

# Experiences of Green Enterprises during the COVID-19 Crisis:



## Case Studies on Resilience from Ghana, India, and Uruguay



**Experiences of Green  
Enterprises during the  
COVID-19 Crisis:**

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Ghana, India, and Uruguay



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The report is published as part of the study “Impact of COVID-19 on Green Enterprises: Policy Guidance towards inclusive, resilient and sustainable recovery” commissioned by the United Nations Industrial Development Organization (UNIDO), in cooperation the International Labour Organization (ILO) under the Partnership for Action on Green Economy (PAGE). Environmental Management Centre (EMC) Pvt. Ltd. conducted this study focusing on Ghana, India, and Uruguay.

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## Executive Summary

A global study was initiated by the United Nations Industrial Development Organization (UNIDO), in cooperation with the International Labour Organization (ILO) and the Partnership for action on green economy (PAGE), to investigate the impact of the COVID-19 pandemic on green MSMEs. The Environmental Management Centre (EMC) Pvt. Ltd. conducted this study in Ghana, India, and Uruguay.

A literature review was carried out to identify the impact of COVID-19 on MSMEs. In addition, the report explored the support and policy responses provided by various government agencies to identify the efforts taken during and after the COVID-19 pandemic at various levels. Green MSMEs in Ghana, India, and Uruguay (PAGE partnering countries) were surveyed as country case studies to understand the challenges faced, impacts on the operations and employees, and the response strategies adopted in each country.

It was observed that while the nature of the challenges were similar across enterprises, the disruption in supply chains and the lack of working capital were highlighted as major challenges. Most MSMEs at large (including green MSMEs) were impacted adversely, while few reported that the pandemic helped them increase their revenue (positive impact). From a policy aspect, it was observed that as enterprises recover from COVID-19, the policy perspective is gradually shifting from liquidity support measures to ensure survival, to the provision of support for recovery in Ghana, India, and Uruguay. Disruptive technologies such as artificial intelligence (AI), robotics, 3D printing, and Internet of Things (IoT) are acting as drivers for digital transformation and the COVID-19 pandemic has provided an additional push to foster this digital transformation.

The study also aimed to identify new business opportunities and jobs that have emerged from the COVID-19 pandemic. Considering that the pandemic has provided an opportunity for enterprises to rethink, replan, and restructure their business activities, the study reviews emerging opportunities and the importance of Circular Economy (CE). It provides guidance on starting or transitioning to a green business. CE allows companies to access new partnerships, expand business networks, generate additional revenue, and find ways to reduce costs. However, the transition to sustainable practices remains a challenge, particularly as the world continues to recover from the pandemic. To enable businesses to deal with these challenges, innovation may be needed at various levels such as design, production, process optimization, as well as business model applications.

To build back better following the pandemic, support measures in terms of capacity building, access to green finances, standardization of supply chains, and formalization of informal sectors can be adopted as best-practices to incorporate environmental sustainability. Increasing opportunities for training and capacity building, improving accessibility to mechanisms that deal with the legal requirements of an enterprise, completing and maintaining certifications required for gaining access to various schemes, and ensuring that businesses achieve the eligibility to apply for business proposals are all steps which will greatly aid the expansion of business operations and generate an increase in revenue.

The study also looks at the similarities and differences between the COVID-19 pandemic (natural health emergency) and the global climate change crisis (caused by human activities), and whether the lessons learnt from the COVID-19 pandemic can be applied to the climate change crisis. While building back better, effective and collaborative approaches to incorporating environmental sustainability practices in business operations, services, investments, and policies can help in dealing with any similar future challenges.



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## List of Abbreviations

|         |  |
|---------|--|
| 3D      | Three dimensional  |
| 4IR     | Fourth industrial revolution                                   |
| AI      | Artificial Intelligence  |
| ANDE    | National Development Agency, Uruguay                           |
| B2B     | Business to business   |
| B2C     | Business to customer   |
| BEE     | Bureau of Energy Efficiency                                    |
| CAP     | Coronavirus Alleviation Program                                |
| CAPBuSS | Coronavirus Alleviation Program Business Support Scheme        |
| CARES   | COVID-19 Alleviation and Revitalization of Enterprises Support |
| CE      | Circular Economy   |
| CSO     | Civil society organization                                     |
| CSR     | Corporate Social Responsibility                                |
| DRE     | Decentralized Renewable Energy                                 |
| EMC     | Environmental Management Centre Pvt. Ltd.                      |
| EPR     | Extended producer responsibility                               |
| FGD     | Focus group discussions  |
| FY      | Financial year   |
| GAME    | Global Alliance for Mass Entrepreneurship                      |
| GDP     | Gross Domestic Product   |
| GST     | Goods and Service Tax  |
| ICT     | Information communication technology                           |
| ILO     | International Labour Organization                              |
| IoT     | Internet of Things   |
| ISO     | International Organization for Standardization                 |
| ITC     | International Trade Centre                                     |
| LPG     | Liquified petroleum gas  |
| MGNREGS | Mahatma Gandhi National Rural Employment Guarantee Scheme      |
| MIEM    | Ministry of Industry, Energy and Mining                        |
| MSME    | Micro, Small, and medium enterprises                           |
| NCDEX   | National Commodity & Derivatives Exchange Limited              |
| NGO     | Non-governmental organization                                  |
| OECD    | Organisation for Economic Co-operation and Development         |
| PAGE    | Partnership for Action on Green Economy                        |
| PDCA    | Plan-Do-Check-Act  |
| SDG     | Sustainable Development Goals                                  |
| SIGa    | National Guarantees System, Uruguay                            |
| SOP     | Standard operating procedures                                  |
| SWOT    | Strength Weakness Opportunity Threats                          |
| UIF     | Unemployment Insurance Fund                                    |
| UNDP    | United Nations Development Programme                           |



UNDRR United Nations Office for Disaster Risk Reduction  
UNEP United Nations Environment Programme  
UNIDO United Nations Industrial Development Organization  
WE4A Women Entrepreneurship for Africa





# 1 Introduction

The COVID-19 pandemic has severely hit Micro, Small, and Medium Enterprises (MSMEs) and has revealed their vulnerability to the supply and demand shock. On the supply side, enterprises faced a reduction in the supply of raw materials as global supply chains faced interruptions during the COVID-19 pandemic. Some enterprises also experienced a reduction in the supply of labour, due to reverse migration of the workforce to native villages or regions. As an example, in India, there were multiple phases of lockdown\* which led to labourers moving away from cities and industrial areas back to their native region (reverse migration\*\*)¹. While on the demand side, a substantial reduction of consumer demand resulted in MSMEs experiencing a severe shortage of liquidity. Both of these challenges in the supply and demand side resulted in the reduction of productivity for most green MSMEs in Ghana, India, and Uruguay.

National governments and international organizations have carried out several studies and surveys to measure the impact of the COVID-19 pandemic on MSMEs. Despite the multitude of publications, there remains a gap in understanding and identifying the specific impact of the pandemic on green enterprises, although a number of these reports discuss the importance of sustainability, circular economy, and guidance on starting or transitioning to a green business. Transitioning to sustainable practices is a challenge, especially as the world recovers from the COVID-19 pandemic. Therefore, undertaking a study to better understand the impact of the pandemic on green businesses and identifying potential emerging opportunities which would help in this transition, is expected to make a valuable contribution to the existing body of research on this topic.

To fill this identified research gap, this global study was initiated to investigate the impact of the COVID-19 pandemic on green MSMEs, and to identify a sustainable mechanism to recover and transform them. The study also aims to identify new business opportunities and jobs that stem from the COVID-19 pandemic. The study focuses on three developing countries, namely India (Asia), Ghana (Africa), and Uruguay (Latin America), to extract findings that could also be useful for other developing countries. This report presents findings from the questionnaire-based survey, focus group discussions (FGD), and review of published studies conducted on green MSMEs in these countries.

Chapter 1 provides an introduction to the study, covers the definition of micro, small, and medium enterprises (MSMEs), and green MSMEs.

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1 Covid-19 India timeline: Looking back at pandemic-induced lockdown and how the country is coping with the crisis, published on 23 March 2021, url: (<https://indianexpress.com/article/india/covid-19-india-timeline-looking-back-at-pandemic-induced-lockdown-7241583/>), last accessed on 06 February 2023.

\* Lockdown: A lockdown is an emergency protocol that prevents people from leaving a given area. All non-essential activities remain shut for the entire period.

\*\* Reverse Migration: Reverse migration refers to the process of internal and international migrants returning to their place of origin from the destination state/countries.



Chapter 2 presents the approach and methodology used to undertake the study, conduct the questionnaire survey, and the focus group discussions (FGDs).

Chapter 3 describes the summary of literature reviewed as the first step in assessing the challenges faced, and the impact of the COVID-19 pandemic on MSMEs. A summary of global and country specific scenarios are provided.

Chapter 4 summarizes the observations obtained from the questionnaire survey and FGDs on the challenges faced by green MSMEs, and the impact of COVID-19 on their enterprise operations. Graphic representations are used based on data availability.

Chapter 5 lists the strategies employed by green MSMEs to overcome the impact of the COVID-19 pandemic, deal with operational and financial challenges, and adapt to the emerging situation. The list includes strategies as understood through interactions with green MSMEs.

Chapter 6 provides a list of institutional support accessed by green MSMEs during and after the COVID-19 pandemic.

Chapter 7 summarizes the emerging opportunities for green MSMEs in the post pandemic world. These potential opportunities are described for all three target countries separately.

Chapter 8 explains the process of arriving at a set of recommendations. Country-specific and category based recommendations are described, which can be studied in detail and implemented to further support the growth of green MSMEs.

## 1.1 MSMEs

There is no internationally harmonized definition of micro, small and medium enterprises (MSME). However, for ease of comprehension and categorization in this study, the below country-specific definitions are provided in Table 1.

**Table 1: MSME definitions**

|                                   | Micro                                      | Small                                       | Medium                                       |
|-----------------------------------|--|---|--|
| <b>United Nations<sup>2</sup></b> | employment level below 10                  | employment level below 10 to 50             | employment level below 50 to 250             |
| <b>Ghana<sup>3</sup></b>          | less than 5 employees                      | 6 to 30 employees                           | 30 to 100 employees                          |
| <b>India<sup>4</sup></b>          | Annual turnover not more than Rs. 5 crores | Annual turnover not more than Rs. 50 crores | Annual turnover not more than Rs. 250 crores |
| <b>Uruguay<sup>5</sup></b>        | Less than 10 employees                     | 10 to 50 employees                          | 50 to 250 employees                          |

2 OECD SME and Entrepreneurship Outlook 2019, Working paper, url: <https://www.oecd.org/industry/smes/SME-Outlook-Highlights-FINAL.pdf>, last accessed on 06 February 2023

3 National Board for Small Scale Industries (Elaiyan, K (1996), Employment implications of small-scale industries in developing countries: evidence from Jordan, Science, Technology and Development, 14(1))

4 Ministry of MSME, Government of India, url: <https://msme.gov.in/know-about-msme>, last accessed on 06 February 2023

5 SME certificate, Official site of the Oriental Republic of Uruguay, url: <https://www.gub.uy/tramites/certificado-pyme>, last accessed on 06 February 2023.



## 1.2 Green MSMEs

A **Green MSME** can be identified as an enterprise that provides environmentally friendly products or services. Further, it is an enterprise with environmentally friendly practices and/or usage of cleaner technologies and processes that reduce any negative effects of the business on the environment<sup>6</sup>.

Another description of Green MSME/ Business is a business that is committed to the principles of environmental sustainability in its operations, strives to use renewable resources, and tries to minimize the negative environmental impact of its activities<sup>7</sup>.

The Organisation for Economic Co-operation and Development (OECD) states that the environmental goods and services industry consists of activities which produce goods and services to measure, prevent, limit, minimize, or correct environmental damage to water, air, and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk, minimize pollution, and enhance resource use.

Based on the product and service description, the OECD also provides an illustrative list of products and services categorized into 17 sectors. These 17 sectors are grouped under Pollution Management, Cleaner Technologies and Products, and Resources Management Group.



6 Enabling Environments for Green SMEs: Recommendations for Action, Policy Brief, The Ground-up Association, 2018.

7 Green Entrepreneurship and MSMEs Resurgence, webinar series conducted by UNCTAD and UNITAR, page 8, url: [https://unctad.org/system/files/non-official-document/diaeed\\_2021-02\\_25\\_d2\\_presentation\\_en.pdf](https://unctad.org/system/files/non-official-document/diaeed_2021-02_25_d2_presentation_en.pdf).





## 2 Methodology of the Study

The data contained in the study has been collected through questionnaire-based surveys, FGDs, and a review of existing published studies. The methodology of the study is illustrated in Figure 1.

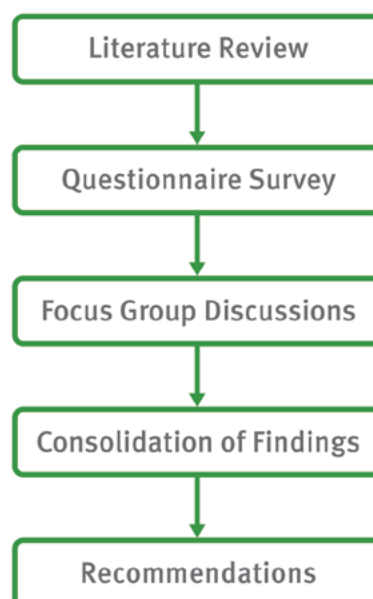
The questionnaire survey was conducted with green MSME's from the following sectors:

- Cleaner/resource efficient products and technologies and processes
- Heat/energy savings and management
- Ecotourism
- Recycled materials
- Renewable energy
- Solid Waste management and wastewater management
- Remediation and clean-up
- Sustainable agriculture and fisheries

FGDs were conducted with the following stakeholder groups:

- Business associations
- Financial institutions
- Government institution
- Non-governmental organisations (NGOs)
- Green MSMEs

*Figure 1: Approach and methodology for this study*



A list of Green MSMEs working in Ghana, India, and Uruguay was prepared by contacting various business organizations associated with MSMEs, chambers of commerce, through the EMCs network of associates, and other digital platforms.

The identified MSMEs were categorized into 17 sectors as illustrated by the OECD<sup>8</sup> and are provided as follows:<sup>9</sup>

#### A. Pollution management

- Air pollution control
- Wastewater management
- Solid waste management
- Remediation and clean-up
- Noise and vibration abatement
- Environmental monitoring, analysis, and assessment

#### B. Cleaner technologies and products

- Cleaner/resource efficient technologies and processes
- Cleaner/resource efficient products

#### C. Resources management group

- Indoor air pollution control
- Water supply
- Recycled materials
- Renewable energy plant
- Heat/energy savings and management
- Sustainable agriculture and fisheries
- Sustainable forestry
- Natural risk management
- Eco-tourism

In order to improve the assessment understanding of the challenges, impacts, and responses of green MSMEs to the COVID-19 pandemic, a list of stakeholders have been identified for three target countries. The stakeholders are grouped into 4 categories to conduct FGDs as given below:

- Business chambers and associations
- Government Bodies
- NGOs, CSOs
- Banking institutions and funding agencies for MSMEs

A comprehensive list of green MSMEs falling under 17 above mentioned sectors/categories working in Ghana, India, and Uruguay, have been prepared by contacting various business organizations associated with MSMEs, chambers of commerce, through the EMCs network of associates, and other digital platforms.

8 Steenblik, R. (2005). Environmental goods: A comparison of the APEC and OECD lists (No. 2005/4). OECD Publishing.

9 Steenblik, R. (2005). Environmental goods: A comparison of the APEC and OECD lists (No. 2005/4). OECD Publishing





Data mining was conducted to find out the contact details of key personnel from each of the identified green MSMEs. The identified green MSMEs were invited to participate in the study through a questionnaire survey, FGDs, and in-depth interviews.

Based on a detailed review of published studies, a comprehensive questionnaire was prepared for the green MSMEs and a semi-structured guide for conducting FGDs was developed. The questionnaire and FGD guide were focused on capturing basic information on the MSMEs such as their working sector, challenges faced during the COVID-19 pandemic, impact on operations, impact on employees, mechanisms adopted to deal with the pandemic, and support received from the government and other institutions.

## 2.1 Focus group discussion (FGDs)

FGDs were conducted online using the Zoom Webinar platform. A total of nine (09) FGDs were conducted with representatives from 20+ organisations in Ghana, India, and Uruguay. Further details on participants have been provided in the annex. The objectives of the FGDs were to investigate the major challenges faced by green MSMEs and to evaluate the intensity of the impact of the COVID-19 pandemic on their operations, shared through the experiences of experts and practitioners in the field.

In order to improve assessment and to better understand the challenges faced, consequent impact, and responses of green MSMEs to the COVID-19 pandemic, a list of stakeholders was identified for each target country. Furthermore, the response measures and support strategies provided to ensure recovery from the pandemic, the contextual challenges faced by green MSMEs while accessing this support, and areas of focus for moving forward were analysed to better understand adaptation processes. A Power-Point presentation was prepared for each of the stakeholder groups (as illustrated in Figure 2) to facilitate the FGDs. The PowerPoint presentation included information on the project background, objectives of the project, and the questions to be discussed.

A structured questionnaire was used to moderate the discussion. Along with this, a list of probes and follow-up questions was prepared. The time allotted to respond and discuss each of the questions was also conveyed to the participants in advance. The list of organizations that participated in FGDs is provided in the annex.

**Figure 2: Stakeholder groups to carry out FGDs**



## 2.2 Questionnaire based survey

1000+ Green MSMEs from Ghana, India, and Uruguay were identified through secondary research. A questionnaire-based survey (Microsoft form) was designed in English (for Ghana and India) and Spanish (for Uruguay) and shared with MSMEs via email to collect their responses on the impact of the COVID-19 pandemic on their business.

The email also described the objectives and potential outcomes of the study. Additionally, information regarding the study and a request for participation from MSMEs was shared through LinkedIn posts and other social media platforms.

The questionnaire survey was divided into 4 sections to collect general as well as specific information from the respondents (green MSMEs). Each question was provided with a note wherever necessary, to elaborate on the question and choice of answers provided. Section A “Introduction” aimed to capture general information such as the name of the enterprise, its location, type (micro, small, medium), legal status, and products or services offered.

Section B “Impact of the COVID-19 pandemic” focused on gathering information on the current status of the enterprise, financial and operational challenges that were faced, significant impacts of COVID-19 on business operations, possible turnover, and employment.

Section C “Responses to the COVID-19 pandemic” attempted to gather information on the strategies adopted by enterprises in response to the COVID-19 pandemic including addressing cash-flow and labour shortages as well as interruption of access to raw materials. Section C also included details of support schemes launched by government agencies and other stakeholders and tried to evaluate support measures received by enterprises.

Section D “Support required for post COVID-19 pandemic recovery” covered expectations from enterprises in terms of financial and business assistance.

The links to the online questionnaire survey form shared with green MSMEs are provided below, and detailed questions from the questionnaire survey and related notes are provided in Annex 4.

