

**FORWARD**

The impacts of climate change is global, but countries like India are more vulnerable in view of the high percentage of population depending on agriculture, which in turn is dependent on the seasonal monsoons. Adaptation challenges to Indian agriculture, arising from climate change are significant. Climate change is likely to further increase the ongoing stress due to yield stagnation, competition for land, water and other resources, and globalization that the Indian agriculture is going through. India has already shown its commitment to help address the global climate challenge and Government of India has accorded top priority for addressing climate change related concerns.

In line with the national priorities and strategies of Government of India, NABARD has taken various steps to develop climate resilient livelihoods for rural areas. I am happy to note that the first issue of the e-newsletter '**Farm Sector in News**' has chosen climate change as the theme and would facilitate dissemination of various initiatives, policies, programmes and projects in the climate change related areas.

(Dr. Harsh Kumar Bhanwala)
Chairman

FROM DMD'S DESK

Agriculture now accounts for about 14 per cent of Gross Domestic Product (GDP). However, it continues to be the main source of livelihood for the majority of the rural population. Rapid growth of agriculture is a sine-qua-non for inclusiveness. Important structural changes are taking place within the agriculture sector. Farm Sector Policy and Farm Sector Development Departments have not only been taking cognizance of such changes but also have been fine tuning policies and development planning in consonance with such changes. It's our endeavor to apprise the thematic developments in these two Departments by coming out with an e-newsletter called '**Farm Sector in News**'. This is the maiden issue of such a newsletter.

Climate change has emerged, in recent times, as an important area of both international as well as domestic policy making and development planning. Accordingly, we have chosen Climate Change as the thematic issue for the first issue of this newsletter. Hope this will make informative and interesting reading for all of you.

(Shri R Amalorpavanathan)
Deputy Managing Director



Climate Change: Defined

The most general **definition of climate change** is a change in the statistical properties of the climate system when considered over long periods of time, regardless of cause.

Intergovernmental Panel on Climate Change (IPCC):

World Meteorological Organization and United Nations Environment Programme (UNEP) established the IPCC in 1988 to assess scientific, technical and socioeconomic information relevant for understanding the risk of human induced climate change. (<http://www.ipcc.ch/>)

Climate change and India

India has experienced increase in mean temperature by 0.60°C in the last 100 years. Reduction in crop productivity especially wheat and paddy due to increased temperature, reduction in rainy days and consequential water stress are some of the negative impacts reported. It is projected that in the medium-term (2010-2039), yield reduction will be to the tune of 4.5 to 9%, posing challenges to food security and livelihood. Cost of climate change has been estimated at around 1.5% of GDP from Agriculture every year (ICAR –NICRA project)

The **National Action Plan on Climate Change (NAPCC)** launched in 2008 embodies the government's vision of addressing the challenge of climate change through a process of sustainable development. The goal of NAPCC is to enhance ecological sustainability of our development path. States have developed **State Action Plan on Climate Change (SAPCC)**. (<http://envfor.nic.in/ccd-napcc>)

Government of India has launched **eight Missions** as a part of the NAPCC in specific areas i.e. Solar Energy, Enhanced Energy Efficiency, Sustainable Habitat, Water, Sustaining the Himalayan Eco-system, Green India, Sustainable Agriculture and Strategic knowledge for Climate Change which include assessment of the impact of climate change and actions needed to address climate change.

Adaptation involves developing ways to protect people and places by reducing their vulnerability to climate impacts.

Climate Proofing is similar to adaptation wherein investments / structures are protected from the adverse impacts of climate change/variability through incorporation of additional concrete adaptation measures in the project design.

Mitigation involves attempts to slow the process of global climate change, usually by lowering the level of greenhouse gases in the atmosphere.

REDD: Reducing Emissions from Deforestation and Forest Degradation (REDD). REDD+ is a mechanism being developed by Parties to UNFCCC to reward developing countries for reducing emissions from deforestation and forest degradation. It will become a climate change mitigation solution, helping to reduce up to 20% of global carbon emissions.

Kyoto Protocol

In December 1997 around 150 countries signed the Kyoto Protocol, which binds 38 industrialized countries (**called Annex 1 countries**) to reduce greenhouse gas emissions by an average of 5.2% below 1990 levels for the period of 2008-2012. The Kyoto Protocol became international law on 16 February 2005. Since the commitment period of the protocol has come to end in December 2012, currently the Clean Development Mechanism (CDM) is not operation. In view of this, market has collapsed and CER (Certified Emission Reductions) (1CER = 1 tonne carbon) are traded at less than US\$ 0.8. Efforts are on at international level to reactivate the mechanism and negotiations held in the recently concluded Conference of Parties (COP 20) at Lima, Peru was reported to be successful. It is expected that in the next COP 21 meeting at Paris, a solution acceptable to all parties will be emerging paving the way for increased activities on mitigation and adaptation.

