

# Working Group of the Agricultural Public Development Banks

## *Financing Adaptation to Climate Change*

15-16 February 2023



# Financing Adaptation to Climate Change

## *Working group*

Date : **15-16 February**

Time zone : **9AM CET**

Location : **Teams**

Resource person  
for African and Asian countries :



**CSR Murthy**  
(NABARD, India)



**Erick Rodriguez**  
(FIRA, Mexico)



**Hawabai Abdulla**  
(TADB, Tanzania)



**Ronny Suarez**  
(ALIDE, Peru)



**Abdou Aziz Diedhiou**  
(LBA, Senegal)



**Jesus Chumacero**  
(BDP, Bolivia)



**Abdeljabbar Bouroua**  
(CAM, Maroc)

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Financing Adaptation Climate Change - Synthesis|15-16/02/2023

## Agenda :

### 15.02.2023

1. 09:00-09:05 - Welcoming remarks
2. 09:05-9:30 - Presentation of the working paper "Financing climate change adaptation"+ Q&A
3. Presentations of the PDBs
  - 09:30: "Experience Sharing on NABARD's Adaptation Finance"
  - 09:50: "Tanzania Agricultural Development Bank, Financing Climate Change Adaptation"
  - 10:10: "LBA contribution in Financing Agriculture value chains Adaptation in Senegal"
  - 10:30: "Strong commitment to the Adaptation of Moroccan agriculture"
4. 10:50 - Synthesis-conclusion

### 16.02.2023

1. 09:00-09:05 - Welcoming remarks
2. 09:05-9:30 - Presentation of the working paper "Financing climate change adaptation"+ Q&A
3. Presentations of the PDBs
  - 09:30-09:50: ALIDE (Ronny Suarez, Project manager) - "Impulsar el financiamiento climático en América Latina"
  - 09:50-10:10: FIRA Mexico (Erick Rodriguez, Deputy Director of sustainability) – "Iniciativa de adaptación al cambio climático"
  - 10:10-10:30: BDP Bolivia (Jesus Chumacero) - "El Sistema Agroclimático como mecanismo para la ayuda para la Adaptación al Cambio Climático"
4. 10:50 - Synthesis-conclusion

- *Note: this synthesis note regroups the main findings of the two Working group sessions*

Supporting Documents circulated in advance of the Working group meeting:

1. Financing climate change adaptation (Role, challenges, and constraints for PDBs)

#### 1. Introduction

*Christian Fusillier (IFAD)* chaired the meeting and welcomed all the participants. He explained the objective of the session, which was to discuss how the PDBs are facing the challenge of financing adaptation to climate change and identify good practices to provide a more sustainable and greener agricultural financing model.

Following a brief thank you note to all the speakers who were willing to share their experiences on this important topic, *Christian* listed the meeting schedule, and the floor was given to *Olivier Pierard* for a presentation of the Working paper.

#### 2. Working paper discussion: (Presentation available)

*Olivier Pierard (Consultant)* raised several points, including the importance of adaptation, especially for developing countries which are most affected by climate change. According to him, adaptation is sadly under-financed in international programs today. A large gap exists between needs and resources, and banks will need a lot of convincing and work in the coming years to receive adaptation funding.

There are many fields that are covered when we discuss adaptation to climate change. Agriculture, livestock, forestry, fisheries, and marine products are part of it, but it also



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encompasses soil fertilization, water management, and water pollution, and all that crosses over. For all these sub-sectors, there are many things to do with regards to food security, notably in financing the storage capacity adapted to the good conservation, prevent the big loss of food production that can reach 30 to 50% due to lack of good practices.

*Christian Fusillier (IFAD)* explains that banks play an important role in helping their clients to confront and propose some alternatives and to formulate requests for possible carbon neutral financing as part of this initiative. A few complementary products related to insurance need to be developed, for instance.

*Abdou Aziz Diedhiou (LBA, Senegal)* expressed thanks for the PDB platform team and highlighted the need for adaptation in conjunction with the resilience of each country's economy and stressed the importance of mitigating climate change. He also links production loss with the lack of a system to manage value chains components.

*Abdou Razek (Bagri Niger)* highlighted the difficulties banks faced in defining objectives and measuring, reporting, and verifying climate change adaptation and mitigation.

