Capacity Building Needs Assessment of MSMEs for Innovation and Green Transition Post COVID-19 crisis”

Needs Assessment Report

2023

This report was developed by a joint consultancy team under the TT-6883 REG: Accelerating Gender Equality in East Asia – Technical Assistance Project for Inclusive and Green Recovery, funded by the Asian Development Bank, and commissioned by the Ministry of Environment and Climate Change.

Prepared by: Joint consulting team of IRIM Research Institute, Development Solutions NGO, and Mongolian Sustainable Finance Association NGO

CONTENTS

ABBREVIATIONS

ADB	Asian Development Bank
CE	Circular Economy
DS	Development Solutions
GDP	Gross Domestic Product
IRIM	Independent Survey Institute of Mongolia
KII	Key Informant Interviews
MAE	Monitoring, Assessment and Evaluation
MET	Ministry of Environment and Tourism
MNCCI	Mongolian National Chamber of Commerce and Industry
MSFA	Mongolian Sustainable Finance Association

LIST OF FIGURE AND TABLES

OVERVIEW

The Independent Survey Institute of Mongolia (IRIM), Mongolian Sustainable Finance Association (MSFA), Development Solutions NGO, and Adelphi, an international consulting firm, have been collaboratively providing a Consultancy Service to Develop Capacities on Circular Economy for Micro, Small, and Medium-sized Enterprises (MSME) in Mongolia from November 2022 to May 2024. This initiative, supported by the Asian Development Bank (ADB) and requested by the Ministry of Environment and Tourism (MET), is designed to enhance the capabilities of business owners in the food and packaging sector associated with tourism. The consultancy comprises three main components, with Component 1 focusing on an In-Depth Assessment. This report is dedicated to presenting the capacity building needs on the circular economy (CE) for female-led businesses. Through the In-Depth Assessment, the consulting team has identified and conducted specific capacity building training and topics for consulting activities, and program recommendations.

According to the preliminary results of the 2021, Census on Enterprises by the National Statistics Office (NSO), 38% of enterprises registered in Mongolia have female directors. Notably, within the MSMEs category, over 60% are owned by women. However, the labor force participation rate for women has been decreasing in recent years. According to the MET, the MSMEs constitute over 70% of the tourism industry, with 25.9% (2,134) of them engaged in the hotel, accommodation, and food services sectors, while 6.6% (57) are involved in production.

Numerous studies have investigated the impact of COVID-19 on businesses. One notable study revealed a pervasive negative effect, with the tourism and food production industry experiencing the most significant downturn at 83%[1]. Amidst these challenges, MSMEs encounter major obstacles such as insufficient funding and limited competitiveness capacities, hindering their expansion and market outreach. These constraints also impede the adoption of green economy practices. Given these circumstances, it is crucial to extend technical support to these sectors, especially in the post-COVID era. The assistance ought not only to bolster their recovery but also to facilitate the integration of sustainable, environmentally friendly, and circular economy-based practices into their operational frameworks.

The insights presented in this report are derived from a comprehensive analysis of quantitative data, desk reviews, stakeholder interviews, and case studies involving 400 targeted business owners. The survey participant distribution reveals that 80.5% were female, while 19.5% were male. The survey sample was strategically drawn from project target locations, with 76.5% situated in Ulaanbaatar, 13.5% in Khuvsgul province, and 10% in Arkhangai province. In terms of industry sectors, one-third of the participants were engaged in service provision, encompassing accommodation services such as tourist camps and hotels. Another one-third operated within the food sector, and the remaining portion represented various target sectors, including food production, packaging, and grocery stores.

