



Fostering the circular economy: Role of MSMEs

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India

SEED Practitioner Labs for Policy Prototyping



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We would like to thank all the participants (Annex 1) contributed to this paper

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COLLABORATORS



ABOUT SEED

SEED was founded in 2002 at the World Summit on Sustainable Development in Johannesburg by UNEP, UNDP, and IUCN. It is a global partnership for action on sustainable development and the green economy. Today, we seek to unlock the full potential of social and environmentally focused ('eco-inclusive') market-based enterprises. We help tackle climate change effects and contribute to solving the world's social problems, as captured in the Sustainable Development Goals (SDGs).

INTRODUCTION

In mid-September 2021, Indian MSME public and private sector actors participated in SEED's Practitioner Labs for Policy Prototyping on the topic of "Fostering the Circular Economy: Role of MSMEs". This kick-off lab outlined and elaborated four major challenges, which need to be addressed by policy mechanisms to promote Circular Economy (CE) in existing MSMEs and support enterprises including start-ups in tapping opportunities to advance CE.

As a next step to this series of policy labs, SEED in partnership with TERI organized a two-day Policy Solution Prototyping Lab on 23rd and 24th November at The Energy Resources Institute (TERI) in New Delhi, India with the aim of co-creating prototypes of solutions/policy mechanisms. These solution mechanisms aim to tackle challenges identified in the previous labs under four broad themes on (1) Circular Economy (CE) Pilot Hub; (2) Circular Economy (CE) Market Place (Pilot); (3) End Product Green Certification; (4) Centre of Excellence (CoE). The developed prototypes at the end of Day 2 had a public showcase for representatives from the public sector to gather their feedback and inputs on the improvement of the solution prototypes.

This document is the **Output Paper** summarizing the prototypes co-created for each of the four groups as part of the Policy Solution Prototyping Lab along with the inputs received from the representatives on Day 2. This draft paper is further finalized upon receiving additional inputs and comments from the collaborators and team participants who were an integral part of developing the solution/ policy mechanism. In the section below, please find the solutions/ prototypes detailed for four groups along with the mechanism visualization created for the solution. In addition to this given below are the photographs of the three charts created as part of the Policy Solution Prototyping Lab on (1) Challenge Solution Fit (2) Mechanism Visualization (3) Solution Name - Mechanism, Key Features, Target Group, and Stakeholders.



RECOMMENDATIONS

To strengthen the role of MSMEs in the circular economy in India, the following multi-stakeholder solutions have been recommended following group discussions and consultation.

These recommendations can build on the current policy landscape to achieve policy objectives and ensure that circular economy considerations are made prominent in the MSME policy landscape.

- **Green/sustainable procurement laws** should be developed to encourage upstream and midstream processes to become more sustainable, with a focus on integrating MSMEs as green suppliers in the supply chain.
- **Circular / green product standards** and environmental criteria for measurement and benchmarking related to circular economy should be set, to help MSMEs to differentiate their products and access green niche markets.
- **Capacity building and skills development** should be provided to industry stakeholders on the Circular Economy, along with new entrepreneurship skill facilitation, awareness generation, and knowledge dissemination for MSMEs through existing institutional infrastructure (e.g. technical & skill development institutes, etc.)
- **Monitoring and evaluation mechanisms & readiness assessment** should be developed to determine current practices (baseline surveys and situation analysis), gaps, and the potential uptake of sustainable practices within and between sectors.
- **Circular Innovation Labs** should be established and run by public and/or private organisations to conduct applied research and facilitate lab-to-market innovations and act as technology demonstration and proof of concept/laboratory testing for diffusing technology.
- **A cluster service approach**—with a local service provider/manufacturer in place to offer fuel and technology supply, maintenance, awareness of new skills required to use the technology—could spur MSME uptake of new technologies.
- **Effective ICT infrastructure** to connect MSMEs to global markets, information markets, and e-commerce platforms should be provided. This could include platforms to connect MSMEs for secondary raw material sales and procurement.
- **Finance and insurance mechanisms**, including microcredit and microfinance, should be made accessible to facilitate the implementation of high-cost circular economy initiatives at industries, or in industry clusters (industry symbiosis).
- **A 'Center of Excellence for Circular Economy'** should be established, to act as a nodal body between different ministries, institutions and other organisations, managing all spears of circular economy in India including technology innovation, education and skill development.

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Circular Economy (CE) Pilot Hub



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promoting entrepreneurship
for sustainable development

Focus:	Circular economy, MSME support
Ecosystem Impact:	Access to markets, Business Development Support, Access to Finance
Lab Cycle:	Policy, India 2021
Solution Developers:	Sustain Mantra, Circular Business Podcast, TERI

Background

As of 2020, there are approximately 63 million MSMEs in India, of which only about 4% (around 2.5 million) are registered. Registered MSMEs are dominated by micro enterprises at 2.2 million units in 2020, small enterprises at 0.29 million units, and medium enterprises only 10,981 units (IBEF (2021). MSME Industry in India). The majority of MSMEs work on a linear “take-make-dispose” business model. In order to systematically shift to a circular model, which ensures sustainability across the full value chain, they need access to robust infrastructure – such as R&D centres, incubators for product and prototype development, testing laboratories, technology transfer centres, as well as financial and technical expertise and capacity building. In order to overcome this barrier, a pilot CE hub is proposed to help MSMEs in the transition from linear to circular business models while maximising profits and minimising environmental impact through knowledge and expertise exchange, capacity building, and through providing a platform for technical and financial support.

The majority of MSMEs in India do not have access to adequate infrastructure required to upscale their business and to incorporate circularity in their model. These MSMEs are bereft of digitalization, leaving them unable to participate in government programs like Digital India or Start Up-India. Currently, there is no central or state level institution catering to the needs of MSMEs which are looking to upscale their businesses and shift towards a digital, greener, and circular model.

