Green Recovery of Rural Enterprises: Alternative Financing Mechanisms

April 2022

MP ENSYSTEMS

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Summary

MP Ensystems in partnership with Shakti Sustainable Energy Foundation has worked on a project that aims at greening horticulture and fisheries-based enterprises in the southern coastal districts of Maharashtra and in Goa. The aim of the project is to develop solutions that increase the scope and scale of operations leading to higher incomes; reduce factor costs through greening of the production and consumption processes; and reduce and reuse waste productively. Project activities include analysing the current state of horticulture and fishery-based rural enterprises, identifying ways to increase productivity and incomes in an environmental and socially sustainable manner and developing financial solutions to support implementation.

Financing Value Chains

Sample Project Design Document of a Horticulture Cluster in Devgad, Maharashtra

As a part of our analysis, a Project Design Document (PDD) was developed as a test case for the Devgad Alphonso Mango and Multifruit Association, a Section 8 company in Sindhudurg. The company has identified a clear opportunity to double its operations from current approximately 28.5 tons of post-harvesting; with an additional waste to products circular economic opportunity. The cluster also aspires to develop a net zero carbon strategy by installing approximately 40 kW of solar PV and wind (vertical axis wind turbines) on its premises to avoid grid power and frequent use of diesel generators to maintain cold-room temperatures. The project design also includes active power management of the onsite renewable energy sources and the unit operations within the post-harvest processing operations. Estimated investment in the proposed greening of projects is approximately RS. 85 lakh.

We envisage around 100 such projects to be developed in the coastal regions of Maharashtra, Goa, Karnataka and Kerala.

Supply or Value Chain Finance is the use of financing and risk mitigation practices to optimise the management capital invested in supply chain processes and transactions. Some best practices in supply chain financing include: building a strong partnership between value chain participants; building capacity of partners in order for the transactions to be mutually beneficial; appointing a lead firm to work with value chain participants, with finance channelled through the lead firm; for scaling up value chain financing, firms require investment in infrastructure including IT for integrated supply chain management; and to support women, minorities and disadvantaged communities, having a legal framework in place to support more collateral options, and allowing open, technology-driven financial architecture.

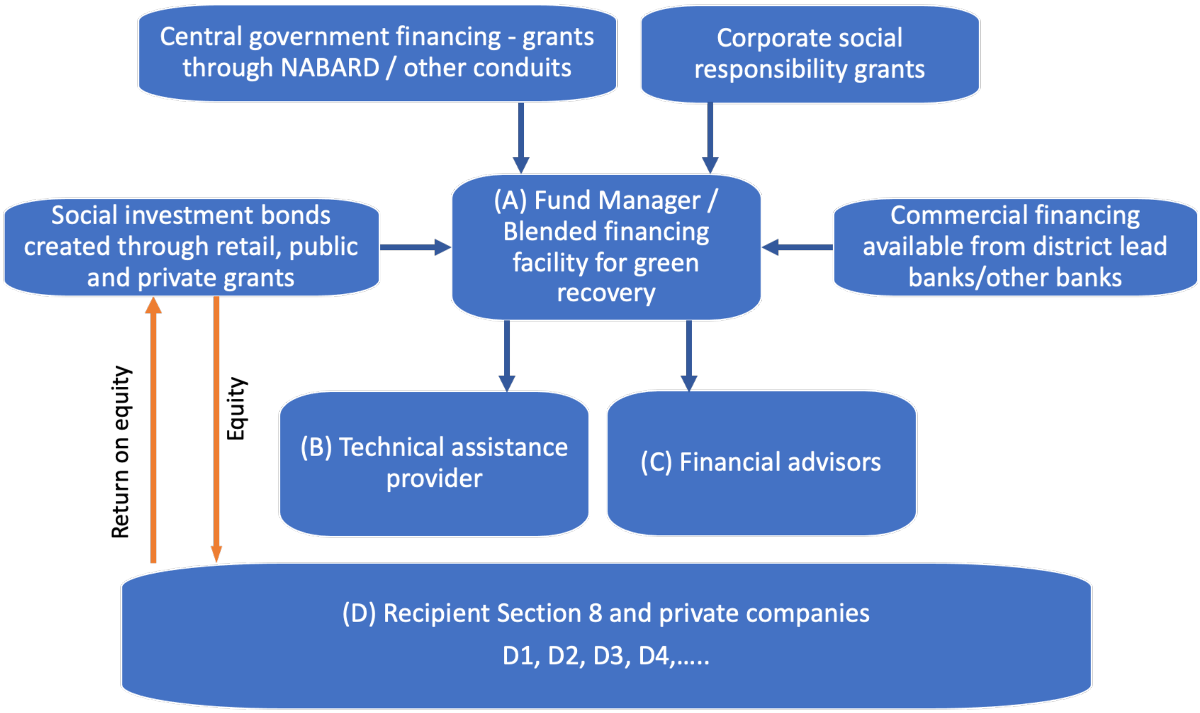
Green supply chain financing is a subset of Value Chain Financing that minimizes negative impacts and creates environmental, social and livelihood benefits for all stakeholders. The major guidelines that promote green finance include Equator Principles, Green Bond Principles and ESG (Environmental Social Governance) investing.

Alternative financing of horticulture value chains

Financing rural enterprises is hampered by the following barriers: Small ticket size of projects leading to higher transaction cost and reduced interest among lenders; Profile of buyers that lack a formal set-up of businesses accounts and audited balance sheets; Financing structures that require legal, accounting and auditing compliance.

To overcome these barriers, we have proposed an alternative financing mechanism that blends grant financing available through state and the central governments, corporate social responsibility grants, social impact/green impact bonds, with commercial finance. The proposed financing mechanism is in the figure below:

