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CapaCITIES
LOW CARBON • CLIMATE RESILIENT • CITY DEVELOPMENT

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I·C·L·E·I Local Governments for Sustainability

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City Climate Action Planning

CASE STUDY

Defining City Climate Action Plan

Climate action planning can be defined as a process of developing a framework for identifying and implementing climate actions (mitigation as well as adaptation), which a city could undertake in conjunction with its developmental plans and policies to reduce its Greenhouse Gas (GHG) emissions and increase climate resilience. A climate action plan builds on the information gathered from baseline GHG emission inventories and urban climate vulnerability assessments to identify priority actions that would help the city adapt to climate change impacts, while significantly reducing GHG emissions from city activities. This plan would also include implementation mechanisms that would ensure the financial viability of identified actions. This document summarises a city's vision for climate-resilient, low-carbon and environmentally sustainable development. This action plan would ideally inform other sectoral action plans with an aim to mainstream climate consideration into urban development processes.

Why a City Climate Action Plan?

Over half the world's population lives in cities, and accounts for 78% energy consumption and generates over 70% of the global CO_2 emissions, making them the major contributors to climate change. However, these cities are also among the most vulnerable hotspots for climate change impacts.

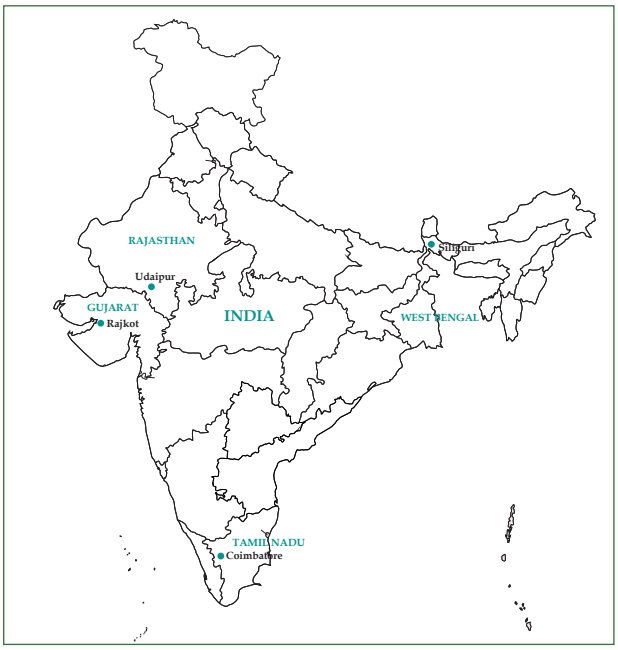
Domestically, India is a rapidly urbanising country with more than 30% of its population now residing in urban areas, which is expected to increase to 40% by 2030. Increased demand for energy, infrastructure and services is putting city systems under tremendous pressure, which will be further accentuated due to growing risks caused by climate variability and gaps in basic urban services delivery.

Therefore, it is imperative that local governments address climate change in order to ensure an acceptable standard of living. A comprehensive city climate action plan spans all municipal sectors (such as water, waste, sewerage and urban planning) and guides sustainable urban development in the cities.

With rapidly changing global environmental and economic scenarios, a city with a long-term vision of sustainable and energy-efficient development is likely to have a distinct advantage over other cities in attracting human capital and economic inflows. A properly designed and implemented climate action plan can also unlock wide-ranging social and economic benefits to the city and its residents; for instance, improved Non-Motorized Transport (NMT) and public transport have considerable impact on improving the local air quality.

Introduction

In order to strengthen the capacities of Indian cities to identify, plan and implement measures for achieving



Case Study Locations

a lower greenhouse gas emissions growth path and enhancing resilience to climate change in an integrated manner, Swiss Agency for Development and Cooperation's project, Capacity Building for Low Carbon and Climate Resilient City Development project (CapaCITIES) was implemented from 2016 to 2019.

As a part of this project, four cities - Coimbatore, Rajkot, Siliguri and Udaipur - mainstreamed climate change mitigation and adaptation into their developmental policies.

Approach

The cities adopted the ClimateResilientCITIES Methodology[1] for developing climate action plans. It provides step-by-step guidance for the development of a climate-resilient city action plan that addresses both climate change adaptation and climate change mitigation.

This process is based on the premise that climate resilience refers to both climate change mitigation (reduction of GHG emissions) and adaptation (addressing climate change impacts such as sea level rise, precipitation changes, temperature changes and extreme events), and linkages therein.

Senior political buy-in was the driving force behind the development of the city climate action plan. Executive and administrative support were critical factors that ensured the successful development, planning and implementation of the climate action plans. Institutional structures such as climate core committee and local stakeholders' committee (individuals/community representatives) were created to promote ownership of the Action Plan within the local government as well as the community.

Once these institutional structures were created, the process of collecting baseline information was initiated. The baseline assessment involved gathering detailed information on urban infrastructure, economic, social and environmental situations. This was vital to evaluate the impacts of climate change on urban development activities, and to determine the type of assistance needed to deal with climate impacts.

As a next step, a GHG emissions inventory was developed to determine the sources of GHG emissions in local government operations and the whole community. Based on the baseline inventory, prioritised mitigation actions for reducing emissions were identified.