The key challenges to be addressed include:

- Lack of awareness on sustainability and CE measures throughout MSMEs supply chain.
- Lack of access to information on technological advances and infrastructural provisions, especially in tier 2 and tier 3 cities
- Lack of access to stakeholders to propagate CE principles and uptake sustainable business models.
- Lack the understanding for the development of a business around CE and revenue models
- MSMEs, particularly in tier 2, 3 cities, are not addressed well in technology interventions for CE.
- Requirement of a knowledge hub for dissemination of best practices and for facilitating capacity in uptake of CE measures is missing.
- Lack of incentives for the uptake CE measures

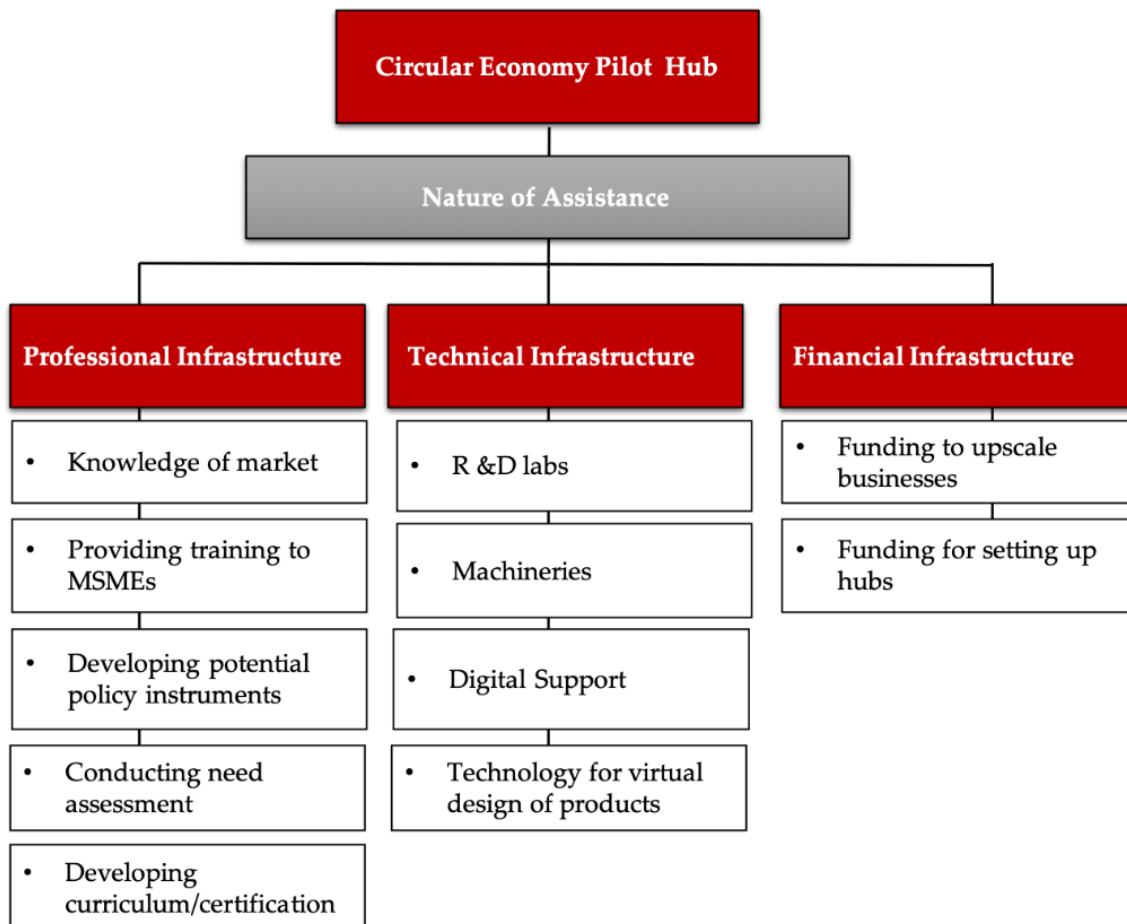
Solution Overview

The primary aim of pilot hubs is to develop infrastructure wherein MSMEs are provided with technical support such as machinery, digital solutions, prototype development, etc. and access to technical experts from various fields such as finance, urban planning, etc. The proposed establishment of pilot hubs will be in each district within their respective Industrial Development Corporations to leverage from existing connections. Initially, a CE ‘Demo’ hub will be established in states like Goa or Madhya Pradesh where they can be successfully implemented. Upon receiving the endorsement, a similar approach can be followed in other states and eventually a CE pilot hub can be instituted in multiple districts. The hub will focus on one or two synergistic industrial sectors which employ a number of MSMEs (like fabrication industries, textile industries, plastics, etc.) in order to demonstrate the power of CE. The pilot hub will develop business cases around circularity and link it with opportunities, job creation potential along with GDP contribution. Such a pilot hub will enable government departments to see the advantage of circularity and justifying funding under initiatives such as NITI Aayog’s Aspirational District Programme (ADP). This pilot hub will have a knowledge centre to provide trainings and certifications to MSMEs for shifting towards CE and generating awareness.

In order to make the institute sustainable, CE pilot hub will enroll corporates, think tanks and research institutes on a subscription-based model wherein they will have access to all the data generated. Since data plays a pivotal role in maintaining the sustainability of this institution and amplifying its success, the first circularity assessment of the MSMEs within the Industrial Development Corporation will be done pro bono in order to gain maximum sector specific information. Apart from this, individual studies for corporates such as vulnerability assessment, impact assessment, material flow assessments, and sustainability reporting etc. will be undertaken within this hub. Once the desired product or service has been developed by the MSME, the hub will seek help from financial institutions and corporates for funding the prototype and bringing it to the market. Finally, MSMEs and subscribed institutions will be connected through a digital platform to engage with other CE pilot hubs for creating a marketplace, knowledge sharing, and capacity development.

The objectives of creating a CE pilot hub are:

- **Propagating CE thinking by defining a business case and making profitable returns**
This will encourage MSMEs to understand the relevance of shifting to circular business models by highlighting the associated opportunities, profits, job creation potential, etc.
- **Build knowledge, connect expertise, and enable infrastructural changes to help CE projects**
Access to infrastructure would enable MSMEs to explore the full potential of their business
- **Assist in dissemination of best practices**
This will help propagate a positive mindset across MSMEs and help in awareness generation towards shifting from linear to CE
- **Provide on-ground data to influence policy amendments and act as a window for policy makers**
Currently, policies are made with little to no actual on ground data, as there is no dedicated institution associated with diverse MSMEs



Key Stakeholders

The key stakeholders and their roles in the functioning of CE pilot hubs are described below:

