

Business India

THE MAGAZINE OF THE CORPORATE WORLD

September 23-October 6, 2019



India's Climate Leadership

Unlocking climate finance

NABARD has the potential to play a significant role in bringing climate smart agriculture to the financing mainstream



Ladakh's desert-like conditions make it depend on snow-melt water for crop irrigation. Increasing temperature has caused less snow-fall and faster snowmelt in the higher regions, resulting in reduced crop productivity and less fodder for livestock. At the same time, rising sea levels have rendered the embankments of the Sunderbans ineffective, with croplands destroyed due to salinity.

It is estimated that climate change will reduce agricultural crop yields by 4.5 to 9 per cent between 2010-2039. Paired with the expected population growth, this could result in significant food security issues. Current agricultural practices produce 16 per cent of the total GHG emissions, making agriculture the second largest emitting sector after energy. Compounding the problem, India has 15 agro climatic zones and the climate related problems faced in each zone are different.

Indian agriculture faces the dual challenges of combating or adapting to climate change impacts and reducing GHG emissions to minimise further environmental damage.

The adoption of climate resilient and low carbon agriculture practices is imperative to address these twin challenges. Climate resilient and

adaptive practices would help farmers to cope with climate change related issues and low carbon practices would reduce the GHG that will cause further climate change.

In this context, investment in proven technologies or methods, like drip irrigation and using climate resilient crop varieties can be helpful. However, there are many proven innovative responses like the creation of artificial glaciers and ice stupas in Ladakh – using stone embankments to divert, slow and freeze streams and run-off to store water for irrigation and recharge ground water during the snow melt. In both instances there is a need for increased awareness and access to finance.

India has taken a lot of initiatives to address climate change. The emission intensity of India's Gross Domestic Product (GDP) has reduced by 21 per cent over the period of 2005-2014. This achievement has been made possible by a strong political will for climate action leading to well-designed outcome-oriented policies, programmes and measures on mitigation by the government.

Considering the climate related challenges in the agriculture sector, the government of India has been implementing various policies/missions

like National Food Security Mission, National Innovations on Climate Resilient Agriculture (NICRA) etc., for promoting climate resilient agriculture.

Being climate-smart

Under NICRA, climate vulnerability assessment (focussing on Agriculture sector) have been carried out for all 572 rural districts in India with pilots of climate resilient practices being implemented in 121 districts involving over 1,00,000 farm families across the country.

Many of the projects piloted or implemented under above the stated climate policies/missions (similar to the one implemented in Ladakh) have huge potential to be upscaled for greater climate resilience and this is where climate/green/sustainable financing assumes importance to facilitate implementation of climate resilient projects in the agriculture sector.

The Department of Science and Technology of the government of India is poised to conduct a comprehensive climate vulnerability assessment for all states and Union Territories (UTs) in the country after successfully producing the first climate change vulnerability map and report of the 12 Himalayan states. The climate

vulnerability assessment will cover various sectors like water, agriculture, forestry, urban, energy etc. This should allow for better prioritisation of target areas where such practices need to be popularised and inter-linkage of vulnerability issues in sectors like water and agriculture, water and energy, etc.

India will need around \$206 billion (at 2014-15 prices) between 2015 and 2030 for implementing adaptation actions in agriculture and allied industries. It is evident that investments of this scale cannot be sourced through public sources and need the participation of private capital.

Could there be a systematic and institutional way to scale up such climate resilient and low carbon activities in agriculture?

India has a comprehensive and strong rural financial system that extends credit to the agriculture and allied and rural sectors. Credit to agriculture sector has increasingly become institutionalised since the reforms in the 1970s. In the 12-year period from 2000-01 to 2011-12, the flow of credit has increased impressively, showing almost a 10 fold increase. However, little of this money has gone for "climate smart" or "green" activities.

While climate smart activities in agriculture have been taking place, one of the challenges in the financing of 'climate smart' or 'green' activities in agriculture is the lack of precise identification of such activities based on defined benchmarks or standards. This restricts large scale implementation of climate smart activities in the agriculture and allied sector.

NABARD (National Bank for Agriculture and Rural Development), being an institution with a footprint in refinancing, developing and maintaining sound banking practices and also undertaking developmental activities in agriculture, rural and allied activities, has the potential to play a significant role in bringing climate smart agriculture to the financing mainstream.

In 2017-18, the total refinance by NABARD was ₹1,44,953 crore. This refinancing to various entities is for a specific set of purposed activities. The activities financed in the agriculture, allied and rural sectors by the formal lending institutions, which are identified/categorised purposes and activity-



wise are around 300 plus. There exists a system which captures the data, activity-wise. Apart from the formal financial system, there are informal lending institutions, which finance activities which could be other than the 300+ identified.

Carbon footprint reduction

As a first step, the 300 plus activities that NABARD refinances, needs to be evaluated considering the potential for mitigation/adaptation and resilience to climate related risks. The existing nomenclature (300-plus activities) needs to be benchmarked and then scored in terms of climate friendliness and in certain cases, where the activity as of now is not so friendly, standards need to be created wherein certain methods/variants of the activity are known for reducing the carbon footprint.

How is this to be done? Many research institutions like the Indian Agriculture Research Institute and Krishi Vigyan Kendras in various states and research initiatives of various institutions have documented practices and techniques and how climate smart they are. They have also brought out new cultivars with greater climate resilience.

These techniques, practices and climate resilient inputs need to be widely disseminated so that adoption increases. As we are aware, India still grapples with the slow pace of lab/pilot practices scaling up. Hence benchmarking of these as green/climate smart/resilience activities will lead to financing in agriculture, allied and rural sectors that

is responsive to the current needs of the environment. The required awareness and capacity building can be met from the existing well-established programmes. A scenario wherein there is a pull factor where lending institutions are eager to lend and borrowers are eager to borrow can help in the rapid spread of these practices.

An IT tool based on these lists of activities needs to be developed – and rolled out to the financing system. This will allow the measurement of how much capital is being directed to climate smart activities – and then give us better ideas about directing the flow of capital to the particular activity.

Globally, policy makers are trying many ways to make funding available for climate friendly activities – and Green Bonds have been a way to direct flow of funds to such activities. The debt capital markets globally are the largest source of funds available, and the presence of capital dedicated to green causes (largely existing in the West) creates incentives for bond issuers or borrowers to go green. The Indian green bond market is nascent – but becoming vibrant.

Policy steps towards creation of "dedicated green capital," classification of agricultural codes as per climate friendliness and dissemination of climate smart agricultural practices will go a long way in addressing agricultural distress that can possibly be caused by climate change. India, with its institutional framework seems to be the ideal developing country to initiate this. Once moderately established – this can be transferred to other developing countries facing similar issues.

This – if and when it comes about – is likely to address the most serious crisis facing mankind. And, the first step might be to create many Himalayan glaciers. And to finance the same, "Himalayan Glacier Green Bonds" can be a good starting point.

♦ SAMRAT MUKHERJEE

VP, NABCONS, a 100 per cent subsidiary of NABARD

♦ SANDEEP BHATTACHARYA

India Project Manager, Climate Bond Initiative

♦ JOSEPH PRAKASH

Associate Director, Meghraj Capital Advisors Pvt Ltd

(Views expressed in this article are personal opinions of the authors, and do not necessarily represent the views of the organisation they belong to)