*Yusuf (Nigeria)* asked about storage capacity, which requires funding and time over the long run. In this regard, he emphasised about the ownership and effort sharing among agricultural value chain.

### - **Item 1: Experience Sharing on NABARD's Adaptation Finance: (Presentation available)**

*CSR Murthy (NABARD, India)* highlighted NABARD's extensive experience in green financing since 1982. He noted that quantifying adaptation needs is extremely difficult. Furthermore, he presented what NABARD is doing in terms of solar, energy efficiency, water management, ecosystems, and tree plantations for soil carbon storage. In addition, he stressed the importance of introducing tools to measure low carbon emissions into the atmosphere, such as geospatial data, and using adaptive techniques.

India's needs to finance adaptation to climate change is estimated to USD 1.6 trillion by 2030.

A specific program is significant for the financing of adaptation to CC: watershed development program for the benefit of 3,559 projects on 2.6 million ha and relates to Soil and water conservation, climate proofing intervention, Livelihood support and capacity building and knowledge management.

NABARD's integrated Adaptation Strategies is based on analysing and comparing bottom-up & top-down assessment:

#### **top-down:**

- Assessment of impact of CC by experts
- Climate risk mapping
- Climate proofing and stress tests
- Activities suggested and list of intervention.

#### **bottom-up:**

- Sensibilization to CC
- Livelihood mapping
- Identification of hazard and assessment of impact on resources
- Selection of activities / investments for CC adaptation

The monitoring of the watershed program is done with geospatial technology with at least 12 thematic layers and their interpretation for decision making process.

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NABARD is accredited to GCF since 2015, Adaptation Fund since 2012 and is National Implementing Agency for the CC programs for the Govt. of India since 2015.

Major covered sectors under climate finance by Nabard are Climate smart agriculture, soil and water conservation, renewable energy, sustainable livelihood, forest, biodiversity, and land degradation management.

Adaptation finance through the joint liability Groups (JLG) in cooperation with a Foundation which is responsible for the formation of 1.000 JLG with the purpose of construction of 10.000 farm ponds and credit linkage with State Bank of India. Nabard manage the incentive for the JLC formation and the credit linkage.

NABARD's Adaptation financing covers the following sectors: coastal resource management (7%), water management (14%), food security (28%), agriculture (26%), ecosystem conservation and livelihoods (25%)

For NABARD, the way forward must consider development in blended finance schemes, regulatory guidance on green taxonomy, credit products, sectorial guidelines, Measurement, Reporting, and Verification (MRV) and sets of indicators, partnership, integration of climate scenarios and risk in project planning, blending "traditional knowledge" with science, capacity building of stakeholders and aligning institutional policies with best practices.

*Christian Fusillier (IFAD)* also stated that NABARD is a very experienced PDB that is recognized as an expert in climate change finance and can provide technical assistance to other PDBs, help them design their strategies, policies, tools, measure and adapt their financial offer.

### - **Item 2: Tanzania Agricultural Development Bank, Financing Climate Change Adaptation: (Presentation available)**

*Hawabai Abdulla (TADB, Tanzania)* clearly emphasized the importance of national policies that link adaptation to climate change to the bank's strategic priorities. Both the bank's strategy and its adaptation programs stem from these two elements.

TADB mandate is to provide short-, medium- and long-term affordable credit facilities for achieving inclusive agriculture sector development in Tanzania. TADB's thematic priorities are catalysing financing to agriculture, value chain development, climate change and climate smart agriculture, financing (enhance capacity of small holder farmers to respond to challenges), capacity to deliver with several financial tools: loans, asset finance, project finance, trade finance.

TADB impacts on 1,5 million farmers with cumulative loans value of 271,5 Bn TZS (116,4 million USD). Agriculture contributes up to 26,1% to Tanzania GDP (crop 14,6, livestock 7, forestry 2,8, fisheries 1,75) and occupies 65% of the workforce and impacts the livelihood of 70% of the population. Agricultural production is dominated by small holder farmers.

Evident impact of CC on agriculture: rainfall in the past decade and temperature anomalies resulting in shifting agroecological zones, prolonged dry episodes, uncertainty in cropping patterns, soil and land degradation, water shortage, increase occurrence of pest, decreased productivity, and decreases credit portfolio quality. Those events are part of the evidence of the need of financing adaptive agricultural practices to enhance the sector resilience and response capacity to the impacts of CC. The estimated costs of building adaptative capacity in Tanzania is 100-150 million USD per year.