Group	Key Stakeholders	Roles
Regulatory bodies	Ministries such as MMSME, MoHUA, etc., CPCB, SPCB, ULBs	<ul style="list-style-type: none"> • To design policies around circularity catering to MSMEs with the help of robust data • To audit and analyse MSMEs • To enable CE pilot hubs in various districts/states
Think Tanks	NITI Aayog, TERI, CSOs, etc.	<ul style="list-style-type: none"> • Assess and analyze the existing policies • Develop potential new policy instruments • To develop curriculum/certifications for MSMEs in vernacular languages and providing expertise • Help in conducting material flow assessments, vulnerability assessments, sustainability reporting • Development of reports for different sectors, states, etc.
Industry Associations	FICCI, ASSOCHAM, etc.	<ul style="list-style-type: none"> • Onboard MSMEs towards CE pilot hubs • Help in connecting MSMEs with corporates
Industrial Development Corporations	MIDC, GIDC, etc.	<ul style="list-style-type: none"> • Provide area for development of CE pilot hubs • MSMEs and companies within their jurisdiction to approach these pilot hubs for support
Corporates	Tata, Reliance, etc.	<ul style="list-style-type: none"> • Provide funding for setting up CE pilot hubs • Establish a circular approach by engaging MSMEs who have shifted to CE
Finance Corporations/ Audit Firms	SIDBI, Deloitte, EY, etc.	<ul style="list-style-type: none"> • Finance corporations to provide funding to MSMEs for upscaling their business • Audit firms to lend their expertise to audit and advise MSMEs for financial support
Incubators/ Academia	AIM, IITs, NITs, IIMs, etc.	<ul style="list-style-type: none"> • Provide expertise and technological support • Academic institutions can also help with the participation of students in challenges related to eco-designs, CE hackathon, etc. • Facilitate in the development of research documents and annual reports
International Agencies	Adelphi, GIZ, UN organizations	<ul style="list-style-type: none"> • Help in knowledge sharing • Conduct on ground research • Assist in providing funds and grants for the establishment of CE pilot hub

Key Features

- The hub will be a self-sustaining institute with services such as impact assessments, vulnerability assessments, material flow analysis, waste flows, sustainability reporting along with subscription fee and data sharing.
- A knowledge sharing platform where MSMEs from one district can be connected to other MSMEs or corporates through the pilot hub for acquiring raw materials, technical inputs, connection to newer markets, knowledge sharing, and skill development.
- Integrate and provide solutions for different needs such as finance, research, technical advisory and infrastructural requirements. This makes it a one stop shop for MSMEs.
- A blend of digital and practical solutions, with technical infrastructure for R&D and also digital software for analysis, curriculum and certifications on CE, etc.
- The hub will be a living example of circularity with aspects of recourse sharing, industrial symbiosis, and waste minimization.

Impact Potential

Nation-wide decentralized CE pilot hubs will help in:

- Providing MSMEs a platform for technological, capacity building, financial, and expert solutions
- Developing business case for MSMEs in order to shift from linear to circular model and handhold them throughout the process
- Connecting MSMEs with large corporates and also other MSMEs for the creation of circular product market to reduce waste disposal and enhance resource efficiency through establishing synergies and industrial symbiosis
- Enabling policy makers to develop data-driven, informed solutions through data analysis and interaction with MSMEs from diverse sectors
- Providing corporates, research institutes, and think tanks with robust data on MSMEs to enhance their research
- Formulating circular economy standards in India

Implementation Plan

Conducting a baseline/ needs assessment

- Determine the local requirements and identify existing infrastructure for creation of the hub.
- Identify actors along the value chain and methods of engaging with them.
- Identify opportunities and challenges of transformation from linear to circular business models
- Impact assessment of transformation from linear to circular economy
- Developing the framework of CE pilot hub
- Incorporating the necessary physical tools and intellectual skill set, two-way communication streams, feedback mechanism, monitoring and evaluation criteria, financial viability, etc.
- Developing a comprehensive concept note on the workings of the CE hub, its impact and issues addressed by the CE pilot hubs and pitching it to potential collaborators/government bodies.

Understanding the utilisation of financial resources

- Identifying the initial funds requirement and operational cost
- Setting up/ developing a profitable business case
- Fund raising through government institutes, corporates, social responsibility investors
- Utilising funds for acquiring assets and setting up pilot hub
- Analysing return on investments and incomes sources such as subscription fee, student trips, data analytics, etc.

Onboarding of key stakeholders and development of curriculum

- Identifying and connecting with experts across various sectors along the value chain including sub-sectors to be part of the pilot hub core team
- Developing training content pertaining to MSMEs in vernacular languages
- Developing standards and certifications for highlighting CE practices
- Partnering with associations for reaching out to MSMEs

Feedback mechanism and impact evaluation

- Developing a matrix for understanding the impact/ effectiveness of transformation
- Assessing data and analyzing it as per the sectors/areas/ states to create robust datasets
- Setting time-bound targets and assessing them periodically
- Highlighting success stories and best practices
- Establishing synergies between various CE pilot hubs across India

Establishing a CE 'Demo' Hub

- Instituting a Demo Hub as a proof of validation upon the completion of the aforementioned points
- Developing/revising guidelines and SOPs for replicating other CE Pilot Hubs
- Endorsing the impact and advertising the success of this demo hub
- Once validated, the CE Pilot Hubs are to be scaled and replicated in different states/UTs

Team participants

- Mr. Shailendra Singh –Sustain Mantra
- Ms Sreepriya Sridharan – Circular Business Podcast
- Ms Pallavi Sharma – Independent Consultant
- Mr Abdullah Atiq –TERI



SEED Practitioner Labs for Policy Prototyping

SEED Practitioner Labs for Policy Prototyping work with policymakers and intermediaries over a multi-step collaborative process. Through this process, participants design policy instruments that increase access to and improve the quality of support mechanisms for socially inclusive and environmentally sustainable enterprises looking to scale their environmental, social and economic impacts.



Circular Economy (CE) Pilot Market Place



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 promoting entrepreneurship
 for sustainable development

Focus:	Circular economy, MSME support
Ecosystem Impact:	Access to markets, Access to Finance
Lab Cycle:	Policy, India 2021
Solution Developers:	Lucro Plastecycle, TERI, TERI SAS, UN Sustainable Development Solutions Network Youth, Development Alternatives

The key challenges in accessing a CE marketplace are highlighted below:

- **Lack of awareness on CE products, raw materials, and access to green supply chain**

MSMEs currently lack the knowhow for utilising sustainable raw materials, which restricts them from exploring sustainable, cost-efficient options – hampering profitability and improved product quality. This is further limited by the lack of a digital marketplace to provide access to various raw materials and sustainable products.

- **Lack of availability of secondary raw materials and sustainable products at a competitive cost**

Non-availability of materials in required quantities and at reasonable prices leads to sharp fluctuations in market price. Also, a lack of timely availability of circular materials inhibits the demand of consistent green procurement by the MSMEs and a full transition to a robust green supply chain.

- **Lack of access to a common digital platform for green products and secondary raw materials**

MSMEs face the twin challenge of limited access to quality raw materials and lack of a dedicated market for green products. This hinders the possibility of a transaction between buyers and sellers, accessing a wide range of secondary raw materials and sustainable products. This is further exacerbated due to lack of knowledge on how to use a digital platform, thereby limiting more MSMEs to materials available within their geographic proximity.

- **Lack of online knowledge database**

This is needed to collect data on sustainable raw materials and products, analyse the quality of products and its performance, maintain buyer-seller relationships, improve product quality, restructure pricing of sustainable products, and eventually build trust.

