and actions. Ministry of Environment Forests & Climate Change, Government of India requested States to initiate the process of revision of the SAPCCs in January 2018 considering the principles enlisted in Figure 1.1

1.1.1 National and State-level Climate Policy and Planning

The SAPCC revision is thus intended to

1. Better align National and sub-National adaptation and mitigation planning and
2. Enhance the evidence-based character and effectiveness of climate policy and planning by integrating recent advancements in knowledge and understanding.

1.1.2 National-level Climate Policy and Planning Frameworks

As hinted at above, India's flagship climate policy document is **National Action Plan on Climate Change (NAPCC) 2008**. The NAPCC established 8 National missions "representing multipronged, long term and integrated strategies for achieving key goals in the context of climate change"¹ which are listed in Table 1.1.

¹<http://moef.gov.in/environment/climate-change/>

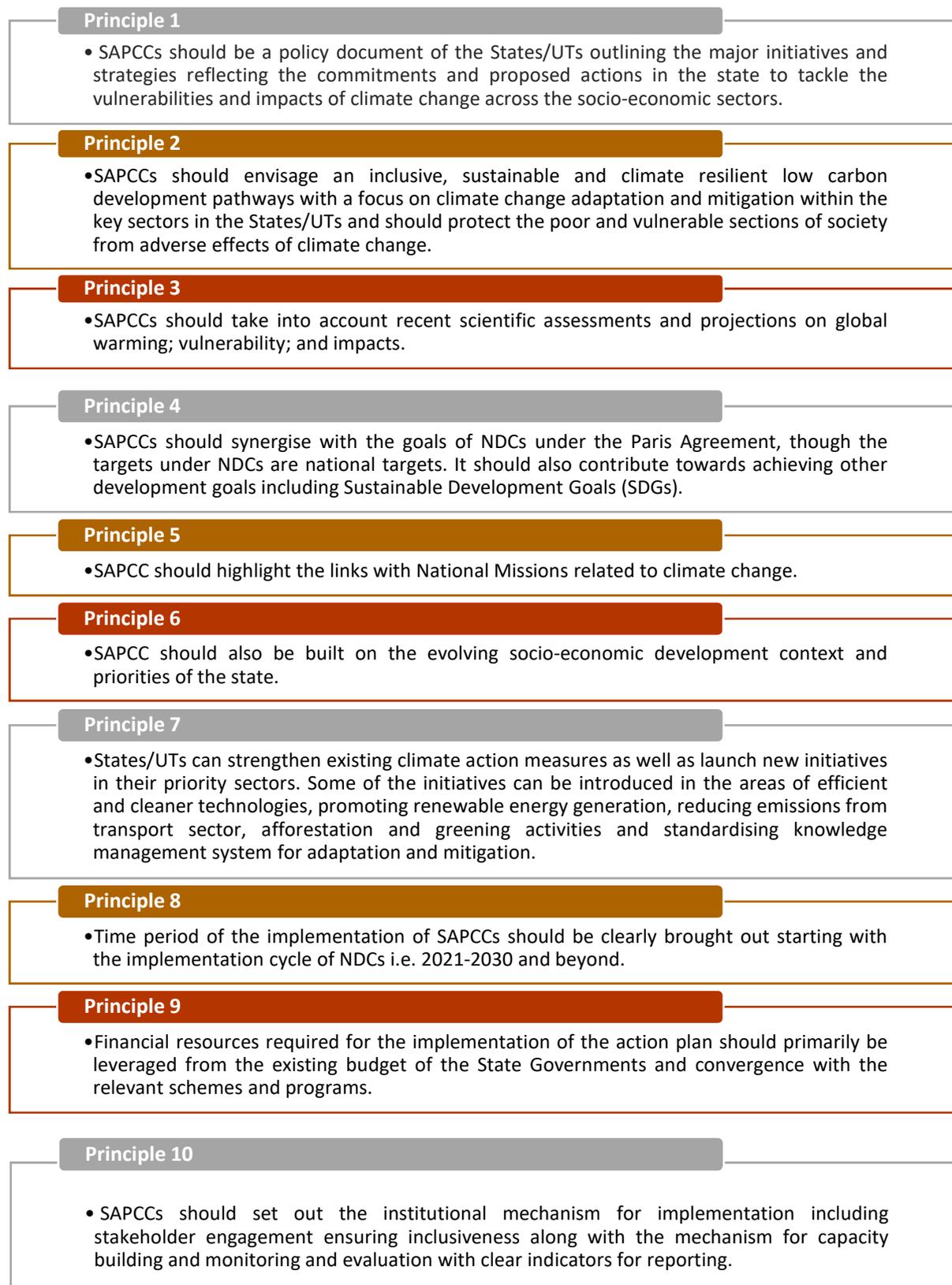


Figure 1.1: Guiding Principles, from Ministry of Environment, Forest and Climate Change, “A Common Framework for revision of State Action Plan on Climate Change”, 2019

