

REPORT

Country Strategy

for

Green Inclusive Micro Enterprises Financing

India



Country Strategy for Green Inclusive Micro Enterprises Financing - India

September 2021

About this Report

This report was prepared by Development Alternatives with support from UNEP Inquiry. It is authored by Munir Ahmed and Stella George with contributions from Siddharth Jain. Extensive secondary research was conducted and various stakeholders including financial experts, micro-entrepreneurs in the construction, textile, and plastic waste sectors were interviewed. The report has been technically reviewed and edited by Labanya Prakash Jena. Shrashtant Patara, Zeenat Niazi, Gitika Goswami and Kanika Verma have been regularly providing guidance and inputs to the report.

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Executive Summary

The Micro, Small and Medium Enterprise (MSME) sector plays a significant role in India's economic and social wellbeing. The micro enterprise (MEs) segment, in particular, constitute a majority part of the MSMEs in India. It contributes significantly to the economy and particularly to exports, serves as a vital cog in the economy's supply chain, generates a large number of jobs, alleviates poverty, and brings industrialization and self-reliance to the local markets in the remotest communities in rural India. Although MEs play a significant role in India's sustainable development, they do not attract the level of policy or financing attention that large corporations do. They also face several challenges in transitioning their businesses towards sustainability. Access to capital on reasonable financing terms is one of the primary constraints on MEs' succeeding in becoming major players for a sustainable national future.

This lack of access to affordable finance impacts MEs in several ways, including raising of barriers to adopting new – particularly cleaner and more efficient -- technology, hiring skilled human resources, adding capacity, and innovating products and entering new markets. This tends to slow down their growth and profitability significantly. It can thus seriously hamper their ability to fulfil their potential role in creating a *Just Transition* to a low carbon, green and inclusive world.

The challenges that MEs face in accessing finance are so deep and urgent that they warrant a variety of immediate actions by various stakeholders in the financial system. Given the policies of most governments aimed at encouraging transition to a sustainable economy, it is imperative for all stakeholders in the business ecosystem to come together for collective action on identified shared priorities. In this context, financial support to MEs, one of the highest priorities for a green and inclusive economy, needs an integrated approach to drive systemic change by bringing financial policymakers, regulators, public and private financial intermediaries together.

Our findings suggest there are various means through which we can make the systemic changes in the financial system needed to accelerate financing to MEs. We have divided these into two broad categories: Digital Transformation and Innovative Financial Models.

Our analysis shows that digital transformation can in turn change the MEs' financial landscape in two ways: Alternative Credit Assessment and Service Delivery Models. As the existing credit assessment mechanism of MEs is a critical barrier for raising finance, alternative credit assessment through the use of information technology and computer algorithm are needed to address these barriers. The use of technology not only reduces the cost of assessment but can also speed it up. We find that the two most promising service delivery models are: (i) Common Service Centre (CSCs) and (ii) Interactive Voice Response (IVR) Service and Solutions. Common Service Centres (CSCs) enhance access to credit for micro-entrepreneurs located in remote and rural areas by providing various digital financial services in a common physical facility. Interactive Voice Response (IVR) Services improve delivery of finance to MEs through the use of "voice" and the "telephone keypad."

New financing models entail innovating financial instruments, mechanisms, policies, and regulations which can drive capital flows to MEs. The primary innovative financing model are:

- *Community-led financing*, which is based on creation of locally financed credit mechanisms, allowing consumers and individuals in the community to identify, address, and propose and fund ways to tackle issues;
- *Incentive-based financing*, which aligns the interests of financiers and borrowers by offering incentives for attaining a certain level of performance.

- *Blended financing*, which is an efficient use of public capital through appropriate structuring to mobilise much-needed private capital to MEs.

As the ME financing landscape is quite complex, it requires intervention at various levels and by various stakeholders. All the important actors in the financial ecosystem must act coherently to create an ideal ecosystem for MEs. We propose three strategic recommendations:

1. **Create alternative credit assessment models** undergirded by, strong collaborative platforms to support robust yet flexible processes and mechanisms tailored to the financing needs of MEs, particularly by reducing the costs of due diligence and assessment, and bridging common information gaps;
2. **Develop innovative financial products and models** (e.g., blended financing, community-led financing, transition financing) that can mobilise reasonably priced private capital;
3. **Connect with networks and develop partnerships** with various types of organisations and financial institutions especially the Fintechs and public sector banks to help connect green inclusive entrepreneurs to lenders.
4. **Design financial policies and regulations** (e.g., credit quota) to direct capital to MEs to adopt sustainability in their business practices; use public capital efficiently through innovative financial mechanisms such as credit guarantees, subsidized financing, etc.

This Country Strategy for Green and Inclusive Micro Enterprise Financing is a comprehensive strategy document that is intended to act as a blueprint for various stakeholders in the financial ecosystem. It identifies the steps needed by respective stakeholders to make the necessary changes in the financial system to achieve the desired goal of expediting access to finance by green and inclusive MEs.

The four main chapters of this paper are:

Chapter 1 introduces the significance of MEs in India from a sustainable development lens, examines the opportunity and challenges for MEs to adopt sustainable business practices. This chapter also explores how access to affordable capital helps MEs to transition to sustainability. In addition, it touches upon three high-impact sectors, namely Construction, Textiles, and Plastics, which contribute significantly to the country's economy and employment generation while adversely affecting the environment.

Chapter 2 explores the financial architecture of MEs - evaluates the financial services offerings by various financial intermediaries, including banks, NBFCs, MFIs, and Fintechs to MEs. This chapter also analyses the challenges to ME financing associated with each type of financial intermediary.

Chapter 3 outlines the financial challenges to sustainability for MEs and identifies mechanisms and instruments, which can address these challenges. This chapter also analyses several case studies on MEs in the three selected high-impact sectors and highlights the best practices and initiatives in these sectors.

Chapter 4 offers strategic recommendations to address the challenges to adopt suitability in the ME segment. The recommendations are divided into four components: 1. Platform; 2. Products; 3. Partnerships; 4. Policies. This chapter also lays down a roadmap which recommends a list of actions and identifies the agencies to implement those actions within a reasonable time frame.

Context

Micro, Small, and Medium Enterprises (MSMEs) are the bedrock of the Indian economy. They contribute to 30% of the country's GDP and ~50% of exports and generate employment for 11 million people (Invest India, 2021). MSMEs¹ also play a critical role in the supply chains of large enterprises for various manufacturing and services sectors and employ 11 million people. Most enterprises in the MSME sector fall under the Micro Enterprise (ME) category. Given the significant contribution of MEs to India's economy, they play a critical role in India's sustainable development goal (SDGs). They can promote achievement of the SDGs through employment generation, decarbonisation of the economy's supply chain, innovation, poverty reduction, and local development. Despite their contribution, MEs do not get the same attention as large corporates in low carbon economy discussions, strategy, planning and policies. Thus, they do not get adequate support from policymakers, regulators, and other institutions that are responsible for promoting industrial activity.

MEs also face several challenges in following business practices that are needed for contributing to a sustainable future, not the least being the lack of access to capital on reasonable terms. In a recent study on the micro, small and medium enterprise sector, the Reserve Bank of India has identified several challenges that the sector faces (RBI, 2019). The key barriers include infrastructure bottlenecks, lack of professionalism and skilled workforce, inability of enterprises to adapt to new technology, lack of access to inputs and markets, and long payment cycles. Above all, MEs often face insurmountable barriers to accessing credit and risk capital, whether equity or debt, which limits their ability not only to invest in higher productivity capacity and infrastructure, but also to get much needed working capital. Facilitating access to finance by MEs is now widely recognized as central to enabling their contribution to a Just Transition to the low carbon and inclusive world in which climate mitigation and adaption, job creation, social protection and environmental care goals can all be met.

This economic transition hinges on the ability of MEs to transition as they contribute heavily to India's economic and social transformation. However, challenges to access to finance are deep and urgent and so need immediate actions by various stakeholders in the financial system. With the government signalling its intention to transition to a sustainable economy, it is imperative for all stakeholders in the ecosystem to come together for collective action on shared priorities. In this context, financial support to MEs needs an integrated approach to drive systemic change, bringing together all actors financial policymakers, regulators, public and private sector players.

¹ We are using MSMEs, SMEs and MEs interchangeably as these terminologies are loosely defined. But the dynamics and challenges of all these business segments are similar.

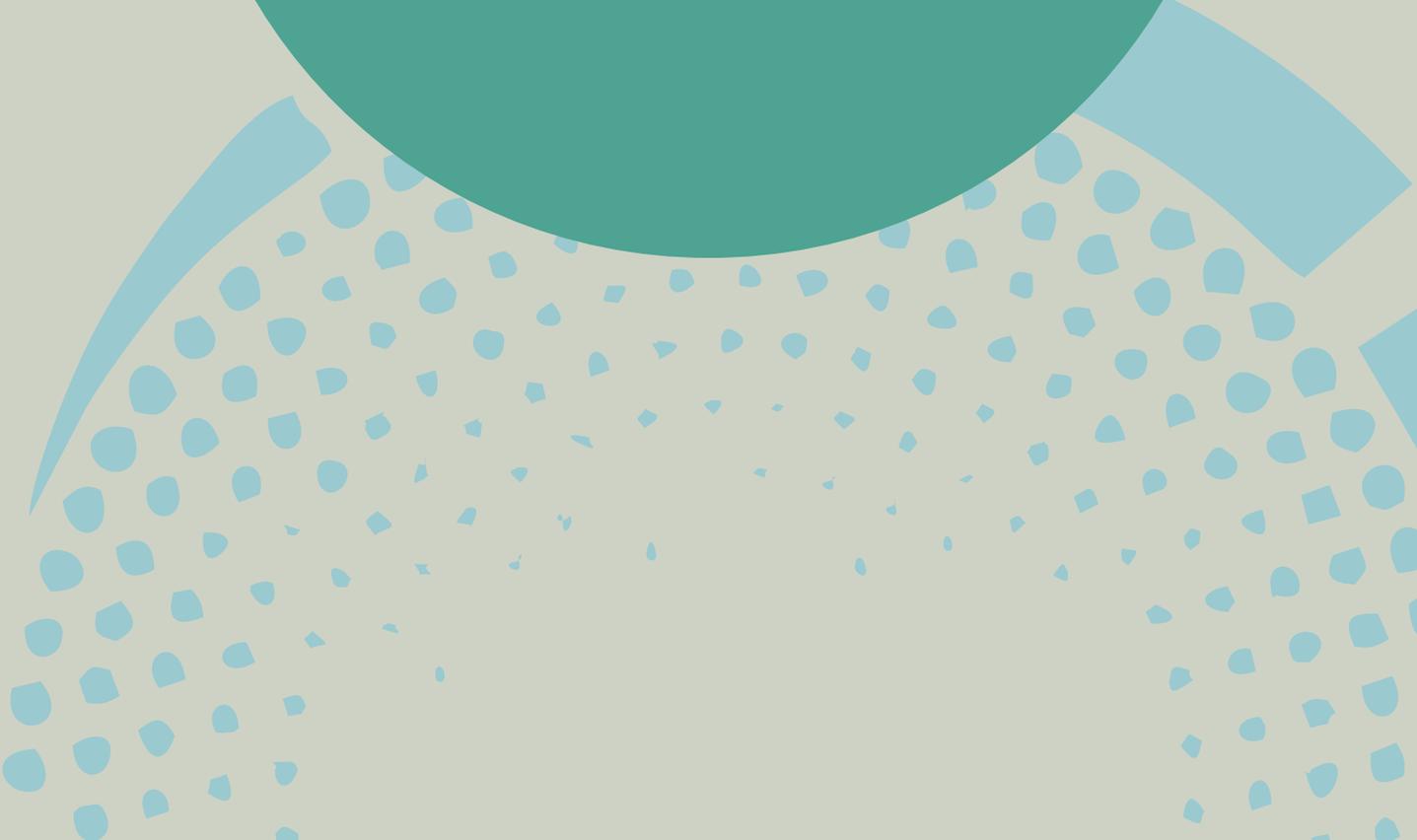


CHAPTER

1



**Introduction to
Micro Enterprises -
Roles and
Challenges**



MSMEs or SMEs are not unambiguously or even clearly defined in the academic/scientific literature, nor among different economies. It is universally accepted that private enterprises below a certain scale are considered SMEs or MSMEs -- though the Medium Enterprises (MEs) in most cases can be quite sizable. Even in India, the official definition of MSMEs' has undergone significant revision and change as the size of the economy grows. Moreover, the parameters on which these definitions are based vary from country to country, primarily depending on the number of employees, and/or the value of fixed assets, and/or annual sales, and/or other considerations such as loan sizes accessed. The definition of MSMEs in India was most recently changed on the backdrop of economic contraction in FY2021 due to COVID-19, which caused massive losses in production, jobs, and livelihoods. The revised definition has three critical elements: the distinction between manufacturing and services business was removed; the upper limits for investment in fixed investment were raised; and "turnover" was introduced as an additional measure to define MSMEs. The revision of financial criteria was also needed to take account of inflation and to enable MSMEs to achieve economic scale to be competitive, and to prevent large enterprises from splitting their businesses into smaller ones to take advantage of MSME concessional advantages (The Indian Journal of Labour Economics, 2020).

