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POLICY BRIEF

Mainstreaming Climate Action into local-level planning in Karnataka

Insights for building resilience of farmers against climate vulnerabilities

Supported by

25 Years Hanns Seidel Foundation India

Acknowledgement & Credits

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The authors and project team would like to express its sincere gratitude to Hanns-Seidel-Stiftung India for supporting this initiative. We thank Ms Rixa Schwarz for her guidance, valuable inputs, and feedback during the preparation of the policy brief.

Introduction

The State Action Plans on Climate Change (SAPCC) is a framework of action for responding to the effects of climate change in each state, based on the guidelines provided in the National Action Plan for Climate Change (NAPCC). Climate change policy, planning and implementation are central to the current development needs in India and specifically call for increased coherence and collaboration, for improved implementation of proposed strategies at the international, national, sub-national and district levels. With a view to strengthening climate governance, it is pivotal to localize and downscale the SAPCCs to the district level, for effective implementation and enhanced outcomes.

This policy brief focuses on Karnataka's SAPCC and outlines recommendations for the district-level management and committees. The aim of the policy brief is to mainstream action points from the Karnataka State Action Plan on Climate Change (KSAPCC) at the local level and provide solution-focused climate strategies to build farmers' resilience against water stress. This brief also intends to promote coordinated climate action through multi-stakeholder engagement at the district level and outline recommendations that aim at incorporating multi-stakeholder engagement into state-level climate change policy and local level implementation.

In collaboration with Hanns-Seidel-Stiftung India, the Centre for Environment Education assessed Karnataka's SAPCC in 2021 with a focus on water and agriculture. The present policy brief builds on this 2021 study and suggests solutions to strengthen the localisation of the KSAPCC. This brief provides a background of the current challenges that the state of Karnataka faces in the water and agriculture sectors, and puts forward policy recommendations to address them by suggesting approaches to effectively implement KSAPCC at the district level. This brief could also be useful for other Indian states, in effecting localisation of their SAPCCs.

The policy brief proposes five key actions.

Key Messages

1. Map priority climate risks for agriculture at district level
2. Build Gram Panchayats as key information dissemination centers to promote the adaptation of suitable crops in a changing climate
3. Develop district-level early warning systems and prepare communication plans for disaster risk reduction
4. Build participatory water security planning for climate resilience of farmers
5. Strengthened capacity building process and adaptation education for a continued mainstreaming process

1. Map priority climate risks for agriculture at district level

A large section of the population in Karnataka depends on agriculture for their livelihood. An increase in temperature, erratic rainfall, and extreme climate events such as floods and droughts have increased agriculture-related vulnerabilities. A net decline of 2.5% in agricultural production has been predicted over the next two to five decades, especially across the coastal regions. (EMPRI & TERI, 2013). Mainstreaming climate-smart agriculture is a must to ensure food security and to secure the income of the dependent population.

Considering the emerging agricultural challenges that persist in Karnataka's districts, it is recommended to map the climate risks in agriculture at the district level and prepare an informed response to the challenges. The KSAPCC recognizes districts as entry points for SAPCC interventions and breaks down the sectoral targets into district (or block or village) levels.

Adopting a consultative approach at the district-level is key to enhancing local climate action and stakeholder participation. The stakeholders could include representatives from local self-governments, line departments, Zilla Panchayat, civil society, academia, research institutions, self-help groups, farmer communities, etc. The consultations could serve as a brainstorming session for locale-specific climate stresses and identify risks as well as impacts on agriculture that need to be addressed on a priority basis. The prioritization exercise and consultations with the district-level stakeholders would help localize, fast-track, and increase the efficacy of the KSAPCC's implementation.

The formation of a cross-sectoral working group of interested stakeholders at the district level and a roadmap for identified sector-specific priority actions emerging from the consultations are also recommended. The working group will act as a forum to help develop district-level policies and devise feasible technological, methodological, and financial solutions and align them with the KSAPCC. Such a decentralized governance structure has the potential to make the implementation of KSAPCC effective at the local level.

2. Build Gram Panchayats key information dissemination centers to promote the adaptation of suitable crops in a changing climate

Changes in precipitation and temperature patterns over the years have led to a decrease in overall agricultural yield. Considering agriculture is the primary occupation for a large percentage of the population in the state, shifting cropping patterns and adopting climate-resilient crops are much needed to adapt to the negative impacts of climate change. Knowledge, information and technical know-how for switching to climate-smart agriculture, would help support the economic resilience of the farming community and reduce their overall vulnerability.

Identification of suitable weather-based and resilient cropping patterns, based on the availability of rainwater, soil properties, sowing window, and growing and harvesting period by appropriate technical authorities at the district level could prove helpful. This could be done by taking into consideration climate projections about the agro-climatic features of a particular zone. The crop selection process based on the projections has a great potential to increase the overall yield in a changing climate. This is also likely to result in higher economic returns for the farming community.