Table 1.1: Eight Missions of the National Action Plan on Climate Change (NAPCC)

Mission name	Goals and measures
National Solar Mission	Increase the share of solar energy in the total energy mix
National Mission for Enhanced Energy Efficiency	Enhance energy efficiency through market-based certification mechanisms, cost reductions through R&D, demand-side financing mechanisms, and fiscal instruments
National Mission on Sustainable Habitat	Improvements in energy efficiency in buildings, solid waste management and modal shift to public transport
National Water Mission	Ensure integrated water resources management helping to conserve water, minimize wastage and ensure more equitable distribution both across and within States
National Mission for Sustaining the Himalayan Ecosystem	Evolve management measures for sustaining and safeguarding the Himalayan glacier and mountain ecosystem
National Mission for a Green India	Enhance ecosystem services including carbon sinks
National Mission for Sustainable Agriculture	Devise strategies to make Indian agriculture more resilient to climate change
National Mission on Strategic Knowledge for Climate Change	Enhance the understanding of challenges of and response to climate change

A refinement of India's National mitigation and adaptation goals is provided by the mentioned Nationally Determined Contribution submitted to the UNFCCC. The NDC, initially formulated as the "Intended Nationally Determined Contribution" (INDC) in 2015, sets out eight different goals for the post-2020 period, three of which are quantitative. These goals are listed in Table 1.2, along with an indication of missions formulated in the NAPCC that are relevant to the different goals.

Table 1.2 India's NDC goals

No.	NDC goal	Quantitative/ qualitative	Relevant NAPCC missions
1	To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation.	qualitative	All
2	To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development.	qualitative	All
3	To reduce the emissions intensity of its Gross Domestic Product by 33 to 35 percent by 2030 from 2005 level.	quantitative	<ul style="list-style-type: none"> • National Solar Mission • National Mission for Enhanced Energy Efficiency • National Mission on Sustainable Habitat • National Mission for a Green India

No.	NDC goal	Quantitative/ qualitative	Relevant NAPCC missions
4	To achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF).	quantitative	<ul style="list-style-type: none"> National Solar Mission
5	To create an additional carbon sink of 2.5 to 3 billion tonnes of CO ₂ equivalent through additional forest and tree cover by 2030.	quantitative	<ul style="list-style-type: none"> National Mission for a Green India (National Mission for Sustainable Agriculture)
6	To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management.	qualitative	<ul style="list-style-type: none"> National Mission for Sustainable Agriculture National Water Mission National Mission for Sustaining the Himalayan Ecosystem
7	To mobilize domestic & new and additional funds from developed countries to implement the above mitigation and adaptation actions in view of the resource required and the resource gap.	qualitative	

Moreover, the NDC goals, are strongly linked to the other international agreements and goals, in particular the Sustainable Development Goals (SDGs). This is illustrated in Figure 1.2, which shows the number of actions of relevance to a particular SDG in the Indian NDC.

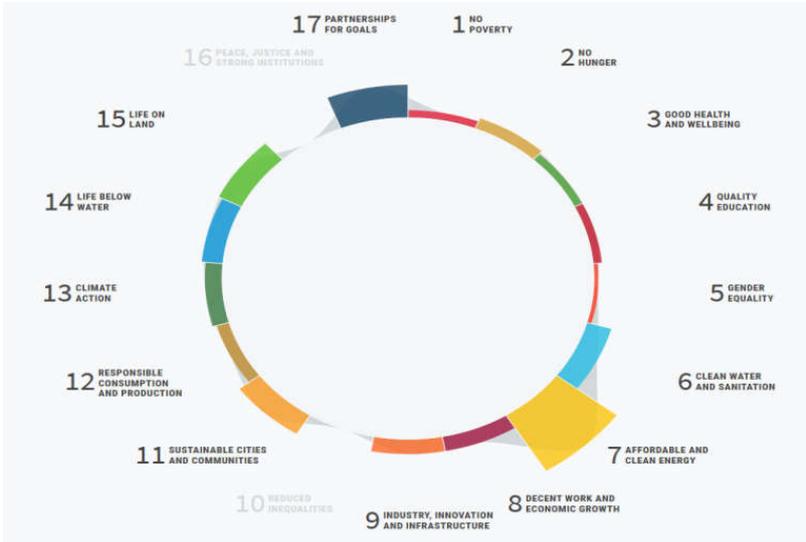


Figure 1.2: SDG- NDC Linkages for India’s First NDC

Note: The size of the colored bar indicates the number of actions of relevance to a particular SDG that are mentioned in India’s NDC, with bigger bars meaning more mentions.²