Table 1: Micro, Small, and Medium Enterprises definition as per the latest Govt. of India notification

Revised MSME Classification			
S.no	Enterprises	Investment in and Turnover	Limit
1	Micro Enterprises	Investment in plant and machinery or equipment; and	Does not exceed 10 million rupees
		Turnover	Does not exceed 50 million rupees
2	Small Enterprises	Investment in plant and machinery or equipment; and	Does not exceed 100 million rupees
		Turnover	Does not exceed 500 million crore rupees
3	Medium Enterprises	Investment in plant and machinery or equipment; and	Does not exceed 500 million rupees
		Turnover	Does not exceed 2500 million rupees

Source: Govt. of India Notification (June 2020)

Primary Focus of this Report: Micro Enterprises (MEs)

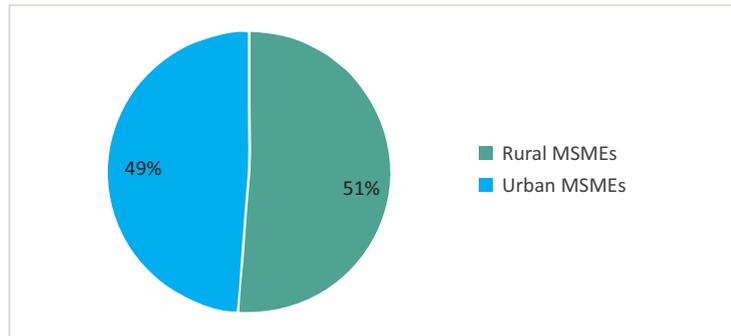
In this report, we focus on **Micro Enterprises (MEs)** as they are the dominant category in the MSME segment. According to the latest Annual Report published by the Ministry of Micro, Small and Medium Enterprises (2020-21), almost 93% of the total MSMEs estimated ~63 million units are micro-enterprises. The huge proportion of MEs in the MSME segment makes them the most significant category when looking at MSMEs' transition pathways toward a more green and inclusive economy.

Table 2: Distribution of Enterprises based on size (Numbers in Millions)

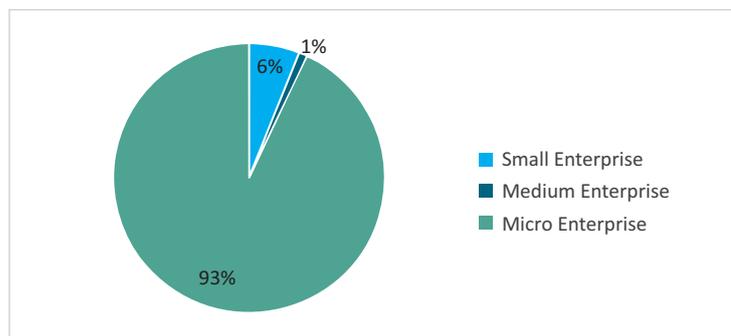
Sector	Micro	Small	Medium	Total	Share (%)
Rural	32.40	0.078	0.001	32.48	51
Urban	30.64	0.253	0.04	30.900	49
All	63.02	0.331	0.05	63.38	

Source: Ministry of MSME, Annual Report, 2020-21

In the present report, all observations and findings from secondary and primary research for MSMEs have thus been extrapolated for micro enterprises.

Figure 1: Percentage of Rural and Urban MSMEs in India

Source: Ministry of MSME, Annual Report, 2020-21

Figure 2: Percentage of Registered MSMEs in India

Source: Ministry of MSME, Annual Report, 2020-21

1.1 Impact of Micro Enterprises on the Economy, Society, and Environment

The performance of MSMEs – primarily MEs -- is analysed in this report on the three primary components of sustainability: the Economic, the Social, and the Environmental.

1.1.1 Economic Contribution

The key attributes of the ME segment include a high contribution to domestic production, significant earnings from exports, low investment requirements, flexibility in operations, capacities to develop appropriate indigenous technology, and new opportunities in various sectors (RBI, 2019). After the agricultural sector in India, MEs generate the largest number of jobs. They act as a catalyst to the economy's growth not just by significantly contributing to employment but also in terms of the number of industrial units. In addition, they feed into large value chains at the regional, national, and international levels. Besides, they operate at various levels in the value chain - manufacturing, trade, and distribution in local consumer markets (IFC, 2012). In particular, micro-enterprises have contributed immensely to entrepreneurship development, especially in semi-urban and rural areas of India (IBEF, 2021).

Table 3: Key Indicators to show the Economic Contribution of MSMEs in India²

KEY METRICS	
Share of	Value
Manufacturing Output	33.4%
Total Exports	45%
Gross Domestic Product (GDP)	30.27 (%)
Employment (in Millions)	120

Source: Ministry of MSMEs, Annual Report, 2020-21; CII 2019

² This data only comes from those enterprises which are registered and thus fall in the formal sector

Though they make a significant positive contribution to the economy, MEs are weak in competitiveness and stability, partly due to limited access to capital, and partly due to limited markets, which make them especially vulnerable in times of economic contraction. These constraints also limit the ability of MEs to invest in modern and more efficient machines and equipment, in market development, or in raising working capital.

The recent history of MEs in India has been nothing less than tragic for many enterprises in this sector. Having already found it challenging to adapt their businesses to structural changes brought about by demonetization (2015/16) and the introduction of a unified Goods and Services Tax (GST) regime, they were badly affected by the lockdown imposed due to the COVID-19 pandemic in 2020-21. A majority of them face challenges like a sudden drop in demand, working capital issues, logistics disruptions, medium-long term disruption of business models in certain sectors, and a significant loss of livelihoods and income (Nandakumar, 2020). These conditions severely impacted the health of micro-enterprises, particularly those in the informal sector, due to the absence of capacities, managerial resources, and backward-forward linkages (ADB, 2020).

1.1.2 Social Benefits

Apart from contributing to economic growth and transformation, MEs play a crucial role in creating employment opportunities, especially in the rural areas uplifting millions out of poverty. Since they are widespread and deeply rooted, they help achieve fair and equitable distribution of wealth (Raj, 2016). Compared to large corporates, MEs are widely spread, which have also led to the industrialization of several regions. They have also catalysed the growth and development of rural and handicraft industries, including crafts, Khadi, plant-based medicines, food products, etc., and made these traditional industries more productive.

However, some pitfalls come along with these social benefits. These enterprises face several challenges, including poor working conditions and low productivity due to the informal nature of their workplace (International Labour Organization, 2019), primarily attributed to poor policy and regulatory measures and lack of enforcement of existing measures. Labour management and Occupational Health and Safety have not been integrated into Strategic Investment Plans developed for states (World Bank, 2020), leading to ineffective information flows at the local level.

1.1.3 Environmental Impact

At the global level, MEs also contribute to about 13% of the annual global final energy consumption, according to the (International Energy Agency, 2015), and have a significant carbon footprint. There is a large amount of waste generation and pollution, especially in the manufacturing segment of the industries where on-ground operations take place (Ray, 2020). In India, it is estimated that MEs roughly contribute 70% of industrial pollution (Raj, 2016). These enterprises are sectors that have traditionally put considerable pressure on the environment – excessive use and pollution of water resources, significant emissions, generating large amounts of waste, etc. The environmental impacts at an individual unit's level might be insignificant; however, collectively, it is quite high (Raj, 2016). Water bodies and their contamination due to polluting industrial wastewater discharges raise occupational health and safety hazards. The poor management of air emissions by MEs also risks community health significantly (World Bank, 2020).

The poor energy and environmental performance are directly related to these enterprises' lack of technical and financial capacity to identify, access, adapt, and adopt better technologies and operating practices (Bureau of Energy Efficiency, Government of India, 2020). Environment-friendly technologies are usually also expensive to purchase and install in enterprises (Jain, 2018). The lack of access to the latest technologies makes this sector vulnerable to energy scarcity and competitiveness in the global market.

1.2 Understanding Micro Enterprises from a Sustainability Lens

The economic, social, and environmental observations on the performance of MEs from the previous section highlight their critical role in India's path towards sustainable development. So, it is crucial to ensure that MEs build their business models on the principles of resource conservation, resource

efficiency, and waste management from the environmental end. Therefore, these MEs are critical enablers of green and inclusive recovery at the grassroots, supporting the fulfilment of the 2030 UN Agenda. The OECD report highlights that SMEs can contribute to the UN SDG substantially through employment generation, reduction of poverty, and income disparity (OECD, 2017).

1.2.1 Opportunities for transition to green and inclusive enterprises

There is empirical evidence that suggests that green and sustainable business practices can help SMEs to grow their businesses and become more profitable. There are some SMEs who are also aware that climate change concerns can open new market opportunities for their growth, and there is scope for cost reduction (Sajid, 2009). The SMEs can reduce the cost of operation in several ways, such as switching to rooftop solar from the grid for electricity, waste incineration, reduction of paper usage, installing energy-efficient equipment, lowering material costs, and optimizing the usage of electronic appliances (Baah C, 2021); (Chege SM, 2020). The SMEs are typically less formal, and the owner of the company can usually make quick and appropriate decisions. This management approach makes SMEs react to opportunities and risk faster and more flexibly approach than large corporates. This agility makes it possible for SMEs to exploit climate and sustainable opportunities faster than larger corporates.

Through case studies in subsequent chapters, the report touches upon three sectors, namely Construction, Textiles, and the Plastic Industry. These three sectors contribute significantly to the country's economy and employment generation while adversely affecting the environment severely as well. The table below details the economic and environmental impact of these three sectors.

Construction

The construction industry comprises real estate and infrastructure, which contributes ~9% to the Indian economy. The construction industry also creates a wide range of employment opportunities and livelihoods through MEs. In India, approximately 50 million people are employed in this sector, making it the second-largest employer in 2017 (Sriram, 2021). Also, the construction sector absorbs unskilled, less-educated, and minimally trained labour forces, which struggle to be employed in the organized sector.

Conversely, this industry can leave a serious adverse impact on the environment. The construction industry is one of the largest exploiters of natural resources as they heavily use the raw materials extracted from the earth, thereby seriously affecting the earth's natural structure physically and biologically. The materials used in processing and production lead to communities' distribution and fragmentation, and isolation of land, aggravating soil erosion (The Business and Biodiversity Resource Centre). Besides, construction activity leads to a large volume of carbon emissions, waste generation, pollution, and loss of biodiversity.



