



Climate and Energy in a Complex Transition Process towards Sustainable Hyderabad

Overview and Findings to Date

The focus of this project proposal is the South Indian emerging megacity of “Greater Hyderabad”, which is expected to reach 10.5 million inhabitants by 2015. Driven by consumption and lifestyle changes, per capita greenhouse gas emissions are constantly increasing in Hyderabad. The use of traditional biomass for fuel (e.g. firewood) is high in peri-urban areas; at the same time, modernization and urbanization processes have led to a growth of commercial energy and indirect energy uses, e.g. of energy embodied in products and services, indicating Hyderabad’s shift towards a modern consumer society. Severe floods in 2002, strong heat waves in 2003 and altogether three drought years between 2000 and 2007 in Hyderabad and its surrounding region have caused serious damage to human life, property and economic advancement. Therefore, the assessment of the role of climate change in the everyday life of people in Hyderabad has become a central issue.

Rationale of the Project

The project concept is concerned with mitigation achieved through (a) accounting via a consumption-oriented analysis of greenhouse gas emissions (diet, traffic and transport etc.), considering the central aspects of lifestyle changes and aiming at the implementation of measures for emission abatement and (b) concepts, regulatory studies, policy learning and governance reforms in infrastructure sectors, such as energy, transport and water; assessment and dissemination of energy efficient technologies in energy intensive industries, housing, waste and water management.

To evolve adaptation measures for climate change, a comprehensive study of its potential impacts will

be conducted for Hyderabad and its peri-urban regions, which would be the first such attempt for a megacity in Asia. This study will also focus on rural-urban linkages, which Hyderabad needs urgently to cope with key challenges posed by its growth applied to areas such as energy security, environmental and water management and the designing of measures for transition towards sustainability.

Overall Objectives of the Project

The Project aims at achieving the following innovations for Hyderabad and its region:

1. to develop a Sustainable Development Framework (SDF) which focuses on mitigation and adaptation strategies for climate change and energy provision as well as efficiency concepts;
2. based on that, to design a strategy for a Perspective Action Plan (PAP), focussing on the resolution of these problems, including related core issues concerning nutrition and environment;
3. to implement selected Pilot Projects at the community level and organise learning processes for their adoption by setting up appropriate institutions and governance structures.

The major specific objectives can be summarized as follows:

- to develop a specific knowledge and data base regarding climate change, mitigation and adjustment opportunities, energy efficiency and bio-energy in the Hyderabad region;
- to formulate a “Sustainable Development Framework” (SDF) for the greater Hyderabad region with priority on mitigation and adjustment strategies regarding climate change;
- to foster generation and application of local know-

ledge on these topics, in particular for improving the knowledge and data base to initiate institutional innovation and governance reforms that support these objectives;

- to come up with a “Sustainable Urban Food and Health System” to meet the nutritional and health demands of the growing population of Hyderabad and to cope with the adverse effects of climate change and increasing energy scarcity on nutrition and health;
- to design institutional and policy solutions for “Sustainable Environmental Management”, focusing on climate and energy in urban and peri-urban regions of Hyderabad;
- to develop strategies of communication and co-operation which adequately and sensitively address gender issues;
- to formulate a PAP based on energy efficiency, mitigation and adaptation strategies for climate change with special reference to food, bio-energy, health and environmental management and to set up selected Pilot Projects;
- to secure adoption of the PAP by politicians, agencies, groups and firms by using the communication and co-operation mechanisms and capacity building measures developed; and
- to document and disseminate the project’s findings and to organise learning processes.

Project Structure

The Project is organized into ten work packages (WP) wherein the following areas are covered: (1) potential climate change impacts and adaptation measures in Hyderabad; (2) Knowledge and concepts on mitigation and adaptation strategies towards sustainability transition in lifestyles, consumption and health; (3) knowledge and concepts on mitigation and adaptation strategies towards sustainability transition in energy, water, biomass and transport; (4) urban and peri-urban institutions and governance structures towards sustainability transition in food, nutrition and health systems; (5) urban and peri-urban institutions and governance structures towards sustainability transition in natural resource management. These WPs will be combined with procesoriented components of the Project such as (6) Communication strategies, processing of information and organisation of stakeholder dialogues towards sustainability transition; (7)

co-operation strategie participation initiatives and addressing the gender dimension of sustainability; (8) a knowledge based action plan for institutional innovation and improved governance structures towards sustainability transition; (9) dissemination strategy, policy papers, policy learning and institutional innovation workshops; (10) project management, including guidance of research and planning of implementation, gender mainstreaming and integration of partners and actors.