The survey forms can be accessed using the following links:

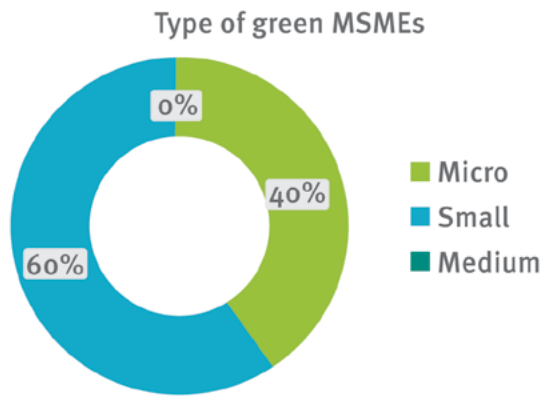
- Questionnaire for India
- Questionnaire for Ghana
- Questionnaire for Uruguay

### Ghana: Green MSME types

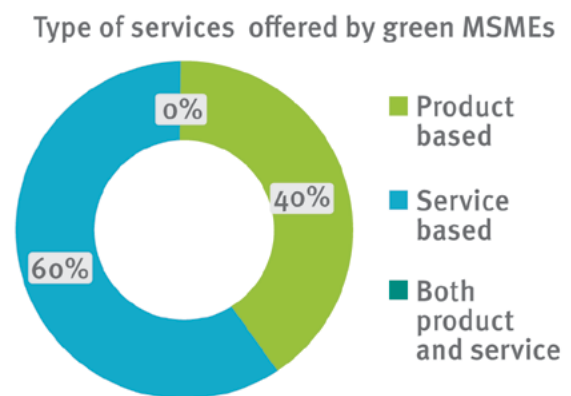
More than 100 green MSMEs from Ghana were identified through secondary research. These green MSMEs were contacted through emails and other social media platforms and their responses were recorded. A total of 6 responses have been received from Green MSMEs in Ghana. The green MSME sectors reached in Ghana include sustainable agriculture and fisheries, cleaner/ resource efficient products, recycled materials, and financial services. The results are indicated in Figure 3 and Figure 4. Approximately 60% of the respondents were small enterprises, followed by 40% micro. 60% of enterprises offer products and services as their main operation while 40% offer services exclusive of products.



**Figure 3: Types of green MSMEs that responded to questionnaire in Ghana**



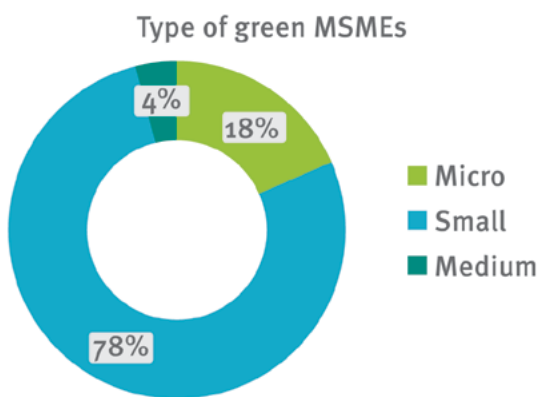
**Figure 4: Type of services offered by green MSMEs surveyed in Ghana**



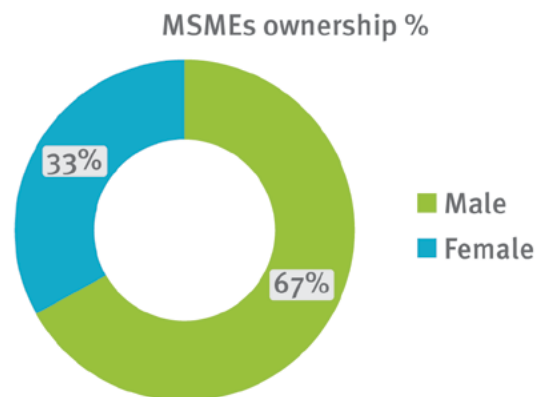
**India: Green MSME types**

In India, more than 1000 Green MSMEs were identified through secondary research. Responses from 27 MSMEs were recorded, as shown in Figure 5, Figure 6, and Figure 7. The green MSME sectors reached in India include sustainable agriculture and fisheries, cleaner/resource efficient products, recycled materials, eco-tourism, remediation and cleanup, as well as renewable energy. Approximately 78% of the respondents were small enterprises, followed by 18% micro and 4% medium. About 67% of the MSME owners who responded to the questionnaire were male, and 33% were female. 33% of enterprises offer products, 15% offer services only, and 52% offer both products and services to their customers.

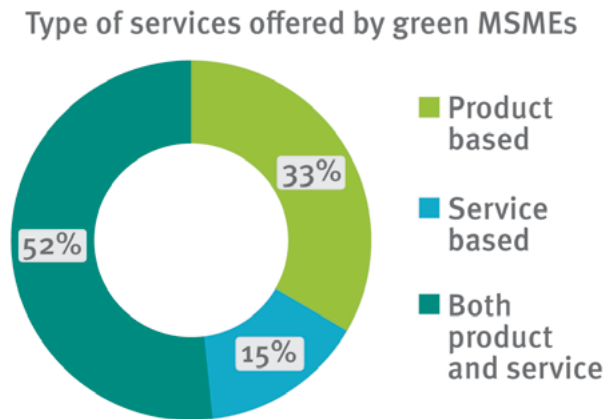
**Figure 5: Types of green MSMEs that responded to questionnaire in India**



**Figure 6: Male vs Female owned green MSMEs surveyed in India**



**Figure 7: Type of services offered by green MSMEs surveyed in India**

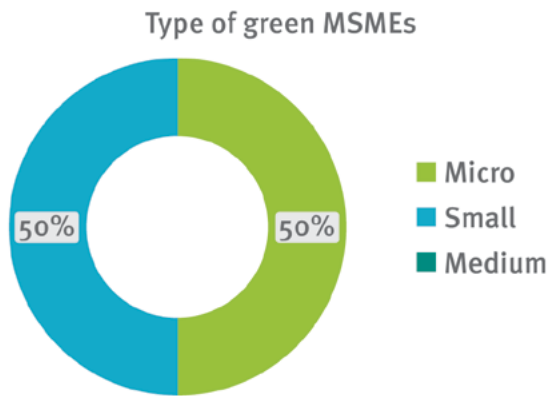


**Uruguay: Green MSME types**

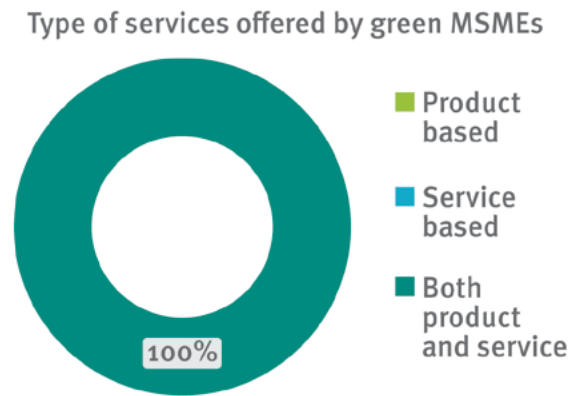
In a similar fashion, more than 100 Green MSMEs from Uruguay were identified. These green MSMEs were contacted through emails and other social media platforms and their responses were recorded. Responses received from the green MSMEs in Uruguay are shown in Figure 8 and Figure 9.

These enterprises fall into micro as well as small enterprise categories and are working in sectors such as recycling, solid waste management, cleaner/ resource efficient technologies and processes, etc.

**Figure 8: Types of green MSMEs that responded to questionnaire in Uruguay**



**Figure 9: Type of services offered by green MSMEs surveyed in Uruguay**



Responses provided through the questionnaire survey, FGDs, and in-depth interviews were analysed to understand the impact of the COVID-19 pandemic on Green MSMEs, their adaptation measures, and available institutional support.





## 3 Literature Review

This chapter presents the major findings from existing studies on the impact of the COVID-19 pandemic on businesses at the global level as well as the specific impact on green MSMEs and their workers in Ghana, India, and Uruguay. Studies conducted by the ILO, UNIDO, International Trade Centre (ITC), and other think tanks were reviewed, and the findings are reported here.

There is no sector-specific study to identify the impact of COVID-19 on green MSMEs that are already working on environmental issues and their response mechanisms to the pandemic. Understanding this in greater depth however, could help in identifying effective strategies and preparing policy frameworks that enhance resilience.

### Summary of the literature reviewed

It was observed that while the nature of challenges is similar across business sectors and types, sole-proprietor businesses (with the decision making power resting with the owner/single individual), women owned, and youth-led businesses appeared less resilient against the crisis. Business resilience is based on factors including a company's business processes, internal and external connections, the ability to respond to change, and the management team's strategies. According to the latest National Survey of MSMEs conducted in 2017 by the Ministry of Industry, Energy and Mining (MIEM), most registered formal MSMEs in Uruguay are sole proprietorships (owner-state managed) and are concentrated mainly in the service and trade sectors.

In the initial phase of the pandemic, the reductions in demand and/or supply were not due to a lack of funds, but instead to health constraints and travel restrictions that prevented customers and/or suppliers from engaging in gainful work and purchasing activities. This implied a simultaneous disruption in supply and demand. Disruptions in supply chains and lack of working capital were problems that grew eventually as the pandemic continued. A high level of variation was observed between enterprises regarding the type, sector, location, socio-economic setting, and the degree to which they were affected by the COVID-19 pandemic.

Loans to MSMEs are mostly provided against property (as collateral), but property values fall in times of crisis, inhibiting the extension of new loans. In spite of the easing of credit from the banking system, MSMEs continued to experience stretched liquidity cycles.

A survey of MSMEs across all three countries found that despite being affected, the uptake of government support by MSMEs was limited. MSMEs that were first-time borrowers faced difficulty in availing themselves of bank loans as reported by The Global Alliance for Mass Entrepreneurship (GAME), an industry body for MSMEs.



It was also observed that until cash flows and revenues improved, enterprises would require a wide array of financial services including access to credit to cover short-term cash flow problems, subsidized leasing arrangements to purchase small productive assets and make investments, and a digital payment system to reach new customers or receive remittances.

Developing countries faced even greater challenges due to lesser developed markets, widespread informality, lack of fiscal resources that greatly constrained their policy options, and more limited institutional capacity. Workers in developing and emerging economies, especially those in informal employment, were affected to a much greater extent by the pandemic.

International cooperation and technical assistance is sought by countries to recover from the economic downturn as quickly as possible and minimize the suffering of the local community. The estimated total fiscal stimulus gap is around US\$982 billion in low-income and lower-middle-income countries (US\$45 billion and US\$937 billion, respectively). This gap represents the number of resources that developing countries would need in order to match the average level of stimulus provided in high-income countries.<sup>10</sup>

On the other hand, the COVID-19 pandemic provided benefits for a small number of MSMEs. Those working in the health sector (providing protective equipment), the packaging sector, and enterprises that were already working virtually either faced no impact or experienced positive impacts on their operations and revenue. Additionally, MSMEs in the digital sector or those that had already adopted digital platforms for their daily operations, did not experience significant setbacks. Disruptive technologies such as artificial intelligence (AI), robotics, 3D printing, and Internet of Things (IoT) are acting drivers of the fourth industrial revolution (4IR), and the COVID-19 pandemic has provided an additional push for this digital transformation. However, at the same time, this digitization and automation is reducing the requirement for human labour and hence challenging the inclusion of social aspects related to the workforce.

The effects of the pandemic are truly global, but the responses and support mechanisms provided are not, as many of the MSMEs faced challenges in accessing assistance schemes and financial support.

The pressure on public institutions to deal with the pandemic has clearly exposed the fragilities of the MSME support system across countries; but it has also stimulated new responses which, if capitalized on, could prove useful for overcoming the inadequacies in development policies and encourage new programmes as well as more efficient operating modalities.

It was observed that policy perspectives and support measures are gradually shifting from those of liquidity support measures meant to ensure survival, to support mechanisms aimed at recovery in OECD countries.

### 3.1 Impacts of the COVID-19 pandemic on MSMEs

This section summarizes the challenges and impacts faced by MSMEs globally and includes statistical figures across the world and in each of the focused countries i.e., Ghana, India, Uruguay.

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<sup>10</sup> International Labour Organization. (2020). ILO Monitor: COVID-19 and the World of Work: Sixth Edition. Updated Estimates and Analysis. International Labour Organization.



## Global scenario

The smaller the firm, the stronger the impact (especially negative) of the COVID-19 pandemic. The global ITC COVID-19 Business Impact survey report<sup>11</sup> (conducted in April-August 2020, with 3949 businesses in 123 countries) shows that the pandemic affected virtually all companies (98%) from micro to large enterprises. The report also indicates that 50 to 60% of MSMEs have been strongly affected and approximately 15 to 25% were at high risk of business closure within 3 months.

Based on the survey report titled 'Assessment of the impact of the COVID-19 outbreak on women and youth entrepreneurs in the manufacturing sector and manufacturing-related services' published by UNIDO<sup>12</sup>, where 1119 enterprises responded from 34 countries, it was observed that 40-50% of enterprises reported a temporary suspension of their business with 3-5% reporting a permanent shutdown of business. As a result, 52% of surveyed entrepreneurs reported having to terminate employees. Among those, 3 in every 4 companies terminated 1 to 5 employees. Cancellation of orders from domestic markets, market losses, liquidity shortages and raw material supply difficulties, appeared to have been the major COVID-19 related challenges faced by surveyed businesses. Access to the internet and ICT technologies and the cancellation of orders from the international market faced the lowest level of difficulty.

On the service industry front, it was reported that the travel and tourism sector were among the most affected sectors as an immediate impact of the pandemic. Additionally, approximately 76% of surveyed enterprises in accommodation and food services were negatively affected by the partial and full lockdowns. The Global ITC COVID-19 Business Impact Survey<sup>13</sup> found that informal enterprises are 25% more likely to report that the pandemic is pushing them towards bankruptcy. According to the survey, enterprises led by youth and women have display lower resilience scores compared to firms led by those over 34 years of age.

China, the European Union, and the United States of America account for about 63% of the supply chain trade worldwide. The restrictions imposed during the pandemic affected domestic as well as international trade as these countries are the largest exporters of goods as well as importers of raw materials. Exports from China fell approximately 21% in February 2020 compared to the previous year, while exports from European countries and the United States decreased by 8% and 7% from March onwards<sup>14</sup>.

## Impacts on MSMEs in Ghana

In Ghana, apart from the impacts felt in public health, the situation was observed to be more challenging on the economic impact front. **Overall GDP growth was projected to decline to about 1.9% in FY 2020-21 compared to the GDP growth of 6.8% expected prior to the pandemic**<sup>15</sup>. The productivity of the manufacturing sector was severely impacted with major reductions in productivity within the agricultural sector, as well as private and public sectors due to a lack of labour availability and supply chain interruptions.

11 COVID-19 Business Impact Survey. International Trade Centre, Data collected from 21 April to 24 August 2020

12 Assessment of the impact of the covid-19 outbreak on women and youth entrepreneurs in the manufacturing sector and manufacturing-related services, UNIDO, 2021

13 COVID-19 Business Impact Survey. International Trade Centre, Data collected from 21 April to 24 August 2020

14 Outlook, S. C. (2020). COVID-19: the Great Lockdown and its Effects of Small Business. URL: <https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/ITCSMECO2020.Pdf>.

15 Ghana COVID-19 Alleviation and Revitalization of Enterprises Support (CARES), Ministry of Environment, Science, Technology and Innovation (MESTI), url: <https://www.ghanacares.gov.gh/about-cares>, last accessed on 06 February 2023



The Ghana COVID-19 Business Tracker Report<sup>16</sup> analysed about 4311 enterprises in Ghana (conducted between May 26 and June 17, 2020). According to the report, 91.4% of the business establishments and 95.7% of household enterprises (micro enterprises) reported that sales in April 2020 decreased significantly compared to the previous months and year. **The average decrease in sales was reported to be 60.6%.** This corresponds to an estimated 115.2 million Ghana Cedis (approximately 17.3 USD). **93.7% of enterprises in trade and 92.7% in the manufacturing sector were the hardest hit in terms of revenue generation.** The report also indicated that businesses were affected through various channels such as demand-supply shocks and continued uncertainty. **35.7% of businesses closed temporarily or permanently during the partial lockdown,** while 16.1% are continuing to close even after the restrictions have been lifted. MSMEs in the accommodation and food sector (24%) were significantly affected which led to the closure of many businesses in the sector.<sup>17</sup>

The COVID-19 pandemic also forced business owners to reduce wages of employees and discharge some either temporarily or permanently. 46.1% of business establishments reported that they reduced wages for 25.7% of the workforce, while about 4% of businesses indicated that they had to lay off their workers<sup>18</sup>.

### Impacts on MSMEs in India

In India, the decrease in demand led to temporary or permanent shut down of enterprises and businesses. This compelled many businesses to adopt practices such as wage cuts or retention, job cuts or an increase in working hours to cope with the ensuing consequences of the COVID-19 pandemic environment. This also accentuated the vulnerability of many workers, in particular those of migrant workers. Approximately 45 % of the enterprises laid-off workers either temporarily or permanently, **while 85 % of the workers reported not having had access to any form of social security. The proportion of women labourers laid off was higher than that of male labourers.** Furthermore, the pandemic disrupted manufacturing supply chains and sharply curtailed commodity demand. Labour availability under the above mentioned circumstances posed an additional challenge. Most migrant labourers were observed to work in MSME units and the lockdown resulted in reverse migration due to wage cuts or business closures, with many labourers returning to their own regions or villages. The India Ratings Report anticipated that underutilized capacity and costs would increase for MSMEs due to skilled labour unavailability<sup>19</sup>. In the initial phase following the lifting of lockdown restrictions, there also appeared a perception that many workers may not return to their previous positions. Consequently, enterprises reported having faced significant challenges with labour shortages and supply chain disruptions, leading to business loss while they operated at a capacity of only 50-60 %.

MSMEs faced significant **challenges in repayment of loans taken previously,** especially by those in the tourism, electricity, gas, health, social work, and water supply sectors. This has led to a **rise in debt among many MSMEs.** MSMEs faced challenges in incurring day-to-day expenditures like marketing, communication, and daily operation expenses. In terms of the impact on their income due to the

16 Ghana-COVID-19 Business Tracker Report, 2020, The World Bank, url: <https://www.undp.org/ghana/publications/ghana-covid-19-business-tracker-report>,

17 Ghana-COVID-19 Business Tracker Report, 2020, The World Bank, url: <https://www.undp.org/ghana/publications/ghana-covid-19-business-tracker-report>,

18 Ghana-COVID-19 Business Tracker Report, 2020, The World Bank, url: <https://www.undp.org/ghana/publications/ghana-covid-19-business-tracker-report>,

19 Situation analysis on the COVID-19 pandemic's impact on enterprises and workers in the formal and informal economy in India, International Labour Organization, 2021





COVID-19 pandemic, 39 % reported that they lost all of their income with 50 % reporting that they earned less income than usual.

Among respondents, only 10 % reported that they were able to earn the same amount of income as pre-pandemic times.<sup>20</sup>

A survey conducted by CLEAN (a non-profit organization and a think tank)<sup>21</sup> focused on understanding the challenges faced as well as the impact of COVID-19 on the Indian Decentralized Renewable Energy (DRE) sector. A set of 60 MSMEs were surveyed. The analysis revealed that 71% of the enterprises surveyed in the DRE sector in India reported that they would be unable to sustain themselves beyond 2-4 months if they continued to face the same challenges imposed by COVID-19 for an extended period of time. The report revealed that the major challenge faced by these enterprises was the lack of working capital. **Lack of working capital resulted in delays and/or the inability to deliver products and services. This in turn resulted in a reduction of demand and finally led to a loss of income.**

Respondents of the study in India expressed the need for financial support, indicating information asymmetry, digital barriers, and high transaction costs in accessing relief measures. Those who did not avail or receive any support, many were not aware or felt that they might not be eligible to receive such support. As mentioned by officials, trade unions, and NGO representatives, one of the reasons contributing to this is the lack of sufficient data on workers. This appears to limit their access to government schemes significantly. In other words, while a need was identified, there remained structural challenges such as eligibility factors that could have contributed to why MSMEs were unable to access available support.

Two key issues intensified the cash crunch for MSMEs during the pandemic in India, stated below:

1. A lack of formal funding from the banking system
2. Delay in payments and transaction completion

During the lockdown, many businesses permanently closed or moved to less expensive locations due to a lack of funds to ensure day-to-day operational expenses. Compared with the average turnover over a three year period, for nearly 75 % of the respondents, the turnover in October 2020 was within the range of 30-90 %.<sup>22</sup>

### Impacts on MSMEs in Uruguay

In Uruguay, MSMEs account for 99% of production units and generate 67% of all jobs, with the majority being micro-enterprises. Half of the MSMEs (1,89,000) that exist throughout the country are located in the capital, Montevideo, hence the impact on these MSMEs was found to be higher.