First, the business owners' knowledge, attitudes, and practices were assessed to determine their capacities in CE. Notably, only 6.5% of respondents claimed a strong understanding of the CE concept, while 66.8% acknowledged having heard of the term, and 26.8% reported no prior exposure. Awareness levels were notably influenced by participants' education and participation in relevant training. An overwhelming 96% of business owners expressed the belief in the importance of integrating CE principles into their sector, and 91.3% expressed a keen interest in incorporating CE into their businesses. Only a minimal percentage (2.3%) indicated disinterest or uncertainty. Participants are optimistic about the future development of CE, envisioning the growth of their sector as either highly or moderately developed over the next five years. It's worth noting that respondents commonly associate CE with simple actions like recycling and waste

[1] The impact of COVID-19 on Businesses 2020-2021 - MET

sorting. This perception directly influences their enthusiasm for learning about and implementing CE practices in their businesses.

Approximately half of the surveyed business owners (49.8%) asserted that their business operations incorporate environmentally friendly, green, and waste-free (CE) practices to some extent. These practices include the utilization of natural materials, repurposing waste as compost or animal feed, and responsible waste disposal through recycling facilities. However, a mere 17% of businesses reported having formal policy documents, funds, and plans specifically directed at integrating environmentally friendly, green, and waste-free production and services. Among the respondents, 31.5% were aware of businesses that had integrated CE-related equipment and technology into their operations within the past five years. The business owners highlighted several challenges in adopting environmentally friendly, green, and waste-free practices. These challenges include:

1. The lack of funding resources and opportunities to secure support - 59.0%
2. The lack of investments - 52.0%
3. Inaccessibility to information related to global, regional and national trends on the recent environmentally friendly technologies and the CE - 49.5%
4. The lack of information on the CE and the design, strategy and solutions to implement it - 46.3%
5. Inadequate policy environment to support and incentivize businesses - 44.0%

The capacity needs of businesses in CE training, consultancy services, and support are closely linked to the challenges identified earlier. Specifically, a substantial majority of business owners (90%) underscored the crucial need for funding sources to integrate CE solutions into their operations. Additionally, the survey revealed a significant gap in information and knowledge concerning sustainable and green finances. The findings indicated that 89% of businesses require more information on waste management, while 87.7% expressed a need for information on organizations dedicated to these topics. A notable observation was that many businesses resort to conventional waste disposal methods, such as transporting waste to garbage disposal sites or utilizing garbage trucks, primarily due to a lack of information and awareness regarding waste sorting and recycling options. Moreover, the survey highlighted a substantial demand (87.7%) for increased information and enhanced knowledge among business owners regarding CE principles. Recognizing the potential benefits of heightened awareness and knowledge, businesses can better incorporate sustainable practices into their operations. Consequently, respondents emphasized the need for more practical and best practice-oriented training sessions and advice to address these gaps effectively.

The foremost benefit (67.3%) perceived by respondents in integrating CE principles into their operations is the opportunity to enhance their social responsibility and serve as role models for others. The second benefit identified by respondents (47.3%) is the reduction in operating expenses, followed by a decrease in production and service expenses (46.5%). Subsequently, there is a notable emphasis on the expected benefits of increased recognition (45.3%) and a boost in sales (45%).

1. METHODOLOGY

1.1. Survey Objective

The primary objective of this survey is to ascertain the necessary knowledge and support capacities essential for the development and design of services and products related to CE for MSMEs operating in the services, food, and packaging sectors within the tourism industry.

The survey employed a mixed design, incorporating a large-scale approach for target MSMEs, with a total of 400 business owners participating in the study. Information was collected from the respondents, covering the following topics:

i. CE Readiness assessment on MSME owners
ii. Assess the knowledge, attitude and practice of MSME owners related to CE
iii. Determine the capacity needs of trainings, consultancy services and other support related to CE
iv. Establish the baseline for Monitoring, Assessment and Evaluation (MAE) for the project.

The report outlines the interests, needs, and support for MSMEs regarding the incorporation of CE products and services into their operations. Moreover, it aims to address the topics mentioned above by offering relevant answers and insights.

