

## Pursuing Climate Resilient Development in Karnataka's Drylands: Key issues for policy

A climate resilient development pathway (CRDP) is **'a development pathway that actively and deliberately chooses policies and practices that strengthen mitigation and adaptation outcomes and that enables an equitable, just, and sustainable development.'** Identifying suitable and effective CRDPs therefore requires integration between the goals of responding to climate change and responding to the development needs of present and future generations. This summary presents highlights from our research reviewing the issues and prospects for achieving CRDPs in the drylands of Karnataka, India, based on a review of existing research outputs, analysis of key national policy objectives and survey/interview consultations with a panel of experts. It is part of a wider study on CRDPs in three countries that have extensive arid and semi-arid lands (ASALs): Kenya, India and Namibia.

### The Climate Change Context in India

Even a relatively modest increase of 1.5°C in global temperature could have a significant impact on India's ASALs. The 1.5°C threshold could be breached within the next decade, and the 2°C threshold the decade thereafter. In semi-arid regions of India, mean daily temperatures have increased marginally faster than the national average with a noticeable increase in hot days and heat waves since the 1960s. The state of Karnataka already has more than half of the geographical area prone to droughts, and projected increases in average temperature and reductions in annual rainfall are most pronounced in the drier northern districts of the state. At the same time, across India, there is likely to be increasing intensities of heavy and extremely heavy rainfall events that generate flood risks. This means there is an urgent need to accelerate adaptation responses, as well as mitigation plans.

Since the enactment of the National Action Plan on Climate Change (NAPCC) 2008, there has been a growing prioritisation of the need to respond to climate change in India. Because of the major contextual differences across states of India, it was recognised that this national policy structure needed to be replicated at subnational level. The Karnataka State Action Plan on Climate Change was launched in 2013, which, together with the Karnataka State Disaster Management Policy (2020), highlights key vulnerabilities in the state and the need for sectoral policies to address those.

Mitigation actions are also discussed within SDG 2030 - Strategies and Action Plan for Karnataka (2020) and the Karnataka Renewable Energy Policy (2021-2026).

However, climate change adaptation and mitigation cannot proceed in a vacuum: neither their benefits nor their progress can be realized without taking into account other development challenges and dynamics. From our research in India and across ASALs, we conclude that climate-resilient development implies an approach to development that has three key interlinked 'imperatives'. Here we summarize information on each of those three imperatives, highlighting issues for policy strengthening, with a primary focus on Karnataka.

### Tackling Inequalities

Social inequalities including gender inequality have deep, historical roots, but addressing them should be central to CRDP efforts if these are to decrease vulnerability and bring about broad-based strengthening of societal resilience.

- Across semi-arid regions of India, management of land and water resources still largely follows technical fixes that are gender, class and caste blind. For development to be climate resilient, interventions need to be inclusive, recognise differences and should be relevant to people's differentiated needs and contexts, otherwise they will continue to reinforce inequalities, and thereby increase the vulnerability of marginalised groups to climate risks. Studies of climate risk in India underline that inequalities play an especially important role in rights to access resources and subsidies.
- In semi-arid, rural areas of India, for example, subsidies incentivizing extractive natural resource use often allow large landholders to grow water-intensive cash crops at the cost of groundwater depletion. Agricultural intensification has brought short-term gains especially for larger farmers but has led to inequitable outcomes and undermined society-wide resilience to water stress.

## Avoiding unsustainable outcomes

A long-term integrated view on climate risk management must be taken in order to sustainably build adaptive actions and adaptive capacities at different scales that take account of trade-offs between development paths and avoid lock-in to unsustainable or inequitable practices.

- Across drylands, there are examples of both strategic developments and emergency measures that have taken place in response to pressures on resources and livelihoods, but which have created maladaptive outcomes that undermine sustainability. In semi-arid regions of India, the past and current drivers of agriculture policy, rural development and urbanization have created social and environmental lock-ins to certain development pathways and have narrowed local capacity to make adjustments. Studies indicate that long-term climate projections need to be better integrated into national development plans and into local decision making. Failing to do so is particularly damaging in situations where a drying climate has implications for the expansion of semi-arid conditions.
- For many rural populations, migration to urban areas is a coping strategy to try to avoid the increasing climatic pressures and exclusionary development processes facing crop and livestock farmers. Yet if poorly planned, rural-urban migration creates new challenges for cities as a whole and bring new forms of risks for its poorer incomers. In the city of Bangalore, rapid and unplanned urbanization for commercial and residential purposes has resulted in decline in tree cover and water bodies and increased pressure on already stressed water resources. These environmental challenges intersect with climate hazards such as drought and urban floods, especially increasing the vulnerability of poorer populations.

