



# **Mainstreaming of Natural Resource Management (NRM) Business Models**

**An approach for financing NRM projects**

Umbrella Programme for Natural Resource  
Management (UPNRM)

## Abbreviations

ADS	Area Development Scheme
AP	Andhra Pradesh
BIRD	Bankers Institute for Rural Development
BMZ	German Federal Ministry of Economic Cooperation and Development
CB	Capacity Building
CBI	Central Bank of India
CP	Channel Partner
CSR	Corporate Social Responsibility
DCCB	District Central Cooperative Bank
ESG	Environmental and Social Governance
EUR	Euro
FPO	Farmer Producer Organisation
GDP	Gross Domestic Product
GIZ	Gesellschaft für Internationale Zusammenarbeit GmbH
GJ	Gujarat
GoI	Government of India
IDBI	Industrial Development Bank of India
KA	Karnataka
KfW	Kreditanstalt für Wiederaufbau
KL	Kerala
MDP	Management Development Programmes
MH	Maharashtra
NABARD	National Bank For Agriculture And Rural Development
NAFIS	NABARD All India Rural Financial Inclusion Survey, 2016-17
NGO	Non-Governmental Organisation
NPA	Non-Performing Asset
NRM	Natural Resource Management
PACS	Primary Agriculture Credit Society
RBL	Ratanakar Bank Limited
RCU	Regional Coordination Unit
RJ	Rajasthan
RO	Regional Office
RS	Indian Rupees
SBI	State Bank of India
SHG	Self-Help Group
SLBC	State Level Bankers Committee
SSI	Sustainable Sugarcane Initiative
TC	Technical Cooperation
TN	Tamil Nadu
ToT	Training of Trainers
UPNRM	Umbrella Programme for Natural Resource Management
VAPCOL	Vasundhara Agri-Horti Producer Co. Ltd
VKGB	Vidarbha Konkan Gramin Bank
WB	West Bengal

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Umbrella Programme for Natural Resource Management

A2/18 Safdarjung Enclave

New Delhi 110 029, India

T: +91 11 4949 5353

F: +91 11 4949 5391

E: info@giz.de

I: www.giz.de

### Responsible

Dr Konrad Uebelhör

Cluster Coordinator

Environment Climate Change and Biodiversity

Email: konrad.uebelhoer@giz.de

Mr Rajeev Ahal

Director, Natural Resource Management

Email: rajeev.ahal@giz.de

### Authors

Inga M. Luehr, Deepak Chamola, Ashirbad Das, Vikash Sinha and Biswajit Behera

### Editor

Rebika Laishram

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# Background

## THE NATURAL RESOURCE MANAGEMENT (NRM) SECTOR IN INDIA

### CONTEXT

The agriculture sector employs more than 50 per cent of the total workforce in India and contributes around 17-18 per cent to the country's Gross Domestic Product (GDP) (Economic Survey 2018). Small farmers and small farm holdings dominate India's agricultural sector. They are poor and vulnerable to environmental and economic shocks. Access to economic growth is determining their livelihoods, impacting their income, welfare and health of local enterprises. This document provides a quick overview of how to strengthen this sector using experiences, tools and learning s generated by the UPNRM programme. More details of models are available in a separate volume II - Natural Resource Management based Business Models for financing.



# 50%

of the total workforce in India works in agriculture sector

### THE CHALLENGE OF FINANCE

There is an evident demand and supply gap in financing of NRM sector. According to a study conducted by Technology and Action for Rural Advancement (2015), to achieve Sustainable Development Goals, the total finance required for sustainable agriculture from 2015 to 2024 (in 2014-15 prices) is Rs 26 trillion (EUR 320.5 billion). The total real public expenditure expected to be available from 2015 to 2030 at 2014-15 prices is Rs 11.5 trillion (EUR 141.8 billion). Therefore, the gap is Rs 14.5 trillion (EUR 178.8 billion). It becomes clear that the

**₹26tn**  
required to achieve Sustainable Development Goals

budgetary allocations under the Ministry of Agriculture, other government schemes relating to farmers and development cooperation efforts can only spark but not alone meet the huge resource requirements, to achieve the projected target for sustainable agriculture and NRM. This becomes evident when seeing the continued lack of access to formal credit channels and the high level of informal sources of credit (40 percent) among small and marginal farmers (SOIL Report, 2017), further aggravating their problems. NABARD all India Rural Financial Inclusion Survey (NAFIS, 2016-17) also found that 30.3 percent of agricultural households borrowed from informal sources and 9.2 percent of agricultural households borrowed from both formal and informal sources in year 2016.