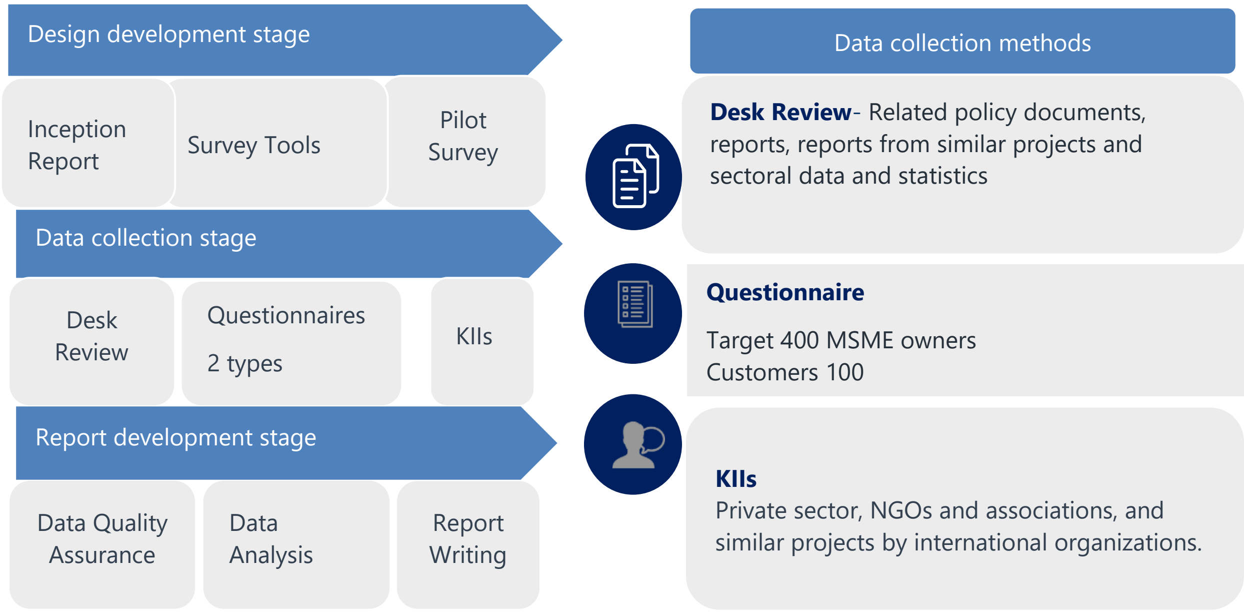
The findings of this survey will serve as the foundation for Component 2 of this consultancy service, which is designed to provide capacity-building training and consultancies related to incorporating CE principles into the products and services of MSMEs.

1.2. Survey Scope and Target Population

MSMEs operating in the food and packaging sectors within the tourism industry in Arkhangai and Khuvsgul provinces, as well as Ulaanbaatar, have been chosen to participate in the quantitative survey. This selection aligns with the Terms of References outlined by the ADB and the request made by the Ministry of Environment and Tourism (MET). Key Informant Interviews (KIIs) for the qualitative survey component included representatives from government agencies, private sectors, associations, NGOs, and similar international projects.

The figure below shows the survey stages and methodology:

Figure 1. Survey stages and data collection methods



1.3. Survey Sample Scope and Size

The following criteria were employed to choose the 400 business owners in the three target areas:

- The business has a female owner (at least 50% of the business owned by the female owner)
- The leader of the business is female (serving either as director or the head of the Board)

A total of 29 KIIs were conducted for the qualitative survey. Informants were selected from the target sector, specifically the food and packaging production and service sector of the tourism industry. The interviews included representatives from various parties, encompassing national and local government agencies, as well as NGOs.