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TADB strategic approach: - Institutional capacity, product development, resource mobilization and capacity building. Recently the French development agency AFD approved a TA project on adaptation finance and a credit line for investment in adaptive measures following the national CC response strategy (NCCRS). The catalogue of eligible technologies includes soil management techniques, water and irrigation management, storage facilities, bio certification, agroecological agriculture, agroforestry.

TADB's technical assistance helped to progress and facilitate the transition, help in adapting to new circumstances and improve knowledge in the bank for mobilizing external resources.

### **Item 3: LBA contribution in Financing Agriculture value chains Adaptation in Senegal: (Presentation available)**

*Abdou Aziz Diedhiou (LBA, Senegal)* discussed the policies at the national level and how the pillars of the bank are designed in relation to these policies. Firstly, he stressed the importance of knowing the situation before developing the programme and portfolio, then finding partners and resources.

LBA is the state-owned agricultural development bank for Senegal. It covers the whole country and all the value chain linked with agriculture and agri-food industry. LBA is the second implementing entity in Senegal accredited to the GCF.

The main pillars of LBA strategy are: 1. good knowledge of the loan portfolio, 2. the development of a climate portfolio and green finance products and 3. Partnership with public and private actors for the development of concessional credit lines.

Some relevant experience of LBA in adaptation finance:

- Credit for solar pumping system in partnership with a guarantee fund (FONGIP), the national energy agency for technical assistance
- Other solar pumping program in partnership with a technology provider Nadji-Bi and a grant from USAID
- In both cases LBA provides the long-term loans to the farmers and participate in the beneficiaries' selection
- Production of organic fertilizer from organic wastes
- Production of biogas and biofertilizers in partnership with the guarantee fund FONGIP
- Solarization of rural boreholes with OFOR and FLEXEAU
- Solar irrigation project for small holder farmers in the Senegal river valley with the support of GGGI, Qatar Fund, Fongip, SAED
- Inclusive green finance initiative (IFAD, GCF, LBA)
- Promotion of climate smart agriculture approach

The key challenges identified by LBA are: 1. Food security of small farmers in vulnerable areas, 2. effective integration of climate issues into public policy planning and budgeting, 3. Facilitate credit access from banks and MFIs and Promote financial inclusion of young people and women by financing climate-resilient activities 4. For PDBs, a good understanding of climate risk dimension and its integration into business models (including the issue of green taxonomy), 5. Concessional credit lines to strengthen bank's financial structure and development of a Project Portfolio (Adaptation/Mitigation) and 6. Partnerships to be developed in the financing of Adaptation.

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## - Item 4: Strong commitment to the Adaptation of Moroccan agriculture: (Presentation available)

*Abdeljabbar Bouroua (CAM, Morocco)* presented CAM's climate plan, which provides a wealth of information and tools, as well as the sustain development system, which reinforces the dynamics. Additionally, he mentioned the challenges faced by CAM, especially in terms of financial inclusion as well as other areas like rural development and the environment. Prior to scaling up, he demonstrated CAM experience in preparing pilot projects.

The CAM Group is committed to the success of the national climate plan and aligns its policy with the 2030 National Climate Plan and in particular with objectives. Increase the volume of water resources and rationalize irrigation techniques. Support the rate of reforestation and reforestation and 8. Implementation of the biomonitoring program.

- The adaptation programme is set at USD 35 million equivalent to 15% of the CAM's investment budget. It has the following objectives: Strengthening institutional capacity
- Expanding access to climate finance
- Formalize clear project selection processes
- Supporting international financing initiatives

CAM shows a sectoral commitment with the climate roadmap of the professional group of banks of Morocco, an environmental, social and governance (ESG) reporting mechanism following the guidelines of the BAM central bank and the white paper on sustainable finance.

CAM works with its Foundation for Sustainable Development to characterize emerging sectors, conduct studies and pilot projects to test the adoption of sustainable practices and solutions. CAM is implementing a green transition programme for the agricultural and agro-industrial sectors.