Impacts of the COVID-19 pandemic manifested in Uruguay through two channels - commercial (goods and services) and financial. In terms of goods, Uruguay has a strong trade relationship with China, accounting for 31% of the total exports from Uruguay to China<sup>23</sup>. During the pandemic, exports to China

20 Situation analysis on the COVID-19 pandemic's impact on enterprises and workers in the formal and informal economy in India, International Labour Organization, 2021

21 Impact of COVID-19 on the Decentralized Renewable Energy (DRE) Sector in India, CLEAN, 2021

22 Situation analysis on the COVID-19 pandemic's impact on enterprises and workers in the formal and informal economy in India, International Labour Organization 2021.

23 Capurro, A., Deagosto, G., Ferro, F., Ithurrealde, S., & Oddone, G. (2020). Social and economic impact of COVID-19 and policy options in Uruguay.



reduced significantly. This impacted mainly the commercial and industrial sectors, which use imported products as intermediate goods in their production processes.

The sectors of activity which represent over 30% of the Uruguayan economy, and which employ approximately 40% of the employed population, were also severely affected<sup>24</sup>. It was observed that at international level, there are marked gender differences in occupation in the care sectors such as education, health, and social work. Uruguay follows a similar trend. **Sectors where women's professional activity predominated, were most intensely affected by the pandemic. One such example is women employed in household activities representing 89% of all workers, social services with 77%, education with 74% and other services with 61%**<sup>25</sup>.

It was observed that MSMEs in Uruguay received funding to overcome the COVID-19 crisis. However, the most direct means of financing technological, commercial, and organizational improvements in firms, namely subsidies, did not attract significant attention. During the pandemic, the support policies adopted were primarily concentrated on credit, tax facilities and subsidies, with less importance given to government procurement initiatives.<sup>26</sup>



24 Capurro, A., Deagosto, G., Ferro, F., Ithurralde, S., & Oddone, G. (2020). Social and economic impact of COVID-19 and policy options in Uruguay.

25 Capurro, A., Deagosto, G., Ferro, F., Ithurralde, S., & Oddone, G. (2020). Social and economic impact of COVID-19 and policy options in Uruguay.

26 M. Dini and A. Heredia Zurita, "Analysis of policies to support SMEs in confronting the COVID-19 pandemic in Latin America", Project Documents (LC/TS.2021/29), Santiago, Economic Commission for Latin America, and the Caribbean (ECLAC), 2021





# 4

## Impact of COVID-19 on Green MSMEs

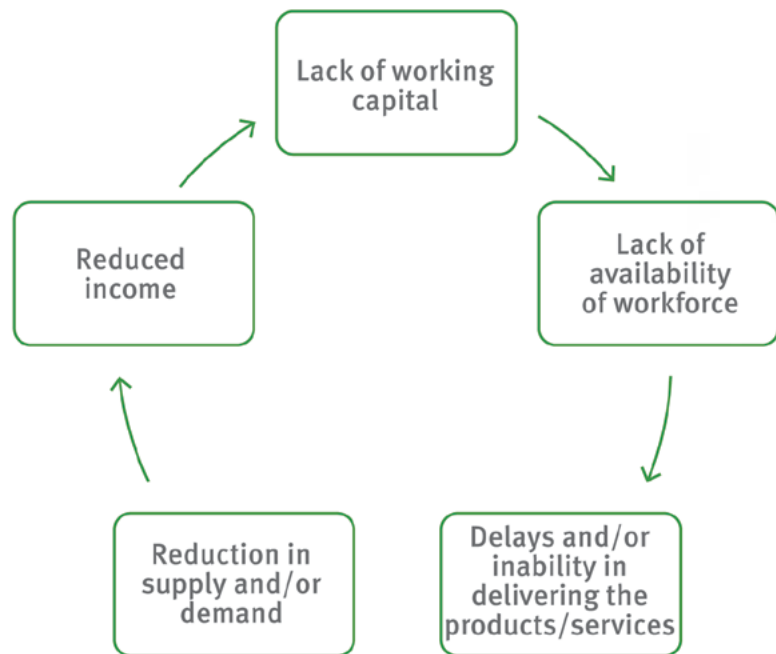
The challenges faced by green MSMEs are categorized as operational challenges and financial challenges based on the comprehensive list of challenges, impacts, and response strategies. The impacts of the COVID-19 pandemic are represented at the business operations level, employment level and impact on business revenue. Figure 9 represents an example of the vicious cycle of challenges and impacts that enterprises faced due to the COVID-19 pandemic.

The smaller the firm, the stronger was the negative impact of COVID-19.

The global ITC COVID-19 Business Impact survey report<sup>27</sup> (conducted in April-August 2020, with 3949 business organizations in 123 countries) shows that the pandemic affected virtually all companies (98%) from micro to large enterprises.

The report also indicates that 50 to 60% of MSMEs have been strongly affected and that approximately 15 to 25% were at high risk of business closure in 3 months.

Figure 10: Vicious cycle of challenges and impacts



### Impact Of Covid-19 on green MSMEs: Results from Ghana

Ghana, located on the coast, is highly dependent on the import-export trade. It was a common opinion amongst participants in FGDs and surveys that due to disruptions in the supply chain, all industries that include import-export trading activities have incurred heavy losses. Hence, disruption in the supply chain has been identified as the biggest challenge in Ghana. Key challenges faced by green MSMEs in Ghana are listed in Table 2.



27 COVID-19 Business Impact Survey. International Trade Centre, Data collected from 21 April to 24 August 2020

**Table 2: Challenges faced by green MSMEs in Ghana**

| Operational Challenges  | Financial Challenges  |
|---|---|
| <ul style="list-style-type: none"> <li>• Restricted movement of commodities, and Travel restrictions to visit customers/ suppliers</li> <li>• Disruption in supply chain</li> <li>• Limited resource availability</li> <li>• Difficulty in sourcing raw materials (quantity and quality)</li> <li>• Difficulty in getting adequate access to protective equipment and products</li> </ul> | <ul style="list-style-type: none"> <li>• Uncertainty and inability to make business and investment decisions</li> <li>• Difficulty in paying employee salaries</li> <li>• Increased debt amongst owners</li> <li>• Inability to meet growth targets</li> <li>• Increased logistical costs</li> <li>• Increased cost of raw materials</li> </ul> |

Source: Authors compilation based on Questionnaire Survey and FGDs organized between 19 January to 30 March 2022

### **Challenges due to supply chain disruptions and inadequate labour availability**

The productivity of the manufacturing sector was reduced severely across the private as well as public sector enterprises. Lack of labour availability and disruptions in supply chains were identified as other major challenges faced specifically by SMEs in the agriculture sector.

### **Challenges faced by women**

In some African countries including Ghana, the COVID-19 pandemic pushed women out of the labour market with little or no prospect of return. In many African countries, women make up 50% or more of the workforce<sup>28</sup>. Women-led MSMEs were disproportionately affected and were more likely to shut down across all regions during the first year of the pandemic, with important potential long-term implications for women’s work and economic empowerment.

In Ghana, the fabrication and repairs sectors were largely male-dominated, while women dominated the agro-industrial and allied services. These gender-sectoral concentrations appear to be similar across other countries. MSMEs in the construction sector have most often been led by men, while women have been much more likely to be represented in personal services, health care, pre-primary education, food preparation, and tailoring.<sup>29</sup>

The findings of a World Bank survey conducted in 49 countries show that women-led micro-businesses, women-led businesses in the hospitality industry, and women-led businesses in countries more severely affected by the COVID-19 shock were disproportionately hit compared with businesses led by men. Finally, the findings also show that women-led businesses were less likely to have received some form of public support although they were hit harder in some domains.<sup>30</sup>

28 How Covid-19 disproportionately affected women-led businesses, article in The Africa Report (posted on 25 June 2021), url: <https://www.theafricareport.com/102008/how-covid-19-disproportionately-affected-women-led-businesses/>, last accessed on 06 February 2023.

29 Evidence review of women-led small and medium-sized enterprises (SMEs) before, during, and after COVID-19: examining barriers and opportunities, Kevane, Michael, Lakshmi Ratan, Aishwarya and Dhar, Diva, Working paper, 2021.

30 Torres, J., Maduko, F., Gaddis, I., Iacovone, L., & Beegle, K. (2023). The impact of the COVID-19 pandemic on women-led businesses. *The World Bank Research Observer*, 38(1), 36-72.



Inability of green MSMEs to compete with deeply entrenched non-green enterprises in terms of sourcing materials, operations, and market price.

- Financial Institutions in Ghana

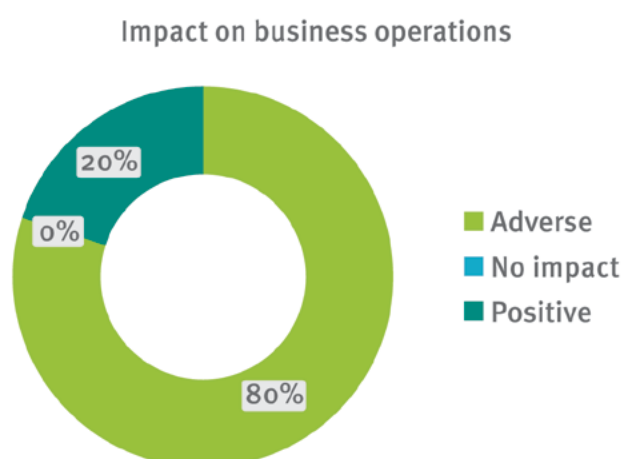
Increase in food prices due to challenges in transportation, import, and overall disruption in supply chain, however it led people in Ghana to prefer food products produced locally boosting the business of local vendors.

- Business Associations and Green MSMEs in Ghana

### *Impact on business operations*

Based on the results obtained from the survey conducted in Ghana, 80% of the respondents reported that the COVID-19 pandemic has impacted them adversely in terms of business operations (refer to Figure 11). These impacts were reported as being primarily an inability to meet loan repayment or servicing obligations, production delays and cancellation, as well as a reduction in demand of products and/or services for local and international customers.

*Figure 11: Impact of COVID-19 on business operations of green MSMEs in Ghana*



Green MSMEs were unable to compete with their non-green counterparts in terms of operations and prices. Due to this, green enterprises offering a particular product/ service were unable to lower the prices and hence lost many business opportunities. Those NGOs working in the green sector experienced challenges in receiving funding as the majority of funds were diverted toward COVID-19 relief.

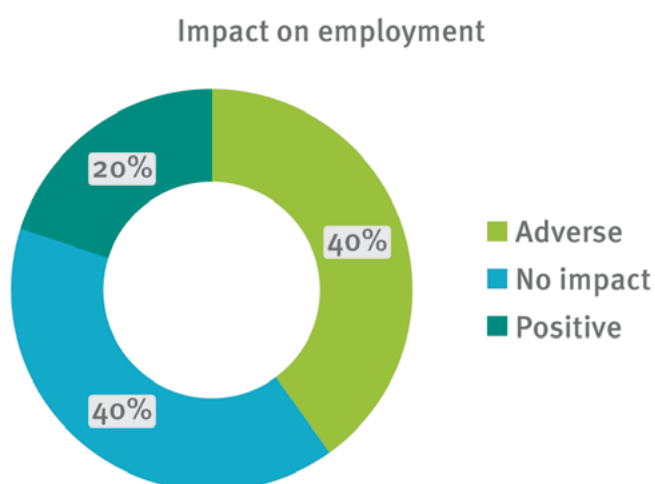
On the other hand, 20% of respondents reported a positive impact of COVID-19 pandemic on their business operations. These enterprises are mainly working in the food processing and cosmetic industry providing value-added products to customers. Despite increased cost of logistics and a lack of shipping containers, these enterprises reported that switching to remote working arrangements and timely use of support received from government and other institutions helped them expand their business operations.



### Impact on employment

The COVID-19 pandemic also forced business owners to reduce the wages of their employees and discharge some temporarily or even permanently. 46.1% of business establishments reported that they reduced wages for 25.7% of the workforce, while about 4% of businesses indicated that they had to lay off workers (refer Figure 12).

Figure 12: Impact of COVID-19 on employment in green MSMEs in Ghana



40% of the green MSMEs surveyed in Ghana indicated that there was no impact of the COVID-19 pandemic on the employment situation within their enterprises. However, 40% of green MSMEs also stated that there has been an adverse impact on employment and these enterprises also reduced the number of their employees. This reduction in the number of employees included both female and male employees.

Contrary to this, 20% of green MSMEs surveyed reported an increase in the number of employees due to increased business operations. This increase in employment was specifically for cultivating/ farming and the pre-processing required for value-added products in the cosmetic industry.

### Impact on revenue

Green MSME categories which were impacted the most in Ghana, include Cleaner/ Resource efficient technologies and processes, Sustainable agriculture and fisheries, and Eco-tourism.

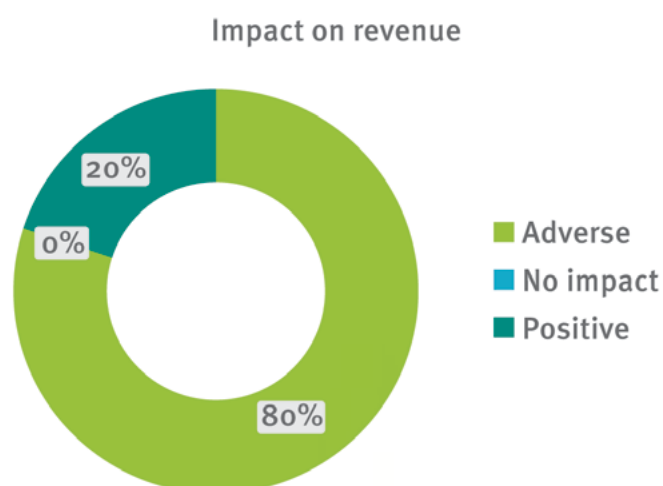
80% of the green MSMEs surveyed in Ghana stated that there were significant adverse impacts of the COVID-19 pandemic on their revenue with a reduction in revenues from 50 to 90%. Several green MSMEs have either been temporarily closed or have filed for bankruptcy. Reduced demand for products and services, both in the local and international markets, was highlighted as the major impact of the COVID-19 pandemic by participants in FGDs and surveys.

As per Business Tracker Report for Ghana, **35.7% of businesses closed temporarily/ permanently during the partial lockdown**, while 16.1% continued to be closed even after the restrictions were lifted<sup>31</sup>.

31 Ghana-COVID-19 Business Tracker Report, 2020, The World Bank, url: <https://www.undp.org/ghana/publications/ghana-covid-19-business-tracker-report>,



Figure 13: Impact of COVID-19 on revenue of green MSMEs in Ghana




20% of the green MSMEs surveyed in Ghana indicated an increase in revenue as a gradual impact of the COVID-19 pandemic (refer to Figure 13). These enterprises were able to achieve an increase in annual turnover with the help of process automation, strengthening the workforce through training programs organized by the International Trade Centre (ITC), and adopting a digital sales platform.

**The key impacts faced by green MSMEs in Ghana due to the challenges posed by COVID-19 pandemic includes the following:**

- Reduced demand for products and services – local and international customers
- Disruptions in cash flow
- Delays in production and/or delays in providing services
- Inability to meet loan repayment or loan servicing obligations
- Change in working arrangements (partial leave, telework, etc.)
- Decrease in the number of people employed

Apart from the impacts mentioned above, unpredictable power cuts and unstable internet service were seen as additional challenges. Employees who worked remotely also faced similar challenges. While food prices increased due to challenges in transportation, import, and overall disruptions in supply chains, it led the population in Ghana to prefer locally produced food products thereby boosting the business of local vendors.

| Impacts on Annual Turnover:   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>• More than 50% of green MSMEs reported that their annual turnover had decreased by 50 to 90% as an immediate impact of the COVID-19 pandemic.</li> <li>• 80% of the green enterprises surveyed in Ghana reported adverse impact on business operations, employment, and revenue.</li> </ul>   |
| <p style="color: #28a745;"><i>Increased Digitization:</i></p>  | <ul style="list-style-type: none"> <li>• On the other hand, one of the <b>positive impacts</b> of COVID-19 pandemic in Ghana is the <b>increased adoption of technology and innovation</b>. Enterprises have adapted digital transactions and payments that were traditionally based on cash.</li> <li>• MSMEs also shifted their focus from having a brick-and-mortar shops to a robust digital presence.</li> </ul> |

## Impact of Covid-19 on green MSMEs: Results from India

In similar fashion, Green MSMEs in India faced various operational and financial challenges due to the COVID-19 pandemic. Key challenges are listed in Table 3 below.

*Table 3: Challenges faced by Green MSMEs in India*

| Operational Challenges   | Financial Challenges   |
|--|--|
| <ul style="list-style-type: none"><li>• Disruptions in supply chains</li><li>• Unavailability of skilled labour</li><li>• Limited resource availability as operations were suspended by the government</li><li>• Difficulty in sourcing raw materials (quantity and quality)</li><li>• Inability to meet contractual deadlines due to disruptions in logistics</li><li>• Travel restrictions to visit customers or suppliers</li></ul> | <ul style="list-style-type: none"><li>• Increased logistical cost</li><li>• Increased cost of raw materials</li><li>• Reduction in orders</li><li>• Increased competition in the market</li><li>• Difficulty paying employee salaries</li><li>• Uncertainty in making business investment decisions and hence, increased debt amongst owners</li></ul> |

*Source: Author's compilation based on questionnaire Survey and FGDs organized between 13 January to 30 March 2022.*

Operations stopped due to an imposition of complete or partial lockdowns across the country. MSMEs faced challenges in maintaining day-to-day expenses such as marketing, communications, and daily operations.

### *Challenges due to restrictions on physical exhibitions and events*

Green MSMEs working in the sector of upcycling of textile and plastic materials and/or waste, have been utilizing exhibitions as a strategy to market their products.

Indeed, physical meetings are sometimes much more effective in terms of explaining the product and services, providing a demonstration, and discussing the full chain of activities. As a result of the COVID-19 pandemic and consequent restrictions, these MSMEs faced significant challenges in marketing their products at physical events, organizing exhibitions and interacting with clients during meetings. This impacted the overall scale of operations and ultimately the revenue obtained through sales.

### *Challenges due to supply chain disruptions*

Sourcing raw materials became increasingly difficult due to the disrupted flow of raw materials and the inflation in costs, as well as disruptions in supply chains and increased logistical expenses. Although the cost of raw materials increased, the selling price of products could not be increased on an equal scale; as a result, overall profit margins severely declined. MSMEs faced significant challenges in the repayment of loans, especially by those in the tourism, electricity, gas, health, social work, and water supply sectors. As a general trend, we can observe that there has been a rise in debt among MSMEs due to the pandemic.





A study conducted in India by the ILO in 2021 surveyed approximately 3111 workers to better understand the impact of market disruptions due to the COVID-19 pandemic on MSMEs and workers in organized and less organized/informal sectors. According to this study, 39 % of respondents indicated that they lost income due to the COVID-19 pandemic, 50 % indicated that they earned less income than usual and only 10 % indicated that they earned the same<sup>32</sup> as pre-pandemic times. MSME owners found it difficult to pay the salaries of their employees with some being forced to permanently stop operations and file for bankruptcy.

### *Challenges due to inadequate labour availability*

In India, the Government imposed the first nationwide lockdown from 25 March 2020 to 14 April 2020 as the country reported its first fatality due to COVID-19 and the number of active cases surpassed 100. This lockdown was further extended until 03 May 2020 as a second phase, followed by a third phase lasting until 18 May 2020<sup>33</sup>. All non-essential services and industry operations were closed during the lockdown period due to government-led restrictions to curtail the pandemic. This resulted in migrant workers, both skilled and unskilled daily wage labourers, returning to their native region and creating the reverse migration conditions stated earlier in the report.