Table 1. Sample size of the quantitative survey

№	Sectors	Location			
		Ulaanbaatar	Arkhangai	Khuvsgul	Total
	Quantitative survey sample				
1	Food and beverage service providers (restaurants, nightclubs, street food, etc.)	68	4	6	78
2	Food production and services (canteens, restaurants, etc.)	101	10	27	138
3	Packaging (plastic)	6	0	0	6
4	Accommodation providers (hotels, tourist camps, etc.)	87	26	15	128
5	Food and Beverage Providers	12	4	0	16
6	Grocery Stores	16	8	10	34
Total		**290**	**52**	**58**	**400**
	Qualitative survey sample				
7	Government Agencies	5	3	2	10
8	Private Sector Companies	5	1		6
9	International Projects	4			4
10	Academia, Training and Survey Institutes	3			3
	NGOs and Associations	5	1		6
Total		**22**	**5**	**2**	**29**

Table 2. The following two businesses participated in the survey to exemplify best practices.

№	Organizations	Types of operation	Characteristics
1	Jamo Grand LLC	Tourist camp	The company is committed to the 5R principles of CE. Specifically, they emphasize minimizing waste at every operational stage, spanning from procurement to offering accommodations and meals. Additionally, they integrate practices aimed at conserving energy and water, while adopting environmentally friendly solutions and adhering to high standards.
2	DMD LLC	Tour operator and tourist camp	The company operates a nomadic tourist camp with a focus on minimizing waste and conserving water. The camp features structures made from natural materials, avoiding the use of concrete and plastic. It attracts tourists who prioritize minimizing their environmental footprint while traveling.

See Annex 1 for the notes of the findings.

1.4. Survey Stages and Framework

The survey was conducted in the following 3 stages between March and May 2023:

1. Survey design stage: The survey team formulated the Inception Report by incorporating client feedback on methodology and survey tools in this stage. Subsequently, the team initiated preparations for field data collection and the pilot phase, and the training for field data collectors was conducted.

   i. Pilot survey - The core survey team conducted the pilot survey on the field. The survey tools were refined and finalized following discussions with the client, and upon obtaining approval. Subsequently, the team commenced the actual data collection.

   ii. Field data collectors' training - The training, which aimed to familiarize field data collectors with the survey objectives and data collection methods and tools, took place on March 22, 2023. Following the training, data collection exercises were implemented, and an Assessment Test was administered to evaluate the knowledge of the training participants.

2. Data collection stage: The quantitative survey's data collection occurred between March 24 and April 15, 2023, across the three designated areas. Ten field data collectors were responsible for gathering the data.

   i. Members of the consultancy service team conducted the KIIs themselves for the qualitative data collection.

   ii. After concluding the data collection, quality assurance measures were implemented through monitoring and audio checks.

3. Report writing and conclusion stage: To analyze both quantitative and qualitative data, SPSS 26.0 and the atlas.ti statistics programs, commonly used in social science, were employed. The core survey team developed the Final Report after the client approved the scope of the report.

1.5. Survey Limitations

Locating some respondents proved challenging due to the seasonal nature of the target sector. Additionally, there were limited opportunities to visit the sites and make observations as the data collection was conducted during the off-season of the industry. Therefore, surveyers documented notes based on general observations.

2. Market Overview

The tourism industry was one of the significant contributors to the Mongolian economy, constituting 6.7% of the country's GDP, employing 7.2% of the workforce, and generating revenue of 1.8 trillion Mongolian tugriks (approximately 670 million USD) in 2019[2]. However, the number has significantly decreased due to COVID-19, but there are signs of recovery. The food, beverage, and packaging manufacturing sectors within the tourism industry play crucial roles in meeting the demands of the 500,000 tourists who visit from different parts of the world annually. Nevertheless, this sector is also among the largest contributors to carbon dioxide emissions and waste production, adversely affecting the environment[3]. The food, beverage, and packaging sector within the tourism industry comprise diverse MSMEs, such as tourist camps, culinary production, and catering businesses like restaurants, food courts, and cafes, along with packaging manufacturers. As per the MET, MSMEs operate 70% of the tourism industry[4]. In 2021, 25.9% (2,134) of establishments are engaged in hotel, accommodation, and culinary services, while 6.6% (57) are involved in processing production, as per the statistics[5] and there are a total of 520 hotels, 526 tourist camps and 200 food establishments in the tourism industry in Mongolia[6]. The "Impact of COVID-19 on Businesses 2020-2021" report by the MET indicates that the Mongolian tourism industry, particularly businesses in hotels and food production, has been severely affected, with an impact rate of 83%[7].