Credit is critical to agricultural finance, whether to purchase inputs

(seeds, fertiliser), tools, or to cover on-going operational costs prior to harvest time (Global Partnership for Financial Inclusion, 2015). UPNRM experiences show that by a judicious mix of an enabling grant (8-15 per cent range) and rest as flexible/appropriate credit, sustainable rural producer managed enterprises can be triggered and graduated into mainstream NRM financing. There needs to be a gradual move out of the culture of grants and subsidies towards loans and creditor's contribution up to 50 per cent of the costs (Planning Commission Working Group on Watershed and NRM, 2002). Yet, funds are not sufficient by themselves. They need to be matched with the development of capacities to ensure the right skill sets and organisational structures that foster wage and self-employment as significant agricultural and natural resources-based livelihoods.



# 40%

of households have to access informal sources of finance of which 30% rely exclusively on informal credit

### STATUS AND WAY FORWARD

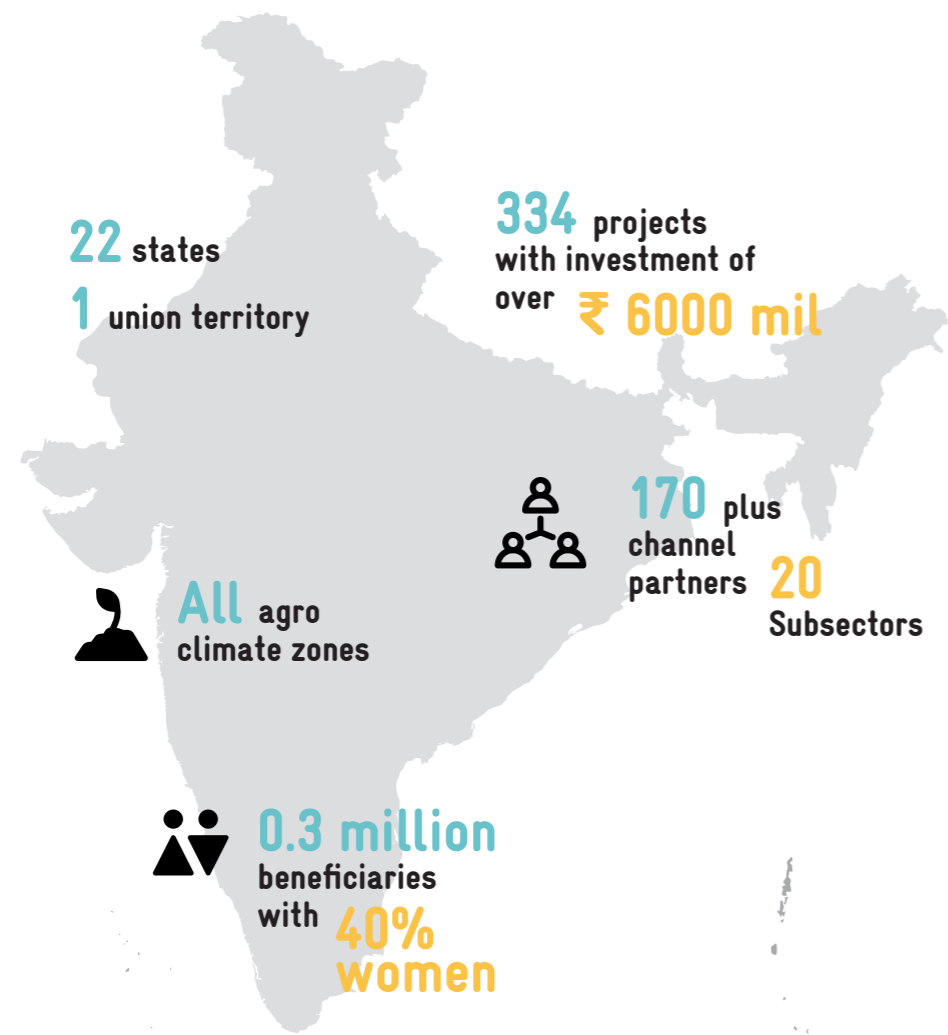
Till date, regardless of the government's efforts to incentivise banks to provide term loans to small and marginal farmers, only few banks have started to explore and reap the potential of the new NRM rural market. Many banks continue to perceive NRM projects and lending to the poor (with limited or no collateral) as risky, stopping them to venture into the financing of projects in the Natural Resource Management Sector (SOIL report, 2017). To enhance private investments in NRM sector, there is a need to sensitise bankers, especially from commercial banks. Exposure of bankers to successful NRM centric business models and approaches will increase their readiness to finance NRM