However, once the restrictions were eased and industries slowly returned to regular operations, the reverse migration of skilled and unskilled labourers created a severe lack of manpower. Due to workforce shortages, locally available labourers were hired on a contractual or temporary basis, with business owners finding a deterioration in the productivity of business operations. As a result, delivery deadlines were delayed, logistical costs increased and the volume of customers reduced.

### *Challenges faced by women*

Industries such as manufacturing, recycling, and waste management are traditionally viewed as male dominated industries and as a result, women entrepreneurs face challenges in being accepted as leaders within these sectors. Paradoxically, most of the informal workers in the waste management industry have traditionally been women. Informal recyclers perform essential waste collection, segregation, and recycling tasks. Due to the less organized and informal nature of the work as well as a lack of safety equipment and protection accessories, women workers report health problems caused by direct exposure. Formal waste management systems which can practice the necessary safety precautions and ensure employee safety have either been lacking in most parts of the country, or have been completely absent.

Prior to the COVID-19 pandemic, India's waste management sector was transforming and witnessed a rise in modern technologies. These emerging technologies modernised waste management practices, but favoured male workers due to the odd working hours and the physically demanding tasks such as operating heavy machinery, and driving waste management vehicles. The pandemic catalysed the transition towards technology-based waste management practices, with a consequent impact on the daily wages of women who were previously carrying out these tasks despite health concerns.

<sup>32</sup> Situation analysis on the COVID-19 pandemic's impact on enterprises and workers in the formal and informal economy in India, International Labour Organization 2021.

<sup>33</sup> Covid-19 India timeline: Looking back at pandemic-induced lockdown and how the country is coping with the crisis, published on 23 March 2021, url: <https://indianexpress.com/article/india/covid-19-india-timeline-looking-back-at-pandemic-induced-lockdown-7241583/>, last accessed on 06 February 2023.



However, it should be noted that some enterprises such as *Banyan Nation*, *Phool*, *Lucro*, *Recykal*, *Kabadiwala*, *Stree Mukti Sangathan*, *Sampurna Earth*, and *SWaCH* actively engage women from marginalised and low income communities by building their capacities on modern waste management practices, and thus providing them with livelihood opportunities.

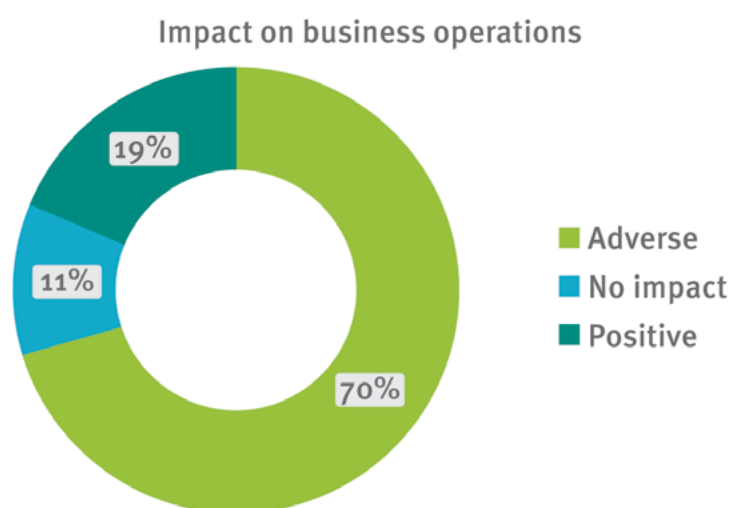
Green MSMEs in India identified both positive and negative impacts caused by the COVID-19 crisis. **Solid waste management, renewable energy, sustainable agriculture and fisheries, recycled materials and eco-tourism have been the most widely affected sectors.**

While Indian consumers showed an increase in demand for sustainable products and services that included recycled materials, as well as in sustainable (biodegradable, compostable, tamper-proof) packaging, single-use plastic was heavily used during the pandemic due to safety concerns. Additionally, through restrictions on movement imposed by several lockdowns, the collection and segregation of solid waste materials was impacted. The MSMEs working in the decentralised renewable energy sector in India reported heavy losses due to a lack of working capital, causing delays and/or the inability to deliver their products and services. Sectors like Agriculture, Forestry and Fishing displayed growth during the multiple lockdowns (complete lockdown from March 2020 to May 2020, and partial lockdown until December 2020) due to the COVID-19 pandemic as they were considered essential services.

### *Impact on business operations*

According to the survey, 70% of Green MSMEs faced adverse impacts due to the COVID-19 pandemic, while 19% faced positive impacts as shown in Figure 14. The positive impact was observed primarily as a result of the increase in demand for products and services from local customers. Some other positive impacts included increased productivity due to remote working arrangements and an increase in the number of persons employed which were observed for 1 in 30 enterprises.

**Figure 14: Impact of COVID-19 on business operations of green MSMEs in India**



Due to a decrease in overall consumer demand, disruptions in cash flow, production delays and cancellations, some green MSMEs were forced to shut down their operations temporarily or even permanently, thus increasing the vulnerability of migrant workers.



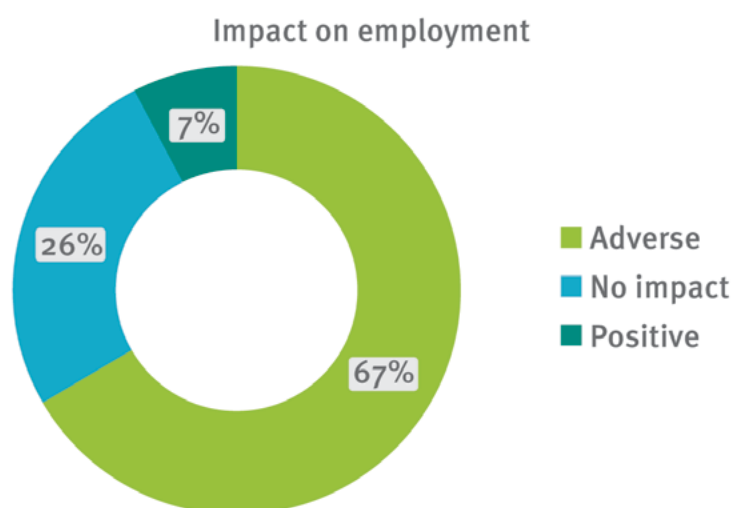
### Impact on employment

As seen in Figure 15, almost 67% of Green MSMEs faced a negative impact in terms of employment, 7% faced no impact and 26% witnessed a positive impact. 19% of the surveyed green MSMEs had to lay off their employees either temporarily or permanently, with enterprises having reported laying off 1 to 4 staff/ employees on average. Despite this, 85 % of workers reported having no access to any social security.

**Notably, the proportion of female labourers who were laid off was higher than that of male labourers.**

The India Productivity Report published in 2022 also observes that global shocks such as the COVID-19 pandemic may weaken the mechanism of structural change by restricting the mobility of people, thereby slowing geographical and sectoral labour reallocation. This can further lead to an impact on labour productivity and loss of per capita income<sup>34</sup>.

**Figure 15: Impact of COVID-19 on employment in green MSMEs in India**

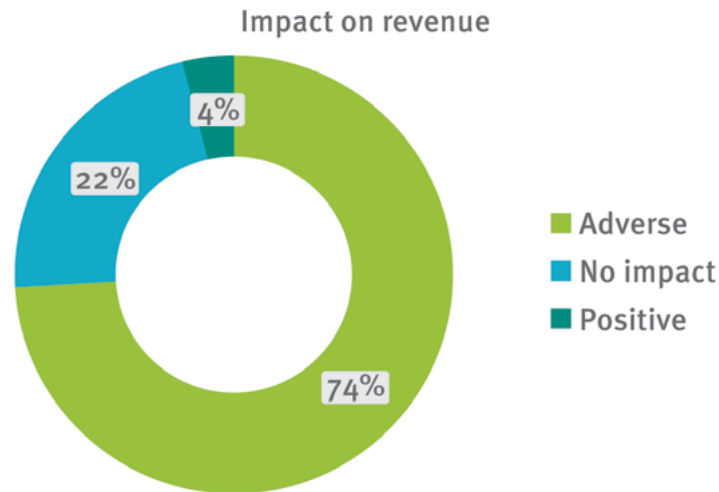


### Impact on revenue

Due to labour shortages and supply chain disruptions, enterprises faced undeniable business loss. As stated earlier, enterprises were operating at a capacity of approximately 50-60 % of pre-pandemic operations.

As seen in Figure 16, almost 74% of the surveyed Green MSMEs recorded an adverse impact on their annual revenue due to COVID-19. The pandemic disrupted manufacturing supply chains and sharply curtailed commodity demand. The government also imposed a tax on recycled plastic post-pandemic, and this has severely affected the profit margins of recycling and waste management enterprises. On the other hand, a few of the green MSMEs reported a positive impact caused by the COVID-19 pandemic. Sectors such as sustainable packaging, ethical textile brands and eco-friendly lifestyle products as well as ecotourism saw an increase in customer demand due to an increased focus on mindful lifestyles and wellbeing practices. Consumers have become aware of the purchasing power they hold and are more inclined towards greener products and services.

34. India Productivity Report, Centre for Development Economics, in collaboration with Reserve Bank of India, 2022



**Figure 16: Impact of COVID-19 on revenue of green MSMEs in India**

**The key impacts faced by green MSMEs in India due to the challenges posed by COVID-19 pandemic include the following:**

- Change in working arrangements
- Temporary or permanent closure
- Disrupted cash flow
- Increased logistical costs
- Decrease in the number of persons employed
- Reduced demand for products and services
- Increased demand for products and services – local and international customers

Decrease in productivity of operations due to engagement of locally available and/or unskilled workforce due to reverse migration.

- Green MSMEs in India

Sectors such as sustainable packaging, ethical textile brands, eco-friendly lifestyle products, and ecotourism saw an increase in customer demand due to an increased focus on mindful lifestyle and wellbeing.

- Insight from FGDs

### Impact Of COVID-19 on green MSMEs: Results from Uruguay

In Uruguay, Green MSMEs also faced various operational and financial challenges due to the COVID-19 pandemic, similar to other countries. Key challenges faced by green MSMEs in Uruguay are listed in Table 4.



**Table 4: Challenges faced by green MSMEs in Uruguay**

| Operational Challenges:   | Financial Challenges:   |
|---|---|
| <ul style="list-style-type: none"> <li>• Disruptions in supply chains</li> <li>• Unavailability of skilled labour</li> <li>• Inability to meet contractual deadlines due to disruption in logistics (for export and import related firms)</li> <li>• Unavailability of skilled labour for transport and logistics</li> <li>• Inability to meet customer demands due to travel restrictions</li> <li>• Difficulty in sourcing raw materials</li> </ul> | <ul style="list-style-type: none"> <li>• Increased logistical costs</li> <li>• Uncertainty and inability to make business investment decisions</li> <li>• Increased debt among owners</li> <li>• Lack of liquidity/cash flow</li> <li>• Interruptions in payments channels</li> </ul> |

Source: Author’s compilation based on Questionnaire Survey and FGDs organized between 28 January to 30 March 2022.

Green and small MSMEs were unable to access the government schemes and subsidies that were launched due to a lack of awareness and public forum penetration. They were also found to lack the ability to renegotiate with financial institutions for seeking credit lines or requesting for tax deferrals. Larger green corporations could insulate themselves from the shock, but smaller or younger firms were unlikely to survive the crisis. Smaller green businesses also found it more difficult to digitise and work remotely.

### **Challenges due to supply chain disruptions**

Sectors that faced the most challenges were those that do not directly deal with raw material supplies and are therefore dependent on other vendors for them. For example, B2B service providers in agriculture and fishing sectors were impacted due to disruptions in the supply chain.

A small number of green MSMEs surveyed from Uruguay which were working on the management and recycling of waste, informed that due to the restrictions on physical movements the quantity of waste collected and recycled had fallen sharply as an immediate effect of the COVID-19 pandemic. The pandemic also generated large quantities of biomedical waste that needed to be dealt with, apart from the municipal solid waste.

### **Impact on business operations and revenue**

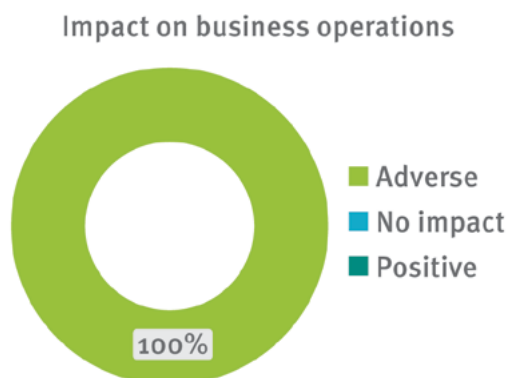
Green MSMEs that fall under the category of Pollution Management and Resource Management were impacted the most by COVID-19. Under resource management, Eco-tourism was severely affected as the movement of national and international tourists was reduced due to travel restrictions and related health concerns. Under pollution management, sectors like solid waste management and the recycling industry were hampered as they were heavily dependent on informal workers, and their movement was also restricted during the lockdown.

All of the green MSMEs that responded to the survey in Uruguay stated that the COVID-19 pandemic had an adverse impact on their business operations and revenue generation

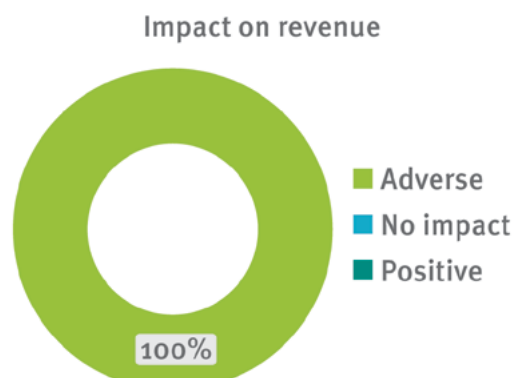


(refer Figure 17 and Figure 18). Some green Uruguayan MSMEs observed temporary closures in the initial days of the lockdown, which led to the permanent closing of businesses for those who could not adapt.

**Figure 17: Impact of COVID-19 on business operations of green MSMEs in Uruguay**



**Figure 18: Impact of COVID-19 on revenue of green MSMEs in Uruguay**



Survey respondents reported that there has been a reduction in demand for local products and services, heavy dependence on imports, increased logistical costs, and a decrease in the number of people employed all as a result of the pandemic. Alongside this, green MSMEs were unable to meet the loan repayment deadlines due to reduced business operations and negative revenue generation impacts.

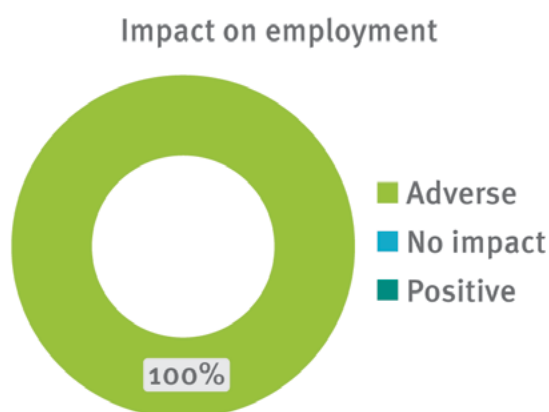
### **Impact on employment**

Overall, sectors of activity representing over 30% of the Uruguayan economy and approximately 40% of the employed population were severely affected.

It was observed at the international level, there are marked gender differences in occupation in care sectors such as education, health, and social work, and Uruguay follows this trend. The sectors where women’s activity predominated were intensely affected by the pandemic. One such example is women employed in household activities where they represent 89% of all workers, social services with 77%, education with 74%, and other services with 61%<sup>35</sup>.

All survey respondents reported that employment in green MSMEs had been adversely affected (refer Figure 19) and a few of the green MSMEs also reduced the number of temporary as well as permanent employees.

**Figure 19: Impact of COVID-19 on employment in green MSMEs in Uruguay**



35 Parada, C. Querejeta, M and Grupo Jueves (04/2020). “El coronavirus no discrimina: Inequidades de género en la pandemia”. La Diaria



The COVID-19 pandemic also exposed the lack of access to human capital or funding for reskilling employees. Female entrepreneurs faced gaps in financial aid, especially those located in the countryside. However, this may be an inherent issue faced by green MSMEs and may not be directly linked to the COVID-19 crisis. Some entrepreneurs lack the financial knowledge to access and choose financial products that serve their needs and help their businesses thrive and grow.

However, the pandemic also showed some positive outcomes highlighted during the FGDs. Development has been observed in sectors that adopted the application of technology and digitization and others that offered decentralised solutions. Due to restrictions on international travel, citizens gave more importance to rediscovering the national heritage in the North of the country and showed keen interest in Eco-tourism. Remediation, clean up, and sanitation service providers gained attention and provided employment to unskilled laborers that offered cleaning and sanitation services.

There has been a positive impact on some businesses that were keen on adopting digital services and platforms for working remotely. Although there was a shortage of unskilled labourers for transport and logistics services, skilled labour employees were able to adapt to remote working conditions easily.

Green firms are not as financially stable and profitable as larger corporations. Young green firms were very unlikely to bear the consequences of the pandemic and survive the crisis.

- Financial institutions interviewed in Uruguay

There is a need to increase awareness about sustainability and to incorporate sustainable strategies in business operations to build resilience.

- One of the participants from FGDs

**The key impacts faced by green MSMEs in Uruguay due to the challenges posed by COVID-19 pandemic includes the following:**

- Service delays or cancellation of order
- Inability to meet loan repayment or loan servicing obligations
- Reduced demand for products and services – local customers
- Temporary business closures
- Permanent business closures
- Change in working arrangements (partial, leave, telework, etc.)

Overall, most green MSMEs shifted their strategy from growth to survival as they had to deal with a limited supply of raw materials, disrupted supply chains, and reduced investment for innovation. Investment to promote clean technologies observed a decline due to lower economic activities and the need for diverting investments towards combatting the COVID-19 crisis.



## ***Key takeaways on impacts of COVID-19 on Green MSMEs globally***

A Summary of major challenges faced by green MSMEs and the impacts on their operations across the globe are provided below. The challenges are classified into 2 categories: operational and financial challenges.

### **Operational Challenges Faced**

- Disruptions in supply chains
- Increase in working hours
- Skilled labour shortage
- Operations suspended by the Government
- Difficulty in sourcing raw materials (quantity and quality)
- Difficulty in getting adequate access to protective equipment and products
- Inability to meet contractual deadlines due to disruption in logistics
- Travel restrictions to visit customers/ suppliers

### **Financial Challenges Faced**

- Reduction in orders
- Increased competition
- Increased debt among owners
- Difficulty paying employees' wages and salaries
- Uncertainty and inability to make business and investment decisions
- Increased cost of raw materials
- Increased logistical costs

### **Main impacts on MSME are:**

- Temporary/ Permanent closures
- Decrease in the number of employees
- Increase in the number of employees
- Reduction in the total working hours available for persons employed
- Increase in the total working hours available for persons employed
- Change in working arrangements (partial leave, telework, etc.)
- Reduced demand for products and services – local customers and international customers
- Increased demand for products and services – local customers and international customers
- Unable to meet loan repayment or loan servicing obligations
- Increased logistical costs
- Disrupted cash flow
- Production delays or cancellations
- Service delays or cancellations







# Response Strategies by Green MSMEs

The FGDs and in-depth interviews were also focused on understanding the response strategies and measures adopted by Green MSMEs to mitigate the impact of the pandemic and tackle challenges caused by COVID-19. The following section outlines the response measures and strategies adopted by green MSMEs in the selected three countries.

## **Ghana: Response strategies**

The response strategies and measures taken by green MSMEs in Ghana have been classified as employee related and business related.

