

Climate and energy in a complex transition process towards sustainability in Hyderabad—Mitigation and adaptation strategies by changing institutions, governance structures, lifestyles, and consumption patterns projects

Executive summary

The Sustainable Hyderabad Project (SHP) has over the course of its implementation generated knowledge towards improved understanding of the problems of climate change and energy efficiency in the complex transformation process that Hyderabad is experiencing. It has further identified potentials to mitigate emissions of greenhouse gases (GHG) and vulnerabilities of various supply systems to climate change impacts. Analysis of institutions and governance structures, a core approach to analysing the problems in multiple focus fields of the project, was carried out under the Work Package (WP) 5 of the project. Owing to the centrality of WP5 to gain a common perspective of climate change and associated problems in various fields, the activities and findings of the institutional analysis are presented in the first chapter of this report.

Chapter 1 of the report recapitulates the rationality behind the main objectives of the SHP followed by the main propositions of the project and its analytical approach. The core objectives of the project were sustainable energy provision and efficiency as well as mitigation and adaptation of strategies regarding climate change for the metropolitan region of Hyderabad in Andhra Pradesh (AP), India. As this central focus guided the analytical framing of the project, the key problems of energy and climate were positioned within the complex context of social, ecological, economic and cultural transformations that have been taking place and the resulting challenges that the region is facing. Such a contextualized understanding has been crucial in the process of identifying solutions to these problems, which need to be supported or put into practice by actors facing different action situations. Therefore, it also became imperative to examine possible trade-offs or synergies between the agendas of local communities or governments.

The dichotomies between the ‘new’ climate agenda that the city must respond to and the already existing common priorities manifest themselves in various forms, such as in the social construction of climate and other immediately relevant problems, willingness and capabilities of accepting constraints on consumption while some groups are facing chronic mal- and under-nourishment, and conflict in the allocation of scarce natural and financial resources for clean development and sustaining much-needed growth. However, during the course of carrying out this project we have observed that climate and energy efficiency have been incorporated into national and sub-national agendas, and substantial resources have been allocated towards delivering climate objectives through various technical and policy instruments. While these measures are indispensable for arriving at reasonable and feasible solutions, they can rarely become effective, or will even not be implemented, if necessary requirements and changes regarding institutions and governance structures are not equally considered as a task for knowledge-based design.

Moreover, such adjustments in norms, rules, and patterns of interaction and modes of organization cannot be limited to politics and administration, but must simultaneously take place within civil society, families, and households. Energy use and greenhouse gas (GHG) emissions from production and provision of goods and services, both private and public, will not change sufficiently without transformation of lifestyles and consumption patterns.

Institutional analysis and change has been the overall approach of the project, based on the premise that institutions shape the behaviour of individuals and, that certain institutions can be changed for the achievement of sustainable behavioural patterns. The project has focussed on developing a 'Sustainable Development Framework' for the Greater Hyderabad region, with priority on mitigation and adaptation strategies for climate change and energy efficiency in various sectors, namely, transport, food provision, urban and peri-urban land use, and provision of energy and water. Actions in all of these sectors influence each other and are both directly and indirectly impacted by the effects of climate change. Efforts to adapt to climate change impacts in these sectors also have the potential to mitigate GHG emissions, thereby altering climate change. For example, land use planning, which includes adapting the transport infrastructure in Hyderabad to extreme weather events and identifying flood prone areas can lead to reduced traffic interruptions, energy consumption, and GHG emissions.

One of the policy paradigms of the Indian government has been to achieve any kind of possible mitigation as a co-benefit to growth. However, there are no appropriate methods for evaluating such co-benefits or even trade-offs. Therefore, exploring the co-benefits of climate change adaptation and mitigation would be important for designing effective climate strategies. Another factor to consider is that, due to the close inter-linkages of various sectors, the implementation of strategies for climate change adaptation and mitigation requires not only a comprehensive planning, but also their concerted execution.

In order to provide a sustainable development framework for Hyderabad, two predicted obstacles to sustainability, namely, increasing GHG emissions from sectors and imminent impacts of climate change on growth in different sectors of Hyderabad have been taken into account to set the agenda for identifying solutions. The resulting research and action strategy of the project has been based on the guiding notion of 'managing the unavoidable' (adaptation) and 'avoiding the unmanageable' (mitigation).