²<https://klimalog.die-gdi.de/ndc-sdg/country/IND>

1.1.3 State level Climate Policy and Frameworks in Tamil Nadu

In accordance with the mandate for the SAPCCs, in Tamil Nadu formulated seven vulnerable Sectors that has grouped the proposed actions and strategies into clusters and thus extended the eight National missions listed in Table 1.1.

The Sectors in TNSAPCC that are aligned with Government of India Missions and the sectors are as follows:

1. Sustainable Agriculture
2. Water Resources
3. Forest and Biodiversity
4. Coastal Area Management
5. Enhanced Energy Efficiency and Solar Mission
6. Sustainable Habitat
7. Strategic Knowledge for Climate Change

The seven State sectors identified in the TNSAPCC also form the basis for the refined strategy packages of the TNSAPCC 2.0 (see Chapter 5: Climate Change Strategy - Adaptation and Chapter 6: Climate Change Strategy - Mitigation).

In the TNSAPCC 2.0 the following sectors are under adaptation category:

1. Sustainable Agriculture
2. Water Resources
3. Forest and Biodiversity
4. Coastal Area Management
5. Strategic Knowledge for Climate Change
6. Disaster Management and Mitigation
7. Health and Sanitation

The State Sectors for Enhanced Energy Efficiency & Solar Mission and Sustainable Habitat are under mitigation category.

By extending the Indian NDC to the State-level, the TNSAPCC is relevant to SDG implementation. Figure 1.3 shows results of an analysis of the linkages between proposed TNSAPCC actions with the 17 SDGs, plotted against the NDC contribution to the SDGs depicted in Figure 1.2.

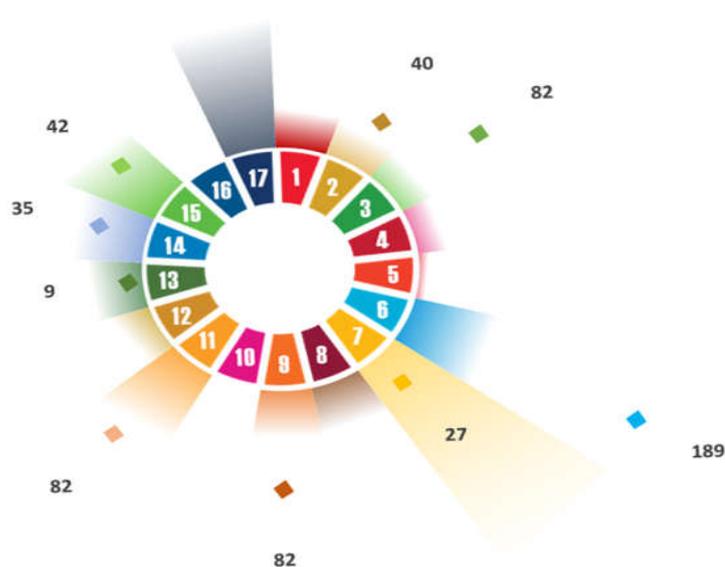


Figure 1.3: SDG-NDC-SAPCC Linkages for TNSAPCC

Note: The number of proposed TNSAPCC activities of relevance to each SDG is illustrated by squares, with squares further from the center indicating more measures. The total number of proposed identified activities relating to each SDG is given next to the squares. SAPCC-SDG linkages are plotted against SDG-NDC linkages from Figure 1.3. A similar analysis for TNSAPCC 2.0 activities and strategies are presented in chapter 9.

1.2 OBJECTIVES

Considering the evolving context of climate science, policy and actions, the State Action Plan on Climate Change needs to be revised and strengthened. Therefore the objective of this document is to identify and prioritise mitigation and adaptation strategies in the light of such developments, and to refine the regionally specific action plan and strategies.

More specifically, the TNSAPCC2.0 aims to increase the level of ambition, accurateness, specificity and practicality of the mitigation and adaptation actions contained, and facilitate progress from planning to action. In order to do this, this document

- (a) stock taking for the implementation of the TNSAPCC, to derive conclusions on success factors and challenges to mitigation and adaptation planning in Tamil Nadu
- (b) updates forward-looking plans, strategies and actions for ambitious, workable mitigation and adaptation actions and strategies.