Table 4: Economic and Environmental Impact of Construction Sector

Parameter	Indicator	Description
Economic Impact	Contribution to GDP	9% (Sriram, 2021)
	Market size	US\$172 billion (Statistics Times, 2021)
	Employment Generation	50 million (Statistics Times, 2021)
Environmental Impact (Natural Resource)	Resource Extraction	Accounts for 40% (3 billion cubic tonnes) of the total flow of raw materials (The Business and Biodiversity Resource Center)
	Water	25.604 Kl/sqm (Bardhan, 2011)
	Soil	Isolation and fragmentation of soil, off site impacts also include air and water pollution (The Business and Biodiversity Resource Center)
	Air	285 mt CO ₂ (WMO, 2018) emissions
	Land	Soil erosion caused due to construction for infrastructural and industrial purposes (Khambete, 2021)
	Biodiversity	Materials used in processing and production lead to distribution of communities and fragmentation of land (The Business and Biodiversity Resource Center)

Textiles

India's Textile Sector possesses an old history dating back to centuries and is diverse in nature. It consists of hand-woven and hand-spun textile looms as well as capital-intensive mills. The industry contributes 2.3% to the overall GDP, 13% to industrial production, and 12% to earnings from export. The textile industry employs around 45 million workers employed with a market size of US\$ 100 billion continues to grow over the years (India Brand Equity Foundation, 2021 c). There are around 0.106 million registered and 0.736 million unregistered units in textile manufacturing. At the same time, there are 0.214 million registered in apparel manufacturing and nearly 30 million unregistered units (Confederation of Indian Industry, 2018).

However, textile manufacturing severely impacts natural resources. For instance, the chemicals used in the processing of textiles leave effluents and discharges in the water bodies, leading to pollution. In addition, the industry generates 13 million tonnes of textile waste each year, and the majority of these textiles take years to degrade and break down. There is also a loss of biodiversity and large conversion of natural ecosystems due to raw material production, material preparation, and the end life of the garment. Emission generation from deforestation and pulp production is another regular occurrence (Granskog, 2020). According to USEPA, a unit producing 20,000 lb/day of fabric consumes 36,000 liters of water (Shaikh, 2009). Thus, the industry utilizes natural resources extensively and also leaves long-lasting impacts on nature.



Table 5: Economic and Environmental Impact of Textile Sector

Parameter	Indicator	Description
Economic Impact	Contribution to GDP	2% (India Brand Equity Foundation (India Brand Equity Foundation, 2021 c)
	Market size	US\$ 100 billion (India Brand Equity Foundation, 2021 c)
	Employment Generation	45 million (India Brand Equity Foundation, 2021 c)
Environmental Impact (Natural Resource)	Resource Extraction	Cotton, Jute, Silk, Wool, Man-Made fibre used as raw material at lower cost in India (India Brand Equity Foundation, 2021 c)
	Water	According to USEPA a unit producing 20,000 Lb/ day of fabric consumes 36000 liters of water (Shaikh, 2009)
	Soil	Chemical processing of textiles leaves discharges in the water bodies and pollutes it.
	Air	Air pollution before the processing of fabrics takes place (Narula, 2020).Emissions from deforestation and pulp production (Granskog, 2020)
	Land	Habitat loss from area expansion (Granskog, 2020)
	Biodiversity	Biodiversity loss due and conversion of natural ecosystems due to raw material production, material preparation, end life of the garment (Granskog, 2020)

Plastic

The Plastic Industry in India has grown immensely over the past years and has employed over 4 million people. There are approximately more than 30,000 processing units, out of which 85-90 percent belong to small and medium enterprises. The sector also contributes 4% to the Global Packaging Industry (FICCI, 2017) and has a market size of US\$ 53.72 billion (Kumar R. , 2021). The plastic industry affects health and the environment in several ways - it causes hazards to the soil, emits toxic gasses, and contains harmful acids, leading to death. Evidence from global studies reveals how leachate from plastic waste contaminates the soil and water, and its burning in open-air pits releases toxic gases and emissions like dioxin and furan (CSE, 2019) (UNEP, 2018).



Table 6: Economic and Environmental Impact of Plastic Sector

Parameter	Indicator	Description
Economic Impact	Contribution to GDP	4% to Global Packaging Industry
	Market size	US\$ 53.72 billion (Kumar R. , 2021)
	Employment Generation	4 million (India Brand Equity Foundation (IBEF), 2021)
Environmental Impact (Natural Resource)	Resource Extraction	Raw materials, like polypropylene, are manufactured domestically (India Brand Equity Foundation (IBEF), 2021)
	Water	Plastic litter choking waterways is one of the primary causes of natural disasters like flooding (CSE, 2019) (UNEP, 2018).
	Soil	Leachate from plastics waste contaminates soil and water (CSE, 2019) (UNEP, 2018).
	Air	The burning of plastic in open-air pits results in the release of toxic gases and emissions like dioxin and furan (CSE, 2019) (UNEP, 2018).
	Land	Landfilling is practiced commonly (Sharma, 2019)
	Biodiversity	Thousands of sea mammals die each year due to ingesting plastic or getting tangled in it

The above impact of the three major selected sub-sectors in the Micro-Enterprise segment demonstrates that there is an urgent need for the ME segment to transition itself to green and sustainable practices. Green finance plays a major role in supporting MEs by meeting their financing needs for the adoption of new-age technologies and greener operational practices along the value chain.

Despite such potential financial benefits, the SMEs do not follow sustainable business practices due to several barriers – lack of financing being one of them. The financial barriers cut across the sectors and sizes in the SME segment. The transition to sustainable business practice usually needs heavy upfront capital expenditure (rooftop solar or energy-efficient energy machinery, for example), the lack of access to external capital does not make it feasible for them to invest in these climate-friendly projects. The financing challenges are not only for the adoption of climate-friendly machinery and equipment but for the overall expansion and stability of SMEs.

1.3 Financial Need and Challenges of Micro Enterprises

This section evaluates the financial needs of micro-enterprises across their life cycle. It also elaborates on the various sources of finance for each of these. For a micro-enterprise to set up, grow and become sustainable, it is important to have easy access to finance. At different junctures of an enterprise lifecycle, easy cash flow is necessary, not only for sustaining operations but also to grow and expand the business. The key nodes where an enterprise might require additional funding are:

- **Start-up capital** - micro-enterprises need start-up capital when they aim to build their operations and start business transactions. Key expenditures under this head include the purchase of machinery and equipment, acquisition of necessary compliance certifications and licenses, and initial working capital
- **Working capital** - most of the micro-enterprises in India run their operations in cash which means a little imbalance in the equation of receivable and payable accounts might lead to a liquidity crunch in the business. The majority of enterprises face this challenge occasionally and hence would need additional liquidity to maintain their working capital requirements
- **Growth capital** - growth capital is assigned specifically for the growth of the enterprise, including adding or replacing machinery for better production and starting a new outlet, or expanding the existing one

1.3.1 Sourcing of Funding

'International Finance Corporation (IFC) estimates that 65 million firms, or 40% of formal micro, small and medium enterprises (MSMEs) in developing countries, have an unmet financing need of USD 5,200 billion every year, which is equivalent to 1.4 times the current level of the global MSME lending.'

The formal sources

The formal source primarily includes banks, Micro Finance Institutions (MFI), Non-banking financial companies (NBFC), and government agencies, programs, and schemes. As per the Sixth MSME census report of the 45.36 million MSMEs included in the report, 6.9 % depend on financial assistance from the government, 2.3% borrow from financial institutions, 0.5% leverage loan from SHGs, and 11.2% depending on grant/transfers from other agencies to meet their credit requirement.

As per data collected by RBI in 2018, micro-enterprises with a turnover of less than INR 1 million have a lower probability of accessing formal funding as the primary source of funding. As per IFC's 'Financing India's MSME report,' 2018, the addressable credit gap in MSMEs is estimated to be INR 25.8 trillion (USD 397.5 billion). The same report illustrates that the addressable finance gap in the micro-segment is estimated to be INR 8 trillion (USD 123.3 billion). It accounts for 31 percent of the total addressable credit gap in the MSME sector, with a gap to demand ratio of 68 percent. The COVID19 pandemic has enhanced the gap further, as access to formal financing has become the major hurdle for recovery for micro enterprises. This data depicts the challenge MEs face to secure credit from a formal source. The financing challenge is attributed to the failure of formal financing mechanisms to supply finance to total addressable demand for external credit, which is INR 36.7 trillion (or USD 565 billion) to these MEs.

In a study on the MSME sector, the Reserve Bank of India (Reserve Bank of India (RBI) , 2019)has identified several challenges that the sector faces. The key barriers include infrastructure bottleneck, lack of professionalism, willingness and inability of the MEs to adapt to new technology, lack of skilled workforce, lack of access to markets and inputs, long payment cycle, and access to credit and risky capital. In this paper, we focus on the last challenge – access to credit and equity. The access to credit and equity capital limits ME's growth as they cannot provide better infrastructure, invest in new technology to become more competitive, and fund its working capital needs.

The access to capital limits ME's growth as they cannot provide better infrastructure, invest in new technology to become more competitive, and fund its working capital needs. Banks and debt capital markets are the two most common sources of debt (credit) financing for large corporates. However, MEs find it challenging to access capital from these two primary sources of debt financing to meet their CAPEX and working capital requirements. There are several reasons for low credit flows to the MSME sector in India. The key barriers are the need for collateral or a guarantee, rigid lending policies of banks, high cost of borrowing due to high real/perceived risks, cumbersome procedures for loans, and limited financial knowledge of borrowers (Singh, 2016). The lenders also view lending money to ME as risky due to high transaction costs, limited historical record, absence of a collateral market (Ambrose, 2012) little lending relationship with borrowers (Bebczuk, 2004), and higher reserve capital requirements. The RBI had a different perspective on the financing challenges of the ME sector (Reserve Bank of India (RBI) , 2005). A study by RBI revealed that the lack of transparent financial reporting and unprofessionalism in business practices are restricting MEs to alternative financing sources such as private equity, venture capital, and secondary market instruments. Moreover, the RBI studies have also found that high cost to serve, asymmetric information, high non-performing assets (NPA), limited equity buffer, and insufficient technology adoption are constraining them from accessing finance. There is also evidence of discrimination by lenders against female-led MEs. The woman-owned MEs struggle more than men-led MEs to raise capital from mainstream financiers.

The informal sources

In the absence of mainstream financial sources, MEs look for alternative sources of financing, including family, friends, and relatives. However, this source of financing depends on the personal financial status of the entrepreneurs and their personal network. Although the cost of borrowing is often free, the duration of borrowing is usually short, not very useful if the MEs seek capital to expand the business. These transactions are also risky for the lender as there is usually no formal lending agreement between the borrower and lender. The other common informal sources of financing are the local loan sharks. The cost of borrowing from them is exorbitantly high, and the risk of non-payment of dues massive problems (e.g., extortion, harassment, bondage) for the borrowers.

Brij Kishor Singh lives in Motihari town in the East Champaran District of Bihar. He currently runs his fly ash brick enterprise, 'Jai mata di fly ash udhyog,' producing approximately 2.5 million bricks in a year. Brij is a seasoned entrepreneur and has worked previously in the construction sector manufacturing red bricks. He had a fair idea of the market and channels for customer acquisition. Brij saw prospects in fly ash bricks, primarily because of easily available raw material and its potential in public procurements. Hence, in 2018, he decided to shift his business to fly ash brick manufacturing. For this shift, he needed certain new machinery and working capital to procure raw materials. He tried to garner necessary funds through a formal source of financing and hence applied to a couple of banks for loans. However, because of the requirement of multiple documents and long turnaround time, he took the easy way out, borrowing from informal sources – his family members. Fortunately for him, the business took off and he could return back the money within a year. But many like him who go back to informal financing options, to escape the hassles of documentation and curtail the long disbursal time, the path to repayment isn't always easy.