COP 21/CMP 11

The 21st yearly session of Conference of Parties to UNFCCC or the 11th session of the Meeting of the Parties to the Kyoto Protocol was held from 30 November to 12 December 2015 in Paris, France. The main aim of COP21 was to achieve the legally binding universal agreement on climate change and limit the global warming to below 2°C by 2100 above pre-industrial era. It has also initiated a drive to limit the



temperature increase even further to 1.5 °C above pre-industrial levels.

Major Outcomes:

- ❖ The conference negotiated the Paris Agreement on adaptation and mitigation to climate change through the representation of 196 parties to the convention on climate action.
- ❖ Pledges were made by both developed and developing countries prior to and during the COP that took the capitalization of the new Green Climate Fund (GCF) past an initial \$10 billion target.
- ❖ Levels of transparency and confidence-building reached new heights as several industrialized countries submitted themselves to questioning about their emissions targets under a new process called a Multilateral Assessment.
- ❖ The Lima Ministerial Declaration on Education and Awareness-raising calls on governments to put climate change into school curricula and climate

Steps Forward on adaptation

Progress was made in Lima on elevating adaptation onto the same level as the curbing and cutting greenhouse gas emissions. This will be done through:

- ❖ Recognition that National Adaptation Plans (NAPs) offer an important way of delivering resilience.
- ❖ NAPs will now be made more visible via the UNFCCC website which should improve the opportunity for receiving backing.
- ❖ The green light was given for discussions with the Green Climate Fund (GCF) on how countries can be supported with their NAPs.
- ❖ The Lima Adaptation Knowledge initiative--a pilot project in the Andes under the Nairobi Work Programme-- has underlined that establishing the adaptive needs of communities can be successfully captured.

Climate Smart Agriculture (CSA)

Climate-smart agriculture (CSA), as defined and presented by FAO at the Hague Conference on

Agriculture, Food Security and Climate Change in 2010 is an approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change. It helps in achieving productivity, adaptation as well as mitigation objective. It is an integrated approach to address these interlinked challenges of food security and climate change.

(Further Reading:

<http://www.fao.org/climatechange/climatesmart/en/>

Green Climate Fund

The Green Climate Fund has been designated as financial mechanism of the UNFCCC. The Fund is governed and supervised by a Board i.e. Green Climate Fund Board with its Headquarter at Songdo, Incheon City, Republic of Korea.

The resources to the extent of USD 100 billion per annum would be made available to developing countries by 2020 under the fund. During the 20th Conference of Parties (COP) meeting held at Lima (Peru) GCF fund commitment made by developed countries reached US\$ 10.0 Billion.

The Fund can also receive financial inputs from a variety of other sources, public and private, including alternative sources. NABARD has already applied for NIE status of GCF.

(Further reading: <http://www.gcfund.org/about/the-fund.html>)

NABARD as NIE of Adaptation Fund

The Kyoto Protocol of the United Nations Framework Convention on Climatic Change (UNFCCC) stated that parties to the Protocol shall ensure that a share of the proceeds from the certified project activities is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the cost of adaptation. In line with this decision (Article no. 12.8 of Kyoto Protocol), at the seventh session of the Conference of the Parties to the UNFCCC, held at Marrakesh, Morocco, in Oct-Nov 2001, the Adaptation Fund has been set up.

To supervise the operation of the Fund and to approve projects for adaptation activity in eligible developing



countries an Adaptation Fund Board (AFB) was set up in 2008. India as an eligible country has access to Adaptation Fund and can seek financial support to undertake adaptation activities at national and regional level.

As per the 'Operational policies and guidelines for parties to access resources from the Adaptation Fund', projects can be prepared and submitted by National Implementing Entities (NIEs) to the designated authority of the national government for endorsement to the AFB Secretariat for consideration and sanction.

NABARD has been accredited by the Adaptation Fund Board of UNFCCC as National Implementing Entity (NIE) in India.

The NIE bears full responsibility for the overall management of the projects and programmes financed by the Adaptation Fund and will bear all financial, monitoring, and reporting responsibilities. The NIEs may appoint Executing Entities to execute projects and programmes under its oversight. Government Department, Research Institutions, Universities, NGOs, etc. are eligible to submit projects directly to NIE (NABARD) and to act as Executing Entities.

The project proposals can be submitted as per the template prescribed by Adaptation Fund. Project proponents may also refer instructions for preparation of project proposal before submission of the proposals.