projects. It will also help banks to meet their priority sector lending targets given by the Reserve Bank of India. With the Government promoting Farmer Producer Organisations (FPOs) as vehicle for doubling farmers' income; they can also be used as an important institutional mechanism to channelise financing for NRM. Having piloted 334 projects in 22 states through a grant of 5.7 million EUR and loan of 84.5 million EUR through NABARD, UPNRM provides a rich stock of bankable NRM projects that are eminently scalable. Mainstreaming for upscaling is the key agenda of UPNRM programme for 2019.



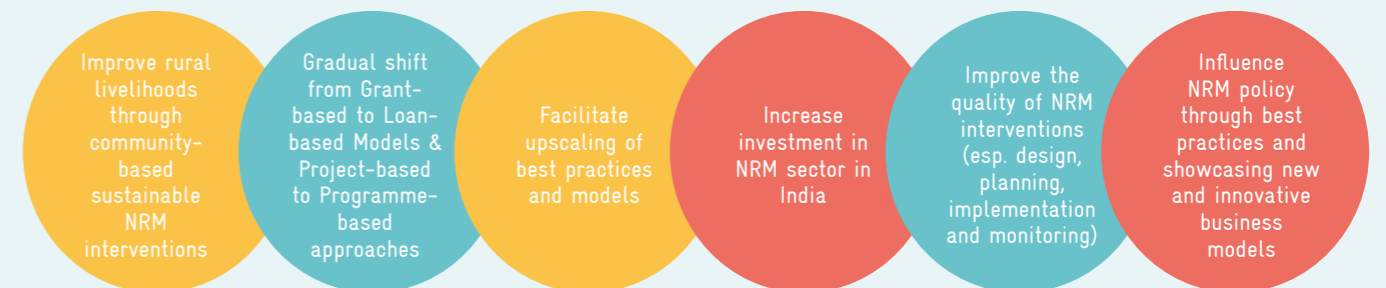
## The Indo-German Umbrella Programme for Natural Resource Management (UPNRM)

The National Bank for Agriculture and Rural Development (NABARD) is supporting the government objective to double the income of farmers by 2022 and to move away from the grant-based approach to the provision of loans with an integrated grant and capacity building component within the NRM Sector. To sustainably fill the demand and supply gap of funds, the UPNRM partners - NABARD, Gesellschaft für Internationale Zusammenarbeit (GIZ) and Kreditanstalt für Wiederaufbau (KfW) - have developed and tested different NRM business models across India over the last 10 years. Objectives, approaches, guiding principles are as illustrated.



### UPNRM OVERVIEW

#### OBJECTIVES OF UPNRM



#### UPNRM'S CREDIT PLUS FINANCING APPROACH

Need assessment allows the issuing of a demand-oriented loan (92-94 per cent) plus a grant for need-based capacity building (6-8 per cent) through convergence with government schemes and CSR.

#### GUIDING PRINCIPLES FOR PROJECT SELECTION

- Pro-poor
- Sustainable
- Community participation
- Good governance
- Integrated and needs based approach

Technical Corporation support in risk mitigation and capacity building (CB)

- Regional Coordination Units (RCUs) support NABARD Regional Offices (ROs) in project identification, appraisal, monitoring
- Business Models integrate need assessment, demand-oriented loan and capacity building component
- Three-pronged CB strategy ensures strong core capacities of channel partners, RCUs and ROs
- Project risk mitigation through thematic workshops and RCU support to ROs



## Mainstreaming Selected Models through Banks










The mainstreaming of successfully piloted NRM business models for financing by banks is not just a viable business opportunity for the banking sector (esp. cooperative bank, regional rural bank, commercial bank) but also a mechanism to enhance the livelihood conditions of the population engaged in the natural resource management sector. Moreover, there are many corporates and other institutional players (e.g. aggregators, processors) who are also stakeholders in the agri-value chains in which UPNRM is

active. UPNRM devised a clear and effective marketing and mainstreaming strategy to sensitise India's banking sector on the potential for financing in the NRM sphere and to explore possibilities of collaboration with institutional players through workshops, bilateral meetings, etc. As a first step, successful NRM business models have been documented and presented during a series of workshops for bankers across the country.