CAM has a range of products for the promotion of resilient agriculture focused on climate irregularities. Particularly in the date palm value chain, the modernization of irrigation equipment and energy efficiency.

## - Item 5: Financing Adaptation to Climate Change in FIRA: (Presentation available)

FIRA Mexico, created in 1954 by the Secretary of Finance and Mexico's Central bank, made up by 4 trusts, support agrifood sectors related activities all over Mexico. As a second-tier development bank, FIRA's business model is supported by a financial intermediary's network (banks and other financial institutions).

FIRA's priority main objectives are to promote financial inclusion, to increase productivity in agriculture, to contribute to the development of responsible and sustainable agriculture, forestry, and fisheries.

In 2021 FIRA built an heatmap on portfolio exposure to physical risk considering Intergovernmental Panel on Climate Change (IPCC) 2050 scenarios. The main identified risks were draught, water stress, low productivity and the most exposed value chain are pepper (Chile), bean, potato, wheat, and sorghum.

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FIRA built a taxonomy for green finance with a catalogue of eligible investment and a list of 88 adaptative measures. The eligibility to adaptation finance for an investment are the technology used and the location based on the atlas of vulnerability in Mexico.

With the support of AFD, FIRA recently launched a program for adaptation and resilience (A&R) to CC. The objective is to increase the A&R portfolio by 5% per annum and finance until 2030 3.650 million USD in eligible investments.

FIRA is working on the issuance of an A&R bond and on a guarantee fund to support A&R investments.

### - **Item 6: ALIDE Readiness Program: (Presentation available)**

The Latin American Association of Development Finance Institutions (ALIDE) is the community of financial institutions that generates banking solutions for the development of Latin America and the Caribbean. Its main objective is to contribute to the economic and social development of the region, through the good financial practices that it promotes among its associates, such as the financing of inclusive, responsible and sustainable projects by improving climate financing in the Latin American banking sector.

Today the limiting and most important factor of adaptation financing is the lack of knowledge by banks on the supply side and also by economic actors on the demand side. The aim of the project is to increase the number of entities accredited to the green fund today and the number of projects submitted and formulated in line with national climate policies point in line.

The lines of action are: 1. support to entities to comply with the standards of the accreditation process to the Green Climate Fund (GCF) green fund, 2. simplification of the participation of banks in the processes of implementation of Nationally Determined Contributions (NDCs) and 3. the promotion of joint investments and alliances between financial institutions private company and public-private partnership.

The Readiness project contributes to building the unified taxonomy to promote the transition from the mitigation approach to adaptation in climate change programs, building capacity in the identification and formulation of projects quantifying impacts on adaptation criteria.

Finally, the project will contribute to strengthening the work of the national sustainable finance tables of the different participating Latin American countries.

### - **Item 7: Agroclimatic system at BDP: (Presentation available)**

The Productive Development Bank (BDP Bolivia) built a system of vulnerability probabilities based on an agroclimatic model that generates alerts for the bank and subscribed producers. The probability system uses data from the national meteorological service SENAMHI in addition to data on climatic events that occurred since 1970 and recorded by the national disaster observatory.

Thanks to the model, the risks of droughts, frost, floods, landslides, forest fires among others are identified on a geographical basis in terms of amplitude and magnitude. The model allows to build a vulnerability map considering the 12 main geo-referenced risk factors at the national scale.



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To obtain more accurate weather data at the micro-region scale, BDP installs small weather stations connected to BDP and with information available through an app for producers with predictions and alerts.

The alerts allow to improve irrigation practices, pest management, planting and harvesting schedules among other benefits. The climate vulnerability map is available online by a dedicated website.

### Synthesis Conclusion:

In the closing remarks, Christian Fusillier (IFAD) proposed to organise a new Working group session in April to discuss on the tools and metrics for measuring the impact of green financing.

Claude Torre (AFD) thanked all the PDBs for their inspiring and interesting presentations. He reminded the audience of PDBs' role in financing targeted populations and regions that private institutions cannot or will not finance. In addition, Claude added that PDBs intervene countercyclically when the private sector reduces its funding. Third, PDBs mobilize private funding to promote more demanding structural standards in the social and environmental fields. Based on their mandates, particularly regarding climate, PDBs can reduce vulnerabilities in rural areas and enhance resilience.