Figure 1 Implementation Structure of the Proposed Finance Facility

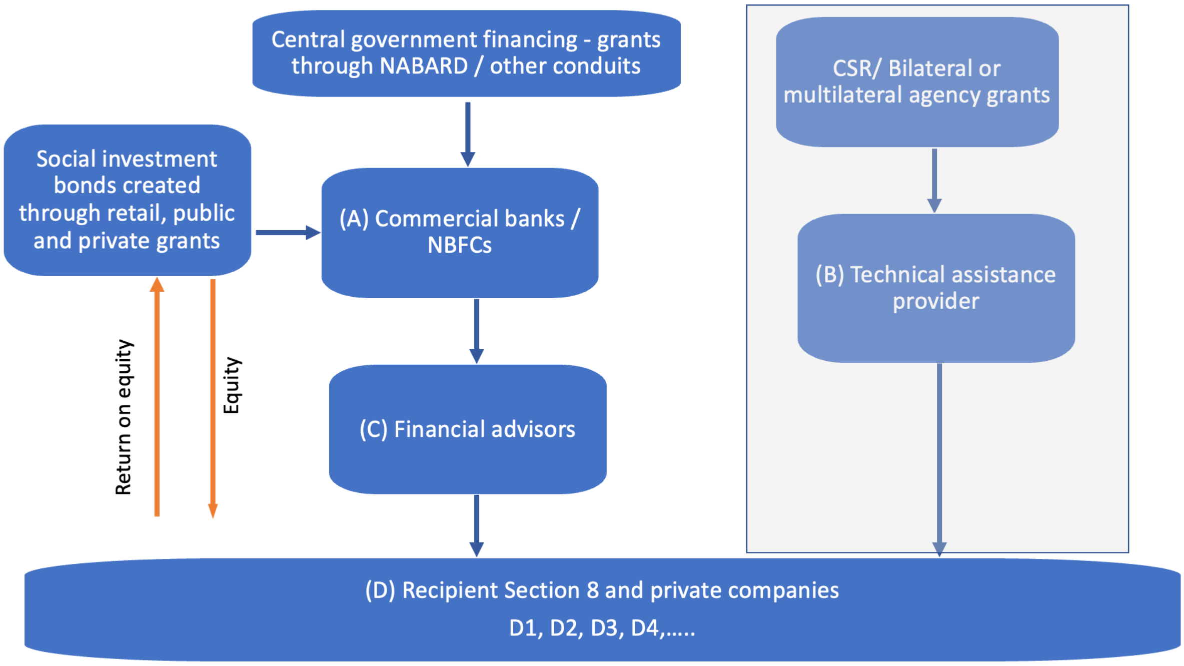


Source: MP Ensystems, 2022

Key components of this financing mechanism are:

- The proposed financing facility leverages available grants (from CSR), low-cost financing conduits (such as the multilateral development banks' credit facilities), commercial finance, and bonds markets; specifically the social impact bonds that can bring-in additional equity or debt in to the socially relevant businesses.
- Aggregation of the credit extended to the rural post-harvest processing investments is facilitated through a pooled approach in deal-making
- We propose a pooled financing facility of around Rs. 100 Crores in the first tranche. The aim is to fund 100 projects with a ticket size of RS. 1 crore, in order to maximise the benefits to small rural enterprises. The fund manager's targets will be linked to the number of projects implemented, and impact delivered, and not the size of each project
- Substantive technical assistance is offered as a part of the credit facility

In addition to the blended finance facility, we also envisage structuring a finance and technical assistance facility illustrated in the figure below.



Based on discussions at the Alternate Financing Roundtable held in Mumbai on 8th April, 2022, participants proposed leveraging existing credit availability from central and state governments. The market uptake for such a financing facility would need intense on-the-ground work, including technical assistance, project identification and awareness generation. One option to consider is the role of a Project Management entity, remunerated based on a success-fee model for facilitated technical interventions and investments. As a result of the discussions at the roundtable and beyond, a district lead bank has proposed launching a scheme for area-specific credit.

The main features of the proposed "Livelihood enhancement and climate mitigation strategic finance facility as an Area Based Scheme targeting Sindhudurg and Ratnagiri districts of coastal Maharashtra", currently being discussed with the district lead bank, are below:

- Finance facility will extend credit to first 100 project proponents with credit ranging from Rs.5 lakhs to Rs.100 lakhs
- Project proposals from Section 8 companies, FPOs/FPCs, private producers/post-harvest processors shall be considered
- Projects will target climate mitigation and resilience technologies
- The finance facility will offer an attractive interest rate of 7-8% with an additional subvention of 3% if the proposed interventions qualify under the National Agriculture Infra Finance Facility
- Repayment tenure of the proposed credit is expected to be 5 to 7 years, with a moratorium during the initial 3 months and repayment holidays during the monsoon season

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We conducted a stakeholder roundtable on 5 April 2022 in Mumbai and received valuable inputs and insights from participants. We acknowledge contributions by: Dr. Sudhir Kumar Goel, Independent Expert and Board member - NABCONS; Dr. P Ushamani and Ms. Bonani Roychoudhary, Nabsamruddhi; Kamlesh Maheshwari, Bank of India; Arpita Roy Karmakar, Edelgive Foundation; Jayant Prasad, CKers Finance; Dr. Nitin Pandit, Independent Expert; Pawan Kumar Bharti, SIDBI; Mudit Jain, Tata Cleantech Capital; Shweta Srinivasan, India Climate Collaborative; and Neha Kumar, Climate Bonds Initiative. The roundtable was jointly convened by MP Ensystems team (Mahesh Patankar and Ira Athale Prem) and Shakti Foundation (Shubhashish Dey and Kruthika Jerome).

This document reflects the views of the authors and not that of the parties named above.

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1. Financing Value-Chains: Best Practices

This report was developed as a part of a project that focuses on strengthening and greening agriculture and marine-life based livelihoods and enterprises. The purpose of this report is to examine current financing practices for the sector, and propose innovative financing solutions, based on our research as well as interactions with CSR funds, banks, private equity funds at a stakeholder roundtable.

Section 1 describes best practices internationally and in India to finance the agriculture value chain. Section 2 describes green financing initiatives currently prevalent. Section 3 contains the barriers to finance for small businesses. Section 4 contains our proposal for a blended finance approach. Section 5 covers Government funding that can be leveraged through facilitated technical assistance. Section 6 concludes with opportunities and the way forward, based on a survey of financing entities and feedback provided at a stakeholder roundtable.

Best Practices in Rural Value Chain Financing

The best practices for supply chain (or value chain) financing for rural enterprises have been grouped under the following heads: Partnerships, Infrastructure and Sources of Finance.

What is Value Chain Financing?

Supply or Value Chain Finance is defined as "the use of financing and risk mitigation practices and techniques to optimise the management of working capital and liquidity invested in supply chain processes and transactions.

ICC Banking Commission «Standard Definitions for Techniques of Supply Chain Finance», March 2016

Partnerships

1. Finance is an integral part of the value chain, but studies of successful cases have shown it is not necessarily the starting point. The initial focus, before bringing in financing, is to build a strong partnership between value chain participants, including building capacity of partners in order for the transactions to be mutually beneficial (FAO, 2020).

2. A characteristic of successful value chains is the practice of appointing a lead firm. The lead firm works with and through stable, capable value chain participants**,** to drive inter-firm relationships and coordinate the flow of inputs and products. Financing resources can also be channelled through the lead firms (FAO, 2020).

Infrastructure

3. For scaling up value chain financing, firms require investment in infrastructure for integrated supply chain management including:

   - Management services for postharvest management including a hub-spoke model
   - IT-enabled technology dissemination services including crop advisories, digitization of farmers database, virtual aggregation and market facilitation through e-platforms
   - Power optimisation and management, energy efficient technologies, integrated cold chain infrastructure

- Quality Control laboratories, standardisation, certification especially for analysis of chemical and pesticide residues in food products to meet exporters requirements

(NABARD, 2020)

Sources of Finance

4. Business and financing models need to dovetail with the facilities available under Government programmes such as Agriculture Infrastructure Fund and Credit Guarantee Cover.