### UPNRM'S MAINSTREAMING APPROACH

- 1 Development of information and communication products to highlight the relevance and need for mainstreaming and to facilitate banks and the government in closing the demand and supply gap.  
**METHOD:** Document NRM Business Models for financing, UPNRM project documentation (case studies), coffee table book, posters, etc.
- 2 Bankers' Workshops to promote mainstreaming of proven regional NRM Business Models among bankers across India (sensitisation/awareness building, marketing), thereby ensuring replication, upscaling and sustainability  
**METHOD:** Regional workshops
- 3 Support (1) ROs/RCU in conducting district level bankers meets to highlight farmer's credit demands & models' potential; (2) banks in assessing & integrating NRM Business Models into their credit structure, linking them to regional schemes.  
**METHOD:** Handholding, exposure visits, end to end support products, processes (Market Capacity Assessment Framework, Environment & Social Governance, Gender inclusion in NRM project planning)
- 4 Develop regional demonstration projects covering NRM Business Models (integrated fishery, sustainable sugarcane initiative, solar based intervention, etc.)  
**METHOD:** Regional demonstration projects
- 5 Link NRM Business Models to bigger budget schemes of NABARD and Government of India Programmes  
**METHOD:** Leveraging on other funds and resources (e.g. Area Development Scheme (ADS), interest subvention from State Governments or GoI, convergence with climate proofing of investments, FPO promotion and other sector schemes of GoI)

### STANDARDS AND PROCESSES DEVELOPED FOR NRM PROJECT DEVELOPMENT, MANAGEMENT AND MONITORING

-  Comprehensive Manual for NRM project design, appraisal, monitoring and impact assessment
-  Rapid Need Assessment (RNA) tool for identifying capacity gaps of implementing channel partners
-  Web-based loan monitoring system- at NABARD Regional Office and Head Office level; at Channel Partner level for individual farmer loan monitoring
-  MIS system (UPNRM Minds) – provides details about individual projects
-  Integrated Environmental and Social Governance Framework into the UPNRM appraisal process.
-  Integration of Market Assessment Capability Framework in appraisal process
-  Gender training manual developed for officers from Bankers Institute of Rural Development (BIRD) and other verticals of NABARD
-  Gender Training of Trainers (ToT) for BIRD faculty – Lucknow, Bholpur and Mangalore
-  Support towards initiatives of NABARD in areas of climate change

**BANKERS MEETS**

The regional workshops with managers and senior officers from commercial and rural development banks took place in Maharashtra, West Bengal and Kerala during the first half of 2018. The objective was to provide bankers the necessary information and exposure for them to gain the necessary confidence and trust in the NRM Business Models' bankability. The meetings served as a platform for regional rural banks, district central cooperative banks, urban cooperative banks

and commercial banks, NABARD and GIZ to come together and discuss how the NRM centric Business Models developed under UPNRM can be up-scaled, replicated and mainstreamed. Bankers were presented selected NRM Business Models, focusing on cost-economics, bankability, environmental impacts as well as scope for upscaling and replication across different NRM thematic areas. The main details of the bankers meets are illustrated below.