(Please

Refer:

https://www.nabard.org/english/climate_change.asp
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First Ever Sanction of Projects by AFB

Adaptation Fund Board (AFB) during its 24th meeting being held at Bonn, Germany on 09 & 10 October 2014, sanctioned two proposals submitted by NABARD with a financial assistance of US\$ 3.2 million. These proposal were submitted by NABARD in the capacity of National Implementing Entity (NIE) for Adaptation Fund. It is for the **first time** that the proposals from India were approved by AFB.

The first project on “**Conservation and Management of Coastal Resources as a Potential Adaptation**

Strategy for Sea Level Rise” would be implemented in Krishna District (Andhra Pradesh) in mangrove wetlands areas. The project aims to overcome the consequences of sea level rise and seawater inundation due to increased frequency of cyclonic storms and storm surges. Adaptation strategies include restoration of degraded mangroves and demonstration of Integrated Mangrove Fishery Farming System (IMFFS). Restoration of degraded mangroves would be undertaken with native multiple mangrove species which in turn would avoid ingress of seawater. IMFFS would facilitate physical security against sea level rise and livelihood security to the coastal community. The project would be executed by M.S. Swaminathan Research Foundation (MSSRF).



The second project on “**Enhancing adaptive capacity and increasing resilience of small and marginal farmers in Purulia and Bankura Districts of West Bengal**”, aims at developing climate adaptive and resilient livelihood systems through diversification, technology adoption and natural resource management for small and marginal farmers in red and lateritic Zone of West Bengal. The interventions seek to enhance adaptive capacity of vulnerable farm families in semi-arid regions of Purulia and Bankura districts by introducing measures to tide over the adverse impacts of climate change on their food and livelihood security. The project would focus on 5,000 households covering about 22,596 beneficiaries. The project would be executed by Development Research Communication and Services Centre (DRCSC).

Other Efforts of NABARD to Address Climate Change Concerns

NABARD is implementing several developmental projects to promote sustainable livelihoods through



Natural Resource Management (NRM) such as watershed development and sustainable livelihood for tribal communities, which are helping to build climate change resilience and adaptive capacities of rural communities.



NABARD has sanctioned a pilot project on climate change adaptation in Ahmednagar (Maharashtra) to develop knowledge, strategies and approaches that will enable vulnerable communities to adapt to the impending impacts of climate change such as delays in onset and withdrawal of the monsoon, changes in temperature and unseasonal rainfall. Pilot projects on climate proofing of watersheds in Tamil Nadu and Rajasthan are also under implementation.



NABARD has also financed projects that improve energy efficiency. In the state of Karnataka, energy inefficient pumps were replaced by more efficient ones through a loan assistance programme. Under the NABARD Infrastructure Development Assistance (NIDA), NABARD is financing green investments on solar power generation and improvement of electricity distribution networks, which includes India's first one MW canal-top solar power project in the state of Gujarat.

NABARD has taken leadership role in capacity building of not just its own officers but also of stakeholders

such as non-governmental organizations, research institutions and Government departments so that they understand the adverse impacts of climate change on natural and human systems and are in a position to design appropriate adaptation/mitigation measures.

NABARD goes Green

NABARD signed a MoU with NBCC on 8th October 2014 for construction of a Green Building for their Uttarakhand Regional Office at Dehradun.

National Workshop on Scaling up Good Practices by SDC & WOTR

A National Workshop on Scaling up Good Practices for Climate Change Adaptation cohosted by NABARD was conducted jointly by SDC & WOTR at New Delhi during 27 to 28 October 2014. Shri. Prakash Javedakar, Hon'ble Minister for Environment, Forest & Climate Change inaugurated the workshop. Dr. Harsh Kumar Bhanwala, Chairman, NABARD delivered key note address. Valedictory address was delivered by Dr.B.G.Mukhopadhyay, CGM, NABARD. Shri.V.Mashar, DGM, NABARD participated in the panel discussion on Role of NABARD in Climate Change.



Workshop on Climate Finance and Development Finance Institutions in Asia Pacific, 19-20 January 2015, Manila

Shri R. Amalorpavanathan, DMD, NABARD participated in the above International Workshop held at Manila during 19-20 January 2015. Shri Amalorpavanathan handled a session on "Engaging with Climate Finance Sources: Practical Experiences of

NABARD". The theme of the workshop was "Catalysing Investments in Climate Friendly Infrastructure". The workshop was organized by Asian Development Bank and participants included representatives from development finance institutions from Asia and other regions, climate funds, development agencies, NGOs, and the private sector. Climate Friendly Investments, International Public Finance Sources, Climate Investments in Asia-Pacific, Green Climate Fund, Challenges and Opportunities for Scaling-up Climate Investments, etc. are the broad areas discussed during the workshop.