5. Historically, green rural enterprises were funded by the Government through fiscal and financial schemes such as 30% subsidies for rooftop solar panels, bank loans under the Priority Sector Lending (PLS) scheme and programmes implemented by agencies such as IREDA, state nodal agencies, and EESL. More recently, there has been a boom in fintech start-ups in rural areas, however the focus of these has primarily been on services such as mobile banking, small ticket size loans and Aadhar-enabled payments. Financing rural enterprises to enable them to improve productivity and reduce carbon impact requires a reputed financing agency, technical knowhow, detailed project reports on industries and a goal of improving developmental outcomes.

6. Policy changes need to be made to support businesses led by minorities, women etc. These include developing a legal framework to support more collateral options, and allowing open, technology-driven financial architecture to facilitate market entry by non-traditional financial service providers (IFPRI, 2020)

Successful Cases of Farm-related Supply chain financing

A few examples of successful supply chain financing are below.

1. The **Indian cooperative dairy sector**, which has a strong value chain, with a participatory role for every stakeholder in production and processing. This sector also has vibrant producers' cooperatives coexisting with corporate investment (NABARD, 2020).

2. The **Indian poultry sector** –meat and egg production – is an example where both large corporates and small entrepreneurs have thrived. Capital and technology led to a well- defined production, value addition and distribution system with participatory roles for all stakeholders (NABARD, 2020).

2. Green Supply Chain Financing

Options analysis for green financing

Green Supply Chain financing is a subset of Value Chain Financing that minimizes negative impacts and creates environmental, social and livelihood benefits for all stakeholders. The following major sets of guidelines govern green financing:

Table 1 Green Financing Principles

	Equator Principles	ESG Investing	Green Bond Principles (GBP)
Description	Risk management framework for financial institutions to identify, assess and manage environmental and social risks when financing projects	Socially responsible investing, or impact investment that prioritises Environmental, Social and Governance factors	Voluntary process guidelines to support companies that are borrowing to finance sustainable projects
Used by	Banks, Other lenders are signatories	ESG tools such as Carbon Disclosure Project, Global Reporting Initiative etc are used voluntarily by companies to report ESG compliance Ratings agencies certify companies based on ESG criteria, create an index which provide information to investors	Borrower companies certify their bonds
Financial products	Project finance, Finance Advisory, Bridge loans, Project refinance	ESG index investing, exclusionary screening, best of class ESG investing, active portfolio carbon mandates etc Indian banks working to create ESG framework to be used during credit assessment	Green Bonds -bond instruments where the proceeds are used to finance or re-finance eligible Green Projects
Supply Chain related features	Principles include Environmental and Social Impact Assessment of supply chain	ESG rating of FMCGs, retailers etc may include functioning of rural suppliers, supply chain	None

Sources: MP Ensystems Research 2022, International Capital Market Association, Equator Principles

Successful Cases of Green supply chain financing

A few examples of successful green supply chain financing are below.

1. While **organic farming** in the US receives a premium, it is difficult for farmers to transition from conventional to organic farming, due to factors such as: different equipment required, upfront investment, crop rotation, knowledge gaps, keeping land chemical free for three years, cost of certification. To overcome these hurdles, large organic companies have launched "certified transition" initiatives, to certify that a farmer is shifting to organic cultivation. This provides farmers with slightly higher price than conventional agriculture products, enabling them to finance the transition (Batini, 2019).
2. **Smart contracting** using block-chain technology was tested for financing tea plantations in Malawi. Block chain can be used for product and information traceability, which is required for buyers' ESG certification. Smart contracts ensured that as firms provided supply chain sustainability data, they got access to finance (BSR, 2018).
3. **Risk assessment** is an important component of project financing and generic risk assessment techniques may not apply to all green projects. The perceived higher risk of green financing projects – including regulatory, supply chain, technology, and environmental and social risks- is one of the reasons for lower lending to the sector. The ANP (Analytical Network Process) risk management framework has been applied in Malaysia to identify and prioritize risks associated with palm oil biomass utilisation projects (Sue Lin Ngan, 2018).
4. Financing the supply chain through an **impact bond**- private investors provide up-front capital for social services and are repaid by an outcome funder if the agreed upon results are achieved. In Social Impact Bonds, the outcome funder is the Government. Development Impact Bonds are used in developing countries, with donors or foundations acting as outcome funders. (Brookings, 2017) In India, the Pimpri Chinchwad Municipal Corporation (PCMC) has proposed a Rs 100 cr Social Impact Bond with UNDP to improve medical facilities in civic run hospitals. However, so far social impact bonds have not been used in India in the context of climate change.

Current structure of credit flow into the system

Credit availability and the Government of India's intention to provide substantive support to the agriculture sector is well documented. According to the Economic Survey of India 2021- 2022, the agriculture credit flow for the year was Rs. 15,75,398 crore (approximately US$ 210 Bn) and the Government has announced Rs. 2 lakh crore (approximately USD 27 Bn) concessional credit boost to 25 million farmers through Kisan Credit Cards (KCCs). And under the recently launched National Agriculture Infra Financing Facility 2020, the Government has created a financing facility of Rs.1,00,000 core (approximately USD 13 Bn) for post-harvest management infrastructure and community farming assets. A good part of this credit flow is available for greening of the value-chains. The current structure, Model 1, that we identify in the value-chain financing is captured as Figure 1. The banking system follows a standard capitalisation model to raise funds from the market as deposits and in certain cases bonds; and to also facilitate funds flow from the central government schemes, as well as, refinancing opportunities through NABARD.

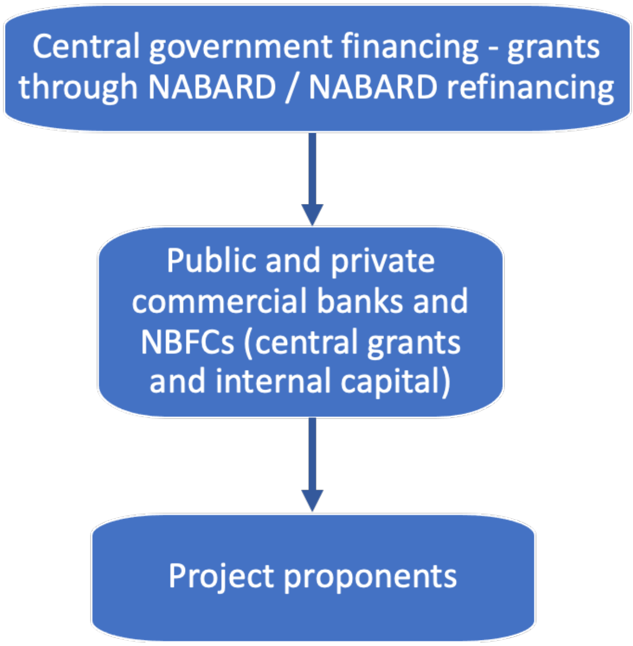

Figure 1: Model 1 – Conventional credit flow

Source: MP Ensystems Research, 2022

3. Barriers to Financing Small Businesses

Based on the discussions held with project partners involved in the financing of green infrastructure, we identified several barriers to financing of projects. Some of the challenges identified are included below in the following categories a) Barriers related to size of projects, b) Barriers related to the profile of the borrowers, c) Barriers to closing the deals and the financing structures. We elaborate the barriers captured below.