There is also a lack of policies and regulations including certification / guidelines on the use of secondary raw materials, manufacturing of sustainable products, and its uptake by consumers. A knowledge database on the same will help in creating a robust green supply chain and build trust in consumers of sustainable products.

Background

MSMEs are the backbone of the Indian economy with half of the registered enterprises being service oriented and the other half for manufacturing cutting across different sub- sectors. MSMEs make up a significant component of the supply chain. However, lack of access to market due to lack of funding or awareness inhibits their role in marketing and procuring of sustainable materials including secondary raw materials at a lower cost. In order to overcome this barrier, piloting a CE marketplace will create an enabling environment for MSMEs to make their supply chain sustainable. To build a robust green supply chain, the associated MSMEs must also be green/ sustainable. Green supply chain management (GSCM) integrates environmental concerns across all processes of the traditional, linear supply chain. This includes upstream processes such as product design, material sourcing and selection, to midstream stage of manufacturing and production, operations, and downstream processes of end-of-life (EoL) management. The CE market place can promote GSCM by raising awareness of resource conservation, industrial symbiosis, waste minimization, and environment protection.

MSMEs have limitations in marketing their products and procuring raw materials due to the limited options available to them. Procurement of raw materials by MSMEs is usually carried out within their local proximity which results in a lack of variety and buying materials which are not cost competitive. Another key constraint that the MSMEs face is the lack of digitalisation, inhibiting them from exploring more options online. Hence, there is a need for a digital and innovative platform to provide the MSMEs with increased options for raw material procurement. However, the major concern for MSMEs to shift from a linear to circular economy through greener material acquisition is the lack of awareness and understanding of secondary raw materials.

Solution Overview

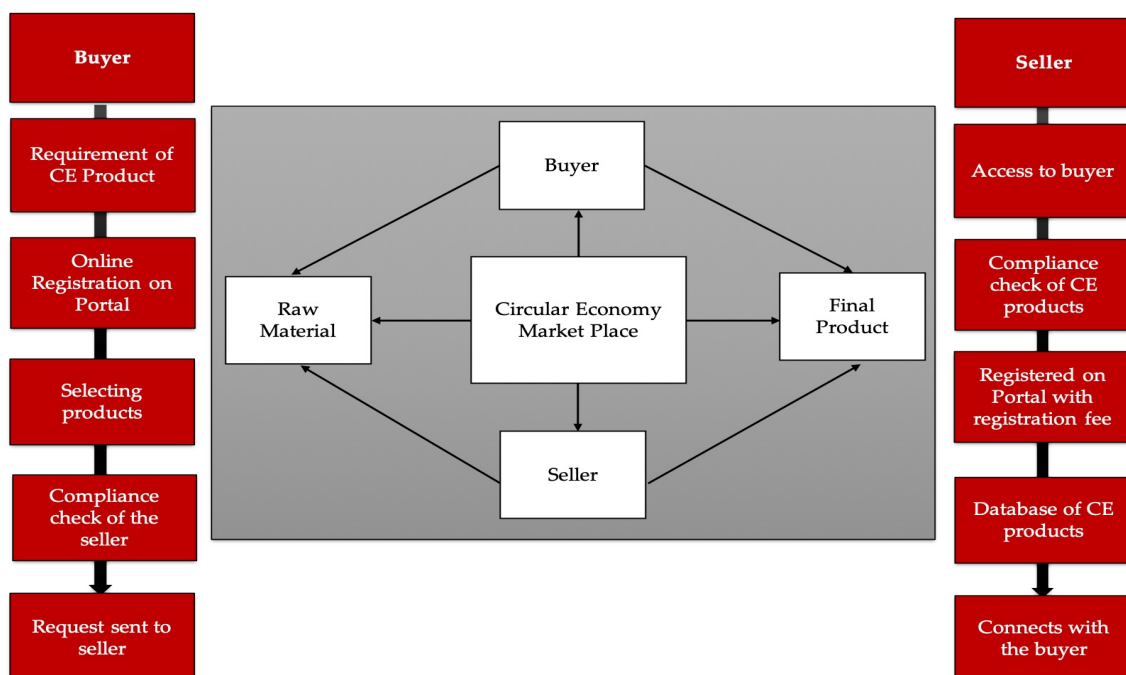
The purpose of a CE market place is to optimise material reuse by having a common online platform of circular products and secondary raw materials, thereby creating an enabling environment for industrial symbiosis, connecting the buyers with authorized sellers. The CE market place ensures certified circular products in the market for MSMEs based on quality and buyer preference. The working of the digital marketplace is simple. The buyer looks for circular products or secondary raw materials as per their requirement. The CE marketplace helps in facilitating connection with the desired seller. To explore and select the products, the buyer first registers on the portal and then selects from the range of listed products on the portal. Once decided, the buyer sends a request to connect with the seller and the seller gets notified accordingly. The CE market place will also have a provision of feedback mechanism where the buyer can rate the seller after the purchase of products. This mechanism would provide the buyers with the opportunity to select from the top rated, price competitive circular sellers from the market. The seller on the other hand, is looking for access to buyers and enrolls on the portal, listing their products and materials. The CE marketplace facilitates compliance check for e.g. sellers will upload their green/eco-certification upon registration in the marketplace. Upon registration, the seller lists his or her entire range of sustainable, certified products on the portal for the buyer to buy and connects with the buyers accordingly.

Another major advantage of this platform is that it will serve as a rich data repository/knowledge database for various sectors. This data will include compliance checks and can be financially backed through the development of sectoral raw material consumption reports on the basis of circular raw material purchasing. This data can be used by think tanks for the development of policy instruments influencing circular and green product consumption.

For this, a knowledge repository will also be simultaneously developed. Finally, the addition of a knowledge database as part of the market place will allow both producers and buyers to make informed decisions, prevent green washing through provision of compliance check/ certifications, and allow for data collection and analysis to further optimise the marketplace.

The following are the primary objectives of piloting a CE market place:

- **To create an online digital common platform** for sustainable products, secondary raw materials, resource recovery from waste products, and a robust green supply chain.
- **To develop circular business models** by encouraging circular upstream and midstream processes through design for environment, green/sustainable procurement of secondary raw materials, with a focus on integrating MSMEs as green suppliers in the supply chain.
- **To scale and replicate circular businesses** by means of digital marketing and dissemination of knowledge for facilitating business development and communication/relationship building between buyers and sellers.
- **To create a knowledge database** for both consumers and producers to enable product feasibility, viability and facilitate MSMEs to re-engineer their products and services accordingly.