Figure 3: Rakesh Kumar Ladpur village in Jhajjar district



Rakesh Kumar runs a dairy business with 12 buffalos in Ladpur village in Jhajjar district. He is planning to start a bio-gas plant in his vicinity to fulfil his energy requirements and to supply biogas and organic manure to local businesses. He plans to aggregate cow/buffalo dung to use it for the plant. He requires funds for purchase of machineries. However, he is apprehensive to approach the bank because of his previous experience while applying for a loan. In his previous attempt to secure a loan for expansion of his business, he had to go to a public sector bank, 3 kilometers from his house to apply and follow-up on his loan application, twice a week for 6 months. Bank's low turnaround time was complemented with its long list of required documents. It was a hassle for Rakesh to secure all of these documents. Hence, Rakesh has now decided to approach his friends for loans and hopes to secure this soon to start his own business.

Like Brij Kishor Singh and Rakesh Kumar, most of the new and existing micro-entrepreneurs depend on informal sources of finance for multiple reasons. As per the sixth MSME census, 78.2% of all the non-agricultural MSMEs surveyed depend on self-financing (through informal sources) to meet their credit needs. Informal sources include local money lenders, chit funds, family, friends, and personal funds. It is difficult to accurately track the total size of informal sources of funds supplied to both registered and unregistered enterprises because of a lack of proper documentation. The interest rate from informal sources is 1.5 to 3 times more than a formal source of credit. This leads the entrepreneurs to fall into a debt cycle and ultimately into the debt trap.



CHAPTER

2

**Understanding
Existing Financing
Architecture for
Green and Inclusive
Micro Enterprises**



This chapter discusses the existing financial architecture for micro enterprises in India.

These can be broadly classified into the following three categories

- 2.1 Commercial and Small Finance Banks
- 2.2 Micro Finance Institutions and Non-Banking Financial Corporations
- 2.3 FinTechs and Alternate Finance Mechanisms

2.1 Commercial Banks and Small Finance Banks

Commercial and small banks cater to multiple requirements of micro-entrepreneurs, offering financial services to help them strengthen their enterprises. With initiatives like easy instant loans for existing customers, digital service delivery, and Specialised MSME branches, commercial banks have shown intent in providing an ideal ecosystem for financing these enterprises.

2.1.1 Key Offerings of Commercial Banks to Micro Enterprises

Some of the important categories of products offered by the majority of commercial banks include as follows.

- Asset-backed term loans – usually offered for the purchase of machinery and other fixed assets or for capacity expansion, usually against collateral or asset of the entrepreneur
- Working capital loans – offered to help the enterprises manage the working capital requirements. Supports entrepreneurs to mitigate challenges arising due to seasonal cash flow as well as helps the entrepreneurs to easily leverage business opportunities without thinking about additional capital requirements
- Line of credit/overdraft / Cash credit– this is a facility delivered by banks where an enterprise can continuously borrow money until a fixed limit is reached. The limit of this facility is decided on cash flows, credit history, and relationship with the bank.
- Digital platforms for managing financial transactions and availing of financial services. There are certain banks that are delivering basic enterprise resource planning and supply chain management platform
- Payment gateways and cash management services – Banks have started to offer a variety of cash management services and payment gateways, including point of sales (POS) machines, Unified payment interface, etc.
- Current Accounts – current account for multiple services that can be operated from anywhere
- Trade finance and foreign exchange requirements of the micro-enterprises

2.1.2 Regulators Guidelines for Micro Enterprises

Public sector banks have been advised to open at least one specialized branch in each district. The banks have been permitted to categorize their ME general banking branches having 60% or more of their advances to the ME sector as specialized ME branches for providing better service to this sector as a whole. This regulatory directive enabled MEs to have easy access to bank credit. The banks can also develop the required skills and knowledge of their staff members to better understand the ME lending economics, which should make it easier for them to increase lending to the MEs.

As per current policy, certain targets have been prescribed for banks for lending to the Micro and Small enterprise (MSE) sector. In terms of the recommendations of the Prime Minister's Task Force on MSMEs (Chairman: Shri T.K.A. Nair, Principal Secretary), banks have been advised to achieve a 20 percent year-on-year growth in credit to micro and small enterprises, a 10 percent annual growth in the number of micro enterprise accounts and 60 percent of total lending to MSE sector as in the corresponding quarter of the previous year to Micro enterprises.

This financial inclusion has mainly affected the micro-enterprises in getting the formal loans and making them more digitized, and involving them in the formal sector of the economy.

With a view to improving transparency in the methodology followed by banks for determining interest rates on advances and the efficiency of monetary policy transmission, from April 1, 2016, banks are required to sanction all their advances with reference to the Marginal cost of fund-based lending rates (MCLR). In no case, the interest rates on advances shall fall below MCLR.

2.1.3 Key Challenges faced by Banks in lending Micro Enterprises

Perceived risk – Banks perceive micro-enterprises as a high-risk portfolio, and in an attempt to minimize the risk factor in their overall portfolio, they try to avoid lending to micro-enterprises, especially the ones with new business operations. High NPAs in the sector since the start of the covid crisis have also created a panic situation among bankers as far as lending micro-enterprises are concerned. With risk aversion being a new guiding principle, banks working towards reducing working capital limits, increasing risk premium, and additional security on micro-enterprise loans

Information Asymmetry: Accurate information about the borrower is a critical input for decision-making by banks in the lending process. Where information asymmetry exists, lenders may respond by increasing lending margins to levels in excess of that which inherent risk would require. However, the sheer ticket size of micro-enterprise lending makes it unviable for banks to invest in the development of information systems for them.

Lack of credit history: Micro entrepreneurs, especially in rural and semi-urban geographies, lack credit history, which makes it difficult for banks to assess the applicant and understand its intent to repay.

Underprepared applicants – The majority of micro-enterprises, while applying for loans, lack a series of required documents, clarity on the business model, and a robust business plan. At the branch level, these documents are the key weapons for a banker to lend to a micro-entrepreneur, and without them, it becomes difficult for them to lend to these applicants.

Domino effect while repayment - Some lenders also face domino effect as a cause of mass default, wherein if a mere two-to-three case of late repayment or delinquency arises from a certain area or self-help group, a large number of delinquencies start arising from the same point. Lenders taking a cue from their defaulter community members might also start defaulting and deny repayment. This generally happens in rural geographies

Negative area conundrum - Certain areas or profiles with mass defaults are often marked as negative zone/ negative area or negative profiles. Banks usually don't prefer to lend in those areas or to those profiles. It becomes challenging for bankers to make a decision to lend when a strong application comes from that area or profile.

2.2 Micro Finance Institutions (MFIs) and Non-Banking Financial Companies (NBFCs)

The Non-Banking Financial Companies (NBFCs)³ and Microfinance Institutions (MFI)⁴ become provide capital to the entities and individuals who are not served banks due to structural and regulatory barriers (RBI, 2017). Banks refrain from providing loans to this unserved segment as the loan size is small; consequently, the cost of transaction is high. Besides, the perceived and real credit risks are also high in this segment. MFIs are particularly active in rural areas and serve micro-enterprises. The majority of the loan portfolio of MFIs comprises the rural population (76%), whereas the rest is urban (MFIN India, 2021). Almost 99% percent of microfinance loans in India are provided to women from low-income households (MFIN India, 2021).

³ The Reserve Bank of India defines a Non-Banking Financial Company (NBFC) as a “company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property” (RBI, 2017).

⁴ Microfinance is the provision of small credit to the low-income individuals or families, lacking provision and access to financial services in India. As many as 64 million individuals have received access to credit through microfinance institutions till date (PWC & SIDBI, 2019) and the outreach of the industry is in as many as 600 districts of India (Microfinance Institutions Network, 2021).

2.2.1 Key Offerings of NBFCs and MFIs for Micro Enterprises

A few products and services offered by microfinance include:

- *Microloans* as they are provided to borrowers with no collateral
- *Micro savings* are different from traditional banks as they allow entrepreneurs to operate and maintain savings accounts even without a minimum balance.
- *Micro insurance* is provided to borrowers availing microloans at a lower premium as compared to traditional banks
- *Micro leasing* is a service offered by a few MFIs for entrepreneurs who may not be in a position to make the full payment at the time of purchase, say for vehicles, equipment, or agricultural machinery (microfinanceinfo)

2.2.2 Challenges faced by Microfinance Institutions and NBFCs

One of the major impediments to progress in developing nations is getting stuck in the vicious cycle of poverty. The main purpose of microfinance was to ensure financial inclusion for the most backward and vulnerable sections of society. As compared to other sources of finance, like commercial banks, microfinance has a long way to go. A few challenges faced by them include

- **Over-indebtedness** – This sector was set up to reach out to the poorest of the poor where debt accumulation and over-indebtedness are common. It gives loans with very less or no collateral, increasing the risk of bad debts in the process.
- **High Rate of Interest** – As compared to banks, the rate of interest of MFIs and NBFCs is very high. Providing loans often on an immediate basis, with no collateral increases the risk, thus forcing these institutions to have a high rate of interest (Dey, 2015).
- **Default Rate** – The default rate in MFIs has been found to be as high as 73%, which acts as an impediment to the expansion of the institutions (Dey, 2015).
- **Choice of Model** - MFIs in the Indian sub-continent have been found to follow the Self-Help Group model or the Joint Liability Group model of lending. Scientific reasoning is hardly looked into while making this choice. Giving due importance to this becomes imperative as it is the choice of model that determines the "risk of borrowings" of the vulnerable sections taking credit affecting the long-term sustainability of the MFI (Finezza, 2020).

2.3 Fintech Companies and Alternative Finance Mechanisms

The Financial Stability Board (FSB) defines Fintechs as "technologically enabled innovation in financial services that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services." With over 2000 Fintech companies, India is leading a technological revolution in financial services. Fintech companies are making it easy for the unbanked population to access financial services, hence helping the financial sector to serve a larger population. The Indian Fintech market is currently valued at \$31 billion in 2021 and is expected to grow to \$84 billion by 2025, at a CAGR of 22.5%.

This revolution in the financial sector has positively impacted the micro-lending segment, which mostly caters to micro and small entrepreneurs. Fin-techs, with their efficient digital solutions and cutting-edge technology, are helping micro-enterprises overcome the primary challenges that inhibited them from accessing formal sources of financing. Fintechs are leveraging data points from multiple sources as well as managing complex analytics to facilitate multiple financial services for micro-enterprises.

2.3.1 Key Offerings of Fintech Companies to Micro Enterprises

Some of the key services offered by Fintechs to the micro-entrepreneurs are -

- **Digital Lending**- Fintech companies provide flexible options for financing to micro enterprises. Technology is being used to design better financial products, improve customer experience and increase the speed of loan approvals. Some prominent companies are Companies Float, Lendingkart, Indifi, etc.
- **Payment Services** - Certain fintech companies provide payment services to micro-entrepreneurs online. This helps the entrepreneurs to reduce their dependence on cash for business transactions and help them grow financial footprints. Some companies providing these services are - Googlepay, Phonepe, and Mobikwik, etc.