Barriers related to size of projects

Despite the mandate to support rural economies and the guidelines related to the priority sector lending, banks in the rural sector tend to assess projects that have higher ticket sizes. Smaller entrepreneurs involved in the food-processing with turnovers of up to Rs.10 Crores find it difficult to get access to financing. The private financing market involving high net worth individuals exposes the private entrepreneurs to higher discount rates and/or higher dilution of equity to accommodate the newer entrants. Several government schemes and grants are available for the smaller rural entrepreneurs to set-up units and install food-processing equipment. The rural entrepreneurs also now get access to grants from corporate social responsibility funding opportunities. However, the give-away initiatives from the government as well as the private/public sector CSR initiatives get the infrastructure in place without a deeper engagement in the implementation space. Additionally, the funding delivered is often small and does not achieve the scaling up effect, but rather works as proof of concept in many cases. Another round of funding is typically required to achieve the envisioned scale or boost in productivity. Examples from some of the successful post-harvest food processing units installed by private sector entrepreneurs, associations/cooperatives and farmer cooperatives companies/organisations suggest very efficient deployment and upkeep of processing infrastructure. But this is not an industry norm. Our best estimate is that approximately 20% of the infrastructure is yielding the intended outputs and outcomes.

Under the current project, we explore the opportunities to create models that yield the intended results of value-additions, entrepreneurships, rural employment and most of all facilitating the greening of the value-chains.

Barriers related to the profile of the borrowers

Except for the formal micro-small-and-medium-scale-enterprises, other borrowers do not really have the formal set-up of businesses accounts, audited balance sheets that are necessary to access finance from the mainstream. Banking norms have set-up a limit of 15% of capital funds for individual borrowers according to the Master Circular - RBI/2015-16/45 DCBR.CO.BPD. (PCB) MC No.13/13.05.000/2015-16 dated 1 July 2015. Mainstream financing conduits also require specific collateral should there be instances of delinquencies and non-performing assets or inability to service the debt. Another key barrier to financing small proprietorships is the risk of revenue generation not flowing through formal banking channels. Such a situation reduces the possibility of bankers getting a waterfall arrangement for the debt-servicing in place.

One of the key activities in the current initiative at MP Ensystems is to provide opportunities to green the value-chains in the horticulture sector in the climate-impacted coastal community-led businesses. Specifically in the state of Maharashtra, cooperatives of farmers have been proven successful with several farmer producers' cooperatives creating robust businesses, though they have not achieved scale-up.

Current assessment of the post-harvest processing and marketing companies in the state of Maharashtra reveal that quite a few of those companies are registered as Section 8 companies as defined under The Companies Act, 2013. Such companies are set-up with charitable objects. Other nuances related to the Section 8 companies include:

- Profits or income shall be used to promote the objects of the company
- Members forming the company are not allowed to receive any dividends; but can be employed as employees or act as Directors of the company
- As per sub-section (3) of section 179 of 2013 Act, the Board has the following powers: (a) to make calls on shareholders in respect of money unpaid on their shares; (b) to authorise buy-back of securities under section 68; (c) to issue securities, including debentures, whether in or outside India; (d) to borrow monies; (e) to invest the funds of the company; (f) to grant loans or give guarantee or provide security in respect of loans; (g) to approve financial statement and the Board's report; (h) to diversify the business of the company; (i) to approve amalgamation, merger or reconstruction; (j) to take over a company or acquire a controlling or substantial stake in another company; (k) any other matter which may be prescribed

Above provision of the 2013 Act is construed as allowing the Board to approve borrowings from banks, its members and other external entities.

Barriers to closing the deal and the financing structures

Financing of business expansion opportunities as well as any greening of value-chains opportunities is possible through the existing Companies Act. That said, banking operations spanning loan applications, due-diligence and disbursements need careful planning. Land-ownership, asset-ownership and the applicable collaterals for the borrowings need careful closure. Legal, accounting and auding compliance are required to be followed diligently in closure of the additional credit brought in to the proprietorships, cooperatives and the Section 8 companies. Handholding of the companies involved in greening of value-chains is a much needed function to provide the required comfort to the banking system.

One other important aspect for consideration is the role of alternative financing structures related to the bond market. The Indian bond market is limited to corporate finance and infrastructure funding; with the recent past revealing the power of green bonds. Other structures related to social impact bonds are common globally, where governments have been known to act as output buyers in health and educational services where the private sector can access the capital through bonds with lower discount rates. In case of green businesses though, social impact bonds have not yet been tried out in India.

We propose to create an opening through this discussion note to facilitate higher credit made available as equity or debt at much lower cost of capital compared to the conventional structures available to the borrowers. While the debt market is a chosen route for the Section 8 companies as an example, patient capital in the form of low-hurdle-rate equity infusion is an equally important opportunity supporting rural entrepreneurship. While Indian equity market is a feasible option, the foreign direct investments in the Section 8 companies would fall under the Foreign Currency Regulations Act (FCRA) provisions.

In the next section we present our proposed and aspirational blended financing conduits that address several barriers listed above intended to lead to higher credit made available that is viable and returnable.

4. Alternative Financing of Horticulture Value-chains

We propose a financing model below, Model 2, specifically meant to make additional credit conduits available to the horticulture value-chains.

- The proposed financing facility leverages available grants (from CSR), low-cost financing conduits (such as multilateral development banks' credit facilities), commercial finance, and bond markets; specifically social impact bonds that can bring in additional equity or debt to socially relevant businesses.
- A core technical aspect of the proposed facility is to focus on a combination of productivity, marketing and green production activities.
- Substantive technical assistance is offered as a part of the credit facility to ensure deepened credit is made available in the rural value-chains. The financing facility and the technical assistance provision is a part of the same governance structure, with the "fund managers" gaining higher level of returns should substantial traction be seen in the credit-flow at a portfolio level. Investments in the greening of the rural value-chains and the credit thus deployed support new green infrastructure, upkeep, market access and documented higher livelihood and low-cost services to the recipients including section 8 companies, other cooperative structures and private producers.
- Operationalising the facility would require technical assistance up front. As an example, the "fund manager" would be expected to identify and create a robust pipeline of post-harvesting processing opportunities with all sorts of farm-to-fork market opportunities.
- Once the requisite number of projects are identified and brought to the facility, aggregation of the credit can be facilitated through a pooled approach in deal-making.
- The model includes a credit enhancement feature. Since the recipients are smaller businesses, and lack credit guarantees, the blending with government conduits offers higher credibility. Additionally, part of the fund can be used specifically for guarantee structures or first loss capital, along with the TA component.