Analytical Framework and Applied Methodology

The title of this proposal explicitly indicates that climate and energy in an emerging megacity like Hyderabad have to be considered as integrated elements, interrelated with many other drivers and obstacles of change in a complex process of transition and, thus, cannot simply be isolated from other issues. In other words, not only climate change and energy needs are at stake; rather these issues are closely intertwined with ecological, social, institutional, economic and cultural changes as well as resulting challenges. This means that linkages, either representing trade-offs or enabling synergies when tackling climate and energy problems, will have to be taken into account within the analytical framework. Application of mutually co-ordinated methods is foreseen, such as the “Institutions of Sustainability Framework”, the “Institutional Analysis and Development Approach”, the “Lifestyle Concept for Climate Change” from PIK, the “Governance of Energy Reforms Approach” from TERI, the “Livelihood System Approach”, the “Nutrition and Health Analysis” concept, “Transport Planning Models”, “Knowledge Management Concepts”, “Co-operative Science”, “Gender Analysis” and “Urban Governance”.

Capacity Building

Based on the focus of the project, as well as taking strong urban and peri-urban linkages into consideration, the following topics have been selected for capacity building: (a) climate change: mitigation and adaptation strategies for Greater Hyderabad; (b) regulatory reforms and governance; (c) Clean Development Mechanisms (CDM); (d) sustainable transport; (e) energy efficiency with regard to water,

housing, transport, cooking; (f) sustainable food and nutrition; (g) pollution abatement; (h) water management; (i) waste management; (j) health; (k) consumer co-operation.

Pilot Projects

Pilot Projects, which have the potential for continued implementation, will be organised on the following issues: (a) regulatory reforms and urban governance with regard to infrastructure sectors, e.g. energy, transport and water; (b) industrial pollution: abatement policy, commitment, implementation, and evaluation; (c) energy-efficient technologies, e.g. for industry, water, housing, transport, cooking; (d) Private- Public Partnerships: green technologies for energy, water, housing, transport, and waste; (e) socio-technical experiments on low-emission lifestyles; (f) Clean Development Mechanisms (CDM): urban and periurban forestry for carbon sequestration, bio-diesel for local and urban energy needs; (g) consumer cooperatives for food, energy and housing; (h) nutrition & health transition: “secondary malnutrition” and emerging “new diseases”.

Expected Impacts and Results

The project is expected to result in concepts and co-ordination mechanisms for the implementation of PAP to solve core problems related to climate change and energy provision through institutional innovations and governance reforms, while integrating solutions for nonseparable issues such as environment and nutrition. Capacities for stakeholders to participate in the implementation of PAP activities through their own organisations will be built up. New concepts of participation and co-operation will be put into practice. Pilot projects will be evaluated, outscaled and integrated into the PAP and handed over to the respective actors. Research and development outcomes will be disseminated using Indian, German and international platforms to generate knowledge on how to institutionalise sustainable urban development. Results will be communicated within and beyond the scientific community via journals, conferences, policy papers and websites.

Expertise of the Involved Partners

About 16 Partners and Researchers and 18 Actors and Stakeholders are involved in the project. According to the terminology used in this project we distinguish “Partners (or “Researchers”), who are the scientific members and their organisations (from India and Germany, including experts from IFPRI), from “Actors” (“Stakeholders”), denoting politicians, administrators, NGOs and various associations. The whole group of participants involved in the Project consists of 8 Consortium Partners (from Germany and IFPRI), 8 associated Research Partners from India and 18 Actors or Stakeholders from Germany and India.

German Partners

The Project Partners from Germany and the U.S. are from Humboldt University, Berlin (Lead Partner); Potsdam Institute for Climate Impact Research (PIK); the International Food Policy Research Institute (IFPRI), Washington, D.C.; the University of Freiburg (CULT-GEO); PTV, Karlsruhe; NEXUS GmbH, Berlin; and the Institute for Cooperative Sciences, Berlin (IfG).

Indian Partners

Our key Partners in India are the Energy Resource Institute (TERI); the Centre for Economic and Social Studies (CESS); the International Crops Research Institute for Semiarid Tropics (ICRISAT); Engineering Staff College of India (ESCI); the National Institute of Nutrition (NIN); Administrative Staff College of India (ASCI); Jawaharlal Nehru Technological University (JNTU); University of Hyderabad (UoH); and the Regional Centre for Urban and Environmental Studies (RCUES-OU).

Actors and Stakeholders

Key Actors and Stakeholders from Germany and India comprise, among others, of the Government of Andhra Pradesh (GoAP); the Ministry of Municipal Administration and Urban Development (MoMAUD); the Ministry of Environment & Forestry and Science & Technology (MoE&F;S&T); the Greater Hyderabad Municipal Corporation (GHMC); the Chamber of Commerce and Industry, Berlin (IHK); the German Association of Consumer Cooperatives (ZdK); the Hyderabad Metropolitan Development

Authority (HMDA); the Confederation of Indian Industries (CII); the Satyam Foundation (SATYAM); Forum for a Better Hyderabad (FORUM); the Confederation of Voluntary Associations (COVA); Tarnaka Residents Welfare Association (SCATROW); the Centre for Women and Female Children (SANNIHI-TA); the Centre for Sustainable Agriculture (CSA); and the Campaign for Housing And Tenure Rights (CHATRI).

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