Key Stakeholders

The key stakeholders involved in the development of a CE marketplace are listed below along with their roles:

Group	Key Stakeholders	Roles
Regulatory bodies	National and State government institutions, ULBs, Pollution Control Boards, District Industries Centres, MSME Development Institutes, etc.	<ul style="list-style-type: none"> • To ensure policy makes the use of recycled material compulsory • Eliminating multi structure laminates to increase circularity • Penalizing the use of non-recyclable materials in the product • Setting standards and creating environmental criteria for assessment of CE products • A point- based system for products by defining points that are common to all
Industry Associations	ASSOCHAM, FICCI, FISME, etc.	<ul style="list-style-type: none"> • Provide a platform to connect and collaborate to share knowledge • Restructure value chain to promote sustainable production and foster circularity in the MSMEs who are a part of their supply chain
Think Tanks	TERI, NITI Aayog, CSOs, etc.	<ul style="list-style-type: none"> • Analyse the rich data and assess the existing policies • Develop potential new policy instruments pertaining to circularity and green supply chain based on the purchasing pattern of MSMEs • Prepare sectorial reports
GSCM Development Providers	Hero Corp GSCM, Hero-Green Vendor Development, ITC – eChoupal	<ul style="list-style-type: none"> • To provide networking and consensus building within and across sectors

Key Features

The key features of a CE marketplace:

- Enable a self-sustainable portal through advertisements and premium listing to connect buyers and sellers of circular, sustainable products and secondary raw materials.
- To create an enabling environment for robust green supply chain and promotion of circular business models. This may be achieved by green procurement, aggregating data on secondary resource availability and potential solutions while connecting waste generators, product designers, manufacturers, consumers, recyclers/ refurbishers.
- Encourage industrial symbiosis by connecting product designers and manufacturers of synergistic sectors in order to optimize high value material reuse.
- Create a knowledge database for data collection and analysis and sharing of resources. This will allow for awareness generation on environmental criterion for measurement of sustainable products and help MSMEs differentiate their products and ensure authenticated circular products are given access in green niche markets for the MSMEs.

Implementation Plan

Identifying relevant sectors and associated stakeholders

- Conducting secondary research to identify the relevant sectors/ sub-sectors to cater to CE market on the basis of clusters and a regional approach
- Ensuring the selected sectors get transformed through the intervention of green supply chain

- Enhancing productivity and competitiveness of selected MSMEs by identifying key stakeholders and creating collaborations and partnerships across the value chain. This may be achieved by connecting waste generators, product designers, manufacturers, consumers, recyclers/ refurbishers.

Onboarding MSMEs

- Educating MSMEs about market opportunities and linked profitability arising from assuring price competitive raw materials through improved secondary resource management
- Facilitating capacity, capability and technology development of MSMEs to produce cost effective, sustainable products

Designing the portal/ common online platform for CE products and secondary raw materials

- Determine a set of products that are environmentally friendly alternatives/ sustainable products to be listed on the portal such as recycled plastics, recycled ceramics, recycled yarns etc.
- Registration for the buyers to list their interest and for sellers to list their sustainable, certified products
- Provide mechanism of compliance check such as through uploading eco-certificate while listing of products to ensure products follow CE principles and prevent greenwashing.
- Develop a feedback mechanism to collect data and assess and analyse it for creation of a knowledge database

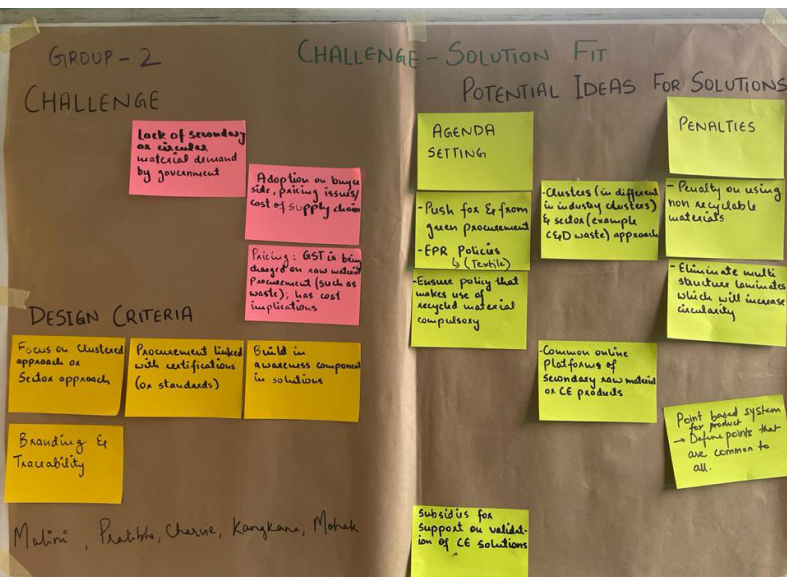
Impact Potential

CE marketplace will further help in:

- Implementing successful circular business models with robust revenue creation mechanism, allowing for scaling and replication of such models.
- Strengthening industrial symbiosis through consistent procurement of secondary raw materials and circular products in the market, thereby facilitating green supply chain.
- Ensure branding of sustainable products and raw materials.
- Data collection will allow for tracking and traceability of circular products in the market.
- Data driven analysis of existing policies focusing on circularity and developing potential new policy instruments to incentivise the sale of cost-effective, sustainable raw materials/products keeping in mind the market trends and other relevant data sets
- Facilitating waste diversion from landfills through optimizing material reuse.

Team participants

- Ms. Pratibha Priya – Lucro Plastecycle
- Dr. Malini Balakrishnan - TERI
- Ms. Kangana Haloi –TERI SAS
- Ms. Charvie Mishra - UN Sustainable Development Solutions Network Youth
- Mohak Gupta –Development Alternatives



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End Product Green Certification



Focus:	Circular economy, MSME support
Ecosystem Impact:	Access to markets, Business Development Support, Access to Finance
Lab Cycle:	Policy, India 2021
Solution Developers:	Earth Tatva, GIZ, Lucro Plastecycle, TERI

- Absence of certification for products manufactured with circular economy principles**

Currently, Green Product Certifications are of two types (i) Ecolabel (ISO14024) and (ii) Environmental declarations (ISO14025), which are voluntary. It is however not mandated for manufacturers to obtain Green Product Certification. There is also no certification that encompasses the circular economy measures for products.

- Greenwashing on unsustainable products**

No mechanism for differentiating sustainable products from products which are greenwashed. No penalty for greenwashing products or services.

- Lack of understanding of the Triple Bottom Line (TBL) impacts of circular products**

The focus of manufacturers is on profit and on the financials instead of looking at the full impact including environmental and social impacts of the products and services. There is a lack of understanding on incorporation of TBL impacts.

- No standards for sourcing secondary raw materials (We have not defined Secondary Raw Materials)**

There are no design standards on how to source and use good quality secondary raw materials. For example, in road making The Indian Road congress has come up with guidelines for use of plastic waste in road making (IRC: SP:98-2013)¹. Similar guidelines are needed for high value reuse of quality waste materials in production.