**BANKERS' MEETS IN A NUTSHELL**

<p><b>Regional Workshops</b></p> <ol style="list-style-type: none"> <li><b>Pune</b> 29 Nov 2017</li> <li><b>Kolkata</b> 20 Feb 2018</li> <li><b>Trivandrum</b> 25 Apr 2018</li> </ol>	<p><b>Objective</b></p> <p><b>Mainstreaming NRM Business Models for financing</b></p> <ol style="list-style-type: none"> <li>Introduce &amp; promote successful climate smart NRM-centric bankable and scalable business models</li> <li>Jointly build road map to mainstream successful UPNRM pilot projects into core banking portfolio</li> </ol>
<p><b>Business Models Presented</b></p> <ol style="list-style-type: none"> <li>Integrated Vegetable Cultivation</li> <li>Sustainable Sugarcane Initiative</li> <li>Integrated Fish Farming</li> <li>Organic Farming and Vermi-compost Marketing</li> <li>System of Rice Intensification</li> <li>Sustainable Mushroom Production</li> <li>Animal Husbandry with Integrated Biogas System</li> <li>Tissue Cultural Banana Farming &amp; Waste Utilisation</li> <li>Beekeeping / Forest Honey Harvesting and Processing</li> <li>Livestock Farming under Sustainable NRM Approach</li> </ol>	<p><b>Participants</b></p> <p>Senior officers (40-50 per workshop) from:</p> <p><b>Commercial Banks:</b> State Bank of India, Canara Bank, Bank of Baroda, Indian Overseas Bank, DCB Bank, Central Bank of India, United Bank of India, Axis Bank, Yes Bank, RBL bank, Syndicate Bank, South Indian Bank</p> <p><b>Regional Rural Banks</b> District Central Cooperative Banks NABARD head office &amp; regional offices UPNRM Channel Partners State level Farmer Producer Organisation (FPO) federation Maha Farmer Producer Company Ltd</p>
<p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>→ Sound &amp; profitable business model for farmers &amp; risk proofed for bankers</li> <li>→ Credit plus: Loan &amp; grant component for sustainably managing projects</li> <li>→ Risk mitigation (integrated approach, CB &amp; insurance)</li> <li>→ Need based technical support &amp; monitoring (RCUs)</li> <li>→ Demonstration to ensure replication</li> <li>→ Convergence with government schemes, CSR &amp; resource institutions to ensure upscaling</li> </ul>	<p><b>Typical Impacts</b></p> <ul style="list-style-type: none"> <li>🌱 Cultivation cost ↓</li> <li>📈 Yield ↑</li> <li>🏪 Marketing &amp; processing &amp; premium prices ↑</li> <li>💰 Gross income &amp; supplementary income ↑</li> <li>👥 Women &amp; youth empowerment ↑</li> <li>💧 Water savings ↑</li> <li>🌱 Soil health ↑</li> </ul> <p><b>Benefits to banks:</b></p> <p><b>Huge replication &amp; upscaling potential through banking sector</b></p> <ul style="list-style-type: none"> <li>→ Huge untapped market in NRM sector</li> <li>→ Entrance to sustainable finance (win-win approach)</li> <li>→ Increase outreach to bankable borrowers</li> <li>→ Gain foot in climate proofed sustainable NRM projects</li> <li>→ Tap training, capacity and monitoring support</li> <li>→ Risk mitigation (insurance, FPOs/Self Help Groups (SHGs)/Non-Governmental Organisation (NGOs) cooperation, convergence with government schemes and resource institutions)</li> </ul>

Bankers participated throughout the workshops. Emerging questions were jointly discussed and solutions provided (see question and solution scale). Participants agreed that the funding gap needs to be tackled and that there is a need for green, climate proofed and sustainable finance. It was decided that selected UPNRM models should be institutionalised, scaled up and replicated. The workshops' key messages are highlighted in the figure on the right.

The Map on the next page illustrates where bankers have expressed clear interest in taking up business models to reap the opportunities of expanding their business to NRM lending. It also highlights the business models' potential by state. Actual take-ups / actions taken since the workshop are summarised in the box below.

**KEY MESSAGES OF THE BANKERS' WORKSHOPS**



**CHALLENGES PERCEIVED BY BANK AND POSSIBLE ACTIONS FROM GIZ TECHNICAL COOPERATION**

**Challenges Perceived by Banks**

Climate change/ vulnerability	High labour cost, lack of infrastructure, logistics, cold chain, lack of adequate marketing facilities/arrangements	Lack of NGO & FPO rating/identification mechanism	Nascent stage of NGOs, high rate of Non Performing Assets (NPAs), limited credit worthy partner agencies with and credit handling	Lack of understanding, experience and technical expertise in dealing with NRM Business Models
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**Possible Actions from GIZ-TC**

- Document successful climate proofed business models on NRM financing
- Facilitate convergence with government schemes
- Work with FPOs and explore bank-NGO models
- Share a list of good NGOs and FPOs who successfully implemented UPNRM projects to banks.
- Conduct studies on FPO capacity assessment
- Start engaging with Banks, Primary Agriculture Credit Societies (PACs), FPOs, training, capacity building