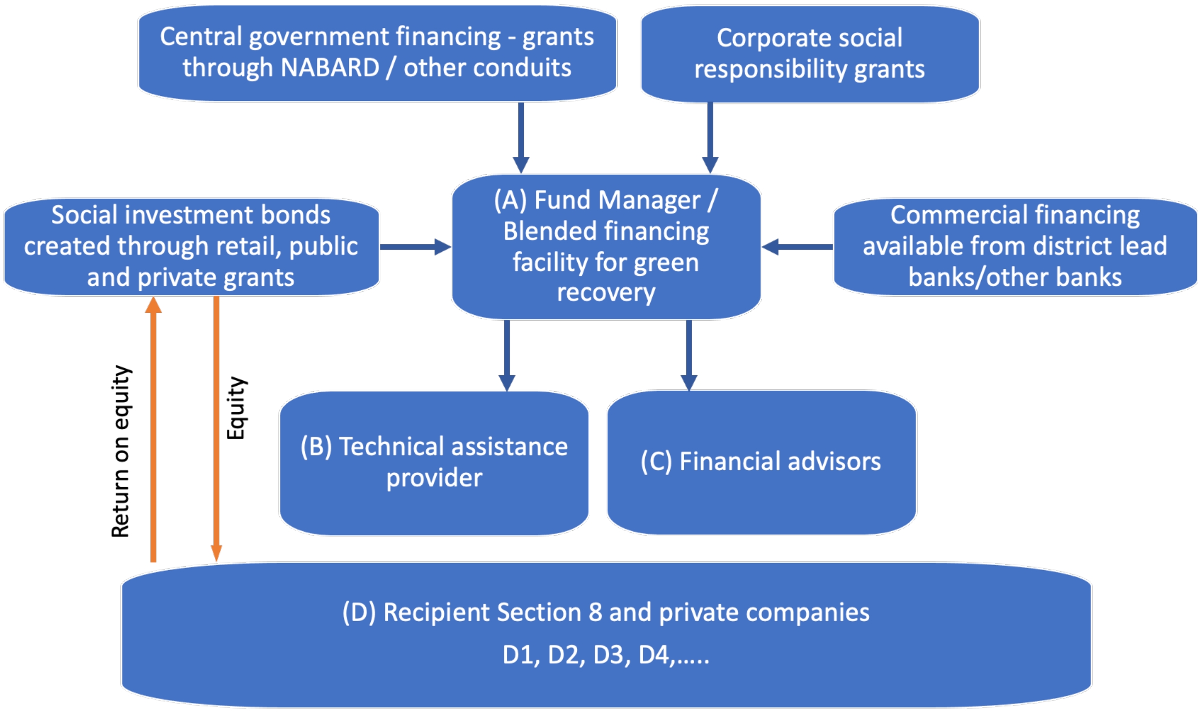

Figure 2: Model 2 - Implementation structure of the blended finance facility

One key legal attribute we are exploring through this paper and the roundtable discussion is the possibility of pooling such a fund through multiple sources. We have identified four sources to capitalise such a fund, which include i) social impact bonds created through public and private investments, ii) central government financing – grants through NABARD and other conduits, iii) corporate social responsibility funds deployed through the fund, iv) commercial financing through district lead banks/other banks. Our initial analysis suggests a clear possibility of tapping sources i), ii) and iv). We examined the possible application of corporate social responsibility in to third-party funds. Pros and cons of applying the CSR funds are discussed below.

- Companies (Corporate Social Responsibility Policy) Rules, 2014 is the governing statute that qualifies the CSR activities defined under the Companies Act, 2013
- Rule 4 (1) of the above-referred rules require all CSR activities undertaken by the companies to conform to the CSR policy
- Rule 4 (3) of the above-referred rules states – "*A company may also collaborate with companies for undertaking projects or programs of CSR activities in such a manner that the CSR Committee of the respective companies are in a position to report separately on such projects or programs in accordance with these rules*". This rule implies the CSR fund of one company can be used in partnership with other companies' funds.
    - We are examining if contribution in any pooled funds is allowed and what checks and balances one needs to ensure during such a process.
- Rule 4 (6) of the above-referred rules allow the projects to be implemented through "*Implementing Agencies*" with a three year' of track record.
    - We are examining if the contribution in external funds qualify as implementing agencies
- Rule 7 of the above-referred rules states "*CSR expenditure shall include all expenditure including contribution to corpus, for projects, or projects relating to CSR activities....*"
    - We are examining if the contribution in external funds qualifies as well

As presented in the Figure 1, the proposed functions of the A to D steps are described below.

A) Fund manager / Blended finance facility

The blended facility is proposed to be set-up with a combination of grant financing available through state and the central governments, corporate social responsibility grants, social impact/green impact bonds, and commercial finance. The structured facility borrows at varying levels of discount structure/hurdle rates. Tenures of the contributing funds in the projects could vary as well based on the subscription patterns. We propose a pooled financing facility of around Rs.100 Crores in the first tranche. The proposed "Fund Manager" shall be the primarily fund-holder and lead investor initiating pooling of such an activity.

If a pooled fund is created as one single facility, specific legal and financial regulatory aspects will need to be evaluated. We envisage two options; 1) Fund manager acting on behalf of the consortium of funders we identified with the individual investors making the disbursements using the syndicated due-diligence documents. This structure entails the fund manager acting on behalf of other funders who extend the credit flow The fund manager takes the role of a facilitator in this case.; and 2) Creating a separate Alternate Investment Fund for the equity placements as defined under the "Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012, last amended on 25 January 2022. Option 2) would have the limitations of extending credit, requiring a focus only on the equity placements. Option 1) would allow syndication of due-diligence and the disbursement of the funds from multiple sources. Term sheets and the contract languages related to the individual disbursements and the collaterals associated with the individual credit streams will need specific documentation. The purpose of setting-up a fund management function is to remove procedural difficulties.

B) Technical assistance provider

Success of the proposed facility is the offtake of the financing and the implementation of green recovery packages. As such, unlike other conventional pattern of financing, the proposed facility's success shall be judged based on the deeper greening efforts made at the portfolio level. The financing facility and the technical assistance shall be judged not only on the capital and credit deployed but also number of smaller businesses supported through technical opportunities revealed for them and the impact achieved, with specific indicators of impact to be determined by the funders. The technical assistance provider has an important role to play towards success of the proposed offtake of Rs. 100 Crores facility. We envisage the technical assistance provider to create templates/green value-chain packages for horticulture and fisheries sectors. The packages are expected to include elaborate technical interventions towards energy conservation, energy efficiency, system design aspects, closed loop and circular options, integration of renewable energy in the core production processes, built environment as well as mobility/logistics solutions around it, and also deployment of smart energy solutions to reduce and track energy footprints. In order to target around 100 projects of an average size of Rs. 1 crore worth of investment in each of the deals, the technical assistance provider is expected to reach out to no less than 500 MSMEs in the horticulture and fisheries space using outreach techniques such as roadshows, focused group meetings etc.