- Market readiness and price competitiveness especially with respect to “non-green” and unsustainable, cheaper products**

Market mechanisms are not catered towards sustainably made and usually more expensive products. These end up in a niche market catering to a small group of consumers. The market on a large scale should encourage the sale and demand of sustainably manufactured products by connecting sellers of these products with bulk buyers through “green public procurement.”

- No mandate for Minimum Use of Secondary and Recycled/ Alternative products in Final End Products**

There are claims made by manufacturers about the use of such secondary products, but there are no guidelines on what should be the minimum contribution of such materials in end products to claim them as Green/Sustainable products.

Background

Manufacturing of cheap and fast goods and over consumption has led to environmental pollution. This is especially true in developing countries with less stringent and poorly enforced laws on environmental compliance. However, now with more public awareness on the issue and policy support for curbing environmental pollution, stakeholders including investors, consumers, and governments are increasing pressure on manufacturers to disclose information about their environmental performance and manufacture environmentally-friendly products. To address the issue, large firms have come up with Corporate Social Responsibility (CSR) whereby businesses aim to integrate social and environmental aspects in their operations. This is however, not done across board as smaller businesses in the MSME sector cannot each have a CSR division. In addition to this, there is a growing concern of “greenwashing” whereby businesses falsely make their products seem sustainable and environmentally sound. An overall End Product Green Certification is needed to help businesses become sustainable, increase public awareness on sustainable consumption, and prevent greenwashing of unsustainable products.

Key challenges relate to the lack of overall End Product Green Certification, which discourages mainstreaming of circular economy (CE) principles in the MSMEs sector. The main challenges as given below include:

- Lack of awareness of green or circular products**
Consumers are not aware of sustainable products in the market and cannot differentiate between sustainable and greenwashed products. Manufacturers are not aware of ways to incorporate circularity and resource efficiency in their products and become more sustainable or have a sustainable “green” supply chain.

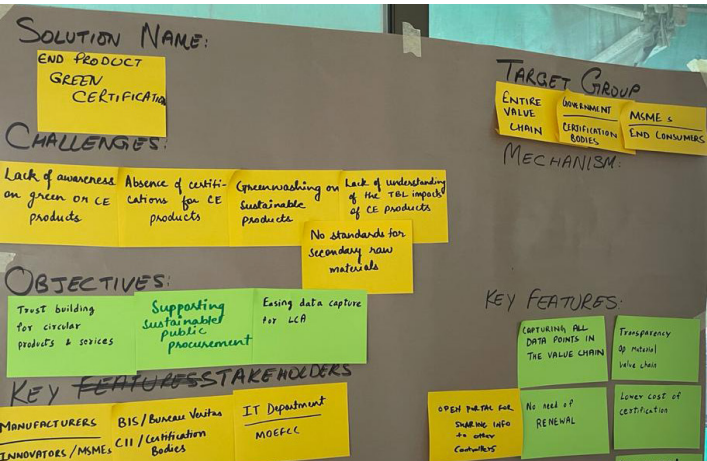
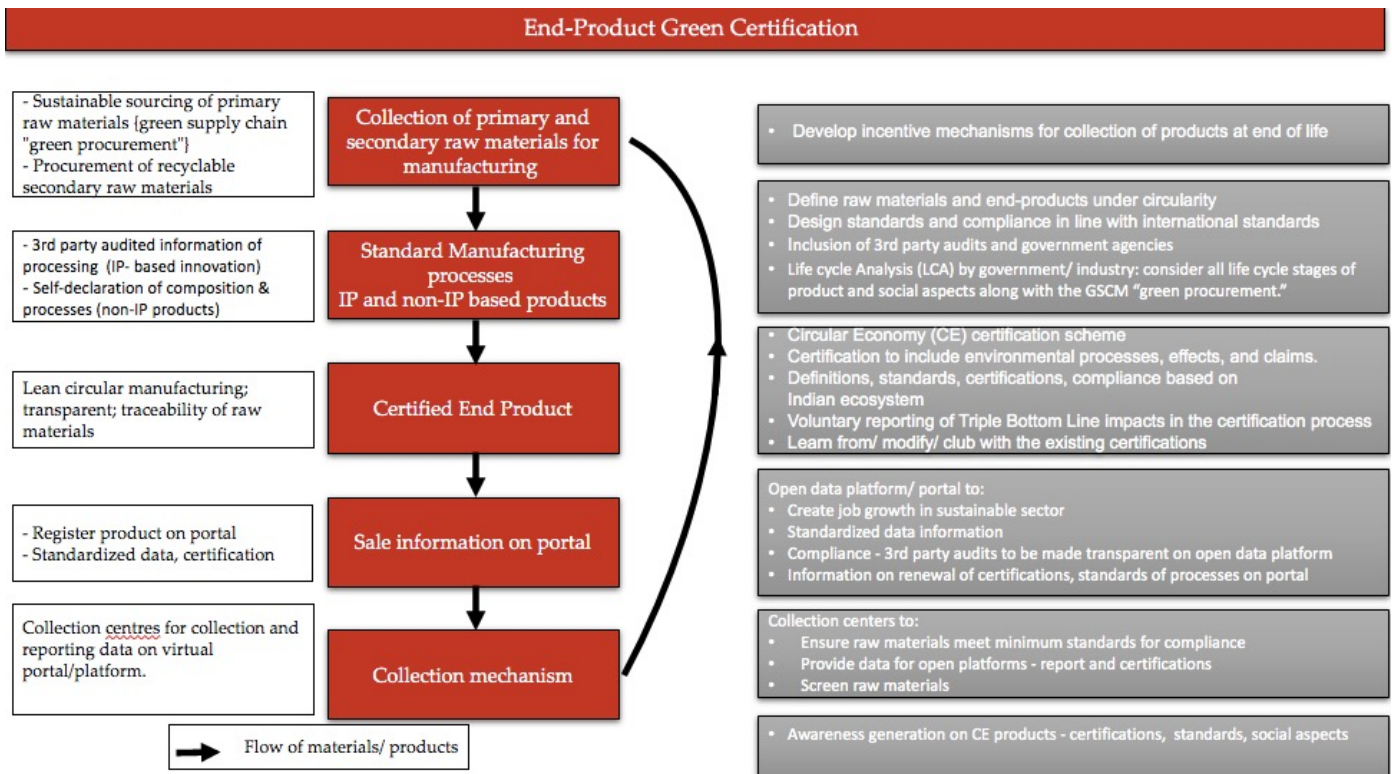
¹ <https://www.tce.edu/sites/default/files/PDF/IRC-Spec=Road-with-plastic-waste.pdf>

Solution Overview

The solution starts with developing incentives for collection of secondary raw materials and sustainable procurement of virgin materials. Manufacturing processes need to be followed which have design standards in line with international standards, keeping CE principles in mind such as design-for-recycle. Life Cycle Assessments (LCA) and 3rd party audits can ensure standard manufacturing. Certified end products should show their lean manufacturing methods and transparent and traceable raw material sourcing. There is a need for an open data platform/ portal for standardised data collection and manufacturing, information and awareness generation, including the registration of this data on the portal. Lastly, collection centres that received products at end-of-life should report the data on the open portal/platform, screen raw materials, and ensure raw materials meet minimum quality standards. Overall, there is a need for awareness generation for manufacturers to obtain certifications, design standards to be followed, and for consumers to move towards sustainable consumption.