TAKE-UP OF PILOTED UPNRM BUSINESS MODELS BY BANKS



**District Central Cooperative Banks (DCCBs)**

Sindhudurg, Maharashtra: Implementing biogas



**Industrial Development Bank of India (IDBI) Bank**

Sangali, Maharashtra: Drip in sugarcane with Kranti Sugar Cooperative



**State Bank of India (SBI)**

Aurangabad, Maharashtra: Drip in cotton with Dilasa



**Central Bank of India (CBI)**

West Bengal: Second round of credit appraisal for Organic Vermi-compost Production and Marketing project



**Vidarbha Konkan Gramin Bank (VKGB)**

Wardha, Maharashtra: Drip in cotton and sprinkler



**Bank of Maharashtra and NABKISAN**

Maharashtra: Cashew and mango processing with Vasundhara Agri-Horti Producer Co. Ltd (VAPCOL)



**State Bank of India (SBI)**

Rayagada, Odisha: Sanctioned Rs 50 lakhs as loan for Integrated Vegetable Cultivation



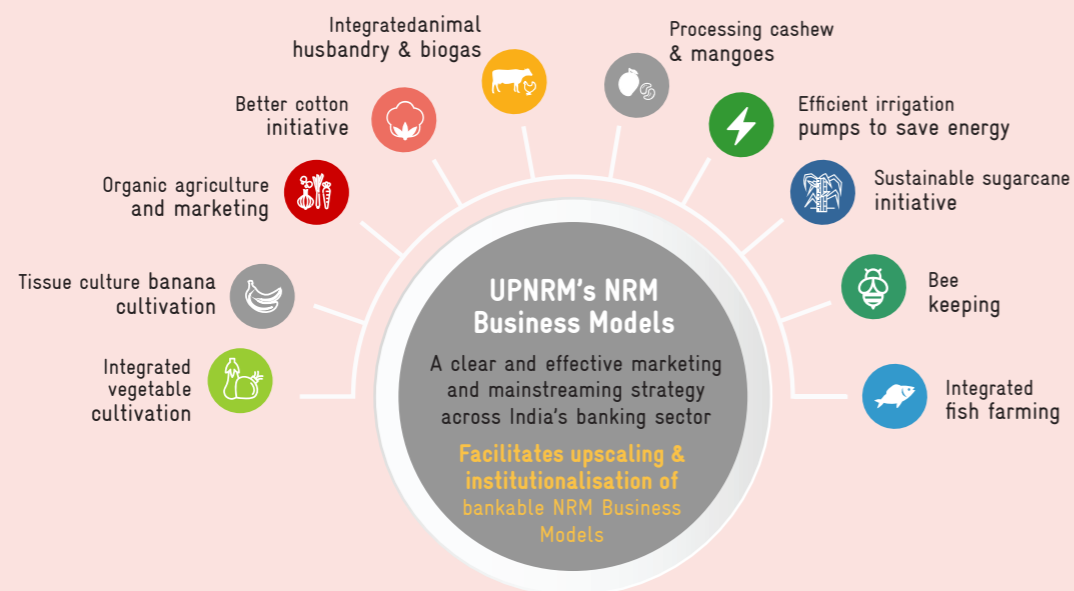
**Cosmos Bank**

Maharashtra: First project on Sustainable Sugarcane Initiative (SSI) cultivation under discussions