- **Business support services** - Some fintech companies provide support services to micro-enterprises. These services are generally specific services that cater to a specific need of the entrepreneur. For example, Khatabook, a fintech start-up, helps entrepreneurs in the financial management of their businesses and, ClearTax helps entrepreneurs to file their taxes easily.
- **Insurances** - Some of the fintech companies link micro-entrepreneurs to relevant insurances for their businesses. Though these fintech companies currently have low penetration and market share, they are poised to change the industry in the future.
- **Neo-banks** - These are fintech institutions that have no physical presence and work entirely through online platforms. Neo-banks, though can be used as an umbrella term for fintech, in this context, it is used for fintech companies who deliver multiple services to entrepreneurs. These banks offer an array of services ranging from deposits and lending to insurance and payment gateways. They generally customize a bouquet of these services for a specific persona of entrepreneurs, e.g., Kaleidofin, Paytm.
- Apart from rendering these services to micro-entrepreneurs, they are working a lot on enhancing the financial literacy of micro-entrepreneurs either through their own campaigns or through partnering with other organizations

How Fintechs are changing the playing field for micro-enterprises -

- **Low operational costs** - Fintechs are driving the wave of digitization in India. Like traditional banks or NBFCs, they don't depend on physical structures or personal banking models. With the rise in smartphones and common service centers, Fintechs need good social media campaigns and an app with ease of interactions. This change in approach has reduced their customer acquisition costs as well operational costs. They then invest these saved costs into developing customized products for micro-entrepreneurs that help them grow their financial and digital footprints and provide them lucrative offers.
- **Alternative credit assessment mechanism** - One of the important roadblocks for traditional financial institutions to lend to micro-entrepreneurs is credit underwriting due to a lack of credit history. Fintechs are slowly and steadily removing these barriers through their Artificial Intelligence/ Machine learning-based credit assessment mechanism. They assess multiple alternate data points derived through sources like mobile bills, GST submissions, payment records, bank transactions, statutory payments, cash flow patterns, litigations, etc., making credit assessment robust and easy for entrepreneurs without a proper credit history. New approaches like Adharcard linked know your customer (KYC), video-based customer identification process, verification of e-documents via DigiLocker have complimented the assessment process. This not only saves their time for disbursing a loan (some Fintechs are disbursing loans in less than 72 hours) but also helps them to reach out to a larger customer base.
- **Alternative business models** - Fintechs have shown flexibility to adopt alternative mechanisms to strengthen their business models. Approaches like peer-to-peer lending, blockchain, the Internet of things, automation through Artificial Intelligence, and Machine Learning are widely accepted in the sector. Also, having limited regulations (under RBI or similar financial regulators) gives them the flexibility to experiment with new ideas and mechanisms. This acceptance and adoption of new technologies and products have helped these companies to overcome many roadblocks that traditional financial institutions face.

2.3.2 Key challenges

Despite their rise and a strong prospect in the immediate future, fintech companies are facing several challenges which can impede their growth, as outlined below.

- **Data security risk** - Fintech industry thrives on the flow of data. Hence one of the biggest risks associated with Fintechs is data security. Many Fintechs rely upon third-party vendors for technical support and cloud services. Hence it becomes important for these Fintechs to build strong data security mechanisms to protect the interests of the customers.
- **Managing regulations and innovations** - Fintech industry doesn't have clear and comprehensive separate guidelines for their operations. But regulatory agencies, including RBI and SEBI, are working on creating a specific guideline for this sector. These regulations, if not formulated efficiently, might choke the innovations in fintech and drive up the operation costs. Hence, the regulators, as well as fintech companies, need to create an ideal ecosystem that, on the one hand, provides enough room for fostering innovation and, on the other hand, protects the customer from potential risks.

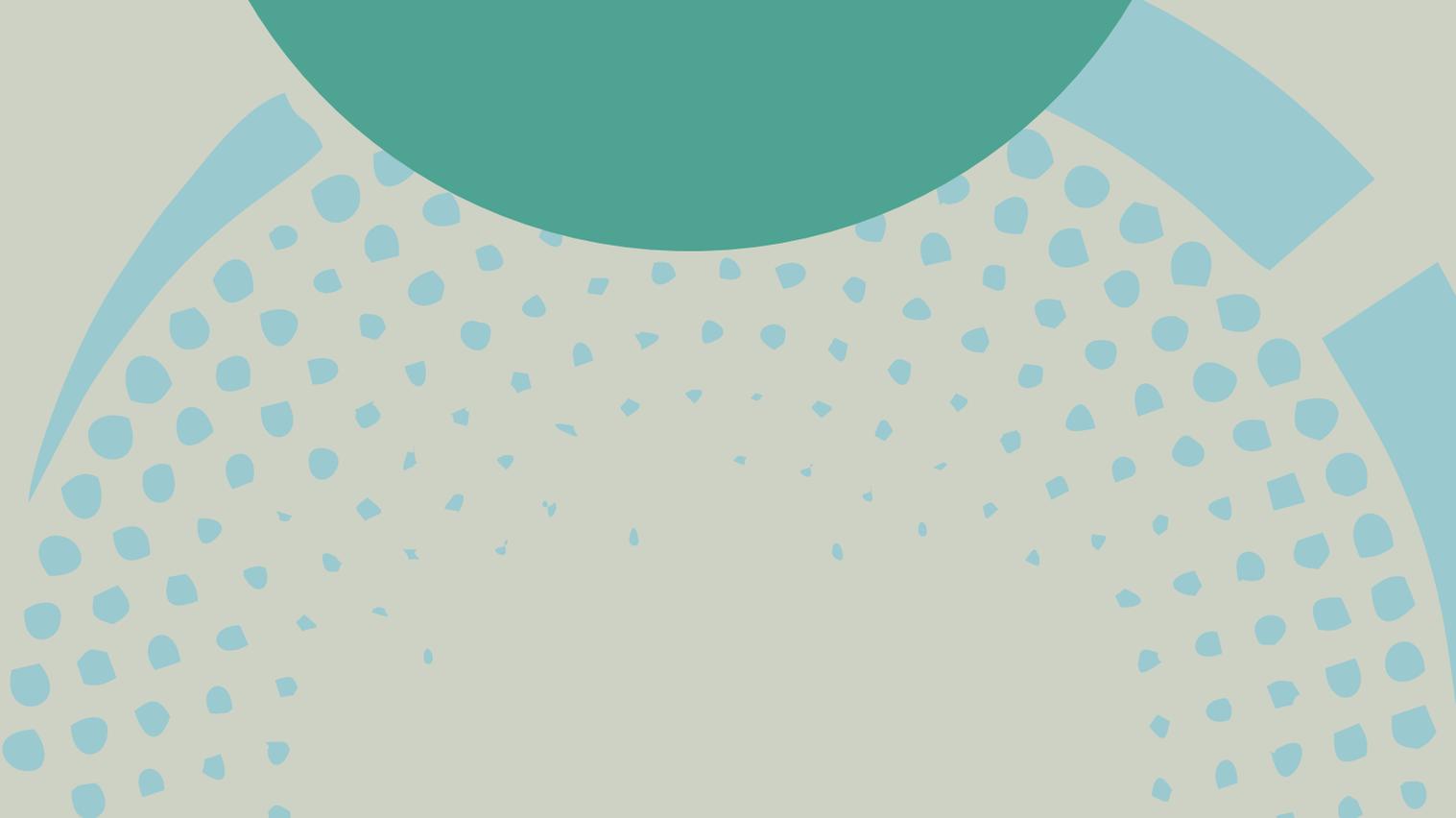


CHAPTER

3



**Building a
Green Finance
Ecosystem**



The current Climate Crisis, the horrendous implications for the survival of our civilisations and possibly species of which are highlighted by the latest IPCC report, needs urgent and fundamental transformation of our industrial systems. This is recognized by the growing use of the themes of environment, social, and governance, commonly referred to as ESG, increasingly being featured as desirable modifications to the conventional financial system to promote sustainable development. ESG-sensitive finance can address the inadequacy of the existing economic model by incentivising financing, both public and private to recognize the need not just for purely financial returns but also for social and environmental impacts. In this regard, micro-enterprises collectively play a significant role as they create a wide array of opportunities, including employment generation, stability, and development leading to growth in the process. This chapter lists the challenges, opportunities, and Innovations in Finance, followed by recommendations for these. A roadmap for introducing these into the conomy will be given in the next chapter.



CASE STUDY

Viet Nam is a fossil fuel-intensive economy that derives nearly two-thirds of its energy supply from coal, oil, and gas. Since 2015, the domestic market's increasing demand for energy in recent years has made the country a coal importer. However, Viet Nam is a potentially rich country with abundant sources of renewable energy (RE), particularly wind power, solar power and biomass that remain substantially untapped. The overreliance on fossil fuel in the energy mix is threatening the energy security of the nation. In addition, Viet Nam has been experiencing severe environmental issues related to climate change and local air pollution. The government of Viet Nam has issued regulations in response to the increasing concerns about national climate change risks. The growing global attention to the achievement of low-carbon and climate-resilient development in the country also spurred this interest. Furthermore, relating to climate finance, the government introduced the Support Program to Respond to Climate Change. They created this program specifically to mobilize climate finance from international sources in support of national climate change programs and infrastructure investment projects. People consider the SP-RCC to be a successful program in Viet Nam in terms of the total funding support and the large number of donors and government agencies involved at both the national and the local level.

Financing Challenges to adopting sustainability

Large internal cash flows and access to external financing, enable large enterprises to invest in green technology to improve their resource and environmental efficiency, thereby contributing positively to sustainable development. However, MEs do not have such financial resources or ability to wait over a long-time to generate returns on their incremental investment in sustainable technologies. As MEs have limited access to financing, they find it difficult to invest in climate-friendly machinery, equipment, tools, and practices (Jesús Ángel del Brío, 2002). Even if investment in climate-friendly technologies and initiatives generate additional financing returns, in the long run, they don't have the necessary working capital to cover additional operating expenses in the short-run (Stephen Brammer, 2011).

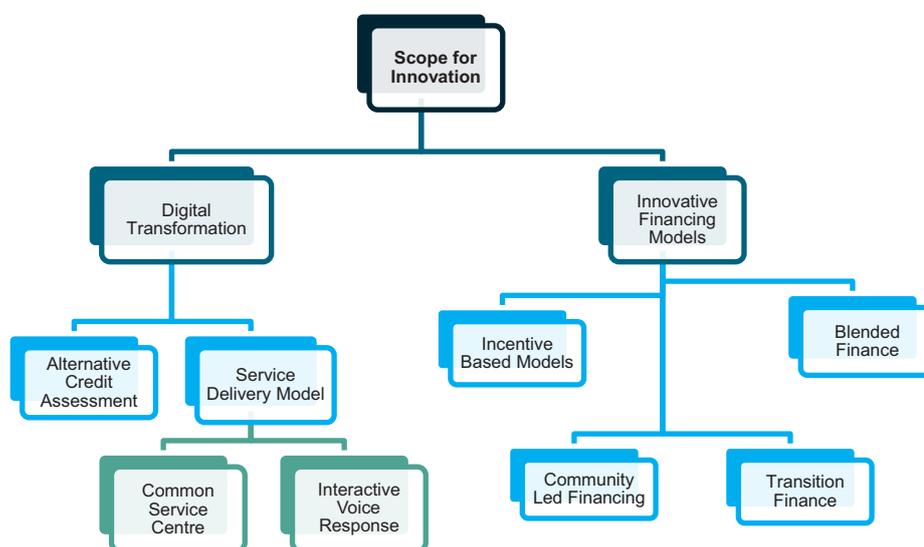
For most MEs, the returns on sustainable technology are perceived to be highly risky, uncertain, and skewed. There is also information asymmetry between the entrepreneurs on the one hand and on the other, the technology providers, intermediaries, and external financiers. This one-way knowledge advantage creates adverse selection and moral hazard issues from the perspective of external financiers. The lack of internal financing leaves only the internal cash flows to be used in new green technologies, which puts the MEs in a dilemma - deploying capital in growing the business and/or funding working capital needs vs. investing in green technologies offering return over a time.