### ***Business related response strategies adopted by green MSMEs in Ghana to adapt to the COVID-19 pandemic situation include:***

- Selling products at average profit margins
- Temporarily/permanently reduced employment
- Reduced wages for employees
- Rescheduling of bank loans
- Working with only 50% capacity/ alternate days arrangement
- Signed purchase agreement with a supplier
- Following COVID-19 guidelines and protocols

### ***Post-pandemic business related response strategies for recovery and growth included the following:***

- Process automation was seen as an opportunity, and many MSMEs initiated the automation of their plant operations to reduce dependency on human labour
- Identification of multiple raw material suppliers instead of only depending on a select few
- Diversification of products and raw materials based on changing market demand
- Shifting focus on procurement and usage of local raw materials
- Adoption of digital platforms and social media channels like Facebook and Instagram as new marketing strategies
- Use of digital and mobile money services to receive payments

### ***Employee related response strategies:***

- Reduction in employees, either temporarily or permanently
- Reverse internal migration to native regions (villages, towns, etc.) was observed due to pandemic related unemployment

## India: Response strategies

Green MSMEs in India adopted several response strategies to survive during the COVID-19 pandemic. Some of the key responses include the following:

- Temporary or permanent reduction of employees
- Implementation of flexible working hours for employees (partial leave/ telework/continuous factory shifts)
- Prioritization of products/services in line with market fluctuations
- Diversification of products and services to meet changing consumer demands

Some Green MSMEs highlighted the trend that some employees and labourers had to be laid off permanently or temporarily in order to cope with the COVID-19 pandemic. To adapt to the crisis, MSMEs which could allow their employees to work remotely, shifted to a flexible working arrangement that later proved to be an influential factor in their growth within the following months.

However, enterprises in manufacturing and waste management that involved the manual operations of machines, handling logistics, and upcycling products, could not shift to remote working arrangements. They realigned their hours of operation to maximise output. As an example, some facilities operated in 2 consecutive shifts for 3-4 days every week to maintain the cost of operations. Green MSMEs which could not adapt to these changes, were forced to shut down. The COVID-19 pandemic has pushed enterprises to automate their processes and reduce dependency on the workforce.

Green MSMEs diversified their products and services along with identifying alternate supply chains to revive their normal operations. Many green MSMEs used online sales as a coping strategy. Enterprises built their capacities to shift their marketing strategies from offline sources including exhibitions, events, etc. to online platforms using digital marketing tools.

### *Strategies to respond to cash flow shortages:*

- Reduction in monthly recurring expenditure by shifting to a reduced workforce
- Reduction in salaries of the management team to maintain steady cash flows
- Adoption and implementation of tools such as lean manufacturing to manage inventory
- Temporary closure of futuristic projects and focusing on revenue generating streams
- Applications to various grants and support schemes
- Reduction of on-site visits and switching to virtual visits or inspections
- Realigned focus on education and awareness initiatives that included online courses and workshops

### *Strategies to respond to shortage of inputs:*

- Developing and contracting dedicated logistics arrangements
- Purchasing in bulk and stocking to maintain inventory. Sometimes at higher prices. However, this can lead to increasing the cost of inventory storage.
- Contacting and partnering with more than one supplier
- Localizing marketing and sourcing efforts



## Uruguay: Response strategies

Many green MSMEs ceased to exist following the challenges faced during the COVID-19 pandemic; however, the green MSMEs that could survive, were able to avail of support services including insurance payments made by the government. Those firms that were agile enough to survive, used the pandemic to redefine solutions and change business models, such as in the sector of waste management.

Green MSMEs reinvented and diversified processes, products, and services to adapt to the changing demands and modes of delivery as a result of the crisis. Firms became more agile and prioritised products in line with changing market demand. This also helped green MSMEs to generate new opportunities and attract new clients.

To adapt to COVID-19, the strategies adopted by green MSMEs included temporary reduction of staff, introduction of remote working schedules, and implementation of flexible working arrangements. Due to the suspension of logistics and operations as imposed by governments, green MSMEs who could not diversify and adapt filed for bankruptcy. The population's high degree of acceptance of the suggestion to "stay at home" has been one of the key reasons why Uruguay is recognized as a success story in terms of its management of the pandemic, both within the region and worldwide.

### **Key responses adopted by green MSMEs in Uruguay include:**

1. Temporarily or permanently reducing employee/staff
2. Implementing flexible working hours for employees/staff (partial leave/ telework/continuous factory shifts)
3. Prioritization of products/services in line with market changes
4. Diversification of products and services

### **Key takeaways on response strategies adopted by green MSMEs globally**

A summary of major response strategies taken by MSMEs across the globe is provided below.

#### **Response strategies to adapt to covid-19 pandemic challenges and impact:**

- Temporary closure of futuristic projects and a focus on revenue generating streams
- Temporary or permanent reduction of employees
- Selling products at average profit margins
- Reduction in the salaries of the management team to maintain steady cash flows
- Working with only 50% capacity or alternate days arrangement

#### **Response strategies to recover and grow during post-pandemic period:**

- Reduction of on-site visits and switching to virtual visits/ inspections
- Pivoted focus on education and awareness initiatives that include online courses and workshops
- Implementation of flexible working hours for employees/staff (partial leave/ telework/continuous factory shifts)
- Prioritization of products/services in line with market demands
- Diversification of products and services
- Adoption of digital platforms and social media channels like Facebook and Instagram as a new marketing strategy
- Localized marketing and sourcing practices



# 6 Support Provided by Institutions

Support services provided by organizations such as governmental bodies, financial institutions, and business associations were mainly in the form of financial support and guidance notes on recovering and rebuilding businesses following the pandemic. The FGDs, in-depth interviews, and questionnaire surveys focused on understanding the level of population adoption and public forum penetration of these support measures across the country, challenges faced by green enterprises while attempting to access support measures, and steps taken by the government to enable enterprises to access services. The role of technology in dealing with both the health and the economic crisis brought on by the COVID-19 pandemic were also explored, alongside programs launched with the aim of encouraging digital transformations.

## Ghana: Support measures

A description of the support provided by government agencies, financial institutions, and NGOs in Ghana follows below. A comprehensive approach was adopted to arrive at the support measures extended towards employees and businesses.

### *Support provided by various agencies:*

Government agencies took steps to provide interest free loans under the National Board for Small Scale Industries (NBSSI) schemes, with an extended duration for loan repayments, cushioning of water and electricity supplies during the pandemic, fumigation of marketplaces at scheduled intervals and other measures to contain the crisis. In addition, solar energy was highlighted as an area where the government offered active training and support to design, install and use such equipment.

Ghana COVID-19 Alleviation and Revitalisation of Enterprises Support (CAREs) is one of the programs launched by the Ghanaian government in the wake of the COVID-19 pandemic. The program was launched in two phases, focusing mainly on stabilizing the economy in terms of reducing the cost of basic services, ensuring food security, and strengthening health systems. The second phase of the program focused on measures to facilitate quick economic recovery by supporting commercial farming, digitization, and the strengthening of the capacities of the Ghana Investment Promotion Centre (GIPC) with the aim of making Ghana a regional trade hub (Table 5).

The following is the list of some of the important schemes and national programs that government agencies in Ghana launched:

- Coronavirus Alleviation Program Business Support Scheme (CAPBuSS)
- Coronavirus Alleviation Program (CAP) focusing on protection against job loss, protection of livelihoods, support for small businesses, and the efficient, sustainable implementation of programs



- Unemployment Insurance Fund (UIF)
- Nkosuo Program
- COVID-19 Alleviation and Revitalization of Enterprises Support (Ghana CARES)
- Removal of charges on electronic/ mobile money transactions and digital payments
- National Financial Inclusion and Development Strategy
- Digital Finance Service Policy
- COVID-19 stimulus fund (by Annan Capital, Women’s Empowerment & Investment Group, GUBA enterprise)

**Table 5: Analysis of schemes launched by Ghanaian government and other institutions**

| Name of the program/ scheme  | Description  |
|--|--|
| Coronavirus Alleviation Program Business Support Scheme (CAPBuSS) <sup>36,37</sup> | <p>Close to 8,00,000 MSMEs applied for support</p> <p>More than 2,30,000 applicants received benefits</p> <p>More than 60% of the applicants were women</p>  |
| Nkosuo Program <sup>38</sup>   | <p>Support launched by NBSSI in collaboration with Mastercard Foundation focusing on recovery and resilience of MSMEs</p> <p>A commitment was made to utilize 90 million Ghanaian Cedi in the form of soft loans and grants</p>  |
| Ghana CARES <sup>39</sup>  | <p>Ongoing program that builds on actions taken by Ghanaian government under Coronavirus Alleviation Program (CAP) that aims to utilize 100 billion Ghanaian Cedi</p> <p>The objective is to provide a mechanism to consolidate private sector investment, ensure job creation,</p> <p>Focus on bringing youth into commercial agriculture, fast tracking digitization, and developing the housing and construction industry</p> |

The government of Ghana provided free water for all Ghanaians along with subsidised electricity water bills from April to December 2020.

36 Application for COVID-19 business support scheme, article published on 10 June 2020, url: <https://www.ghanaiantimes.com.gh/170000-msmes-apply-for-covid-19-business-support-scheme-nbssi/>, last accessed on 06 February 2023.

37 CAPBuSS disbursement, article published on 30 January 2021, url: <https://www.ghanaweb.com/GhanaHomePage/business/CAP-BuSS-disbursement-ends-January-31-1167451>, last accessed on 06 February 2023.

38 COVID-19 Recovery and Resilience Program to Support MSMEs in Ghana, article published on 16 September 2020, url: <https://mastercardfdn.org/nbssi-and-mastercard-foundation-covid-19-recovery-and-resilience-program-to-support-msmes-in-ghana/>, last accessed on 06 February 2023.

39 Ghana COVID-19 Alleviation and Revitalization of Enterprises Support (CARES), Ministry of Environment, Science, Technology and Innovation (MESTI), url: <https://www.ghanacares.gov.gh/about-cares>, last accessed on 06 February 2023.



In the area of business-related support measures, financial institutions guided green businesses on how to gain access to funds and successfully manage financial needs. Capacity building and training programs on business restructuring, diversification of products and raw materials and other adaptation practices were conducted in coordination with governmental agencies. The broad topics for these training sessions were:

- Training on Emotional Intelligence in Business Management
- Training in the Formation of Cooperatives
- Training in Branding
- Training in Business Strategy and Leadership

The following economic support measures were provided by Financial Institutions:

- Reduction of key interest rates to an 8-year low from 16% to 14.5%
- Lowering reserve requirements for lenders from 10% to 8% in order to provide liquidity support to critical sectors
- Decreasing banks' conservation buffer from 3% to 1.5%, thereby cutting the capital adequacy ratio from 13% to 11.5%.
- Requesting the IMF for rapid disbursement of a credit facility to help the country face the negative economic impact caused by the COVID-19 outbreak.

As part of efforts to support Ghana's economic recovery drive, UNDP rolled out four integrated interventions to help Micro, Small and Medium-sized Enterprises (MSMEs) recover from the pandemic and thrive to boost job creation. The interventions focusing on women and youth-led MSMEs, focused on building upon UNDP's investment in young innovators, including seed funding of about \$500,000 to 42 young innovators to scale up their businesses.

Incubation support was also extended to women entrepreneurs in Ghana. Seedstars Programs, one of the leading global organizations working on fostering entrepreneurship, launched a program focused specifically on women entrepreneurs in Africa. The program was named Women Entrepreneurship for Africa (WE4A) and was launched virtually to accelerate the growth of women in subSaharan Africa. To enhance business operations and improve access to formal financial services, the WE4A program focused on building the capacities of 100 women led MSMEs. Three out of the top 30 MSMEs that moved to the growth stage and received a grant of up to EUR 10,000 are from Ghana<sup>40</sup>.

NGOs and CSOs mostly carried out employee-related activities and support measures. These included:

- Psychological support to families of employees and students
- Physical and educational aid
- Raising awareness about COVID-19 protocols amongst vulnerable groups
- Distribution of sanitizers, masks, soaps and other sanitary products
- Distribution of food and other domestic daily products.

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<sup>40</sup> Women Entrepreneurship for Africa program, Seedstars, url: <https://safeem.org/women-entrepreneurship-4-africa/>, last accessed on 06 February 2023.



It was reported by the NGOs interviewed that green MSMEs were not able to avail of most of the schemes launched by the government, mainly due to a lack of knowledge in this regard. Although some schemes have been made available for MSMEs, their penetration and target outreach have been poor and hence have not been widely utilized.

### India: Support measures

Across countries, the most widely used instruments in response to the outbreak were income and profit tax deferrals, loan guarantees and direct lending to MSMEs, streamlining procedures and conditions for obtaining loans, and wage subsidies. Temporary tax relief, subsidies, and measures for strengthening supply chains to boost the production of essential goods were found to be the most helpful measures taken by governments, as reported by surveyed green MSMEs. To overcome the COVID-19 pandemic, entrepreneurs demanded support in areas such as ‘access to financing options’ followed by ‘customer retention/engagement’ and ‘market diversification and product development’.

The Government of India announced several schemes for both employers and employees. In some Indian states (like Uttar Pradesh), the MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme 2005) scheme offered some support to MSMEs. The Start-up India Initiative and the Government of India also released several grants for green enterprises. A selection of important initiatives and programs conducted by Start-up India are listed in Table 6. The Bureau of Energy Efficiency (BEE) of India offered support in various forms to promote energy efficiency initiatives such as the National Programme on Energy Efficiency and Technology Upgradation of MSMEs, Standards and Labelling, and National Energy conservation awards<sup>41</sup>.

**Table 6: Important programs conducted under startup India campaign**

| Name of the Program             | Objective of the Program   | Incentives to green MSMEs (participants)   |
|---------------------------------|--|--|
| Women Climate Champions         | To help unlock the latent potential of Women Climate Entrepreneurs in India  | Support for 6 early-growth stage female entrepreneurs across India working on sustainable climate solutions        |
| ACT4Green II                    | Aimed at addressing the funding, mentoring, and business networking needs of climate-focused Indian and UK data startups | Support for 12 promising AI or Big Data focused startups from India and UK working on climate technology solutions |
| The Carbon Capture Challenge    | Focused on nurturing carbon capture ideas from early-stage startups to more advanced scale-ups.                          | -  |
| Cleantech Innovations Challenge | Providing a platform to solve real-world problems faced by mining industries   | -  |

Source: Startup India past/completed programs<sup>42</sup>

<sup>41</sup> Article on energy efficiency, Ministry of Power, Government of India, url: <https://powermin.gov.in/en/content/energy-efficiency#:~:text=Ministry%20of%20Power%2C%20through%20Bureau,large%20industries%20including%20the%20initiation>, last accessed on 06 February 2023.

<sup>42</sup> Startup India past/ completed programs, url: <https://www.startupindia.gov.in/content/sih/en/ams-application/application-listing.html>, last accessed on 06 February 2023.

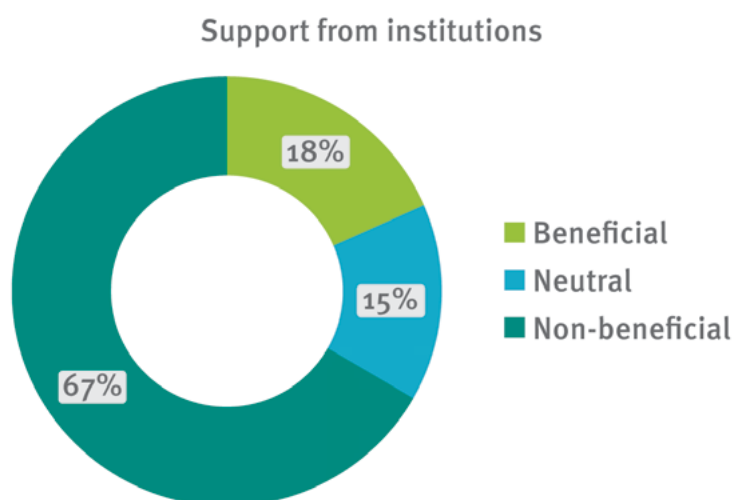


Credible green MSMEs were identified and funded by the Government of India to visit international conferences and exhibitions like Dubai EXPO 2020 and expand their network of international clients.

Some financial institutions and funding agencies began focusing on enterprises working on environmental issues, since MSMEs are the backbone of product supply chains. Furthermore, financial institutions announced several grants for green MSMEs via online competitions and programs. Guidelines and awareness-building programs about support schemes launched by government agencies were circulated to ensure increased penetration and uptake by eligible green MSMEs. Examples of financial support bodies included business associations, financial institutions and NGOs-CSOs. However, only 18% of surveyed green enterprises rated the support received from these institutions as beneficial, while 15% of enterprises are neutral about the support indicating that there was a gap in support that was offered versus that which was actually needed by green enterprises.

Green MSMEs in India managed to reschedule their loans, extend the time for filling the Goods and Service Tax (GST) returns, and receive rentals of utility subsidies. While most enterprises did not apply or receive any support, they acquired low-interest/interest-free loans or credit lines to ensure their everyday operations. As illustrated in Figure 20, 67% of survey respondents did not avail of any schemes offered by various government institutions due to a lack of awareness and accessibility of information.

**Figure 20: %age of Green MSMEs in India that availed support**



### Uruguay: Support measures

In the context of the COVID-19 pandemic, the actions of the National Development Agency (ANDE) and the National Guarantees System (SIGa) in Uruguay were key to addressing the problems arising from the pandemic which affected economic and production activity, especially for MSMEs, to such a great extent.

Since the onset of the health crisis, measures were adjusted to mitigate the impact on Green MSMEs, paying special attention to the operational needs of businesses in terms of liquidity to cover fixed costs and support to preserve employment. The deferral of tax and social security contributions, together with facilities to access new loans with preferential rates and extended terms alongside debt restructuring with SIGa coverage, targeted the most vulnerable sectors of the business network.





The SIGa Emergencia line was created in April 2020 as a more flexible financing option to provide loans to affected MSMEs. More recently, two additional lines have been created in response to the need to further expand support mechanisms: the SIGa Plus line to serve large firms and the SIGa Turismo line to allocate specific resources to various tourism subsectors (Table 7).

***To minimize distortions in the functioning of the economy, the following measures were announced:***

- Channelling of funds from multilateral institutions to finance credits for companies in sectors impacted by the crisis.
- Increasing funds for the National Guarantees System to leverage loans for small and medium-sized enterprises.
- Relaxing the criteria for access to credit programmes for micro and small enterprises managed by the National Development Agency (ANDE).
- Authorizing financial institutions to extend maturities of credits to non-financial sectors by up to six months.
- Temporarily reducing reserves in the national currency for banking institutions to expand liquidity and stimulate credit.

***Support provided by various agencies:***

- The Chamber of Commerce acted as a reference point for firms, listening to their concerns and coordinating support from the government. The Chamber also provided assistance (capacity building and knowledge transfer) in the use of government support which was provided mainly by ANDE.
- Business Competitiveness Centre programs and the COVID-19 Territorial Business and Entrepreneurship Assistance Network were developed to ensure the sustainability of MSMEs.
- There was an increase in Impact Finance and growth in multilateral firms supporting green projects.
- Financial institutions expanded their offer of non-grant instruments and financial capacities for renewable energy.
- There was an increase in Impact Financing to support the growth of projects with a high degree of environmental and social impact.
- The National Development Agency of Uruguay (ANDE) worked actively to strengthen the financial knowledge and capacities of entrepreneurs in the country.
- Subsidies were provided for taxpayers registered in the monitoring system of the Ministry of Social Development (MIDES).