Dissemination and seamless flow of information on the adaptation of crops from districts to panchayats are critical in terms of climate action at the ground level. Latest information dissemination among panchayats within the district's jurisdiction, at least twice a year for introducing newer crops or helping revive traditional crop varieties is key for climate adaptation. Information could be publicized through electronic and non-electronic communication platforms at the Gram Panchayats. With the constant support and information flow from the district level, the Gram Panchayats could act as a key information and resource center in the villages as well as provide timely updates on water and agriculture-related policies and schemes of the government. The Gram Panchayats could also serve as a local demonstration center for best practices and success stories which could further encourage farmers to adopt the change.

3. Develop District and Zone level early warning systems and communication plans for disaster risk reduction

Extreme weather events such as heatwaves, floods, and prolonged droughts are becoming increasingly common all over the country. Early Warning Systems are pivotal for informed decision-making in the changing climate, resulting in enhanced adaptive capacity of the farmers. Improved and accurate forecasts of weather conditions help farmers in adopting adaptive mindsets, resources and preconditions to implement an early and effective response to short-term climatic hazards such as heavy rains, floods, storms, cyclones, and long-term climate risks such as droughts.

The meteorological service in Karnataka needs to be strengthened, to provide real-time weather and climate information at the district level. In order to disseminate the early warning information at the district level, a 'communication network', consisting of a district nodal officer, focal point from various departments, Gram Panchayat, NGO representatives, local media and farmers need to be formed. The network could help manage and share information related to daily weather forecasts, seasonal updates, IMD's agromet advisories and climate-related knowledge in local languages. Multiple channels could be used for fast-track information dissemination such as mobile messaging, radios, Gram Panchayat offices, Water User Cooperative Societies, local television channels and schools. A communication plan for accelerated flow of information, during emergencies, could also be prepared.

4. Build participatory water security planning for climate resilience of farmers

Rainfall variability and its negative impact on natural infiltration of groundwater recharge, along-with intense and fewer rainfall events, short monsoons and longer dry spells have kept large parts of Karnataka under increasing water stress. Agriculture, being the most vulnerable and water-dependent sector, is being drastically impacted. Lack of effective rainwater management in rainfed districts and improper conversion of dryland agriculture to irrigation in drought-prone districts have led to increased vulnerability in the agricultural sector.

Participatory water security planning at the village level for both demand and supply-side management of water is recommended to build climate-resilience of the farmers. The creation of local infrastructure for rainwater harvesting and groundwater recharge is recommended to promote a decentralized integrated water management approach in Karnataka.

Participatory, farmer-led and inclusive water security plans could provide effective solutions to local water stress situations. These solutions could include building farm ponds, check dams and nala bunds-for harvesting, contour trenching and seepage ponds-for collection, percolation tanks for groundwater recharge, and recharging the defunct wells, rejuvenating the lakes and ponds. The plans could be facilitated by the local government in partnership with local organizations working with the rural communities and mechanisms to finance these efforts could be identified, to improve water infrastructure in order to cope with climate change.

5. Strengthened capacity building process and adaptation education for continued mainstreaming process

Climate change vulnerabilities are creeping problems and the local impacts, especially climate stresses, are generally visible over a long period of time. This makes it challenging for stakeholders, especially the vulnerable communities, to perceive and understand the implications of such uncertain impacts and take action. Hence, there is a need to equip the farmers as well as the district officials with tools to foresee the upcoming climate risks and prepare for climate action based on the short-term on-ground needs, and to develop long-term policy solutions.

Capacity building on climate change and related local issues need to be done periodically, across horizontal and vertical levels of governance for a lasting mainstreaming process. This would help promote cross-sharing of knowledge among various divisions and bridge implementation challenges. Furthermore, it has the possibility to lead to on-ground climate action as a result of improved coordination and coherence among divisions, especially working within closely-linked climate vulnerable sectors such as water and agriculture.

For the farming community, enhancement of knowledge and skills to comprehend contemporary climate change impacts and locally-led adaptation methods need to be provided over a period of time. Climate adaptation mechanisms such as shifting to less water-intensive crops, proper utilization of water resources and climate-smart farming practices could be included. Farmers' capacity for climate-resilient technologies with complementing energy solutions also needs to be strengthened.

The creation of a Climate Change Resource book on each of the agro-climatic zones to sensitize the District Planning Committees on climate change issues and vulnerabilities is also recommended. The publication would be helpful in integrating and addressing the planning of activities at the local level as well as could be used as a tool to impart adaptation education to the farming communities.

Conclusion

Mainstreaming climate action at district and Panchayat levels offers opportunities to enhance water security, achieve food security, reduce hydro-meteorological disaster risks and build local climate resilience. The aforementioned farmer-focused strategies provide a roadmap for efficient localization of the agriculture-related targets of the KSAPCC and ensure its implementation in an inclusive manner. Karnataka's drought-prone and flood-affected districts will greatly benefit from the much-needed localization of the KSAPCC.

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