C) Financial advisor

We propose to train local youth in financial inclusion and to act as foot soldiers to reach out to the Section 8 companies, other cooperatives, private and proprietorship companies. The financial advisor can be from the same team as that of the fund manager with clear links with the technical assistance provider teams. The financial advisor shall facilitate quicker processing of the credit flows and complete the documentation needed towards closure of the deals, disbursements and debt servicing.

D) Recipient Section 8 and private companies

These are the value-chain partners leveraging at least 1:100 outreach of the smallholder farmers involvement. As such, the recipient companies shall have the ability to positively influence livelihoods of multiple rural populations.

While our proposal primarily focuses on the blended financing opportunities, we are aware of the opportunities that already may exist to through the existing financing conduits set-up in the recent past. We discuss the insights gained through our interactions with key stakeholders.

- **Key insights from interactions with commercial banks:** All the banks have specific targets for rural credit under the priority sector lending norms of the Reserve Bank of India. According to the RBI circular RBI/FIDD/2020-21/72; Master Directions FIDD.CO.Plan.BC.5/04.09.01/2020-21 September 04, 2020; updated as on 29 April 2021; the agriculture sector lending by the banks is required to be 18%. The said credit flow is to be applied for a host of on-farm and off-farm services. The Farmer Produces Organisations/Companies (FPOs/FPCs) get access up to Rs. 2 Crores of credit; loans up to Rs. 75 lakhs against pledge/hypothecation for up to 12 months, and loans up to Rs. 5 Crores undertaking farming with assured marketing support. In addition to this, for agriculture infrastructure support a limit of Rs. 100 Crores is set per borrowing entity. Banks are bound by such norms and should they not be able to extend the credit, the RBI circular calls for contribution to the Rural Infrastructure Development Fund (RIDF) established with NABARD and other funds with NABARD/NHB/SIDBI/MUDRA Ltd.
- **Key insights through interactions with non-banking financing institutions:** NBFCs are allowed to lend no more than Rs. 10 Lakhs per individual borrower; all such credit flow is considered as a part of the commercial bank's PSL compliance if the NBFCs are on-lending to the agriculture sector. A cap of 5% has been set-up for the commercial banks to extend loans to NBFCs for onlending.
- **Key insights through interactions with venture debt funds and agri-lending platforms:** Venture debt funds are fairly new instruments available for lending. Out of the cohort of around 5 such venture debt funds we interacted with; none were keen on the agriculture sector. However, several agri-lending platforms; most notably the Samunnati platform has shown consistent increase in lending to FPOs with over Rs. 1,600 crores disbursements in the FPO sector. The agri-platform lending encompasses several operational aspects of the FPOs , with an indirect focus on greening of value-chains.

Barriers to Operationalising the Model

- The revenue stream of the cluster comes from fees for services such as use of equipment by members and non-members. In case of a loan to the cluster, the assessment of the cluster's ability to service debt depends on escrow of these revenue streams. The revenues of cluster members from sale of their produce cannot be directly considered for escrow.
- The major challenges in availing formal credit are delay in disbursement, assignment of collaterals, guarantees that often lead to parties getting impatient (both bankers and borrowers). Organisations such as NABARD and the district lead banks can help facilitate removing above-mentioned barriers.
- Once viability of the individual projects is established and a finance facility is put in place, the market uptake of such interventions would need intense on-the-ground work related to project identification, leading to a pipeline of projects and financing facilitation. Banks do not have the manpower or technical capability to perform this function. As such, any new financing facility that is developed should include a provision for foot-soldiers acting as financial advisors to facilitate field actions, spread information about the technology/financing options and bring in a large

cohort of off-takers. One option to consider in the financing facilitation is the role of Project Management Consultancies remunerated based on a success-fee model for facilitated technical interventions and investments. Philanthropic organisations, NABARD and the banks can develop a project development function for faster facilitation.

- According to amended CSR rules, only those Section 8 companies having at least 3 years of experience in implementing CSR projects were eligible for receiving CSR funds. Conditions for CSR funding to other types of recipients (proprietors, partnerships, FPOs, co-operatives etc) need to be checked.
- While the model includes climate change mitigation efforts, climate adaptation and resilience requirements and opportunities have direct and indirect impact on the livelihood opportunities in the rural sector and need to be explicitly incorporated into the model.

Alternatives to Model

- Instead of bringing the pipeline of projects to the facility, the project manager can apply the vendor model and bring them to a government regional scheme, other DFIs or NBFCs.
- The proposed facility could help form a private company, with shareholding by FPOs to become business entities.
- A case study during the pandemic in which low -cost loans to small and medium enterprises had provision for start of repayments after the enterprise started generating profit, can act as a good template. It was effective in reviving many enterprises hit by the pandemic.
- SIDBI facilitated deployment of blended finance with their own resources and low-cost development finance; such a development finance institution driven model is feasible if the credit flows are directed to all prospective borrowers irrespective of ticket sizes to facilitate higher impact.
- Specific emphasis on the technical assistance of such a facility is essential and a combination of district lead banks or refinancing institutions such as NABARD/ NABSAMRUDDHI can be successful.
- The law mandates that the profit of Section 8 companies be used for charitable and non-profit objectives. Helping establish more Section 8 companies can help in scaling up the operations of the company as well as ensuring easier access to finance; accounting for their ability to borrow from the commercial and the development institutions.
- Aggregation of multiple projects with technical interventions reduces the operating costs and reduces the carbon foot-print; being associated with a larger credit opportunity for the bankers is essential. This role can be assumed by not-for profit smaller organisations, including the existing food processors with clear knowledge-base of the agri-food-processing opportunities; and for-profit entities. A suitable remuneration model needs to be established to develop a larger pipeline of projects. Proposed market development effort through the foot-soldiers can also facilitate the credit related documentation required by the banks.

5. Leveraging GoI Funding through Facilitated Technical Assistance

While we identified newer ways of financing the rural value-chains, some clear opportunities are available under recently launched Government of India financing options. Specifically, National Agriculture Infra Financing Facility launched by the Department of Agriculture & Farmers Welfare is an important option. In 2020, the Government set up the National Agriculture Infra Financing Facility to provide finance of **Rs. 1,00,000 crore** for funding Agriculture Infrastructure Projects at the farm-gate and aggregation points, including Primary Agricultural Cooperative Societies, Farmers Producer Organizations, agriculture entrepreneurs and start-ups.

The objectives of the scheme are to mobilize long-term finance or investment in viable projects for post-harvest management Infrastructure and community farming assets through incentives and financial support.