An **outside-in** strategy observes the market, gets to know consumers first, and then thinks of offering what consumers really need. These strategies move forward from the back; in other words, they observe what clients want before finding the solution.

The **inside-out** strategy is based on developing strengths and internal capabilities to move the business forward. With this type of strategy, internal potential is the starting point for delivering value to clients, guided by providing what is best for the consumer.

According to Claude, even if there were no examples on European banks today, the evolution of regulation is interesting to note: supervisory authority requires financial institutions to manage double materiality, which is a key concept in financial information. He discussed issues of **outside-inside** impact measurement, which relate to national relative risks impacting portfolio value. A second is the **inside-outside** impact measurement, which is composed of various elements such as the **Environmental & Social Management System (ESRMS)**, measuring the environmental impact of investments, implementing **Measurement, Reporting, and Verification (MRV)** systems, and integrating environmental costs into the value of assets. The development of regulations in Europe will be based on climate risks and sustainable finance, as NABARD illustrates. Claude announced that Banks should be aligned with these regulations to address climate issues.

In addition, Claude emphasized that investing in climate change adaptation also means financing agricultural practices (field realities as shown by the CAM): agroforestry, carbon storage, and protecting biodiversity, water, and improving resilience. Further, he mentioned that better risk management is important for bank portfolios, showing positive environmental impact and allowing them to access new resources such as GCF and green bonds to finance their liabilities.

### Comments and conclusion of the Latin American session

Information management and systems for collecting information relevant to CC vulnerability and adaptation is a key element in building adaptation financing strategies. The next workshop will be devoted to these models and systems, but we saw from the PDB's presentations at this workshop that many already have systems in place to identify and monitor vulnerabilities and

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risks. The costs of these systems are significant and raise the question of whether these costs can be borne by customers or whether governments or cooperating entities should cover them. Further, digitalization can help to reduce these costs. Therefore, digitization of monitoring systems is an urgent and necessary task to strengthen green finance strategies.

For banks it is already well implemented to **measure impacts from the outside in**, i.e. how banks can be impacted by climate events, but they should also seek incentives for positive impact investments, which implies **measuring the impact from the inside out**, i.e. the impact of the investments that banks finance. ESRMS are limited to ensuring that projects do not cause significant damage (no harm) and there is now a need to measure impacts in terms of carbon footprint, biodiversity loss, water use.

Banks can influence other actors, as the BDP case shows with portable meteorological equipment that provides information and alerts to local governments, for example.

The importance of developing taxonomies is mentioned by all the banks that presented their experiences, highlighting the importance of sharing taxonomies with different public and private actors, as FIRA did.

Partnership is necessary to build models and systems for vulnerability mapping, early warning systems, and early warning systems.

As a final note, Claude mentioned that some banks are very advanced in the development of climate finance, and the **agricultural PDB platform** will make it possible to share this experience and help banks make progress.

## Closing

In closing, *Christian Fusillier (IFAD)* reminded PDBs that **a summary report of the two working group meetings** and all the presentations will be shared around and that the PDB platform team is available for any further information.

## Some questions and comments in the chat:

- *Neo Selaelo*: What is the starting point for a PDB to increase knowledge in CC and adaptation measures?
- *Usually, in a nutshell, the methodology consists in:*
  - Develop an internalised "green and resilient" project / strategy / road map with dedicated HR
  - Identify existing Green and resilient portfolio (about resilience we will need a study of vulnerabilities to CC)
  - Feasibility of expanding it (market analysis, etc.)
  - Build and specify the taxonomy used (eligible investment concepts)
  - Outside-in impact management and measurement (cf TCFD <https://www.fsb-tcf.org/>)
  - Inside-out impact management and measurement (ESRMS, MRV, green accounting)
  - Reporting and disclosure

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- Capacity building and training programmes at all levels
- *Ekoue, Dede*: We noted that large and medium-term financing for warehouse are usually done through farmers organizations and financing conditions need to be adapted to each country context.
- *Ekoue, Dede*: We wish to exchange with you to enrich our Nigeria Dialogue on unlocking climate finance for small holders' farmers
- *Kagiso Ramotlhagodi*: please don't forget to send presentations as well as contact details for the presenters for individual engagements
- *Neo Selaelo*: Looking Forward to more engagements of this nature