## Strengthening of capacities

The strengthening of capacities at all levels is especially important if society is to be able to make the types of inter-linked innovations that responding to climate change and development challenges entails. Capacity rests on strengthening skills, resources and decision-making structures.

- Studies in India highlight the need for enabling policies, and an institutional environment that supports collaboration between different sectors and institutions involved in the governance of resources in consultation with local communities. Inadequate integration among government departments and across governance scales (from the national and regional to local levels) has commonly led to interventions being poorly coordinated and poorly conceived.
- To meet the goal of equitable climate resilient development, governance needs to be inclusive of marginalized people's needs and priorities and better means of participation are needed to ensure that the concerns and interests of those most marginalised are represented and the effectiveness of projects thereby enhanced.
- For adaptation, access to information services such as climate compatible farming methods, knowledge on groundwater resource dynamics, seasonal climate forecasts and early warnings of extreme weather events should be a key component of interventions in semi-arid India.

## Policy support for climate resilient development in Kenya

Our analysis across current sectoral policies in Karnataka suggests that many of the reviewed frameworks are, or could be, broadly compatible with climate resilient development approaches, indicating that achieving just and equitable developmental progress whilst addressing the twin challenges of mitigation and adaptation is possible.

- ▶ **However, at present, climate change and linked issues tend to be marginal** to much mainstream policy discourse and this remains the case even for those policies pertaining to sectors recognised as highly sensitive to climate change such as agriculture and water.
- ▶ Where climate change was identified as an issue, the review of policies and schemes revealed that **the nature of the risks was generally not disaggregated** - for instance, very few policies talk about the imperative to reduce greenhouse gas emissions, referring instead to a more

generalised set of risks linked to climate change. This is clearly a concern as decisions now, especially those concerning infrastructure, energy, and industry will have long and significant implications on both mitigation goals and the adaptation agenda for decades to come.

- ▶ Alongside a more comprehensive consideration of the challenges linked to climate change, is the need for greater recognition of the differentiated distribution of costs of responding to these challenges. Recognition and active incorporation of issues linked to equity and justice are an important component of CRDP to maintain a broad base of support for decisions and interventions. Whilst there is a focus on regional disparities and the need to rebalance development to support especially the northern areas within the state of Karnataka, **more could be done to support socially differentiated needs within the population.**
- ▶ The review does show that **synergies across sectors and policies** is not only possible but readily achievable. For instance, the analysis of a suite of policies and schemes focus on water, agriculture and skill development demonstrate alignment to support the building of resilience of agricultural systems and communities. Conversely, industrial and the renewable energy policies do not adequately address potential negative interactions between energy, land and water and could potentially run counter to the aims and objectives for water and agricultural development.
- ▶ These issues get to heart of the difficulties policy makers and other stakeholders have when **decisions are framed in terms of a binary choice between the need to develop or the imperative to respond more effectively to climate change risks** (particularly when linked to mitigation). Nowhere is this more apparent than in the KSAPCC (2013: 35) which states that development priorities will not be sacrificed for carbon emissions targets.
- ▶ A key element of climate resilient development approaches is the **recognition of trade-offs and synergies**. If trade-offs remain unidentified, risks exist that action in one area will undermine progress in another, thereby reducing the effectiveness of actions overall. Conversely, if trade-offs are acknowledged it provides a foundation for discussion on the logic behind

decisions. Similarly, identifying areas where policy actions across different domains can work well together and bring about synergistic benefits greater than the sum of individual actions is a highly desirable outcome.

The challenge for the State of Karnataka is twofold: (1) to broaden the focus on climate from one in which the centre of gravity for climate change and action remains primarily linked to the environment (or Ministries with environmental responsibility) to one where climate change responsibility is more diffuse but similarly prioritised across sectors; and (2) to embed a clearer understanding (and response) concerning the synergies and trade-offs between policy goals and implementation approaches, with a focus on both creating opportunities and supporting vulnerable and marginalised populations, especially those facing compound risks across the semi-arid regions of Karnataka.

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#### ABOUT THE PROJECT

The name of the project is 'Climate Resilient Development Pathways for Semi-Arid Regions of Africa and Asia (CRDP-SAR)', part of 'Building on CARIIA learning on women entrepreneurs, migration and climate-resilience development'. Project grant number: 109223-003

#### ACKNOWLEDGMENT

This work was carried out with financial support from the UK Government's Foreign, Commonwealth & Development Office and the International Development Research Centre, Ottawa, Canada.

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