Benefits to Farmers	Benefits to Government	Benefits to Banking System	Benefits to Consumers
• Improved marketing infrastructure to improve value realisation, leading to higher income • Reduced post-harvest losses • Cold storage and modern packaging • Community farming assets for improved productivity	• Direct priority sector lending in currently unviable projects through interest subvention, incentives and credit guarantees • Reduction in national food wastage • Entrepreneurs can use funding to innovate in the farm sector and collaborate with farmers	• Credit guarantees and interest rate subvention to reduce credit risk • Refinance facility will enable greater role for Regional Rural Banks and cooperative banks	• With reduced waste and improved efficiency, consumers can access better quality produce at lower prices

Source: Agri Infra Scheme Guidelines, 2020

The implementation period of the facility is intended to span from 2020 to 2030. The finance facility has following three specific budgetary interventions:

1. Interest subvention cost: All loans under this financing facility will have interest subvention of 3% per annum up to a limit of Rs. 2 crore.
2. Credit Guarantee cost: Credit Guarantee coverage to be paid for by the Government, for loans up to Rs 2 crore.
3. Administration cost: Costs of project management, services such as identifying export clusters and gaps in the supply chain are to be provided by Government agencies.

Types of projects eligible for funding include Post-harvest management (e.g. e-marketing platforms, cold chains, logistics facilities) and building community farming assets (e.g. Organic inputs production). All scheduled commercial banks, cooperative banks, RRBs, small finance banks, non-banking financial companies (NBFCs) can participate in the program.

Status of current participation, enrolled beneficiaries, banks, amount disbursed and lending institutions as of February 2022 is presented below.

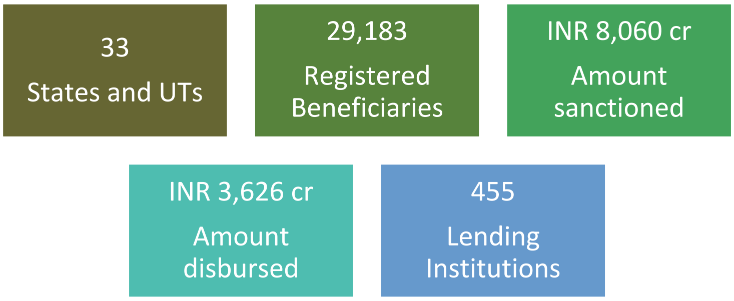

Figure 3: Participation and financial indicators pertaining to AIF

Source: National Agriculture Infra Financing Facility Dashboard, 2022

The chart below shows the average interest rates being offered by different categories of participating banks. The size of the bubble shows the number of participating banks- the largest number being the DCCBs.

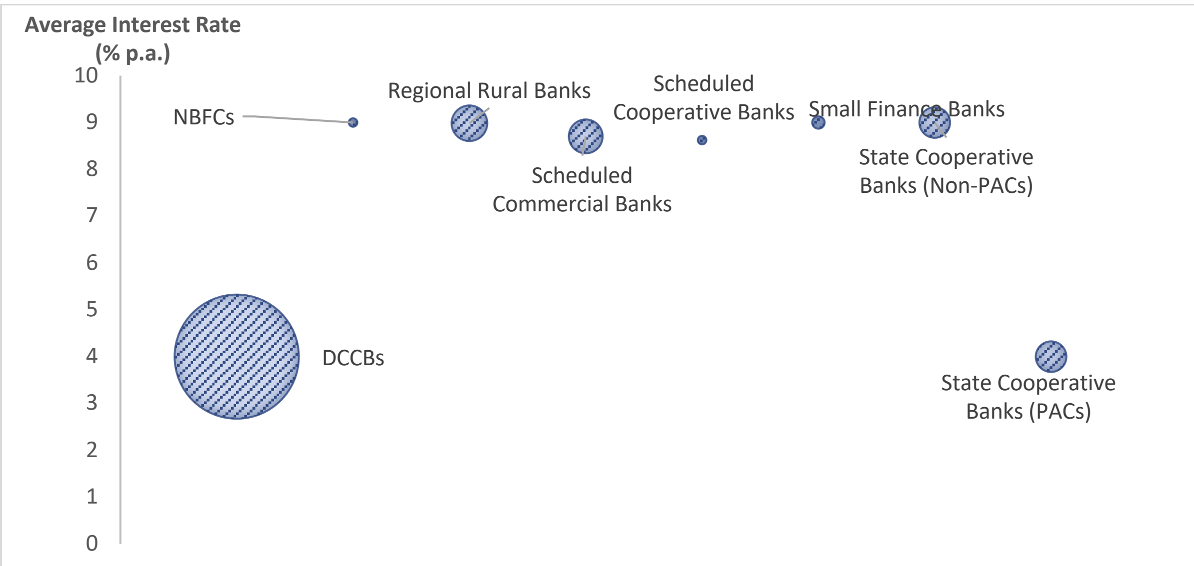

Figure 4: Average discount rates of AIF cohort prior to subvention

Source: National Agriculture Infra Financing Facility, MP Ensystems Research 2022

DCCB- District Central Cooperative Bank
PAC- Primary Agriculture Credit Society
NBFC- Non Banking Finance Company

Based on the interviews conducted with several commercial banks, as well as NABARD, we believe there is good amount of funding getting allocated to this sector. That said, the banking systems could use additional assistance in project development process. As such, we are envisaging twinning opportunities through the National Agriculture Finance Facility and similar funds available for deployment; leveraged through a target-based technical assistance provided through other financing opportunities such as the CSR funding streams. Based on the discussion with the stakeholders so far, we present model 2, captured in Figure 3, that shows a complementarity amongst the formal banking credit flow for greening of supply-chain projects and the role of CSR funds to facilitate project development process.