**Table 7: Important support measures provided by Government of Uruguay**

| Name of the Program/<br>Support measure                       | Description   |
|---|---|
| SIGa<br>Turismo<br>SIGa Plus<br>SIGa Emergencia <sup>43</sup> | <ul style="list-style-type: none"> <li>• CAF-development bank of Latin America approved a loan of up to US\$ 150 million to strengthen the National SiGa Guarantee System</li> <li>• Focus on promoting and expanding access to financing for MSMEs</li> </ul>  |
| Programa de Facilitación Financiera <sup>44</sup>             | <ul style="list-style-type: none"> <li>• Focus on enabling MSMEs to develop tools for their financial management and better decision-making capabilities</li> <li>• Free financial advice was provided to more than 80 MSMEs</li> </ul>   |
| Other measures <sup>45</sup>                                  | <ul style="list-style-type: none"> <li>• Subsidies of 6,800 pesos were provided to workers in the artistic sector not covered by unemployment insurance.</li> <li>• Job Opportunity programs were put into practice, offering 15,000 jobs for unemployed individuals.</li> <li>• Directed Credit Program was organized to provide financial support for MSMEs comprising loans for working capital and refinancing of debts.</li> </ul> |

**Policies and schemes launched in the three targeted countries to support MSMEs**

**Ghana**

- Coronavirus Alleviation Program Business Support Scheme (CAPBuSS)
- Nkosuo Program
- COVID-19 Alleviation and Revitalization of Enterprises Support (Ghana CARES)
- Removal of charges on electronic/ mobile money transactions/ digital payments
- National Financial Inclusion and Development Strategy
- Digital Finance Service Policy
- COVID-19 stimulus fund (by Annan Capital, Women’s Empowerment & Investment Group, GUBA enterprise)

43 Article published on 26 February 2021, url: <https://www.caf.com/en/currently/news/2021/02/caf-will-fund-the-siga-guarantee-system-with-a-loan-of-up-to-150-million/>, last accessed on 06 February 2023.

44 Programa: Facilitación Financiera 2020, o National Development Agency of Uruguay (ANDE), url: <https://www.ande.org.uy/convocatorias/item/facilitacion-financiera.html>, last accessed on 06 February 2023.

45 Government measures to address the health emergency due to coronavirus (COVID-19), Uruguay Presidency, url: <https://www.gub.uy/presidencia/politicas-y-gestion/emergencia-sanitaria>, last accessed on 06 February 2023



## India

- Start-up India scheme
- Single point registration scheme
- Venture Capital assistance scheme
- High risk and high reward research scheme
- IREDA NCEF refinance scheme
- Revamped Scheme of Fund for Regeneration of Traditional Industries (SFURTI) scheme
- Unemployment insurance under “Atal Beema Vyakti Kalyan Yojana”
- Allowed to withdraw up to 75 % of the balance in the fund or three months ‘wages’

## Uruguay

- SIGa Turismo
- SIGa Plus
- SIGa Emergencia
- Programa de centros de competitividad commercial
- Programa de Facilitación Financiera
- Programa de la adaptación de la tecnología y la transformación digital

### Knowledge support and resources from international agencies

A guidance document published by UNIDO provides guidance for business recovery from the COVID-19 pandemic. The document describes the need for business recovery and a step-by-step procedure to assess backward and forward linkages to a particular business or an MSME<sup>46</sup>. There are large variations between the types of enterprises, sectors of work, locations, socio-cultural settings, and the degree of the impact of the COVID-19 pandemic. These guidance documents on business recovery have been developed in such a way that they can be used by enterprises of any type to systematically identify potential issues and resolve them as quickly as possible in order to overcome difficulties. The possible difference in the response by an enterprise owned by a single person whereas managed by a group of people has been highlighted in the document.

A comprehensive set of questions provided by UNIDO, forms a useful tool to help MSMEs decide upon their priorities during business recovery. Responses to the questionnaire begin with the immediate actions to be undertaken followed by more detailed assessments that can help in reshaping the business to drive growth. A clear understanding of the strengths and weaknesses of any business is an essential practice, as it can guide MSMEs to prepare an action plan for recovery and growth. As such, the use of several recommended tools such as the Plan-Do-Check-Act (PDCA) cycle and SWOT analyses can help differentiate various factors affecting the business (positive and negative in nature, internal and external to the business)<sup>47</sup>.

<sup>46</sup> Responding to the COVID-19 crisis: Pathway to business continuity & recovery, Guidance for Micro, Small and Medium Enterprises (MSMEs), UNIDO, 2020.

<sup>47</sup> Responding to the COVID-19 crisis: Pathway to business continuity & recovery, Guidance for Micro, Small and Medium Enterprises (MSMEs), UNIDO, 2020.



A disaster risk management cycle (Figure 21) was published by the United Nations Office for Disaster Risk Reduction (UNDRR) which can benefit owners and employees of MSMEs seeking guidance in this regard. Additionally, standard templates for damage assessment, financial needs analysis, forecasting, estimation of costs involved in recovery and reopening as well as response frameworks are provided (Figure 23).

**Steps in business recovery process** as indicated in the document and Figure 22 are as follows<sup>48</sup>:

- **Immediate actions** (different set of questions for gathering information)
- **Prepare for recovery**
- **Taking stock of the situation** (where does the business stand? Information on the current financial position, cash in-flow, out-flow, changes in the market, impact on customers and their orders, competitors, and possible cooperation with them to stay afloat)
- **Assessment** (Use of SWOT analysis, perspective, ability, and readiness of owners of micro and small industries, assessment of owners' abilities, self-reflection to avoid possible overstretch)
- **Recovery plan** (trend analysis, business model continuation or alteration, handholding with the suppliers, effective resource management, new products, and service additions)
- **Funding and finance** (calculate funding needs, forecasts for cash flows, sensitivity analysis to arrive at workable and affordable plan)
- **Iterative process till finalizing and reopening**
- **Reopening** (assessments related to changes in location, equipment, resources)

*Figure 21: Disaster risk management cycle<sup>49</sup>*



48 Guidance for micro, small, and medium enterprises business recovery in the wake of the Covid-19 pandemic, MSME COVID – 19 Recovery, UNIDO, 2020

49 Responding to the COVID-19 crisis: Pathway to business continuity & recovery, Guidance for Micro, Small and Medium Enterprises (MSMEs), UNIDO, 2020



Figure 22: Steps/ Iterations in business recovery process following the disaster<sup>50</sup>

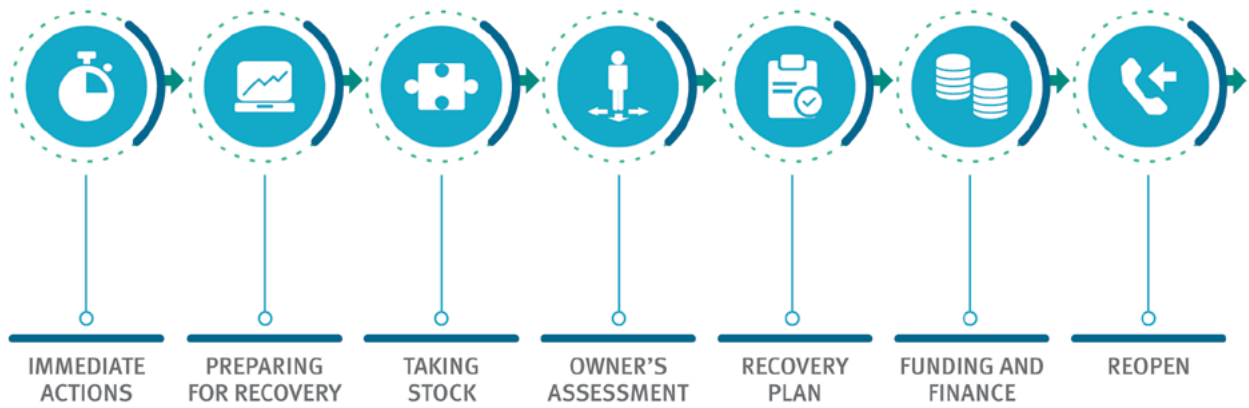
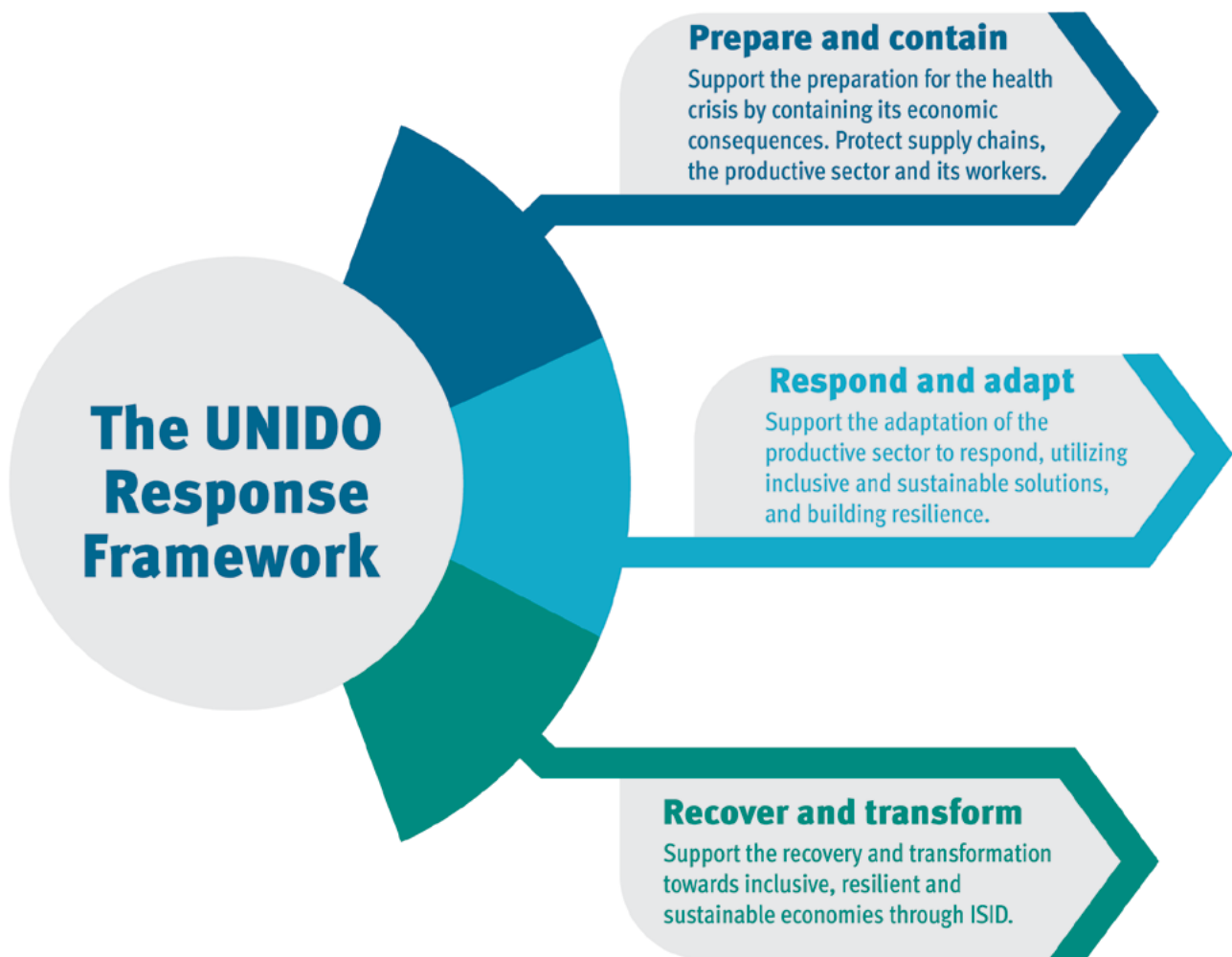


Figure 23: UNIDOS's response framework<sup>51</sup>



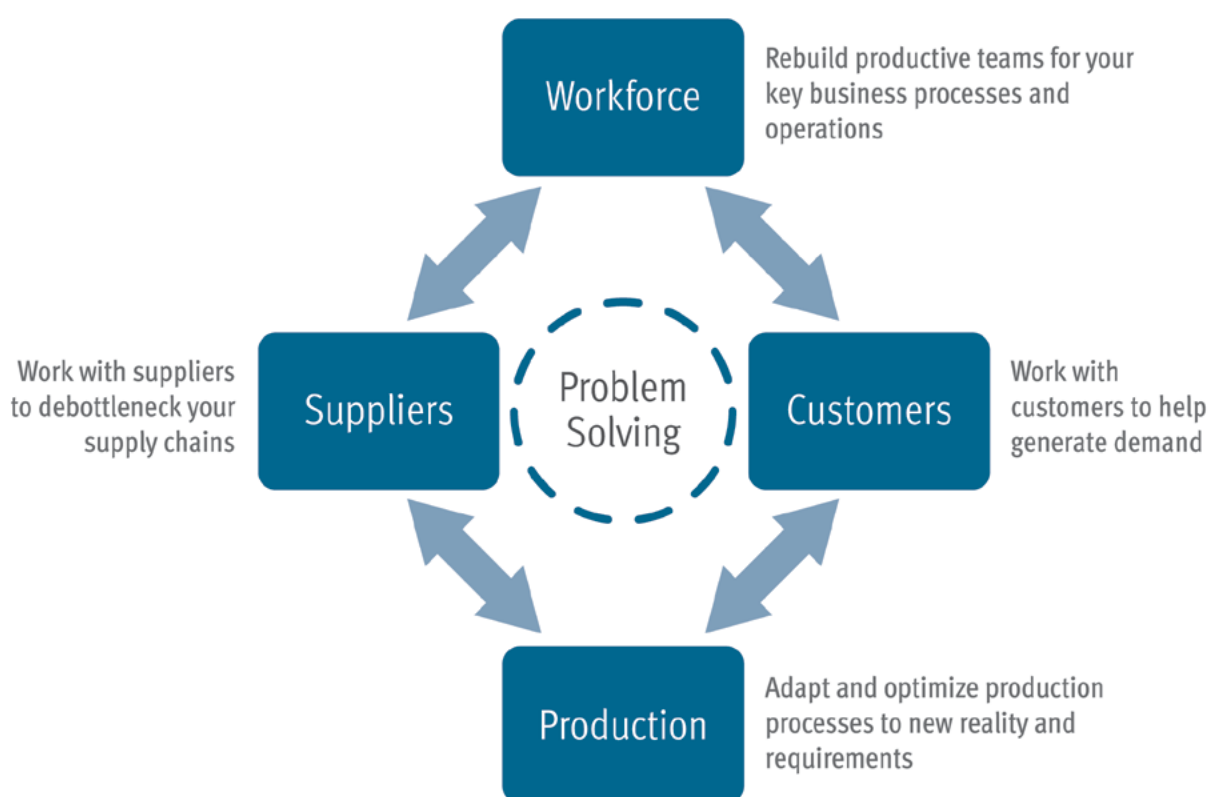
<sup>50</sup> Responding to the COVID-19 crisis: Pathway to business continuity & recovery, Guidance for Micro, Small and Medium Enterprises (MSMEs), UNIDO, 2020

<sup>51</sup> Responding to the COVID-19 crisis: Pathway to business continuity & recovery, Guidance for Micro, Small and Medium Enterprises (MSMEs), UNIDO, 2020

Another guidance note provides a tool for problem solving and suggests the use of standard operating procedures (SOP) to provide step-by-step clarity on required activities and control mechanisms<sup>52</sup>. A 4-step systematic approach for problem solving (Figure 24) starts with defining and analysing the problem, finding alternatives, executing the most appropriate solution, and concludes with monitoring the impact of the executed solution. It was suggested that the approach could be inculcated as a part of business routines and executed during weekly meetings to maintain regularity. Through this approach, potential challenges in establishing new systems or systematic approaches in business operations could be avoided.

Various new terms and practices can potentially assist in removing bottlenecks and generating greater demand. These terms are resource efficiency, adoption of the 5S workplace management technique, optimization of production processes, and ways to collaborate with suppliers and customers<sup>53</sup>.

**Figure 24: Problem solving approach to restart and recover<sup>54</sup>**



The International Organization for Standardization (ISO) has created a **business continuity plan** consisting of documented procedures that guide organizations to respond, recover, resume, and restore to a pre-defined level of operations following business disruption<sup>55</sup>. Most businesses do not have a business continuity plan. The framework enlists some of the most important strategies that can assist

52 Guidance note/ Fact sheet for restart to recover, COVID-19 response, UNIDO, url: <https://b3cmsme.org/sites/default/files/guidance-note/guidance-note-restart-to-recover.pdf>

53 Guidance note/ Fact sheet for restart to recover, COVID-19 response, UNIDO, url: <https://b3cmsme.org/sites/default/files/guidance-note/guidance-note-restart-to-recover.pdf>

54 Guidance note/ Fact sheet for restart to recover, COVID-19 response, UNIDO, url: <https://b3cmsme.org/sites/default/files/guidance-note/guidance-note-restart-to-recover.pdf>

55 Guidance for micro, small, and medium enterprises business recovery in the wake of the Covid-19 pandemic, MSME COVID – 19 Recovery, UNIDO, 2020



MSMEs to cope with business disruptions and crises. They include the following:

**3.1.1 Business communication strategy** is an important way to resolve anxiety that arises amongst buyers due to COVID-19. For example, there is research indicating that the COVID-19 virus can persist for up to 9 days on inanimate surfaces (for example, glass, metal, plastic). Communicating recommendations to efficiently inactivate these viruses on such surfaces could have implications for the acceptance of any products that are being exported which contain these surfaces. It is therefore important that customers be kept informed on the issues being faced by enterprises and ways in which to deal with them. Through an effective communication strategy, customers tend to trust the enterprise and their products more

**3.1.2** Businesses can benefit from **cooperating with their competitors** in certain circumstances. For example, positive impact can be achieved by cooperating with competitors in order to reduce reputational risks that threaten an entire industry or region during times of crisis. As well, supporting new technology development by sharing uncertain returns and pooling knowledge to develop shared standards for businesses within an industry or a specific region, could also be beneficial as a means to ensure effective communication with the government and the standardization of policies and regulations.

**3.1.3 Business digitization is necessary** as an adaptation measure for the COVID-19 pandemic. This includes working remotely, increasing online sales, accepting digital payments and switching to digital modes of marketing among other measures.

**3.1.4** Entrepreneurs should be open to **restructuring and diversifying their business model**. Sometimes a complete turnaround is required, for example focusing on a completely new product range or market niche. This open-minded approach entails an assessment of the costs and benefits as well as decision making agility to ensure effective business decisions are made under time constraints. However, after the required steps for restructuring have been taken, a focus on potential downsizing or finding investors who would be able to share the risk of restructuring in order to obtain an attractive return, can aid business owners in mitigating risk and avoiding business closures.

**3.1.5** Need for a systematic implementation of **occupational health and safety as well as risk management systems**

Another report presents a set of recommendations for key stakeholders to assist MSMEs at the start of their journey towards a successful green transition. These stakeholders include business support organizations, government agencies, lead companies in international value chains, and international organizations. It provides a 20-point Green Recovery Plan to foster competitive, resilient, and environmentally sustainable MSMEs. The report also identifies key areas where small businesses can invest to transition into emerging green businesses by strengthening their capacity to stay competitive and address change with agility <sup>56</sup>.





# Emerging Opportunities for MSMEs

Digitization is revolutionizing the MSME sector and presenting huge opportunities to upscale productivity. Disruptive technologies such as artificial intelligence (AI), robotics, 3D printing, and the Internet of Things (IoT) are active drivers of the fourth industrial revolution (4IR) while the COVID-19 pandemic has provided an additional push for this digital transformation. The focus of digitization and industrialization has been changing from cost-optimization and productivity improvement, to maintaining supply chains, enhancing business and societal resilience against unforeseen shocks such as the COVID-19 pandemic, and other challenges. Along with the focus on digitization, green/ climate finance opportunities have gained prominence on a global as well as national country scale.

However, the extent to which MSMEs can increase their productivity through digitalization is heavily dependent on their internal capabilities such as depth of digital adoption, digital skills, and degree of formalization<sup>57</sup>. Several external factors that also influence MSME digitization are MSMEs' business networks, stage of local digital ecosystems, and societal and policy environments operating in the region at large.

To be able to deal with the challenges of COVID-19, innovation may be required for MSMEs at various levels and stages including in their products, services, processes, as well as business models. To benefit and/or manage the innovation process through standardization, ISO 56002:2019 systematic management of innovation activities can be used as a guiding tool to proceed with making changes leading to innovation<sup>58</sup>. Considering that the COVID-19 pandemic has provided a chance for enterprises to re-think, replan, and restructure their business activities, a review of emerging opportunities is needed to ensure their ongoing success and resilience.