Capacity Building Programme

A three days Capacity Building Programme on Climate Change Adaptation and Mitigation was conducted by BIRD, Lucknow during 08 to 10 October 2014. Officers from NABARD and State Governments participated in the programme.

National Workshop on CCA-RAI by MoEF&CC and GiZ

A National Workshop on Climate Change Adaptation in Rural Areas-India (CCA-RAI) was conducted jointly by MoEF & CC and GiZ at New Delhi: 14-15 October 2014. Shri.Ravi Shankar Prasad, IAS, Joint Secretary, MoEF & CC chaired the inaugural session. Shri.V.Mashar, DGM, NABARD participated in the panel discussion in two sessions viz. Technical Session II: Tools for Climate Change Adaptation – Vulnerability Assessments and Climate Proofing and Technical Session III: Demonstration Projects.



FICCI-UNEP Conference

FICCI-UNEP Conference on Designing a Sustainable Financial System for India was held on November 25, 2014 at FICCI, New Delhi. Shri S.K.Dora, DGM, NABARD participated in the panel discussion on plenary session "Channeling Sustainable Finance: Enhancing availability and accessibility" in the above Conference.



National Workshop on Linkages between National Action Plan on Climate Change and State Action Plan on Climate Change

The captioned workshop was organized on 17-18 February 2014 at New Delhi by Ministry of Environment, Forest & Climate Change (MoEF&CC). Shri. Prakash Javedakar, Hon'ble Minister for MoEF&CC inaugurated the workshop in the presence of Shri. Ashok Lavasa, IAS, Secretary, Shri. Susheel Kumar, IAS, Additional Secretary and Shri Ravi S. Prasad, IAS, Joint Secretary (Climate Change). Shri. V. Mashar, DGM, NABARD presented on NABARD's Experiences in project development and capacity building as NIE for Adaptation Fund.



Meetings and Discussions

A brief account of important meetings and discussions during the period is given below

Meeting with Key Stone Foundation

A Meeting was held with Ms. Anju Sharma and Pratim Roy on 05 November 2014 on collaborative areas with NABARD. As a follow-up of the meeting, NABARD decided to join in a team with Key Stone Foundation for a climate change competition project sponsored by Rock Feller Foundation in Nilgris area in Tamil Nadu and Kerala

Meeting with VERC0

Mr. Neal Mehta and Ms. Rita Pandey from VERC0 visited NABARD on 20 November 2014 and held discussions on GCF preparedness by NABARD.

Meeting with UNEP-FI

Mr. Charles Anderson, Director, UNEP-FI, visited NABARD Head Office on 28 November 2014 and discussed areas of collaboration between NABARD and UNEP-FI. Mr. Amalorpavanathan, DMD led the discussion. NABARD has decided to become a member in the UNEP-FI network, consisting of more than 200 members from financial institutions worldwide. NABARD will also explore possibility of raising resources through Green Bond with the help of UNEP-FI and its members.

Meeting with World Resources Institute (WRI)

Mr. Manish Bapna, Director, WRI, Washington and Mr. Nitin Pandit, MD, WRI India visited NABARD on 12 December 2014 and discussed broad areas of partnership encompassing research, capacity building, documentation etc., in the areas of climate change.

Meeting with UWS, Australia

Dr. Shamsul Huda, Associate Professor, University of West Sydney, Australia visited FSDD & FSPD, NABARD on 18 December 2015 and discussed the areas of collaboration between Australia and India through NABARD and University of West Sydney.

Publication

Ministry of Environment & Forest, Government of India, came out with a publication titled **"India's Progress in Combating Climate Change"** in the context of recently concluded Conference of Parties (COP) 20 at Lima, Peru. The publication was released during the COP Summit by Shri. Prakash Javadekar, Hon'ble Minister, Government of India.

In the publication, Government of India has included a dedicated chapter on NABARD's efforts in combating climate change titled **"NABARD: Progressing Adaptation Actions"**. The chapter covers, NABARD's initiatives in accessing resources from Adaptation Fund Board, NRM projects, CCA projects in Maharashtra, climate proofing projects etc. Further, NABARD's effort in financing of energy efficient pumpsets in Karnataka (under UPNRM), canal top solar powered project (under NIDA), and capacity building efforts were also covered.

Link to the entire Government of India publication is given below:

http://envfor.nic.in/sites/default/files/pressreleases/Indian_Country_Paper_Low_Res.pdf

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