Another constraint to financing on green technologies is related to heavy capital investment and long payback period. This means the buyer would have to bear a large capital cost and also wait for a long time to yield a meaningful return. The high cost of new technologies is sunk cost for the buyer of the technology, which discourages the ME from buying any technology if it is not sure about its future usage and performance. In addition, volatility in the cost of new technology does not help the ME to make an investment decision. Besides, the gradual changes in environmental regulations make some of the existing green projects uncertain.

3.1 Opportunities and Innovations in Finance

A few drivers of innovation that have been identified to help increase access to finance for micro enterprises are as follows:

Figure 4: Drivers of Innovation to Finance Green and Inclusive Micro Enterprises



The table below gives a snapshot of these drivers of innovation, following which each of these has been briefly discussed.

3.1.1 Digital Transformation

Data analytics and computing have the capability of increasing a firm's productivity and capacity for stimulation and decision making. These are changing the way businesses are interacting with their customers where micro enterprises (MEs) play a large role across value and supply chains. Integration into the global market is also made possible for MEs through digitization. Digital transformation can also aid in the business processes of MEs by helping build resilience, especially after the COVID-19 crisis. It is a major driver for change as it enhances user or customer experience in the long run with the rapid shift of consumers to digital and E-commerce platforms (Granskog, 2020). The digital aspects add value to every customer interaction (Salesforce, 2021) and aids in creating efficient systems of business that are responsive in nature (Ragu Gurumurthy, 2020). Employee engagement increases due to them being trained to become more digital-savvy and higher sales and prospects for growth and innovation in the long run (Ragu Gurumurthy, 2020). Most importantly, digital transformation not just reduces marketing transaction costs but also accelerates the process of accessing finance which is a major roadblock for MEs. A few ways in which this can be done have been discussed below.

3.1.1.1 Alternative Credit Assessment

Access to finance remains a hindrance for numerous MEs across value chains and states. Small sized corporations, more often, also lack adequate financial and credit history documents. As per a study, SMEs spend as much as 25 hours solely on loan request paperwork. Banks also face staff shortages to assess the creditworthiness of a borrower and an enterprise. There is, thus, a high need for process and automation development is required (Infosys, 2018).

This is where Alternative Credit Assessment plays a role since it comprises a newer and non-traditional approach to evaluating MEs' creditworthiness. Some of these assessments include model innovation, data management, and platform automation. This is again an aspect where technology plays a crucial role in the advancement of assessments and reducing the usual credit scoring timeline. The alternative assessments are emerging today due to their specific and holistic personality traits based on their

responses to those questions and situations. The metadata score is integral since it assesses further aspects like the time taken by the user to add a response, how many times questions were switched, and answers were changed, etc. This is useful in some way to provide insights on the genuineness of the user while answering the questions (Hong Kong Monetary Authority & ASTRI, 2020). It provides information on MSMEs' creditworthiness and allows borrowers to acquire loans in a seamless manner (Hong Kong Monetary Authority & ASTRI, 2020).

Cash flow data such as payment data and e-commerce transactions provide behavioral as well as financial insights into MEs' functioning. For instance, the bill and payment data can allow the banks to find information on whether the bill payments are made on a timely or delayed basis. Further, the E-commerce and money transactions reveal the cash flow stability along with the frequency and adaptability to E-commerce (Hong Kong Monetary Authority & ASTRI, 2020). Due to the growing digital economy and interface, there lies a large scope for alternative credit assessment since it reduces data storage costs. The process includes the collection of alternative data from data providers/sources, digital platforms, and tools set up to integrate the assessment (Hong Kong Monetary Authority & ASTRI, 2020). Digital ecosystem along with stakeholders assessing unique modes of creditworthiness.



CASE STUDY

One of the eight banks licensed in Hong Kong is the Ping an OneConnect Bank (PAOB). It aims to promote financial inclusion as part of which ensuring that SMEs have improved access to finance was also on their radar. In one such effort to reduce the time and cost of the banking process for SMEs, PAOB partnered with Tradelink Electronic Commerce Limited. This partnership set to add value as Tradelink is an efficient channel in Hong Kong which has been lodging trade compliances, providing Govt. Electronic Trading Services since 1997. Their robust platform captures data related to the trading business which is densely populated by the SMEs. It includes multiple features which are of use for a bank to conduct a risk assessment and monitor the account of borrowers. Thus, co-creating and synergising using each other's strengths in data analytics, technology and banking, PAOB and Tradelink developed a unique credit underwriting approach. Through this, borrowers that fit the bank's risk appetite can be identified beforehand. As compared to traditional banking processes, this becomes efficient as the lengthy process of enquiring information and credit approval is omitted. PAOB, taking forward this approach, launched "Trade-Connect Loan", its first product. As part of this, there was a "Five-Day Service Pledge" if the approval and disbursal of loan took longer than five days, a compensation of HK\$1000 cash would be provided (Hong Kong Monetary Authority, 2020).

Alternate Credit Assessment has an advantage over information and Data credibility from third-party sources. Detection of fraud becomes easier since advanced technologies like AI and ML technologies can assess abnormal patterns and create mitigation measures accordingly. Continuous monitoring continues to take place to provide a holistic creditworthiness view of borrowers and enterprises (Hong Kong Monetary Authority & ASTRI, 2020).

For example, a platform called MAP by CRIF forms a suitable example of psychometric assessment for MSMEs. This maps credit risk based on individual personality. The psychometric test is a quiz placing users in usual and everyday life situations and then assessing.

3.1.1.2 Service Delivery Models

There are various types of functions and support services that can help enhance the access to finance by micro enterprises. The infrastructure will vary depending on the type of service to be provided.

a. Common Service Centres

Common Service Centres (CSCs) are physical structures set up by the Government of India to provide IT services by providing computers and internet connectivity in remote locations (Common Services Centres Scheme, Ministry of Electronics and Information Technology). There is a range of services

that are provided through this medium, including healthcare, education, and agriculture-related, etc. The Ministry of Micro, Small, and Medium Enterprises (MSMEs) has partnered with CSC to promote schemes specific to rural areas (Economic Times, 2002). Therefore, CSCs enhance access to credit for micro-entrepreneurs located in remote and rural areas by providing various digital financial services in a common physical facility.

b. Interactive Voice Response (IVR) Service and Solutions

Interactive Voice Response (IVR) is an "automated telephony system." This interacts with human callers by use of "voice" and the "telephone keypad." It is a business feature on the phone which interacts with callers and gives information by providing a set of choices through menus (TTE). A few main characteristics include automated call routing, gathering information on calls from users, etc. It can prove to be beneficial for micro enterprises as it is an economical service providing first-call resolution. This can also provide improved access to finance to those entrepreneurs who may not be literate.

3.1.2 Innovative Financing Models

The need to go green is slowly being recognised globally as the ill-effects of business-as-usual are visibly catching up. To make this transition possible across sectors and scales, there is a range of unconventional instruments and/or mechanisms that are being developed by international and national organizations. In particular, financial institutions are gradually stepping up to provide sustainable financing solutions in some ground-breaking ways. A few major ones identified have been listed here.

3.1.2.1 Community-led financing

Community-led financing allows for the creation of credit aiding in self-financing mechanisms. Communities are also essential to the functioning of MEs, and similarly, the majority of these businesses provide support to their communities. Due to small businesses being personal and closely knit, the community of people is part of it and surrounding it (peak b & indeed, 2018). Hometown investment trust funds are another mode of community financing.

Communities play a direct and integral role in managing and addressing issues integral to their day-to-day functioning, activities, services, etc. It is a **driver for change** as it allows consumers and community individuals to identify, address, and propose ways to tackle issues (FASD). In the **ecosystem**, it creates a thorough and comprehensive framework and begins with the community and addressing specific needs, ideas, etc.



CASE STUDY

In order to strengthen the Arid and Semi-arid lands of Kenya, the Ministry of State for Development of Northern Kenya and other Arid Lands (MDNKOAL) reached out to the International Institute for Environment and Development (IIED) in 2010. In the following year, three districts of Isiolo Country were selected for the first pilot (2011-18). A participatory approach was adopted to build the capacities of the to-be-government officials to mitigate and adapt to effects of climate change. This came to be known as the Kenya Country Climate Change Fund (CCCCF) mechanism which was found to be successful in building the capacities of local institutions and making them resilient to climate change vulnerabilities in Isiolo. In addition, it improved social inclusion and ensured that public accountability increased for development decisions setting an example of doing so for climate finance. The Kenya CCCC mechanism was then taken forward and implemented in Garissa, Makueni, Wajir and Kitui. This case study stands out as it sets a precedent of how global climate finance could effectively reach the most vulnerable communities.

Close-knit community groups and members are highly motivated in nature and a hub for innovation. Community financing becomes more relevant in the global south and underdeveloped countries where financing is largely from global organizations like World Bank and the IMF. The locally developed programs can indulge in providing financial support (Swann, 1986) also helping in capacity building, skills creation among community members.

3.1.2.2 Incentive-based model

This model provides benefits in the form of incentives for attaining a certain level of performance. Grant subsidies are commonly defined as incentives (SIDA, 2015). It is a driver for change due to the competitive ME ecosystem; incentives play an effective role in persuading organizations to transition to green and innovative finance methods. In the ecosystem, it engages with various participants, and its costs are covered and offset through initial incentives, which may further allow the company to take it up in the future (Grittner, 2013). The impact created is observed in terms of an increase in productivity of employees and supply-side managers (Jurien Toonen, 2009) and when there is community welfare transferring to overall local welfare leading to national welfare (ISSME, Gmail)



CASE STUDY

The Hungarian government put in place the Economic Development and Innovation Operational Programme to stimulate the less developed regions of the country by increasing the competitiveness of SMEs. The Minister of Finance recognised the economic role of these small businesses in sustaining the leading position of Hungary in the European Union. Around June 2020, the Hungarian parliament also passed a law confirming climate-neutrality by 2050. Keeping this in mind, the Economic Development and Innovation Operational Programme aims to incentivise greener business models to accelerate the country's transition to a greener one. It also stimulates the use of financial instruments to increase the up-take of energy efficiency in addition to the other objectives. As part of the Climate and Environmental Protection Action Plan published in the beginning of 2020, the govt. decided to incentivise the use of energy efficient business choices by pledging to provide 32 billion forints which is about 92.8 million euros if the SMEs fully or even partially decided to replace their existing energy supply with renewables which were locally available.

3.1.2.3 Blended finance

Blended finance is a catalytic financial instrument, which efficiently use public or philanthropic capital to de-risk transactions and improves their risk-return profile allowing for increased private sector investment. It is the strategic use of development finance for the mobilization of additional finance towards sustainable development in developing countries (OECD, 2018). It attracts commercial capital towards projects that contribute to sustainable development while providing financial returns to investors. This is an innovative approach that aids in augmenting the total resources available for elect purposes in developing countries, adding to their overall corpus of investments and funding from other public or philanthropic sources. According to the IFC, about 40% of the formal MEs have unmet financing needs in developing countries of approximately \$5.2 trillion annually (World Bank, 2021). For example, according to Convergence which is the global network for blended finance, it has helped to mobilize up to USD 50 billion in Africa. 55% of such transactions were directed towards MEs (Convergence Blending Global Finance, 2020).

3.1.2.4 Transition finance

Based on the new pledges made in Glasgow, India is on a path to reach net-zero emissions by 2070. However, several hard-to-decarbonize industries will take a long time to completely decarbonize themselves due to the underlying characters of the manufacturing plants. These hard-to-decarbonize industries are not restricted to large corporates; the MEs are also operating in these industries. The cost of overhauling these industries is huge; even large corporates are struggling to raise capital to decarbonize their manufacturing plants. Besides, any additional investment also dampens investment return, which further discourages companies, including MEs. In this context, MEs need financial support to transition their manufacturing plants. The financial products and instruments are designed to cater only to green industries. Still, they do not meet the needs of hard-to-decarbonize industries – 'transition finance' can be a financial mechanism to fund hard-to-decarbonize industries to decarbonize their business operation over time. Transition Finance creates a provision for MEs in highly carbon-intensive and polluting industries to attract capital specifically to transform their business operation into less carbon-intensive and less polluting.