Further, climate impacts faced by the city were discussed through Shared Learning Dialogues (SLDs) in consultation with the Climate Core Team and Stakeholder Team. An assessment of the past climate trends and future climate projections were done to understand the trends and patterns in temperature and precipitation and to also develop the climate change scenarios; this was done with support from IIT Madras. This scenario building involved delineating the type of anticipated change, the probability of the anticipated change and the impact on vulnerable populations and urban infrastructure of the city. The adaptive capacities of the urban systems were also assessed at this stage. The information collected and assessment done were collated to develop the 'Baseline Synthesis Report', which formed the basis for the city to develop its resilience actions.

1. The process is built on ICLEI's Cities for Climate Protection (CCP) Campaign, ICLEI's flagship mitigation program; the GreenClimateCities (GCC) program and ICLEI's adaptation toolkit, the ICLEI Asian Cities Climate Change Resilience Network (ACCCRN) Process or IAP toolkit. (for detailed information refer http://capacitiesindia.org/crcap-methodology/

Using the information available in the baseline synthesis report, project partners helped to develop a "Basket of Solutions", which the cities used to identify the interventions/actions that address relevant resilience priorities of the city, both from adaptation and mitigation perspectives. These interventions were prioritised on the basis of their feasibility (cost and financing perspective) and applicability (addressing specific priority areas like poverty reduction/climate resilience) to the city. These resilience interventions were linked to existing/ongoing/ planned initiatives within the city so as to leverage existing resource opportunities (like Central/State schemes or programmes) to implement the action plan.

Finally, a Climate Resilient City Action Plan was developed with a city-level 'Climate Target' and was the ratified with political support. The action plan was formally approved by the Municipal Council through an official resolution.

Outcomes

The Municipal Councils of Coimbatore, Rajkot, Siliguri and Udaipur have ratified their respective city's 'Climate Resilient City Action Plans'.

The action plans propose climate targets through implementation of various actions across sectors such as building, water supply, sewerage and street lights, besides transportation and solid waste management. The targets have an annual GHG emission mitigation potential of 23% for Rajkot, 33% for Coimbatore, 18% for Udaipur and 14.6% for Siliguri by 2022-23, over the baseline (2015-16 for 3 cities, 2016-17 for Udaipur).

Quick-Win Projects: Proof of concept of different technologies to ensure climate resilience were showcased to different cities through technical assessments and design & implementation of quick-win projects. The capacity of cities to develop bankable projects was also strengthened by preparing robust contracting documents that would support climate action.

Quick-Win Projects in Coimbatore: Installation of four sensor-based Ambient Air Quality Monitoring Stations (AAQMS) and SUNYA project (100% segregated waste collection) in three city wards.

Quick-Win Projects in Rajkot: Installation of two sensor-based AAQMS, 30 kWp grid connected solar PV system in social housing complex, installation of a 145 kWp grid connected Solar PV system at Aji Water Treatment Plant (meeting 18% of the power requirement) and developing groundwater recharge structures at five locations in the city.

Quick-Win Projects in Siliguri: Sharing acoustic water leak detection technology to reduce water wastage and Installation of 4 sensor based Ambient Air Quality Monitoring Stations (AAQMS). Implementation of SUNYA project (collection of segregated waste in 2 wards and implementation of a 1TPD organic waste convertor for production of compost).

Quick-Win Projects in Udaipur: Deployment of 18 e-rickshaws of different types (passenger and freight) and SUNYA project (100% segregated waste collection) in two city wards and implementation of two TPD biomethanation facilities for processing segregated biodegradable waste.

Cities were supported project partners in developing bankable projects, for instance, technical advice for the development of an SWM strategy plan and the overall planning of the site at Vellalore (master plan), including a dewatering system, leachate treatment and an O&M manual.

Challenges

- Significant data gaps at city level on urban infrastructure and service delivery.
- Lack of jurisdiction of LG over key urban service sectors, such as water supply, transport and electricity.

- Limited technical expertise/capacity at the local government level, thereby hindering comprehensive understanding of the linkage between climate change and fragile urban infrastructure.

- Challenge of engaging stakeholders at the inception of the planning process.

Lessons Learnt

- Developing a 'City Climate Action Plan' provides the local government an opportunity to mainstream climate considerations into regular urban development processes.

- The key to successful implementation of the resilience interventions/actions is the 'institutionalisation' of climate action planning into sectoral development plans.

- City Climate Action Planning will be effective only when identified prioritised actions are included in annual municipal budgets and in other relevant schemes.

- Resilience actions have to leverage and build upon cities' existing developmental plans and resource opportunities (like Central/State schemes or programmes) to be feasible and applicable for implementation.

- Building the capacity of local municipal officials is critical for sustained efforts in implementation of the action plan.

- Developing institutional structures (climate core and stakeholder committees) helped in securing the buy-in of all officials and in creating a sense of ownership amongst key stakeholders.

- Formulation of a city climate action plan not only helps in forecasting future climate change impacts and identifying infrastructural implications, but also helps in understanding urban infrastructure gaps.

- Extensive data needs to be collected for the preparation of a city climate action plan; institutionalising data capture formats and processes eases this process. This data capture process also support larger urban development initiatives of the city.

- Developing a climate action plan is a 'dynamic process'; a city should revise it depending on its evolving priorities as well as data availability.

Additional Information

Detailed information on the project, action plans, pilots and bankable projects developed are available on http://capacitiesindia.org

For Further Information Contact:

ICLEI - Local Governments for Sustainability, South Asia
C-3, Lower Ground Floor, Green Park Extension, New Delhi - 110016, India
Tel: +91–11–4974 7200; Fax: +91–11–4974 7201