The objectives related to developing the End Product Green Certification include:

- Trust building for circular products and services
- Supporting sustainable public procurement
- Easing data capture for Life Cycle Analysis (LCA) / ESG Reporting Factors



Key Stakeholders

There will be five main stakeholders in the process to obtain End Product Green Certification as given in table below:

Group	Key Stakeholders	Roles
Regulatory bodies	Certification bodies – BIS, CII	<ul style="list-style-type: none"> • Penalizing greenwashed products and services • Setting standards and creating certification for environmental criteria for measurement of CE products • 3rd party audits to check standards and provide certification
Industry Associations	ASSOCHAM, FICCI, FISME, etc.	<ul style="list-style-type: none"> • Help with data collection and analysis on open data portal/ platform and with sharing data
Think Tanks	TERI, NITI Aayog, CSOs, etc.	<ul style="list-style-type: none"> • Develop mechanism for End Product Green Certification in line with CE measures • Help with Life Cycle Assessments (LCA) and 3rd Party Audits • Awareness generation and capacity building for manufacturers
Government Bodies	MoEFCC (their IT department)	<ul style="list-style-type: none"> • Develop open data portal/ platform • Awareness generation and capacity/ skill development in CE measures
Manufacturers	Innovators / MSMEs	<ul style="list-style-type: none"> • Create products in line with design standards and certifications. • Declare products on portal
Data Entry Operative Teams	Skill India	<ul style="list-style-type: none"> • To bring uniformity in reporting, special data entry teams are to be formed.

Key Features

The main design features for the End Product Green certification are captured below:

- Open data portal/ platform for sharing information with other controllers
- Capturing all data points in the value chain
- No need for renewal of certification
- Transparency of material value chain
- Lower cost of certification
- Operative guidelines for collection centers
- Standard information across the value chain and reporting of LCA and ESG
- Streamlined and autonomous certification processes
- Standardised data collection of waste, recycled numbers, alternative products and end products.

Implementation Plan

The immediate steps for implementation of End Product Green Certification include:

- Develop robust incentive mechanism for material collection / pickup solutions from startup India as solutions are worked upon.
- Pre-assessment of parameters, definitions, mechanisms, processes for sustainable procurement of virgin and secondary raw materials.
- Develop standardized product category basis (SION norms, BIS etc.)

- Develop a Circular Certification programme for INDIA
- Implementing along with government agencies and other stakeholders the open data platform

Impact Potential

Developing End Product Green Certification, if made mandatory, will aid in the mainstreaming of circularity and resource efficiency measures in the MSME sector. The other co-benefits include:

- Creating a full “green” or sustainable supply chain
- Reducing waste to landfill
- Creating a mainstream market for sustainable products instead of a niche market
- Generating awareness of the need for sustainable consumption and associated practices
- Capacity building and skill development of MSME sector to move towards circular, sustainably manufactured products

Team participants

- Mr. Shashank Nimkar, Earth Tatva
- Dr. Reva Prakash, GIZ (EU REI)
- Varun Karasia, Lucro Plastecycle
- Mehar Kaur, TERI



Center of Excellence (CoE)



SEED
promoting entrepreneurship
for sustainable development

Focus:	Circular economy, MSME support
Ecosystem Impact:	Business Development Support, Access to Finance
Lab Cycle:	Policy, India 2021
Solution Developers:	International Council for Circular Economy (ICCE), TERI, GIZ, Fusion Microfinance

Background

MSMEs have significant potential to develop innovative business models that can integrate circular economy (CE) and foster the transition towards circular business models. However, there is lack of access to capacity building and skill development, and due to lack of awareness and funding, the potential of MSMEs goes untapped. By the creation of the Centre of Excellence (CoE) for circular economy, MSMEs have the opportunity to explore the market through accessing financial and technical resources, and also enhancing their skill set.

MSMEs lack the capacity to integrate competitively at the global level and export/ supply to corporations, both domestically and internationally. This is due to unskilled manpower and a lack of awareness within the MSME sector. Currently, there is no access to a common platform for MSMEs where all their technical and vocational trainings may take place in order to upgrade their existing skillset and develop new skills, along with bridging the gap between circularity and profit for these enterprises.

The key issues and challenges include:

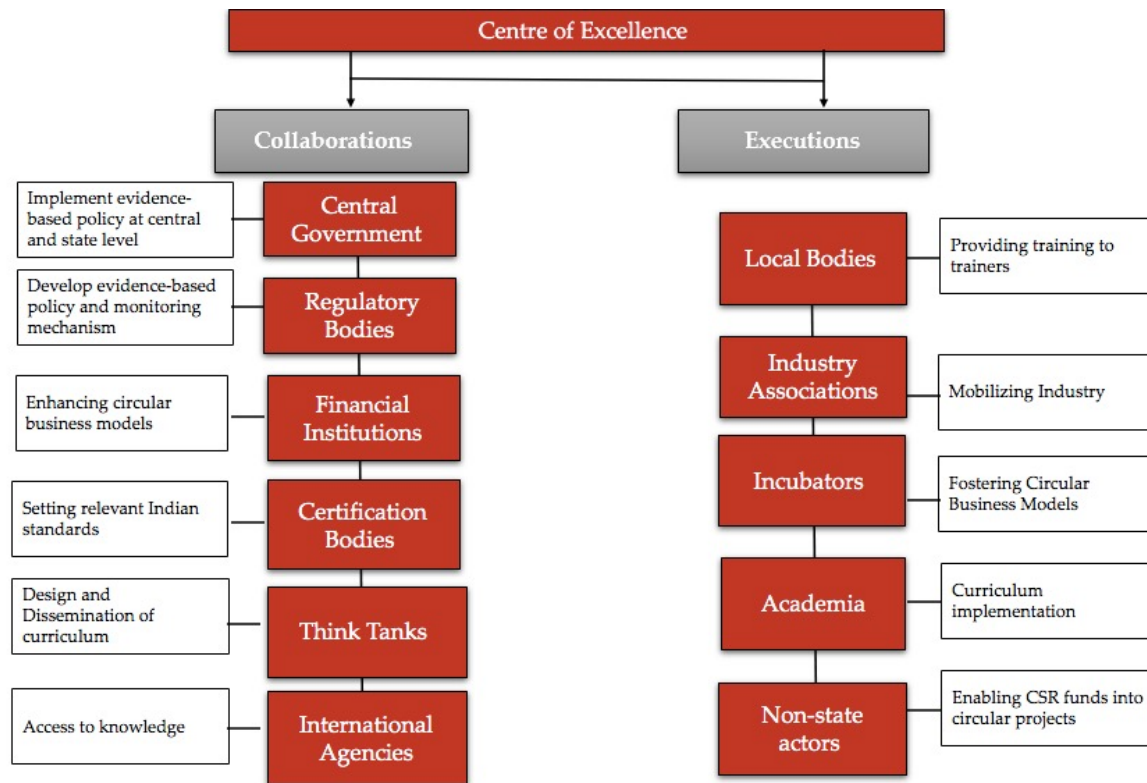
- Lack of MSME knowledge on waste and resource management
- Lack of knowledge on CE at implementing agencies and consulting firms
- No common knowledge products on training material hosting platform
- Lack of skills in ecosystem to support MSME uptake of CE
- Lack of coordination among CE programs and projects
- Gap in knowledge and need assessment
- Lack of knowledge on link between CE and profits
- Lack of access to market, finance, and technical know how