3.2 Sectoral Case Studies

The first chapter of this report highlights three high-impact sectors that have been selected along with a triple bottom analysis. Case studies for each of these three have been boxed below to show best practices and a few initiatives that have been taking place in order to green these particular high-impact sectors in India.



Sector: Plastic (India)

CASE STUDY

bE-Responsible: E-waste awareness & collection



Credit: SAahas Zero Waste (Plastic Waste Management, 2020)

E-waste has emerged as the fastest-growing waste stream in the last decade. India is the 5th largest producer of e-waste. The IT hub of the country, Bengaluru is the 3rd largest generator of e-waste in India. Only 30% of e-waste gets recycled, of which close to 90% is recycled by the informal sector which results in poor resource recovery and uncontrolled release of the hazardous material into the environment. The bE-Responsible project aims to provide awareness to households, schools, Institutions, and Offices about the dangers of e-waste and facilitate the collection of non-bulk e-waste. It is running in the South Zone, and Mahadevapura Zone of Bengaluru drop boxes have been placed at a convenient location for people to drop their e-waste as a part of a project. Saahas implemented sustainable waste management practices in Gram Panchayats (GPs) of Chikkajala, Doddajala, and Kannamangala with the active support of gram panchayats and residents. Regular IEC activities, training to GP staff and PDOs, Non-biodegradable waste collected are sorted and sent for recycling. Non-recyclables are sent for Co-Processing. Segregated biodegradable waste collected is composted, at the household level, community level, and at centralized composting units at the Grama Panchayat level. Home composting and lane composting were promoted, and regular segregated non-biodegradable waste collection was established in Chikkajala. Awareness campaigns have been started in the other 2 GPs (Saahas, 2020).



Sector: Textile (India)

CASE STUDY

Promoting sustainable production and consumption of textiles in India Sustainable Textile for Sustainable Development (SusTex) Project



Credit: Switch Asia Network Facility (Sustainable Textiles for Sustainable Development (SUSTEX), 2014)

In India, the textile industry is the second largest employer. The growth of micro, small and medium enterprises (MSMEs) in the textile industry has had a positive impact on economic development. Despite these facts, the textile industry is one of the most chemically-intensive industries in the World and the biggest water polluter after agriculture. With changing market preferences, the traditional craft production processes were altered, resulting in the intensive degradation of natural resources and there had been no investment to address the occupational health and safety issues of the artisans engaged in textile production activities. The SusTex project aimed to reduce effluent at the source and developed a set of base standards that the industry and government could adopt to reduce damage to the environment and health. The project targets over 500 textile-related SMEs in Rajasthan where block printing is predominant, 14 textile clusters across 7 states of India, 30 textile parks set up under the SITP scheme of the Government of India, Policy Makers – Ministry of Environment and Forests, Planning Commission, Ministry of Textiles and Consumer organizations. The project brought together a range of partners and stakeholders - including technical service providers, relevant government departments, textile producer groups, and MSMEs, and non-governmental organizations to conduct action research for low-cost technological solutions to reduce pollution and mitigate occupational health hazards in textile production. They promoted the production and consumption of sustainable textiles through awareness-raising and capacity building in the private sector. Micro enterprises are often not aware of the extent of pollution and the damage that their operations cause, so with the help of knowledge products and training programs, the project increased their awareness towards the use of environmentally-friendly technologies and practices. The project also encouraged effective marketing strategies to promote environmentally-friendly textiles, which in turn impacted consumers' choice/buying decisions and led to sustainable consumption. This was achieved through an awareness-raising campaign on the importance of eco-friendly textiles during craft fairs and participation in a trade fair. The project benefits 14 other craft clusters in India and over 2000 textile-related MSMEs in Rajasthan where block printing is predominant. MSMEs now produce 100% eco-friendly products and have reduced costs by around 40% (ca. EUR 3.3 million) of total investment in the Scheme for Integrated Textile Park and new business opportunities include an envisaged 40% increase in sales. At the four demonstration effluent treatment plants (ETPs): Before the project, a minimum of 562.5 KLD was discharged into the vicinity and now the rate of water recycling and reuse is at least 85% or equals 470-kilo litre per day (KLD), and the total usage of freshwater accounts for only 15%. Zero liquid discharge (ZLD) or a 100% reduction in groundwater contamination has been achieved. Out of 1 016 trained workers, 79% are now placed or self-employed in the Jaipur Integrated Texcraft Park Private Ltd (JITPPL) will create 1500 new jobs at its full capacity. To reduce health hazards, health and safety risk reduction measures were introduced to MSMEs (Switch- Asia Network Facility, 2014).



Sector: Construction (India)

CASE STUDY

Technology Centre Systems Programme (TCSP)



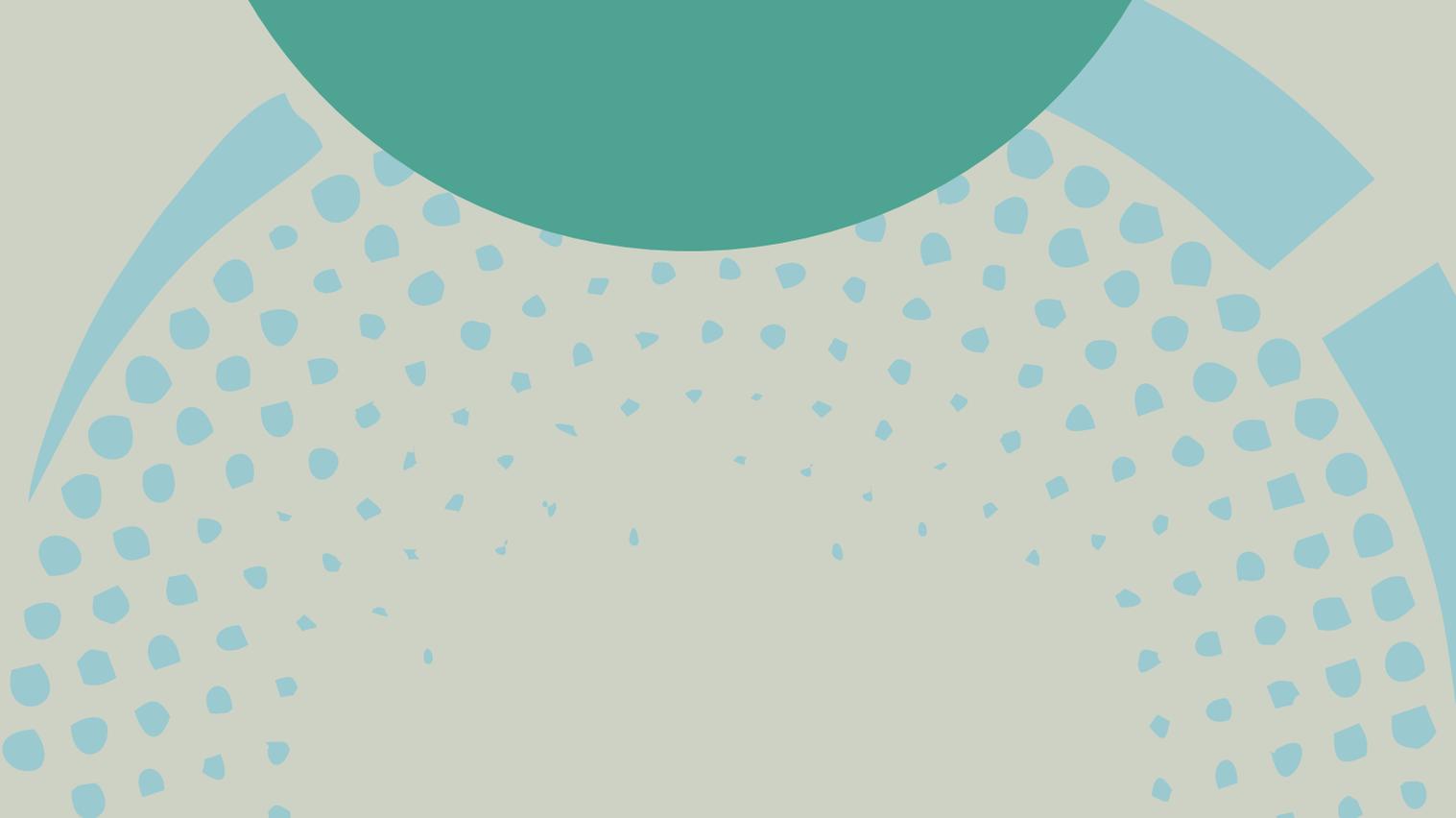
The Ministry of MSME launched the Technology Centre Systems Programme (TCSP), to expand and upgrade the network of Technology Centres (Tool Rooms and Technology Development Centres) in the country. TCSP has been conceptualised to create an innovative eco-system for the MSMEs in the country. The Technology Centers (TCs) play a crucial role in providing practical skill development training to more than 0.2 million unemployed youth and industry workforce per year. In the year 2019-20, 18 TCs set up across the country have provided training to 2, 73,437 trainees, supported 43,563 units and earned revenue of 3500 million. Out of 18 TCs, 10 TCs provide technological support to industries through design & manufacture of tools, precision components, moulds, dies, etc. These TCs also serve industry by providing skilled manpower in the areas of tool engineering & manufacturing sector. There are 8 TCs for product specific support to MSMEs in the respective sectors by rendering technical services to develop and upgrade technologies, processes and products apart from training in the specific product groups such as Forging & Foundry, Electronics, Electrical Measuring Instruments, Fragrance & Flavour, Glass, and Footwear & Sport Goods. MSME TCs also help MSMEs and other units in development of products for import substitutions to save precious foreign exchange (Ministry of Micro, Small & Medium Enterprises, Government of India, 2020).



CHAPTER

4

**Roadmap
for Financing
Green and Inclusive
Micro Enterprises**



This chapter lists the main recommendations for primary actors, followed by a suggested roadmap for effective implementation.

4.1. Recommendations

Sustainable finance for micro-entrepreneurs is a complex process that requires systematic interventions at many different levels. All the important actors in any sustainable financing economy will have to cooperate and evolve a coherent, mutually reinforcing ecosystem for supporting green and inclusive entrepreneurship. The actions can be structured as three inter-related components:

1. Create strong collaborative **platforms** to create robust processes and mechanisms for sustainable financing
2. Develop innovative **products** to help micro-entrepreneur access sustainable financing with ease
3. Build networks with various types of organisations and develop **partnerships** with different financial institutions including Fintechs, public and private sector banks
4. Formulate **policies** that will create an ideal ecosystem for sustainable financing in India, and use public funding in judicious ways to accelerate private capital to MEs

4.1.1. Platforms

- **Alternative credit assessment platform** – Financial institutions and regulators can bridge this gap by introducing a common platform for the assessment of a loan application through alternative credit assessment mechanisms. The fintech companies who are working in this field can contribute with their experience and their expertise towards the development of the platform.

Key Actors are: Regulators (RBI), Government of India, Financial institutions (Banks & NBFCs, Fintech companies)

- **A unified platform** – the sustainable financing platform can be a common platform for financial institutions and regulators to build their capacities as well as access multiple tools and resources which will help them to lend to green micro-enterprises efficiently. This central platform can reduce the currently high costs of due diligence, bridge the information gap, and speed up the disbursement of finance for green MSMEs.