1.3 APPROACH & METHODOLOGY

The TNSAPCC 2.0 builds on the developments at the National level, various policies and programmes and the National and International commitments by India on the issues of climate change adaptation and mitigation. The steps taken for TNSAPCC 2.0 are depicted in Figure 1.4.

The detailed methodology used for each of the above steps explained in the respective chapters of this document.

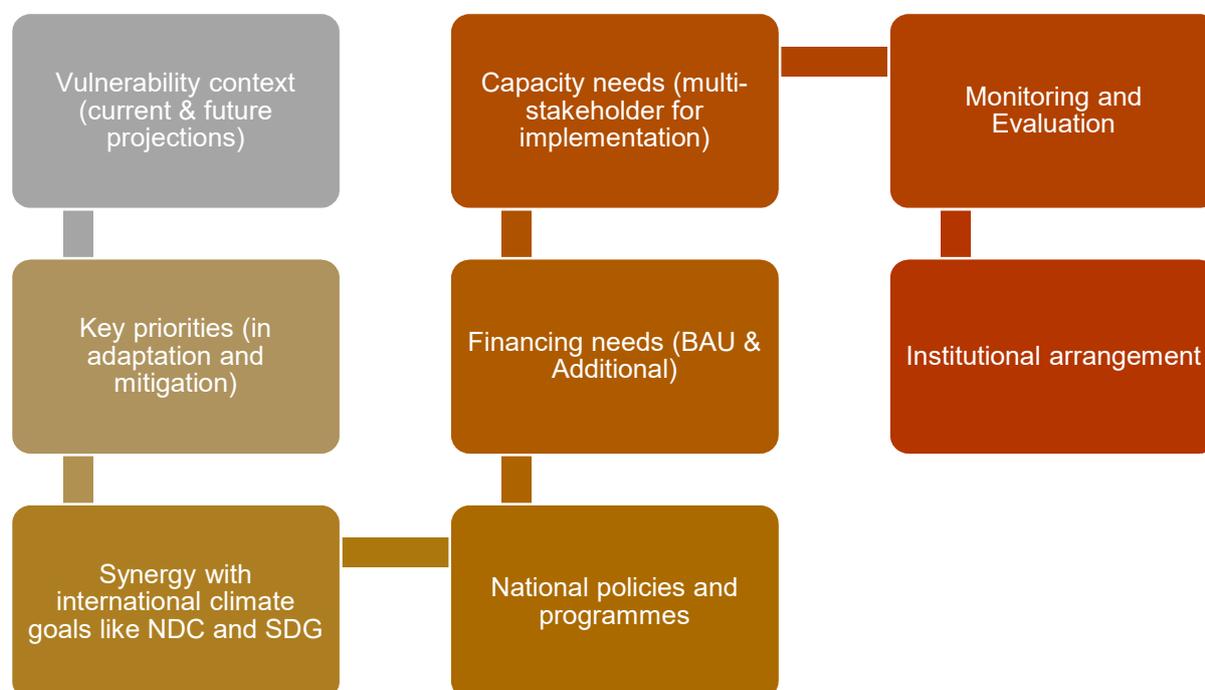


Figure 1.4 Approach and Methodology

Using the approach and referring to the climate policy context introduced in this chapter, this document aims to achieve its two fold purpose by proceeding in the following structure. Chapter 2 introduces the State profile, circumstances, resource endowments and the most important economic and societal sectors, using the latest scientific assessment, Chapter 3 then presents Tamil Nadu's Climate profile including historical conditions and observed trends and projected climatic changes. Chapter 4 deals with the vulnerability assessment for various sectors of Tamil Nadu using the sectoral & Climate information. It also presents key observed projected sectoral impacts. Chapter 5 includes both (a) stocktaking and b) adaptation planning by (a) comprehensively assessing progress towards State targets set out in the TNSAPCC and barriers related to their achievement and b) identifying forward- looking adaptation strategies for the identified key sectors and areas (Agriculture, Water Resources, Forestry & Biodiversity, Coastal Area Management, Knowledge Management, Disaster Management and Mitigation and Health). Chapter 6 focuses the same aforementioned steps for key mitigation areas namely Enhanced Energy Efficiency & Solar Mission and sustainable habitat. Out of the identified adaptation and mitigation strategies, Chapter 7 highlights the financial mechanism on how the strategies and activities prioritized will be funded. Chapter 8 then details the institutional mechanisms involved in the implementation of the SAPCC 2.0 and Chapter 9 concludes by identifying the monitoring and evaluation framework to be followed for monitoring and evaluating the implementation of the plan.