Solution Overview

The CoE will act as an umbrella institution for MSMEs to gain access to technical and vocational trainings in order to upgrade their existing skill set and build new ones. The functioning of the CoE can broadly be divided under two categories as collaborations and executioners. CoE needs to collaborate with regulatory bodies to have a regulatory mechanism for implementing policy at the central and state level, financial institutions to expand the portfolios and enhance circular business models, certification bodies to develop Indian standards for quality control, think tanks for developing and dissemination of curriculum, and international agencies to provide knowledge and support to MSMEs. For execution of the CoE, local bodies are required to provide training to trainers on CE principals, industry associations for mobilizing the industries, academia for the implementation of curriculum developed, incubators to foster circular business models and non-state actors for enabling CSR fund in circular projects.

The primary objectives of the Center of Excellence (CoE) for MSMEs are:

- **Transitioning MSMEs from linear to circular business models**
Provide opportunities to MSMEs for integrating circularity in their business models along all stages of the value chain, highlighting benefits and profitability of CE
- **Bridge the knowledge gap between target groups and stakeholders**
This would help in balancing out the mismatch between demand and supply of manpower with necessary skill set in specific areas such as manufacturing, services and marketing.
- **Providing access to resources – financial, market and technology/technical know how**
Access to resources would allow MSMEs to transition their business model towards circularity.



Key Stakeholders

The stakeholders have been classified into 6 groups. Their roles have been described in the table below:

Group	Key Stakeholders	Roles
Target Audience	MSMEs, entrepreneurs	<ul style="list-style-type: none"> Incorporate circularity into their business models Adhere to policies and regulations
Regulatory bodies	National and State governments, Ministries, ULBs	<ul style="list-style-type: none"> Evidence based policy making Develop a regulatory mechanism to implement policy at state and central level Developing relevant Indian standards for quality control International collaboration for developing export standards
Think Tanks	NITI Aayog, TERI, CSOs, ICCE, etc.	<ul style="list-style-type: none"> Curriculum development in vernacular languages Design and dissemination of curriculum Policy inputs for funding research and infrastructure Monitoring and evaluation Training of trainers Enable CSR funds for circular projects
Industry Associations	ASSOCHAM, FICCI, etc	<ul style="list-style-type: none"> Outreach for collaboration Mobilising industries
Incubators	AIM, academic institutions like IITs, IIMs	<ul style="list-style-type: none"> Curriculum implementation R&D around circularity Handholding MSMEs Fostering circular business model Replication of business model Train MSMEs on CE Access to market resources
International Agencies	adelphi, GIZ, UN organizations, etc.	<ul style="list-style-type: none"> Access to knowledge Support to Indian MSMEs

Key Features

- Stakeholder engagement/ consultations using existing resources to build knowledge, capacity and upgrading the skillset of MSMEs
- Handholding MSMEs for best practices through knowledge sharing across different sectors such as manufacturing, services, production, logistics, etc.
- Development of standardized certifications/licenses for better market access across various value chains of the business incorporating all the stakeholders
- Tailored solutions as per the local needs
- Connect MSMEs to government schemes
- Facilitate R&D and provide technological interventions around circularity for MSMEs
- Implementation of curriculum in vernacular languages in both online and offline modes to disseminate knowledge across diverse MSMEs

Immediate Steps for Implementation

Developing framework of CoE

- Carrying out a needs assessment for the local market
- Defining sector and sub-sectors initially and at a later stage
- Onboarding MSMEs, experts and developing organizational charts
- Mobilising funds

Collaborations with key stakeholders

- Form a core team to focus on collaborating/ building partnerships with relevant stakeholders
- Formulations of roles and responsibilities on the basis of a Memorandum of Understanding (MoU)
- Nationals, state and non-state collaborations with ministries, ULBs, think tanks, incubation centres, industrial associations, CSOs, NGOs, academic institutions
- Develop business model/strategy for procuring funding from international organisations and seeking collaborations with research centres, multilateral organisations

Implementation

- Defining and engaging program stakeholders
- Providing trainings for trainers (ToT)
- Developing and implementing curriculum in vernacular languages and delivering training programs both in online and offline modes for reaching a wider target audience
- Execution of services for promoting CE

Monitoring and evaluation

- Developing monitoring mechanism through partnerships
- Establishing quality assurance standards and evaluating their status
- Developing redressal mechanism

Impact Potential

CoE for CE will help in:

- The creation of an online and offline platform for disseminating knowledge and drawing learnings from best practices across various sectors in which MSMEs are engaged
- Bridging the gap between theoretical and practical knowledge through generating awareness and capacity building
- Handholding MSMEs in their transition towards a circular business model by maximizing resource efficiency and minimizing waste disposal
- Developing standardised policies and certifications for the quality assurance of the products enabling transparency across different value chains and stakeholders
- Delivering profitable returns for MSMEs through enhanced technological interventions and optimised operations
- Helping MSMEs to improve the quality and certification of products to meet international standards for exports.

Team participants

- Ms. Shalini Goyal Bhalla, International Council for Circular Economy (ICCE)
- Dr. Vidya Batra, TERI
- Ms. Arushi Tangri, GIZ
- Ms. Shalini Singh, Fusion Microfinance
- Mr. Deepak Kumar G., Independent Consultant



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