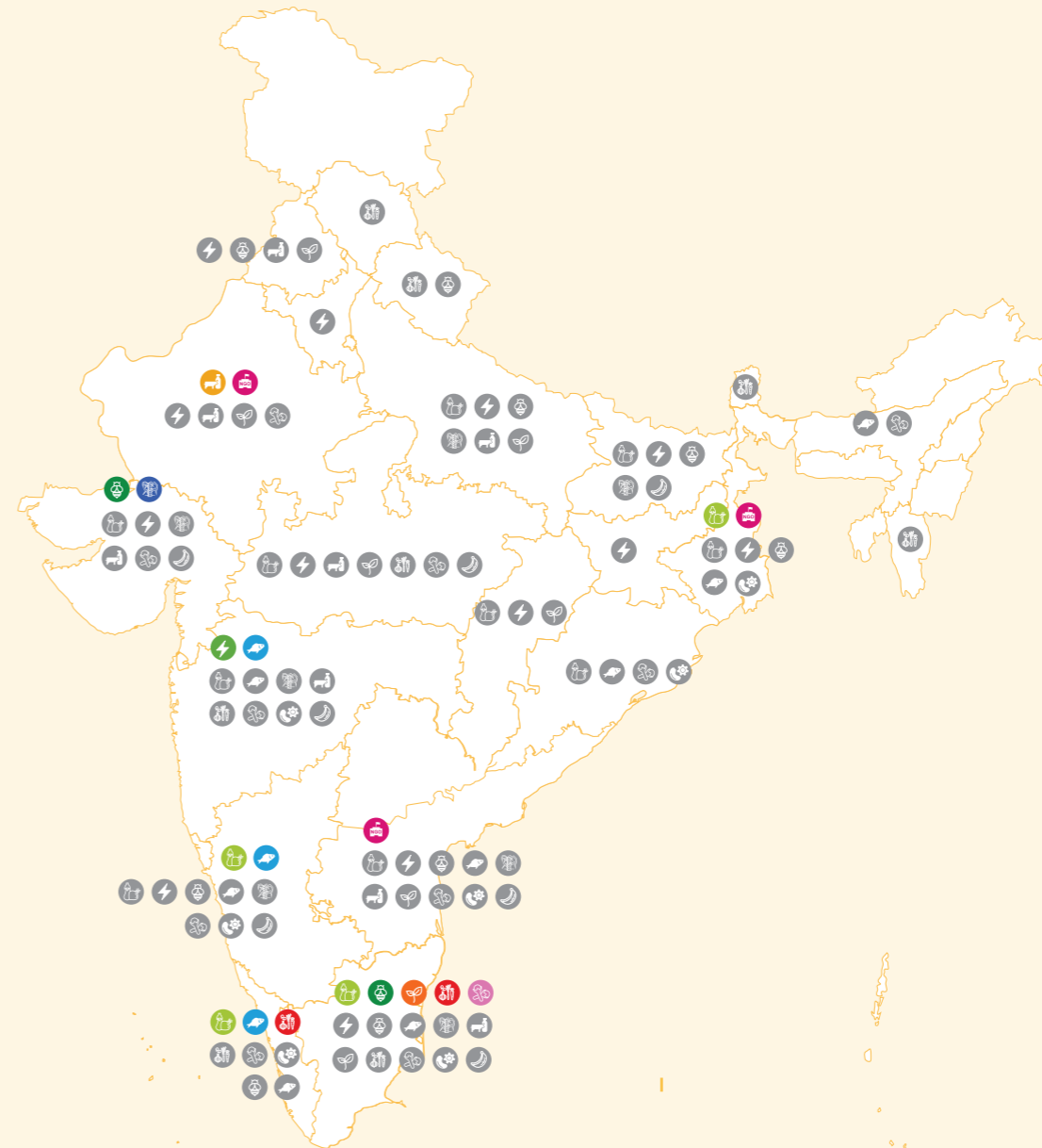
EXAMPLES OF GOVERNMENT PROGRAMMES & POLICIES

- >> Income-enhancing and income-protection programmes (Mahatama Gandhi National Rural Employment Guarantee Scheme, National Rural Livelihood Mission, etc.)
- >> Quality of life improvement programmes providing food, shelter and social safety nets to the poor (National Food Security Act, Pradhan Mantri Awas Yojana, National Social Assistance Programme)
- >> Employment, skill development and employability programmes (national policy of the Ministry of Skill Development and Enterprise)
- >> Policy and funding support for collectivising farmers into Farmer Producer Organisations (FPOs)
- >> Corporate Social Responsibility (CSR) legislation requires corporates to channel part of their profits into socially relevant projects

UPNRM'S NRM BANKABLE BUSINESS MODELS AVAILABLE



BUSINESS MODELS SELECTED FOR MAINSTREAMING AND WITH POTENTIAL FOR MAINSTREAMING



Bankers models selected for mainstreaming during Banker's meet

- Business models with potential
- Integrated Vegetable Cultivation
  - Energy efficient irrigation pumps
  - Bee keeping and honey marketing
  - Integrated fisheries
  - Sustainable sugarcane Initiative (SSI)
  - Integrated dairy management
  - Medicinal Plants
  - Organic farming
  - Spice cultivation and marketing
  - Cashew processing
  - Tissue culture-based banana farming