## Ghana

Studies and focus group discussions have collectively revealed significant green finance opportunities for the Ghanaian business community across several sectors like energy, agriculture, transport, and waste. In the energy sector for instance, there are opportunities for green investment in Ghana. Ghana is endowed with renewable energy resources, particularly wind energy, biogas power plants, solar photovoltaic, improved cookstoves, and LPG stoves. Further to this, improvements can be made in the steel kilns, traditional cookstoves and charcoal production processes in order to increase energy efficiency and to increase the share of renewable energy. These developments, including the demand for energy in Ghana, have created investment opportunities for the private sector that are worth exploring. In the agricultural sector, private businesses can scale up green investment in their sector through afforestation programs in deforested lands, as well as in the cocoa sector.

57 Small goes digital - How digitalization can bring about productive growth for micro and small enterprises, International Labour Office – Geneva: ILO, 2021.

58 ISO 56002:2019 Innovation management – Innovation management system – Guidance document, url: <https://www.iso.org/standard/68221.html>, last accessed on 06 February 2023.





Below are some of the emerging opportunities for green MSMEs in Ghana:

- Clean energy and its use in agriculture and related activities with a focus on promoting climate-smart agricultural practices
- The technology sector including Drone, IoT, and AI are picking up at a rapid pace due to their ability to scale quickly at a relatively lower cost and with high demand
- MSMEs have shifted their focus from having brick-and-mortar shops to a robust digital presence
- Digital tools including social media marketing provide the ability to scale quickly and at a relatively lower cost

The government of Ghana believes there is immense opportunity for green finance in the waste sector. These include composting technology, biogas power plants, large municipal landfills, composting plants, and wastewater treatment facilities.

## India

MSMEs have used the COVID-19 pandemic as an opportunity to adopt digital technologies and services in their operations, to more effectively deal with challenges associated with labour shortages. Product-based enterprises have begun to adopt the Internet of Things, while service-based enterprises have done the same with services like Blockchain and Big Data analytics.

There has been a growing awareness of responsible consumption amongst consumers due to the COVID-19 pandemic. This has enabled MSMEs to capture business to business (B2B) as well as business to customer (B2C) markets.

While demand for sustainable packaging has increased from the consumer's end, there has been an increased pressure on packaging waste management from regulatory authorities. As a result, increased collaboration has been observed between brands and extended producer responsibility (EPR) service providers.

The utilization of Corporate Social Responsibility (CSR) funds in environmental management has expanded significantly, and these companies are now looking to support green enterprises through various projects.

Interest regarding the circular economy has been growing worldwide and companies/ industries are being encouraged to think and act towards reducing the negative environmental effects of business processes, including both production practices and consumption trends. Most enterprises surveyed during the course of the study stated that they have changed working arrangements and introduced remote working options for their employees.

On the other hand, there have been several barriers identified which are preventing or possess the potential to prevent effective digitization to enhance the productivity of MSMEs in the future. A study conducted by the ILO in 2021, identifies these barriers as a lack of digitally skilled labour, limited information technology (IT) infrastructures, as well as concerns about digital security and data protection<sup>59</sup>.



### Increased demand for green products and services:



- 19% of the green MSMEs reported that the COVID-19 pandemic led to an increase in demand for their sustainable products and services
- Revenue increased for 4% of the surveyed green MSMEs
- These products and services include sustainable packaging, upcycled textiles, etc.
- This can be due to increased consumer awareness as many consumers have shifted to a healthier and more conscious lifestyle and have begun searching for eco-conscious products and services.

### Uruguay

When the COVID-19 pandemic struck, Uruguay was well placed to respond to the virus' unprecedented threat. The country was able to respond quickly to the pandemic relying on its strong healthcare system, accessible social security systems and an early and effective vaccination campaign. The use of digital technology tools was adopted by institutions in order to effectively manage the state operations in terms of health and social security during and after the COVID-19 pandemic.

Uruguay's economy is strongly driven by its agricultural sector, with products such as meat, dairy, rice and others making up nearly 80% of its exports. The government is keen on exploring models of green growth supported by digital technology as a solution for the future.

The Ministry of Finance is currently working with the Ministry of Industry, Ministry of Livestock and Ministry of Environment to prepare its first issue of a sovereign sustainability bond. The payment of interest on this bond will be linked to environmental indicators and thus will be contingent on reaching the goals of performance indicators. This will help in reducing carbon emissions of the country and will largely benefit Green MSMEs.

It was understood from the FGDs and surveys that green MSMEs have used this pandemic as an opportunity to adopt digital technology and services in their operations to reduce their dependency on the workforce. Product-based enterprises have begun to adopt the Internet of Things, while service-based enterprises have adopted services like Blockchain and Big Data.

There has been a growing awareness of responsible consumption amongst consumers due to COVID-19, enabling MSMEs to capture B2B and B2C markets. Sustainability has gone from brown growth to increasingly green industries.

Prior to the COVID-19 pandemic in 2019, tourism contributed to 17.4% of the country's GDP. However, due to restrictions imposed on travel, this sector incurred heavy losses. The government, as well as private companies, are keen on exploring responsible tourism, eco-tourism, and community-based tourism experiences for increasing the resilience of this sector and preventing loss of livelihood in case of future shocks.





## 8 Recommendations

The COVID-19 pandemic came with unprecedented impacts on all aspects of everyday life and the global economy. While the COVID-19 pandemic was more of a natural health emergency, climate change has been recognised as another global crisis caused by human activities. Multiple researchers have drawn similarities and differences between the COVID-19 pandemic and the global climate change emergency.

Some of the significant differences between the two include the speed at which the impacts occur and consequently the duration of actions needed to address them, applicability of policies, as well as the scale of impact at the individual and community levels<sup>60</sup>. Similarities between the two can be highlighted as both possess tipping points that need to be identified and prevented, requiring early action to prevent rather than to resolve, leading to irreversible changes, and requiring action and cooperation at the global level.

Although the COVID-19 pandemic offered insights into the devastating scale of impacts, the collective actions taken to prevent and contain the impacts provided a glimpse of global cooperation and tradeoffs. This gives an opportunity to consider how global climate change may be better managed as there are many parallels that can be drawn between the COVID-19 pandemic and the climate crisis.

The ability of a nation's healthcare system to control the virus, utilize the resources, and act rapidly, are crucial factors in determining the impact<sup>61</sup>. Impacts due to climate change will operate similarly, as countries who have better access to resources can invest in climate change prevention. Therefore, without globally coordinated actions and strategies to deal with climate change, less developed countries will suffer.

There may be few important lessons that can be learned from the COVID-19 pandemic. Some of these lessons, such as the collective response measures, range of policy options developed, focus on environmental sustainability, and resilience to such shocks may be applicable to the climate emergency as well. Hence, while building back better, effectively incorporating environmental sustainability into business operations, services, investments, and coherent policies can be the game changer for future resilience.

On the other hand, there are multiple reports that discuss the importance of circular economy and guidance on starting or transitioning to a green business. Financial institutions are increasingly including sustainability criteria into their decision-making frameworks. Circular economy allows companies to access new partnerships, expand business networks, generate additional revenue, and find ways to cut costs. However, the transition to sustainable practices is a challenge and especially when the world

60 Poortinga, W., Latter, B., & Wang, S. (2022). Comparing coronavirus (COVID-19) and climate change perceptions: Implications for support for individual and collective-level policies. *Frontiers in Psychology*, 13.

61 Manzanedo, R. D., & Manning, P. (2020). COVID-19: Lessons for the climate change emergency. *Science of the Total Environment*, 742, 140563.



is recovering from the COVID-19 pandemic that led to unprecedented disruption in supply chains and a shortage of resources. At the same time however, this is an opportunity for green MSMEs to strengthen their competitiveness and resilience by incorporating environmental sustainability into their business operations and across their supply chains.

The collective recommendations across all three countries/ study areas are described at the end of the section and the respective recommendations that are applicable to each country are described as below:

## Ghana

1. Clean and Renewable Energy is one of the rising sectors in Ghana. Although MSMEs recognise the importance of incorporating resource-efficient and clean technologies in their operations, the high initial investment needed for adoption makes it increasingly difficult for MSMEs to make upfront investments. Along with that, due to the COVID-19 pandemic, the focus of MSMEs shifted from growth and innovation to mere survival. As a result, steps towards adopting sustainable and resource efficient practices in operations dwindled. Subsidies, grants, and tax rebates on installation can support vast uptake and further adoption of renewable and clean equipment.
2. The COVID-19 pandemic has accelerated the dissemination of digital literacy skills amongst MSMEs as well as customers. However, there is room for improvement in the national digital infrastructure. While National digital infrastructure is vital to accelerating financial services for inclusion, regional digital infrastructure is key to facilitating a cheaper, secure, and sustainable source of remittances, e-trading of digital assets, and access to cheap capital. More focus is needed to foster alignment between technology and capital providers as well as collaboration domestically and beyond. This can be one of the ways to lift the economy from the crisis towards sustainable recovery with contactless connectivity.
3. Improvement in digital infrastructure needs to be accompanied with improved digital literacy amongst consumers and producers. Green MSMEs require capacity building and training programs on subjects like Digital marketing, E-payments, E-Commerce, and information sharing to adapt to the new normal.
4. Green MSMEs also require capacity building and training in areas like emotional Intelligence in business management, formation of cooperatives, branding, business strategy, and leadership. They need to be educated on subjects like Disaster management that will empower them to face situations like the COVID-19 pandemic in the future.
5. While Ghana's geographical location, environmental policies, potential for green energy mix and an enthusiastic population have been identified as strengths, factors such as weak institutions, inadequate funding for green technology innovations, inadequate long-term policies for green strategies, and inadequate political will have been some of the weaknesses that have slowed down Ghana's effort to transition to a green economy. Thus, transferring to green technology, cross-border collaboration and attracting international funding can help in upscaling the green economy in Ghana.



6. Several Green products and service providers have highlighted the need for recognised market access that enables MSMEs to highlight their products and services to a vast network of business and retail consumers.
7. The Government of Ghana believes that financing green MSMEs will receive high importance but motivation for investing in green initiatives is mostly driven by factors including market access, corporate image, attracting investors, and reducing operating costs. MSMEs need to be offered training programs that will enable them to seek investors, adopt cleaner and more resource efficient processes while government and business associations provide better market linkages for their products and services.
8. The Ministry of Finance, along with other financial institutions, needs to explore the possibility of issuance of Green Bonds. While financing institutions can extend long-term green loans, the Bank of Ghana could act as an anchor investor. Green bonds could serve as a low-cost source of funding for long term green credits and investments to solve the maturity mismatch challenges in green financing in Ghana.
9. Women owned Green MSMEs in Ghana primarily fall under the category of ‘micro’ businesses and it was observed that they normally face many challenges which can lead to their inability to expand. Government support through finance, cheap and long-term credit, access to modern technology, and appropriate capacity building will be extremely useful in promoting women’s entrepreneurship in Ghana. In addition, policy solutions that address the social barriers of women seeking vocation outside the home should be explored.

## India

1. While the Government of India has launched several platforms like Government eMarketplace for giving MSME entrepreneurs easy and enhanced access to markets, efforts need to be made to create similar online marketplaces for Green MSMEs or to encourage suppliers of green products and services to get registered on these platforms. Online marketplaces for green products and services need to be supported by strong product recognition, certification and eco-labelling schemes for creating awareness amongst consumers and preventing greenwashing.
2. Technology and digital integration have proven to be one of the most determining factors for MSMEs to thrive in the market. Green enterprises have laid emphasis on the need for adequate and accessible capacity building and training programs to build the digital literacy of entrepreneurs and employees.
3. Several state governments in India provide schemes and subsidies to green entrepreneurs for example enterprises working on Renewable Energy, Water Harvesting, and Agro-tourism. Many of these MSMEs are located in remote locations of the country, and suffer from a lack of information regarding documentation, licensing and registrations. Along with extending digital infrastructure to the remote locations in the country, government websites and portals need to be updated for information on various schemes, subsidies, documentation, and licensing details that will serve useful for availing of these schemes.



4. The Government focus on building single window systems at district or zonal levels to coordinate activities and disseminate information would be useful for Green MSMEs through a single platform. The platform would enable linking green MSMEs with different government schemes, subsidies, grants, linking small units with different marketing platforms, Goods and Service Tax (GST) regulations, loan approval and disbursement, rehabilitation of sick units, dissemination of various MSME related information, and helping them to become more digitized among other benefits.
5. Waste Management and several other green sectors in India are highly informal. Close to 30 to 60 % of paper and cardboard, 50 to 80 % of all plastics, and nearly 100 % of all glass bottles manufactured in India are recycled through the informal sector in India<sup>62</sup>. Many registered green businesses depend on informal vendors and suppliers for raw materials. This places pressure on the formal and registered MSMEs for the payment of taxes. The Government of India should push for formalisation of green enterprises and offer incentives such as tax rebates for registered green businesses.
6. GST is a single, indirect tax levied by the Indian Government on various products and services. The Goods and services traded in India are allotted a specific tax category (from 5% to 28%)<sup>63</sup>. It was observed that recycled products including recycled textiles and bags are not recognised under any tax category, which forces them to compete with conventional goods and lowers their profit margins. Recycling businesses have a high capital and operational expenditure unless economies of scale are attained. Thus, green products and services should be recognised under specific tax categories that can be lower than their non-green counterparts, until a certain production capacity is attained. This will further foster innovation in the development of greener products and services.
7. Green MSMEs have put forward their request to set up platforms that will offer regular mentorship and training from various financing institutions and business associations. This will enable Green MSMEs to share best practices within their sector, build a robust supply chain, access finance, and promote wider adoption of green products and services. The mentorship sessions will serve in building resilience of Green MSMEs, favour interactions and promote interconnectedness in the ecosystem.

## Uruguay

Based on the detailed FGDs and survey conducted, the following policy recommendations have been proposed by various stakeholders:

1. The Government of Uruguay has released multiple financial schemes to support Green MSMEs. However, the uptake of these schemes remains low due to a lack of awareness and formalisation. Although criteria for accessing finance have been relaxed, the importance of the formalisation of businesses has become evident. This can be done by empowering the local NGOs with the skills and funds that would enable them to formalise local MSMEs. There is a need for training on subjects such as documentation, access to finance, digital adoption, and backward and forward market linkages.

62 Integration of Informal Sector in Solid Waste Management, Centre for Science and Environment, article published on 12 July 2021, url: <https://www.cseindia.org/integration-of-informal-sector-in-solid-waste-management-10886>, last accessed on 06 February 2023

63 GST rates for Goods and Services as on 01.01.2023, Central Board of Indirect Taxes and Customs, Ministry of Finance, Government of India, url: <https://cbic-gst.gov.in/gst-goods-services-rates.html>, last accessed on 06 February 2023.



2. Women entrepreneurs faced challenges during the COVID-19 pandemic as they could not avail of financial aids due to the lack of property ownership to function as collateral for those firms, as well as the lack of guarantees. Existing policies can be updated which would allow women entrepreneurs to secure financial aid for their businesses. Alternatively, new financial aid schemes should be launched to support uptake of credit for women entrepreneurs.
3. MSMEs have expressed their need for training programs for enhancing their capacity in the uptake of digital technologies. Improvement in digital infrastructure needs to be accompanied with improved digital literacy amongst consumers. Green MSMEs require capacity building and training programs on subjects like Digital marketing, E-payments, E-Commerce, and information sharing to adapt to the new normal following the COVID-19 pandemic.
4. Uruguayan MSMEs have expressed their need for online and offline marketplaces that offer strong recognition, labelling and green certification schemes for green products and services. Provision of a nomenclature and framework for identifying, labelling, and evaluating green products and services will help consumers in making informed purchasing decisions. This will also enable the formation of stronger green markets.
5. Policies need to be designed to enforce stricter regulations on carbon-emitting and highly polluting industries. Incentives need to be provided for transitioning toward resource efficient and cleaner production practices. Support for adopting cleaner practices across industries can be provided by green MSMEs through their products and services, thus fostering collaboration and growth towards reaching a greener economy.
6. Green MSMEs need to be trained on subjects that help them develop an adaptation strategy, disaster management plan and a plan for preparedness to tackle future shocks arising from economic meltdowns caused by health crises in future. This can be supplemented with knowledge on various subjects such as green growth, and circular economy. Business support associations can facilitate further support and training, as green MSMEs are equipped with tools to help them transition towards a circular model of business, ensuring resilience towards future shocks and sustained growth. The training can be designed for specific clusters or sectors of businesses.

### **Overall recommendations for green MSMEs**

Figure 25 illustrates the process followed to arrive at the set of recommendations to recover, build resilience, and strengthen competitiveness of green MSMEs.

The process starts with understanding the challenges faced by green MSMEs due to the COVID-19 pandemic and understanding and quantifying the impacts on MSME operations and jobs. Various methods were used to understand the challenges, impacts, and response measures by green MSMEs which included FGDs, a questionnaire survey, and a literature review. A review of best practices across sectors and business support mechanisms were also undertaken.

The similarities and differences between the COVID-19 pandemic and the global climate change crisis were considered while arriving at a set of recommendations to recover from the COVID-19 pandemic, building resilience and strengthening competitiveness through effectively incorporating environmental sustainability into business operations. A comprehensive list of recommendations for government institutions and other agencies and green MSMEs is provided in Figure 26.