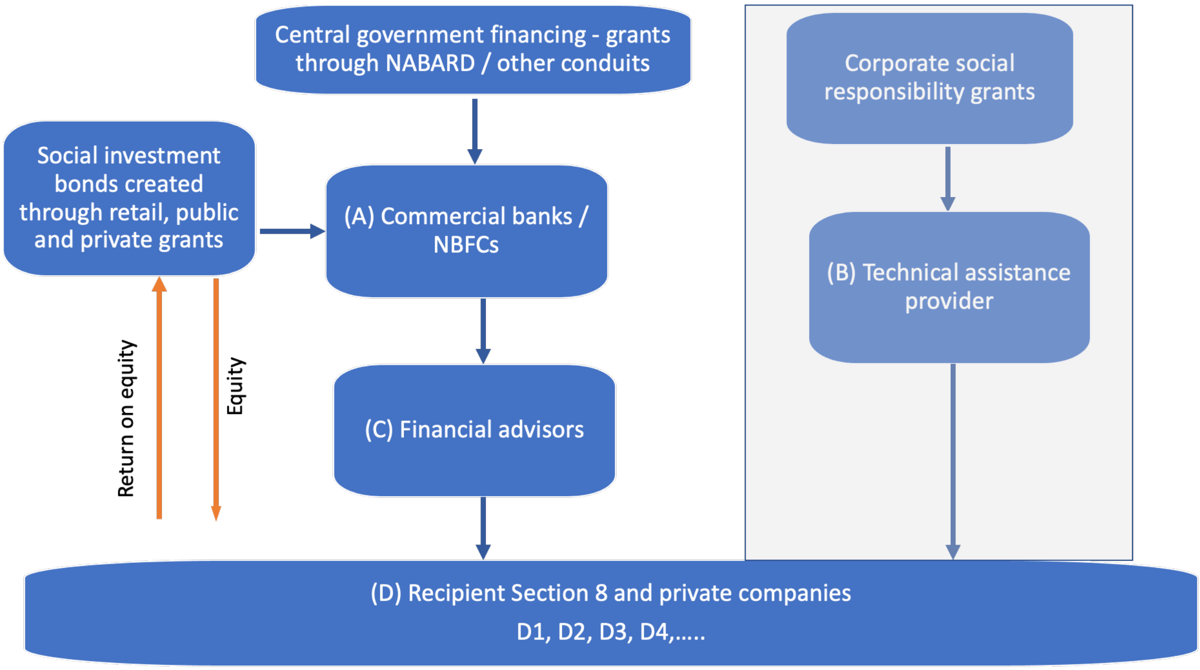

Figure 5: Model 3 – Complementary Model Linking Credit Flow and Technical Assistance

Source: MP Ensystems Research, 2022

6. Proposed Financing Facility

Our work was also informed by a roundtable discussion we held in Mumbai on 5th April 2022. A list of in-person and online attendees is presented in Annexure 2 of this note. Insights gained have been incorporated in previous sections of this document. We have considered the suggestions from the expert group at the roundtable while presenting contours of a proposed finance product below. Based on the review of existing finance facilitation, requirements of agri-producers and the post-harvest processors, interviews with producers in the coastal districts and financing community; the project team developed the contours of a prospective finance facility.

The proposed "Livelihood enhancement and climate mitigation strategic finance facility as an Area Based Scheme targeting Sindhudurg and Ratnagiri districts of coastal Maharashtra", currently being discussed with the district lead bank, is presented below. At this stage, the proposed facility will use lead bank's own funds leveraged through the Agri Infrastructure Facility; subsequently, also blending other funds in the pool of funds as and when such sources materialise.

- Finance facility will extend credit to first 100 project proponents with minimum Rs. 5 lakhs of credit and a maximum of Rs. 100 lakhs of credit. Project assets and the receivables can act as the collateral to these special purpose projects. The project proposals, once set aside for disbursements, can be revived every year for additional credit extension as needed.
- Project proposals from Section 8 companies, FPOs/FPCs, private producers/post-harvest processors shall be considered
- List of climate mitigation and resilience technologies covered under the project includes: a) solar photovoltaic systems with inverters and optional storage, b) small wind turbine systems with inverters and optional storage, c) small waste-to-energy systems for onsite electricity and thermal energy generation, d) concentrated hot water/steam generators for thermal energy, e) oil extraction and blending/packaging systems, f) electric haulers for 500 kg up to 2 tons with associated electric vehicles charging infrastructure; g) small service e-vehicles used for the purposes of logistics, including 2-wheelers h) pack houses for pre-cooling, cooling and storage. This list shall be expanded from time to time and based on the consent of the branches, other relevant equipment that support climate mitigation and resilience shall be allowed to be included in the proposed package of services.
- Repayment tenure of the proposed credit is set to be 5 to 7 years; with a moratorium of 3 months from the disbursement and loan repayment holiday of up to 3 months during the peak monsoon period. The repayment schedule shall be adjusted considering the moratorium, repayment holiday and loan tenure.
- Margin money set for this finance facility is 5%.
- The finance facility will offer an attractive interest rate structure of 7-8% flat rate with a subvention of 3% should the proposed interventions qualify for disbursements under the National agriculture infra finance facility (AIF). All other projects not covered under AIF are allowed to approach the finance facility.
- The finance facility launched by the district lead bank shall align the project development, capacity building and training support through NABARD targeting faster uptake and disbursements.

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Annexure 1: Major Indian Funders and Financiers of Green Supply Chain

Name	Type
ITC	CSR fund
Mahindra	CSR fund
HUL	CSR fund
Tata Trust	CSR fund
Reliance	CSR fund
Infosys	CSR fund
Wipro	CSR fund
JSW Steel	CSR fund
Jindal Power	CSR fund
Raymond Apparel	CSR fund
RBL	Bank
ICICI	Bank
SVC	Bank
Bank of Maharashtra	Bank
NABARD	Bank
Bank of Baroda	Bank
Central Bank of India	Bank
Indian Bank	Bank
Punjab & Sind Bank	Bank
Indian Overseas Bank	Bank
Punjab National Bank	Bank
State Bank of india	Bank
Union Bank of India	Bank
Uco Bank	Bank
Oikocredit India (Maanaveeya)	Equity Investor
Lightrock	Equity Investment
3one4capital	Equity Investment
Blue Artha	Private equity
Avishkar Capital	Private equity
Acumen India	Private equity
Ankur Capital	Private equity
Artha Capital	Private equity
Asha Impact	Private equity
FMC Ventures	Impact Investor
Omnivore	Impact Investor

Annexure 2: Participants of Alternating Financing Mechanisms Roundtable

Venue: Sofitel, Bandra Kurla Complex, Mumbai

Date: 5th April 2022

In-person Participants				
No.	**Name**	**Designation**	**Organisation**	**Email Id**
1	Arpita Roy Karmakar	Manager (Education)	EdelGive	ArpitaRoy.Karmakar@edelgive.org
2	Dr. P Ushamani	Managing Director	Nabsamruddhi (NABARD)	md.nabsamruddhi@nabard.org , usha.p@nabard.org
3	Ms. Bonani Roychoudhary	Chief Operating Officer	Nabsamruddhi (NABARD)	
4	Jayant Prasad	Executive Director	cKers Finance	jprasad@ckersfinance.in
5	Kamlesh Maheshwari	Asst General Manager	Bank of India	Kamlesh.Maheshwari@bankofindia.co.in, Secretary.Rural@bankofindia.co.in
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7	Pawan Kumar Bharti	Manager	SIDBI	pkbharti@sidbi.in
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11	Kruthika Jerome	Program Manager - Clean Energy Finance	Shakti Sustainable Energy Foundation	Kruthika@shaktifoundation.in
12	Dr. Mahesh Patankar	Managing Director	MP Ensystems Advisory Pvt. Ltd.	mahesh@mpensystems.com
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14	Meghana Rao	Project Director	MP Ensystems Advisory Pvt. Ltd.	meghana@mpensystems.com
15	Prajkta Adhikari	Project Manager	MP Ensystems Advisory Pvt. Ltd.	prajkta@mpensystems.com
16	Smitha Lobo	Assistant Manager (Accounts)	MP Ensystems Advisory Pvt. Ltd.	smitha@mpensystems.com
Online Participants				
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2	Shweta Srinivasan	Program Manager, Energy	India Climate Collaborative	shweta@indiaclimatecollaborative.org
3	Neha Kumar	India Programme Manager	Climate Bonds Initiative	neha.kumar@climatebonds.net

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