## SUGGESTED NEXT STEPS

- 1 **Technical Cooperation (TC) support in mainstreaming of piloted UPNRM business models** including (1) Documentation of NRM Business Models and UPNRM case studies; (2) Present NRM Business Models for financial feasibility check and uptake at State Level Bankers and Committee (SLBC); (4) Capacity building training for UPNRM channel partners (CP) on upscaling of UPNRM projects using climate finance; (5) Develop demonstration projects of selected NRM Business Models (e.g. integrated fishery); (6) Conduct state-level workshop and exposure visits for bankers; (7) Policy papers/ circular based guidance; and (8) Building value chain specific NRM projects that can interest private sector participants and thereby attract institutional credit.
- 2 **NABARD and GIZ to provide need-based support to banks** to prepare model schemes on value chain financing and other business models under UPNRM (share project proposals/model schemes, FPO database / NGO profiles) to enable banks to identify good projects. Along with this, NABARD may include financially viable NRM projects piloted under UPNRM and other projects in its district level Potential Linked Credit Plans (PLP) and State Focus Papers.
- 3 **Develop partnership models with NGOs and FPOs** to channelise credit with high NRM impacts to the last mile customer. In such partnerships, Banks, Non-Banking Financial Companies (NBFCs) will be involved as financing partners.
- 4 **Interested NGOs to approach banks** (bank's local main office) to initiate bank-NGO Business Models.
- 5 **TC and NABARD support in risk mitigation** including (1) TC to support to ROs in project identification, appraisal, monitoring through RCUs; (2) Project risk mitigation (thematic workshops, RCUs support to ROs in rescheduling of stressed account, one time settlement account and special audits); (3) Refine default risk identification and management system (partner selection on good financial track record, capacity and responsibilities matching for CPs (part responsibility models like community mobilisation, technology/ knowledge dissemination, GIS/Geo-spatial monitoring, convergence); and (4) Financial viability assessment of CP for onlending project (define appropriate payment, sufficient interest margins).
- 6 **TC and NABARD support capacity building efficiency** including (1) Programmatic CB support to Channel Partners and NABARD (Box); (2) CB intervention in line with action plan; and (3) Better selection of channel partners, follow-up, guidance and monitoring to ensure the successful implementation of projects.
 

**Relevance of capacity building**

Management Development Programmes (MDPs) and Exposure Visit have been able to introduce new concepts, models and ideas that helped CPs to manage, replicate, upscale the same and build networks for learning exchanges. The handholding support programme proves extremely successful to achieve immediate and visible changes.

*Source: CB Review, 2014*
- 7 **TC and NABARD support in developing standards and processes** including (1) Comprehensive manual for NRM project design, appraisal, monitoring and impact assessment; (2) Rapid Need Assessment tool for identifying capacity gaps of implementing channel partners; (3) Web-based loan monitoring system at NABARD, ROs, Channel Partners; (4) Management Information Systems (MIS) like UPNRM Minds for capturing details of individual projects; (5) Integration of environmental and social governance in the UPNRM appraisal process; (6) Integration of a market assessment capability framework and Environmental, Social and Governance (ESG) framework in the appraisal process; (7) Gender training manual for Bankers Institute for Rural Development (BIRD) and other verticals of NABARD; (8) Gender Training of Trainers (ToT) for BIRD faculties; and (9) Support climate change initiatives of NABARD.
- 8 **Bankers' strategy to reduce financial risks** including financing of successful NRM centric business models, second phase financing for UPNRM channel partners, engaging FPOs, promoting bank-NGO and model for NRM financing.
- 9 **Creating a 'pull' by sensitising** different actors like private players (CSR), NGOs and FPOs. UPNRM projects deal with procurement, processing and marketing of agricultural (food, grains, horticultural produce etc.), aquaculture (fish) and forest-based produce (pulp wood, minor forest produce etc.). There are many corporates and other institutional players (aggregators, processors, etc.) who are also stakeholders in these agri-value chains. Exploring possibilities of collaboration with institutional players through e.g. workshops, bilateral meetings will help in strengthening the business value chains of agricultural, horticultural, aquaculture and forest-based commodities.



**Deutsche Gesellschaft für  
Internationale Zusammenarbeit**

A2/18 Sardarjung Enclave

New Delhi 110029

India

T: +91 11 4949 5353

F: +91 11 4949 5391

I: [www.giz.de](http://www.giz.de)