

Scaling up Adaptation Strategies for Climate Resilient Agriculture in India

Hosted by Ministry of Agriculture, Government of India

Co-organised by: NABARD, CRIDA, Development Alternatives (DA), NCCSD

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For a geographically diverse country like India, enhancing resilience of agriculture to climate risk is of paramount importance for protecting livelihoods of small and marginal farmers. Realising this, India's Intended Nationally Determined Contribution (INDC) to UNFCCC clearly specifies the importance of adopting necessary actions for climate change adaptation in the climate sensitive agriculture sector.

In order to showcase India's adaptation efforts and achievement in climate resilient development of agriculture sector, a side event "Scaling up Adaptation Strategies for Climate Resilient Agriculture in India" was organised on 5th December, 2015 at the India Pavilion.

The side event discussed pathways for scaling up climate resilient agriculture models through nationally driven integrated development initiatives. The side event brought together India's policymakers, scientists and civil society organisations to share successful highlights of **technology innovation and adoption, capacity building, knowledge dissemination, community driven approaches and enabling policy environment.**

The Indian models demonstrate mitigation benefits along with resilience adaptation to climate change. The event highlighted India's efforts and breakthrough in resilient agriculture systems in different agro-ecological zones. The potential and opportunity to lead the way to share technological and institutional innovations with other southern countries was evident. Infact, the American Higher Education institutions, represented by Prof. Emboya Expressed an interest for collaborations. The key now is scaling up these technological and institutional models across India through mainstreaming in development planning and market systems, for which capacities and financial supports will be needed. In order to capture the above mentioned integrated approach the side event had the following sessions:

Session I: Research and Technology Innovations

Climate Resilient Agriculture- Technologies and Strategies (Central Research Institute for Dryland Agriculture (CRIDA), Indian Council for Agriculture Research

Speaker: Dr. Ch. SrinivasRao, Director, CRIDA

Dr. Rao briefed the audience about the climate resilient agriculture packages being implemented via several government schemes in the light of the country's INDCs and the progress made so far.

On the achievements of NICRA, there have been development of several strains of tolerant breeds/genotypes in field crops, horticulture, livestock, poultry and fisheries. There have also been several in NRM technologies and rainfed agriculture. 600 district contingency plans are being implemented across the country and components of climate resilient villages (CRVs) were developed to adapt to various extreme events like droughts, floods cyclones, heat waves, forest and sea water inundation.

Several programs like NMSA, Soil Health Car, Krishi Sichayee Yojana (Irrigation scheme), NRLM, Green India mission etc .are helping the country achieve their INDCs.

Session II: Development and Upscale of Integrated Climate Resilient Models

Sustainable Development in Rainfed areas for Climate Resilience (NABARD)

Speaker: Mr. Rangaswamy Amalorpavanathan, Mr. Mashar

NABARD being the apex development finance institution of the Government of India, and the National Implementation Entity for NAFCC, AFB and GCF demonstrates development models that ensure food security and livelihood security of farming communities and are also increasing their adaptive capacities to bear climate risks.

Mr. Mashar highlighted the USP of NABARD in implementing watershed development projects, tribal orchard, NRM-based livelihood programs that lead to strong stakeholder involvement, joint project planning and community ownership, all addressing local needs. The NRM portfolio of NABARD in fact is \$732 million for watershed projects, tribal projects and UPNRM (umbrella program for NRM), farm sector promotion through farmers collectives. They are also doing CCA in Maharashtra, Climate Proofing of Watershed projects in Tamil Nadu and Rajasthan. Mr. Mashar stressed the importance of upscaling all these projects in order to affect change and the resources required would be around INR 5,000/ha or around \$180million for adaptation alone.

Session III: Community Driven approaches

Scaling up Community Driven Adaptation Models for Climate Resilience (Development Alternatives)

Speaker: Mr. Anand Kumar, Senior Programme Director, Development Alternatives

Mr. Anand Kumar, Development Alternatives highlighted the need for scaling up strategies for climate resilient agriculture in India. He then elaborated on the community based approaches for climate resilient agriculture, through improved farming practices, farming community well-being and alternate livelihood options. In line with the topic of the session, Mr. Kumar used DA's work on ground to highlight the approaches and steps involved in community-based strategies for scaling up climate-resilient agriculture.

Since the increasing impacts of climate change are context and location specific, there is then a need to understand local vulnerabilities through participatory and analytical approaches to connect to top down research and communicate risks and solutions to the vulnerable communities through awareness creation. He outlined the steps in the scaling up strategy for climate-resilient agriculture as being Research and assessment at a local level, Demonstration and implementation of resilient agriculture models, Communication and awareness, Training and capacity building and Policy and planning through mainstreaming CC. The point of fund convergence and local financing was brought up where models have to leverage funds and be integrated with existing schemes/programs

Mr. Kumar followed up his talk with a brief documentary on the practices and measures that have been implemented in Bundelkhand region of India. It included concepts like agro-forestry and diversification of crops to help stop risks.



Session IV: Information and Knowledge Dissemination

Weather Forecasting and Agriculture Advisory for Climate Informed Decisions (National Council for Climate Change, Sustainable Development and Public Leadership)

Speaker: Mr. Shalin Shah

Mr. Shah advised that climate resilient development needs to look at new and improved information channels and dissemination strategies that facilitate climate change adaptation at community level. Crop advisories, weather forecasting information, access to information on conservation agriculture practices and government measures are crucial in helping the farmers

take informed decisions. Climate-resilient agriculture also integrates triple bottom line to provide livelihoods, food security and eradication of poverty.

Mr. Shah highlighted the role that different communication frameworks play for timely information dissemination to local communities, citing the statistics that 90% of the farmers receive weather advisory through SMS. These agri-information dissemination systems provide an important interface among scientists, policymakers and local farmers.

Session V: Enabling Policy and Institutional Framework

India's Vision towards Climate Resilient Development of Agriculture & Allied Sectors

Speaker: Mr. Sadamate, Former Advisor (Agri), Planning Commission

During this session, India's strategy to achieve its national commitments for climate resilient development in the agriculture sector through nationally driven programmes and policies was highlighted. India's National Action Plan on Climate Change comprises of National Mission on Sustainable Agriculture which is already steering several successful other initiatives for irrigation, traditional farming, soil management, horticulture, climate resilient agriculture etc.

Mr. Sadamate used the example of access to information and technology through the Krishi Mahotsav (Farmer's Festival) in 18,000 villages of Gujarat that focused on climate resilience and scaling up of practices. The door-to-door extension programmes for farmers skill development, improved marketing and communication of existing schemes and programs to the farmers; involvement of multi-disciplinary teams and issues were all strategies incorporated session to mainstream different research, civil society and community driven approaches (elaborated in the previous sessions) into national and sub-national planning and government programmes.

Question and Answer Session

Professor Emboya, a representative of collection of American higher educational institutions expressed interest in collaborating with India on agricultural research and technology initiatives like soil fertility. This expression of interest was well received by the session and further discussions will be done.

Methodologies of the techniques and best practices were discussed to focus on the scalability of such solutions. The requirements of adaptation and development were given to be different and hence the research support base required for both would also be different.