Figure 25: Process of arriving at recommendations

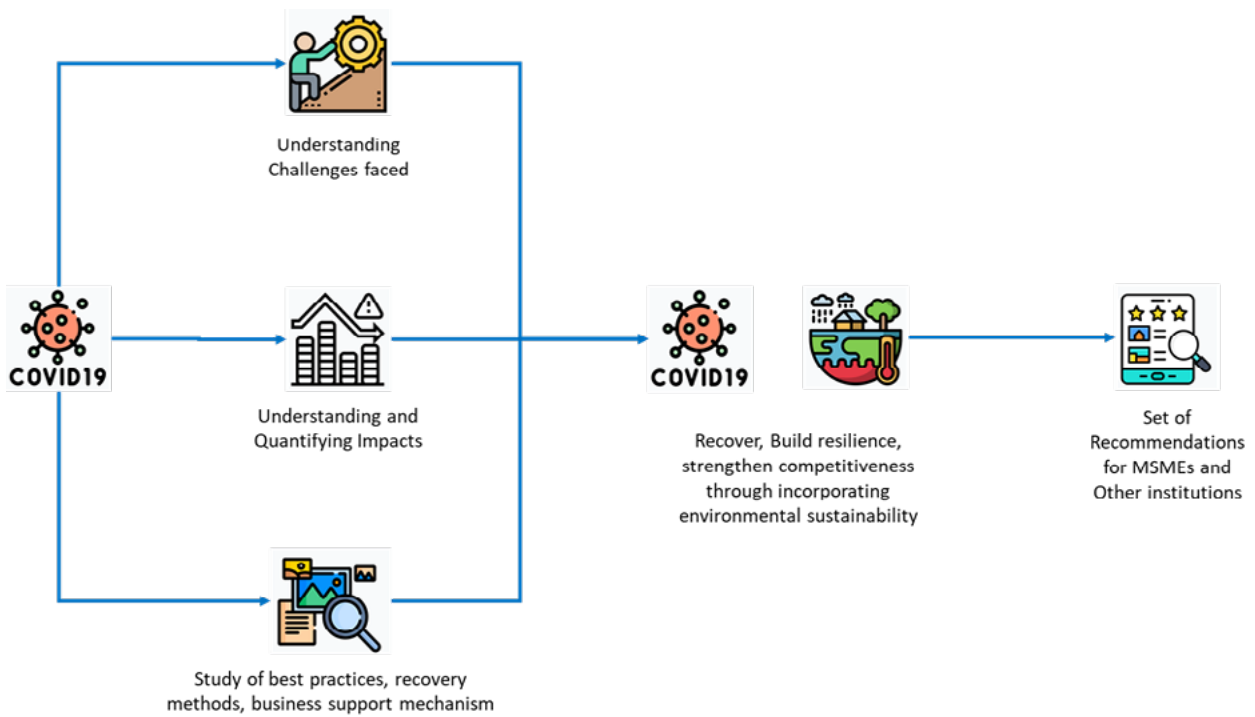
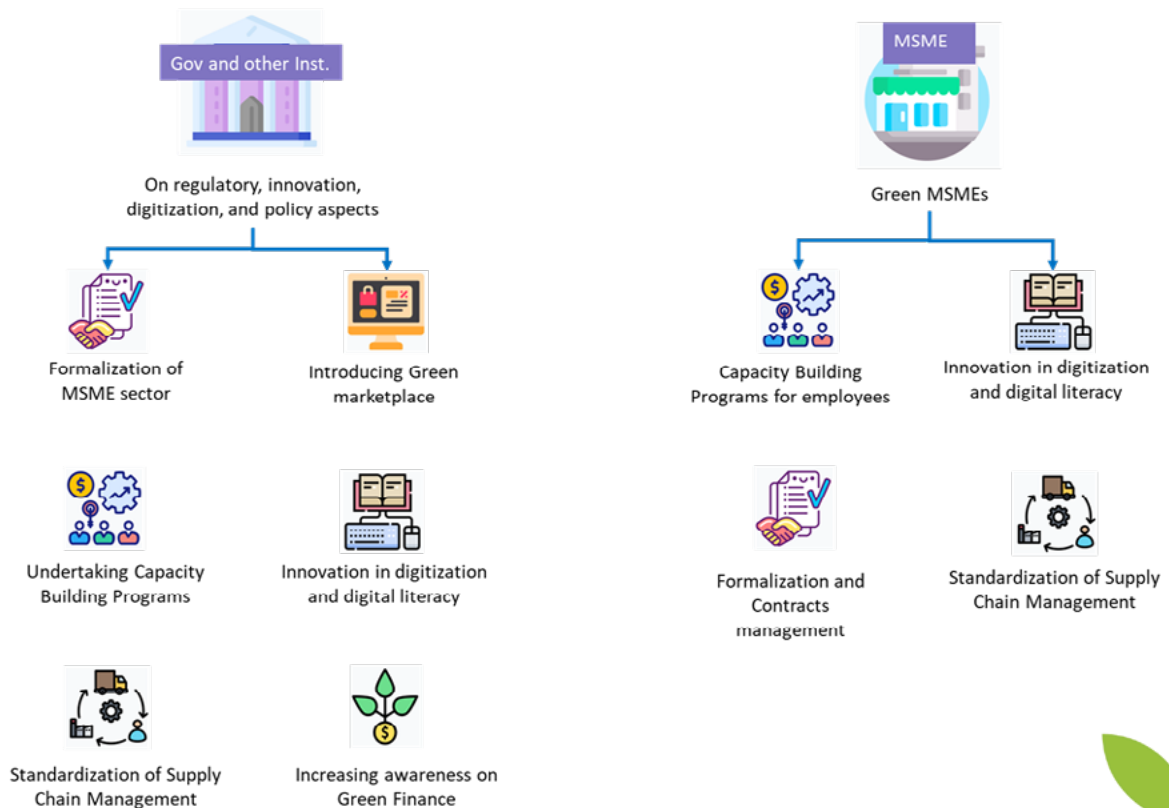


Figure 26: Representation of major recommendations

Major Recommendations to Recover, Build resilience, strengthen competitiveness, through incorporating environmental sustainability





## Recommendations applicable to green MSMEs globally

- Due to the COVID-19 pandemic, the focus of MSMEs has shifted from growth and innovation to mere survival. As a result, steps towards adopting sustainable and resource efficient practices in operations have reduced. Hence, to build back better, support measures in terms of capacity building, access to green finances, standardization of supply chains, and formalization of informal sectors can be adopted to incorporate environmental sustainability.

### Recommendations for government agencies and other stakeholders:

- Capacity building and enhancement of skills can be initiated through proactive information dissemination within and between MSME clusters, web-based guidance tools for improving financial literacy, and green business networking. Focus should be on training green MSMEs on how to measure the environmental benefits of their products and/or services.
- Access to green finance can be achieved through green equity investments, provision of soft loans, creating grant programs focused on sustainability, and designing profit-oriented green incubation programs. Green financing will also play an important role in working towards SDGs (SDG 9 and 13 specifically) and dealing with the challenges of the climate crisis.
- In order to stimulate the adoption of green practices, formalisation of both enterprises and employment relationships can be facilitated through official contracts management, registration of employees and the labour force to public schemes that provide recognition and access to protection, and digitization of salary disbursements to increase transparency regarding minimum wages.
- The COVID-19 pandemic has accelerated the dissemination of digital literacy skills amongst MSMEs as well as customers. However, there is room for support from governments such as providing adequate digital infrastructures, easy and affordable access to internet facilities, data security for the national digital infrastructure, and incentives for the purchase of digital technologies.
- Provision of online and offline marketplaces that offer strong recognition, standard nomenclature, and framework, labelling and green certification schemes for green products and services would help consumers make informed purchasing decisions. This will enable the formation of stronger green markets in turn.
- Above-noted marketplaces may be initiated at the country level by government agencies through collaboration with business associations, financial institutions and NGOs or at the global level through a coalition with international agencies. One such example is the National Commodity & Derivatives Exchange Limited (NCDEX), a professionally managed online, multi-commodity exchange platform focusing on revolutionising India's agricultural sector. However, these green markets once developed, will have to be regulated at the international level and monitored regularly.



- Training, capacity building, and improving accessibility to mechanisms that deal with the legal requirements of an enterprise and certifications required to become eligible to access various schemes or apply for business proposals, will significantly help in the expansion of business operations and consequent increases in revenue.

#### **Recommendations for green MSMEs:**

- Capacity building can be initiated through proactive information dissemination within and between the MSME clusters, web-based guidance tools for improving financial literacy, and green business networking. Focus should be on training green MSMEs on how to measure the environmental benefits from their products/ services.
- MSMEs should embrace digitalisation, going beyond siloed digital products or offerings to customers, to innovative digitalisation models that address multiple parts of their operations and are future-ready to adapt and respond to the changing needs of their supply chains.
- Standardization of supply chains can be facilitated through collaboration with suppliers, local authorities, simplifying regulatory requirements, and establishing supplier code of conduct exercises throughout the value chain of the product/ service. MSMEs can seek to strengthen their ties with supply chain leaders by understanding their regulatory pressures better, offering products that help ease those pressures and requesting support from larger or more established companies where needed.
- In order to stimulate the adoption of green practices, initiating formalisation of both enterprises and employment relationships can be facilitated through official contracts management, registration of employees/ labour force to public schemes that provide recognition and access to protection, and digitisation of salary disbursements to increase transparency catering to minimum wages.





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## Annexure 1: MSME definition in Ghana, India, and Uruguay

### MSME definition:

There is no internationally harmonized definition of micro, small and medium enterprises. However, for the ease of understanding and categorization during the analysis and study, following definitions have been considered for the respective countries.

|                                     | Micro                                      | Small                                       | Medium                                       |
|-------------------------------------|--|---|--|
| <b>United Nations</b> <sup>64</sup> | employment level below 10                  | employment level below 10 to 50             | employment level below 50 to 250             |
| <b>Ghana</b> <sup>65</sup>          | less than 5 employees                      | 6 to 30 employees                           | 30 to 100 employees                          |
| <b>India</b> <sup>66</sup>          | Annual turnover not more than Rs. 5 crores | Annual turnover not more than Rs. 50 crores | Annual turnover not more than Rs. 250 crores |
| <b>Uruguay</b> <sup>67</sup>        | Less than 10 employees                     | 10 to 50 employees                          | 50 to 250 employees                          |

### Green MSME:

A **Green MSME** is an enterprise that provides environmentally friendly products or services, or it is an enterprise that practices an environmentally friendly and/ or uses cleaner technologies and processes which reduce any negative effects of the business on the environment<sup>68</sup>.

Another description of Green MSME/ Business is a business that is committed to the principles of environmental sustainability in its operations, strives to use renewable resources, and tries to minimize the negative environmental impact of its activities<sup>69</sup>.

64 OECD SME and Entrepreneurship Outlook 2019, Working paper, url: <https://www.oecd.org/industry/smes/SME-Outlook-Highlights-FINAL.pdf>, last accessed on 06 February 2023

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## Annexure 2: List of participants in FGDs





### Ghana

Participant group NGOs-CSOs:

|                  |  |
|------------------|--|
| <b>Date</b>      | <b>February 17, 2022</b>   |
| <b>Attendees</b> | Randy Boaity, Technical Expert Sustainable Cocoa Production        |
|                  | Philip O. Mensah   |
|                  | Max Amedi, World Vision Ghana                                      |
|                  | Daniel Boakye, Yison Tech Hub                                      |
| <b>EMC Team</b>  | Sivaranjani Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |

Participant group Financial Institutions:

|                  |  |
|------------------|--|
| <b>Date</b>      | <b>February 17, 2022</b>   |
| <b>Attendees</b> | Belinda Darkwa, Ghana Tech Lab                                     |
|                  | Letitia Varney, Snr. Portfolio Analyst Innohub limited             |
| <b>Team</b>      | Sivaranjani Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |

|   |  |
|---|--|
|   | <p><b>Category:</b> Government institution</p> <p><b>Cocoa Board Ghana</b> encourages and facilitates the production, processing and marketing of good quality cocoa, coffee, and shea-nut in all forms in the most efficient and cost-effective manner and maintains the best mutual industrial relation with its objectives.</p> |
|  | <p><b>Category:</b> NGO</p> <p><b>World Vision</b> partners with like-minded organizations, faith leaders and the government to address underlying causes of poverty and injustice in order to build a better world for all children in Ghana</p>  |
|  | <p><b>Category:</b> NGO</p> <p><b>Yison Tech Hub</b> is dedicated to promoting tech innovation for rapid prototyping of ideas budding local innovations impact, start-ups support and promoting youth entrepreneurship to address critical socio-economic and development challenges.</p>  |
|  | <p><b>Category:</b> Business support association</p> <p><b>Ghana Tech Lab</b> provides free competent digital skills training, start-up incubation services, seed fund innovative ideas and grows start-ups</p>  |
|  | <p><b>Category:</b> Business support association/ MSME accelerator</p> <p><b>Innohub</b> is a business accelerator, management consulting, and impact investment platform, which supports small and growing businesses.</p>  |

## India





### Participant group MSMEs

|                  |   |
|------------------|---|
| <b>Date</b>      | <b>23 March 2022</b>                                      |
| <b>Attendees</b> | Amita Deshpande, Founder, reCharkha-The Ecosocial Tribe   |
|                  | Sayali Thalur, Team member, reCharkha-The Ecosocial Tribe |
|                  | Bhavini Parikh, Founder, BunkoJunko                       |
|                  | Rudransh Garg, Co-Founder, Dharaksha Ecosolutions         |
| <b>EMC Team</b>  | Asha Panwar, Sakshi Gore, Sameer Kulkarni                 |

|                  |  |
|------------------|--|
| <b>Date</b>      | <b>March 24, 2022</b>  |
| <b>Attendees</b> | Shashank Nimkar – Founder Earth Tatva                              |
|                  | Karishma Shah- Founder   |
|                  | Aditya Shukla- Founder Saltech                                     |
|                  | Naman Gupta – Founder Code Effort                                  |
| <b>Team</b>      | Sivaranjani Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |

### Participant group Business Association

|                  |  |
|------------------|--|
| <b>Date</b>      | <b>March 30, 2022</b>  |
| <b>Attendees</b> | Mr. Ravi Nandan Sinha, Director of Development at MSME Business Forum of India |
| <b>Team</b>      | Sivaranjani Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni             |

|   |  |
|---|--|
|  | <p><b>Category:</b> Green MSME</p> <p><b>reCharkha the EcoSocial Tribe</b> is a social enterprise, that upcycles plastic waste into handcrafted fabric using traditional handloom technique.</p>     |
|  | <p><b>Category:</b> Green MSME</p> <p><b>Bunko Junko</b> is a sustainable fashion brand that upcycles textile waste.</p>   |
|  | <p><b>Category:</b> Green MSME</p> <p><b>Dharaksha</b> Ecosolutions is an environment conscious start up specializing in biodegradable packaging material.</p>                                       |
|  | <p><b>Category:</b> Green MSME</p> <p><b>Saltech</b> offers recycling solutions for single use plastic, construction &amp; demolition Waste, and industrial minerals/ aggregate/ fly ash wastes.</p> |



|   |   |
|---|---|
|  | <b>Category:</b> Green MSME<br><b>Earth Tatva</b> offers green cutlery & green building solutions through recycled ceramics tableware & architectural products.   |
|  | <b>Category:</b> Green MSME<br><b>EnvoProtect</b> offers plastic recycling and waste-to-energy solutions.   |
|  | <b>Category:</b> Green MSME<br><b>Code Effort</b> recycles cigarette butts into various products like paper and textiles.   |
|  | <b>Category:</b> Business association<br><b>MSME Business Forum</b> is a network hub of erstwhile corporate executives, investors, and industry experts striving to enhance the MSME and SME profitability. |

## Uruguay

### Participant group business associations

|                  |   |
|------------------|---|
| <b>Date</b>      | <b>February 21, 2022</b>  |
| <b>Attendees</b> | Cámara Nacional de Comercio y Servicios –   |
|                  | Ana Laura Fernández, Economist  |
|                  | Facundo Bentancor, International Relations  |
| <b>Team</b>      | Virginia Robano, Sivaranji Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |

### Participant group financial institutions

|                  |   |
|------------------|---|
| <b>Date</b>      | <b>February 22, 2022</b>  |
| <b>Attendees</b> | Federica Abella, Acrux Partners   |
|                  | Santiago Dunne, UNDP  |
|                  | Massimiliano Riva, Investment Advisor, Joint SDG Fund                             |
| <b>Team</b>      | Virginia Robano, Sivaranji Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |







### Participant group NGO/CSO

|                  |   |
|------------------|---|
| <b>Date</b>      | <b>February 23, 2022</b>  |
| <b>Attendees</b> | Irene Wasilevsky, Sustainable Finance Specialist Consultant,                      |
| <b>Team</b>      | Virginia Robano, Sivaranji Subramanian, Asha Panwar, Sakshi Gore, Sameer Kulkarni |



## Participant group government organisations

|                  |   |
|------------------|---|
| <b>Date</b>      | <b>March 29, 2022</b>                         |
| <b>Attendees</b> | María Laura Lacuague, Ministry of Industry    |
| <b>Team</b>      | Virginia Robano, Sakshi Gore, Sameer Kulkarni |

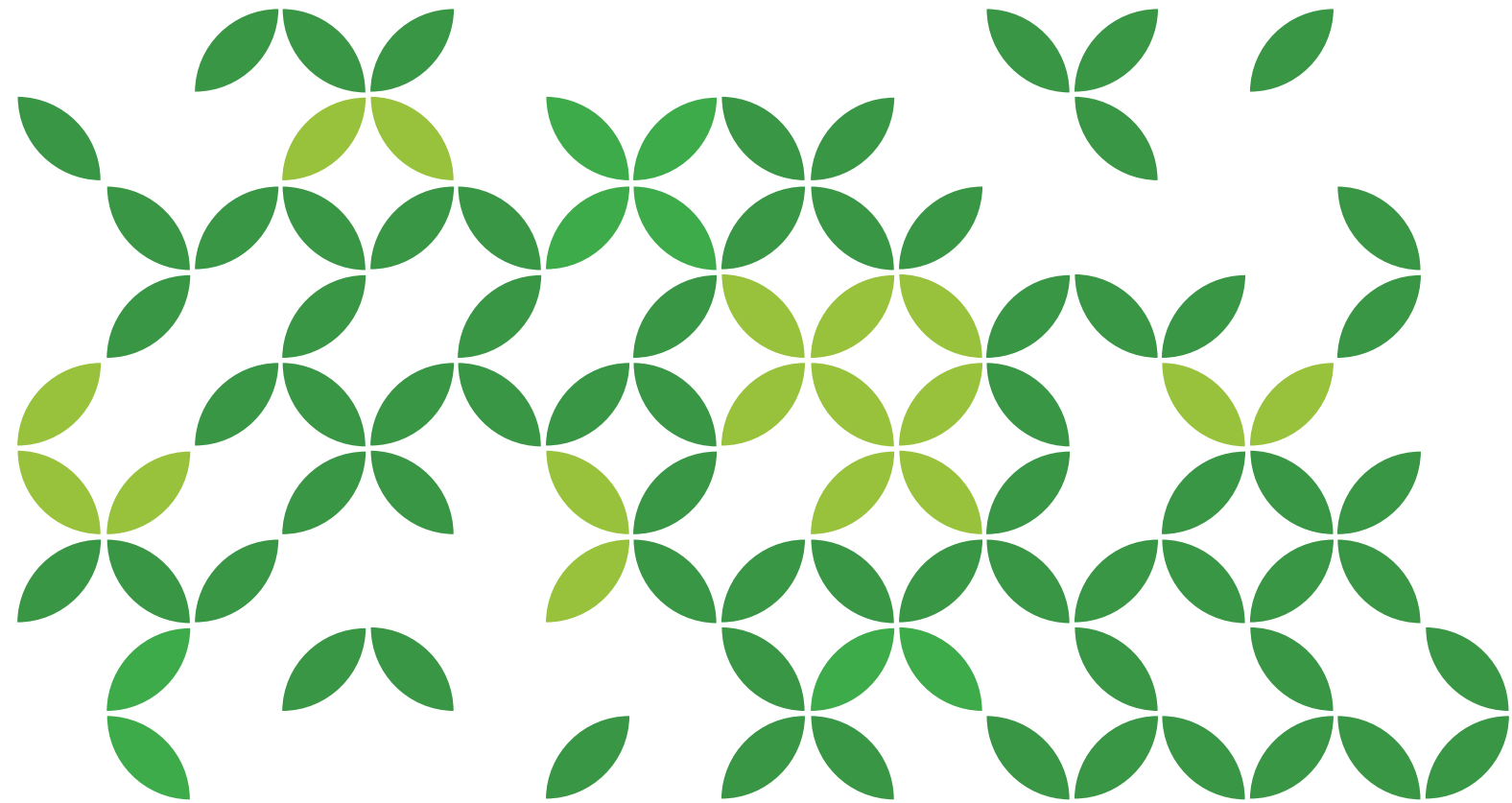
|   |  |
|---|--|
|  <p>MINISTERIO DE RELACIONES EXTERIORES<br/>REPUBLICA ORIENTAL DEL URUGUAY</p> | <p><b>Category:</b> Government institutions</p> <p><b>National Chamber of Commerce and Services</b> of Uruguay aims to improve trade, services, and the private sector of the national economy.</p>  |
|    | <p><b>Category:</b> Financial institution</p> <p><b>Acrux partners</b> work in partnership with experts in different areas: legal and tax, finance, gender lens investment, technology, education, environmental sustainability, SME investment and international cooperation to drive impact investments.</p> |
|    | <p><b>Category:</b> Financial institution</p> <p><b>Joint SDG Fund</b> is an inter-agency, pooled mechanism for integrated policy support and strategic financing.</p>   |
|   | <p><b>UNDP Uruguay</b> works to eradicate poverty and reduce inequalities through the sustainable development of nations.</p>  |
|    | <p><b>UNEP</b> is a global authority for the environment with programmes focusing on climate, nature, pollution, sustainable development and more.</p>   |
|    | <p><b>Category:</b> Government institution</p> <p><b>Ministry of Industry, Energy and Mining</b> is a Ministry of the Government of Uruguay that is responsible for formulating and promoting the industrial, energy and mining policies of the country.</p>   |











**For further information:**

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