The key constituents of the platforms will be:

- A knowledge bank of green technologies and models: the knowledge bank will serve as a one-stop shop for financial institutions and regulators to provide a comprehensive list of green technologies with proven technical and financial viability. This list of technologies comes along with a carefully selected list of credible technology providers and vendors, as well as a demand assessment of the various technologies. It will also have guidelines, research, and frameworks designed by the regulator and other agencies for financial institutions
- A resource bank: A resource bank that will act as a single source for identifying technical experts: The financial institutions will not have to hire a permanent technical expert on their payroll and can avail the services of experts whenever and wherever they are required.
- Credit rating system: A risk vs. return assessment of the listed green technologies will position the technologies in a performance rating system and inform the platform users thoroughly about the potential of the green technologies. This includes standardized metrics using SDG and NDC tools that assess the climate-induced risk, which is key to enabling users to climate-proof their portfolio.
- Leveraging the existing network of Common Service Centres – India has a strong network of common service centres (CSCs), an initiative under the Digital India Program. These CSCs are access points for the delivery of multiple services, including government schemes, healthcare, education, and financial access. Financial institutions can leverage these CSCs not only to deliver financial services to the grass-root organizations but also can use them to bridge some of the key gaps in rural entrepreneurs, including lack of documents and financial awareness.

- A lot of gaps that inhibit entrepreneurs in getting access to finance can be filled by setting up a **peer-to-peer platform**. Such a platform can also help in enhancing knowledge, skills and bridging information gaps. For example, [udyaME](#) is a digital platform for micro-entrepreneurs set-up to bridge information gaps and build capacities by creating networks, accessing high-value markets and enhancing knowledge.
- In order to continue to create momentum in providing viable **green technologies** to micro entrepreneurs, a country level network based platform can be set up to support enterprises and accelerate impact. Such a platform can enable “ongoing knowledge access” and “on-demand support services” to strengthen the capacities of diverse actors in the enterprise ecosystem, and accelerate adoption of green technologies and products, at scale.

4.1.2. Products

It is important for financial institutions to improve the products that they offer to green and inclusive enterprises to create a conducive proposition for sustainable financing. Currently, the majority of the products are best suited for medium-sized enterprises or large projects. Micro-enterprises that want to become sustainable and inclusive have no specific financial product to cater to their specific needs. Hence, innovative financial products are an urgent requirement as far as easing access to sustainable finance for micro-enterprises is concerned. Some key revolutions in products that financial institutions can come up with are the **blended financing** and **incentive-based models** discussed in section 3.1.2.

4.1.3. Partnerships for Last Mile Delivery

To enable green and inclusive entrepreneurs get access to finance, it is imperative that support organisations including NGOs, CSOs, incubators, and aggregators connect with different kinds of financial institutions. Developing strategic partnerships and high level collaborations are fundamental to achieving desired outcomes.

- Partnerships between support organisations and financial institutions are the key to make **credit accessible** to micro enterprises in underserved communities by way of innovative financing and service delivery models. This is because grassroots organisations are continuously working on ground to empower communities by building their capacities, providing entrepreneurship training and access to markets. A partnership between support organisations and financial institutions will thus enable green and inclusive micro entrepreneurs to readily access credit. For example, [Rang De](#), a Fintech company in India, connects social investors to entrepreneurs from low-income households to access credit and help build sustainable livelihoods with the help of on-ground partners.
- Non-financial partnerships between support organisations and financial institutions can prove to be beneficial in fostering a **favourable ecosystem** for green and inclusive entrepreneurs. Such partnerships help pool resources, expertise, experience, and knowledge to support rural entrepreneurs. Support organisations can help banks identify possible beneficiaries (green and inclusive entrepreneurs) for loans. This can help improve *financial inclusion*. Enhancing *financial literacy* is another aspect such partnerships can work on which will ensure better *sustainability of rural enterprises*.

4.1.4. Policy and Public funding

The investment in green technology is widely perceived as providing slow returns and having high risk and uncertainty, which discourage both the investors and buyers of the technology in the startup stage. However, from a societal perspective, such technologies usually generate positive externalities at all stages of their use, though admittedly the ESG benefits often come long after the investment is made. More fiscal support mechanisms are needed for encouraging the entrepreneur to adopt green technologies, and for the financiers to provide the capital needed. These could include policies and public sector interventions for providing incentives based on carbon offsets, green bonds, subsidized loans and other innovative financial mechanisms.

Appropriate financial policy interventions can promote green investments and make the new technologies competitive vis-à-vis existing technologies (Olmos, 2012). Instead of just creating a demand for investment in new technologies, public investment can complete the SMEs and external funding (Popp, 2009).

It is important for government agencies and regulators involved in the process of nurturing green and inclusive sustainable enterprises to strengthen policies, missions, and schemes to offer financial assistance to micro-enterprises. These policies and schemes will empower both micro-enterprises and financial institutions such that the existing gap between the two is eliminated.

- A general **guideline** by the government or financial regulators clearly defines the taxonomy of green finance and what it entails. It will also define related terminologies, including green enterprises, sustainability, inclusive businesses, etc. This can be a preceding step for the creation of a **strong financial policy by RBI**
- Building mechanisms to **strengthen the financial institutions** to lend to sustainable enterprises.
- **Building capacities** of entrepreneurs and motivating them to adopt green and inclusive technologies and practices: Government agencies can introduce mechanisms at multiple nodes in their existing programs and missions to make the entrepreneurs aware about becoming green and inclusive and build their capacities on them. These nodes can be Self-help groups under National Rural Livelihoods Missions, Entrepreneurs trained under Rural Self-employment training institutions (RSETIs), or even through District Industrial Centers (DICs)
- **Credit enhancement** is a financial mechanism that can improve the credit rating and creditworthiness of a project. The various types of credit enhancement mechanisms are Partial Credit Guarantee (to cover partial default risk), First-loss Provision; Contingent Loans (to protect the delay in payment); Viability Gap Funding. The Government of India has been using these financing mechanisms to attract debt financing, particularly in the infrastructure sector, including renewable energy. These financing mechanisms can be extended to other areas of green sectors in micro-enterprises.
- **Credit quota** has long been used by the Reserve Bank of India (RBI) to drive credit flows to unprivileged sectors of the economy (technically called priority sectors) as these sectors are not able to access capital from mainstream financiers like banks. As the capital flows to green sectors are essential from the perspective of social-economic development, it can be considered as a priority sector for lending. An additional green credit quota can be carved out from the existing priority sector that can give impetus to the green micro-enterprises.
- **Subsidized low-cost financing** has been one of the critical monetary tools for RBI to drive credit to lower-income groups. For a high up-front project like rooftop solar for micro-enterprises, the low cost of debt financing can make the project commercially viable. As the perceived or actual risk of the green project is high, mainstream financiers ask for a higher interest rate from these projects, which makes the project commercially unviable. The government can provide low-cost capital through various mechanisms to the green sectors, which generate positive externalities.

4.2. Roadmap

The roadmap lists various action points (WHAT) for different actors (WHO) in the ecosystem along a short-term, medium-term, and long-term timeline (WHEN).

The study recommends that as a short-term priority, key stakeholders should invest their resources in aligning their perspective and goals to sustainable financing and encouraging green and inclusive enterprises. The government agencies and the regulators should collaborate on defining sustainable finance taxonomy and related terminologies as well as build capacities of major key stakeholders to align their organizational objectives. In the medium term, the focus should be on drawing a framework of products and platforms, developing and piloting them with multiple relevant stakeholders. This phase will mark the development of support systems, mechanisms, and special purpose vehicles which will support sustainable finance. The long-term phase will focus on the sustainability of platforms and products created in the medium-term phase and will require more connectivity between all the stakeholders for creating an ideal ecosystem for sustainable financing.

Figure 5:

Roadmap for Financing Green and Inclusive Micro Enterprises			
	Short Term Within 12 months	Medium term 12 months to 36 months	Long term More than 36 months
ACTORS	ACTIONS		
Government Agencies 	<ul style="list-style-type: none"> • Framework for Integrating capacity building modules in rural missions • Set-up a task force to prepare an outline for the blended financing model • Define the taxonomy of green finance and related technologies 	<ul style="list-style-type: none"> • Development of blended financing pool for lending to green enterprises to complement the incentive-based lending model • Leveraging Common Service Centre (CSC) network for delivery of financial services to green and inclusive enterprises 	<ul style="list-style-type: none"> • Adoption of unified, sustainable financing platform by relevant stakeholders • Development of a unified, sustainable financing platform
Regulators 	<ul style="list-style-type: none"> • Bringing sustainable financing into the ambit of priority lending for commercial, financial institutions 	<ul style="list-style-type: none"> • Development of a framework for an incentive-based model for adoption by financial institutions • Development and implementation of an alternative credit assessment platform 	<ul style="list-style-type: none"> • Creation of a framework for the unified, sustainable financing platform, acting as a program control unit for the development and review and monitor the pilot of the platform • Embed sustainability in monetary policy
Financial Institutions 	<ul style="list-style-type: none"> • Mainstreaming sustainable financing through appropriate mechanisms and processes • Creating a special team for the development of sustainable financing products and processes within the respective organization • Incorporating the importance of sustainability in their financial literacy and other capacity building programs 	<ul style="list-style-type: none"> • Capacity building of internal stakeholders for increased lending to green micro enterprises • Adoption of alternative credit assessment platform to enable credit delivery to unbanked entrepreneurs • Incorporating an incentive-based framework for lending to green and inclusive enterprises 	<ul style="list-style-type: none"> • Adoption of unified, sustainable financing platform in operational processes • Contribute to formulating and operationalizing Carbon Credit linked credit product-
Technical agencies 	<ul style="list-style-type: none"> • Database of sustainable technologies and models for micro enterprises created and shared with the sustainable financing platform • Database of technical experts and resource materials for resource bank in sustainable financing platform • A framework of a sustainable mechanism for collecting data and information for the sustainable financing platform 		
Corporates 	<ul style="list-style-type: none"> • Incorporating awareness building on sustainability amongst entrepreneurs as a priority in their CSR activities 	<ul style="list-style-type: none"> • Lay equal emphasis of all components of the ESG framework in particular the aspect of Governance 	
Support Organisations (NGOs, CSOs, Think Tanks, Incubators, Aggregators) 	<ul style="list-style-type: none"> • Building capacities of entrepreneurs and motivating them to adopt green and inclusive technologies and practices • Create a platform to connect entrepreneurs for knowledge sharing and peer-to-peer learning • Conduct research to further understand the niche challenges of green inclusive micro entrepreneurs and identify nodes to green the existing financial system • Build capacities of financial institutions to integrate sustainability in existing financial models 		



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The Inquiry

The Inquiry into the Design of a Sustainable Financial System has been initiated by the United Nations Environment Programme to advance policy options to improve the financial system's effectiveness in mobilizing capital towards a green and inclusive economy—in other words, sustainable development.

United Nations Environment Programme (UNEP)

Since its inception in 1972, the United Nations Environment Programme (UNEP) has been the global authority that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment. UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP works closely with its 193 Member States and representatives from civil society, businesses, and other major groups and stakeholders to address environmental challenges through the UN Environment Assembly, the world's highest-level decision-making body on the environment.



Green Environment Facility (GEF)

The Global Environment Facility was established on the eve of the Rio Earth Summit to tackle our planet's most pressing environmental problems. It is the largest multilateral trust fund focused on enabling developing countries to invest in nature and supports the implementation of major international environmental conventions including on biodiversity, climate change, chemicals, and desertification. It brings together 184 member governments in addition to civil society, international organizations, and private sector partners.



Development Alternatives

Development Alternatives (DA) is a premier social enterprise with a global presence in the fields of green economic development, social empowerment, and environmental management. It is credited with numerous innovations in clean technology and delivery systems that help create sustainable livelihoods in the developing world. DA focuses on empowering communities through strengthening people's institutions and facilitating their access to basic needs; enabling economic opportunities through skill development for green jobs and enterprise creation, and promoting low carbon pathways for development through natural resource management models and clean technology solutions that can be easily and speedily scaled up.

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