2.1. Supply of the Food Beverage and Packaging

The "Switching on the Green Economy" project, funded by the European Union through its SWITCH Asia program, aims to reduce greenhouse emissions, adopt CE practices, and consequently contribute to poverty reduction. The "In-Depth Assessment of the Agri-food and Beverage Sector", conducted as part of the project, provides an overview of the current state of these sectors:

Food and Beverage Manufacturing Overview: There are a total of 162 factories in Mongolia, including 30 soda factories, 90 bottled water manufacturers, and 44 juice producers. Within the food and beverage manufacturing sector, 61% are food and culinary producers, 25% are beverage manufacturers, and 7% are involved in food production and services. A notable feature is that 95% of these establishments have national investors, with 70% holding Limited Liability Company (LLC) status. In terms of operational size, 37% operate in areas up to 100 square meters, 23% in 101-200 square meters, 16% in 201-500 square meters, 10% in 501-1000 square meters, and 15% in more than 1001 square meters. Nearly half of these businesses are micro (55%) and small (36%) enterprises with 11-50 employees, and the remaining 9% fall into the medium business category. The average annual income of these establishments is distributed as follows: 54% with an income of 99 million Mongolian tugriks, 18% with an income of 100-299 million, 15% with an income up to 1 billion, and 9% with an income up to 2.5 billion Mongolian tugriks.

Regarding their raw materials, 38% of the manufacturers source locally, 24% obtain them from wholesalers, 18% import from companies, 12% handle their own imports, and 8% produce the materials themselves. Depending on their operations, equipment maintenance needs vary, with some requiring frequent cleaning

---

[2] Tourist Sector News. (2021) Source: https://ikon.mn/n/2cf1
[3] MOFALI. Tourism Sector News. (2020) Source: http://mofa.gov.mn

[4] JICA. Data Collection Survey on Sustainable Tourism Development in Mongolia. (2021) Source: https://openjicareport.jica.go.jp/pdf/12366928.pdf

[5] NSO. SMEs by economy sectors. (2021) Source: Ihttps://www2.1212.mn/tables.aspx?tbl_id=DT_NSO_BR_01V2&T1_select_all=0&T1SingleSelect=_4_8_3&YearY_select_all=0&YearYSingleSelect=_2021&viewtype=table

[6] MET. Strategy to Support the Recovery of Tourism Industry - Inbound Tourism 2022-2024

[7] MET. Strategy to Support the Recovery of Tourism Industry - Inbound Tourism 2022-2024

and maintenance. In terms of product storage, 38% use plastic bags, 18% utilize recycled plastic boxes, 18% opt for recycled paper bags, 10% prefer glass containers, and 6% utilize fabric bags. Concerning distribution, 50% of these businesses sell their products in Ulaanbaatar, while 49% cater to local areas. Additionally, 1% is exported, with 33% sold to retailers, 24% to wholesalers, 26% directly to customers, 8% to food and culinary service providers, 5% to merchants, 2% to processing factories, and 2% to cooperatives and collectives. Regarding waste management, 10% of businesses create compost from their waste, 9% incinerate it, 2% bury it underground to flatten ground, 19% repurpose it as animal feed, 16% sell it to others, and 37% dispose of it without any further use.

Retail Sales and Services Overview: In terms of retail sales within food-producing, transporting, and storage businesses, there are a total of 6,266 food retail establishments in Ulaanbaatar. Additionally, there are 8,320 businesses operating in the food production and catering sector, with 47% located in provinces outside the capital city, and 53% in Ulaanbaatar. The majority of these businesses are engaged in the hotel and restaurant sector (1,570), bars and karaoke (1,331), kindergartens and schools (1,600), and state agencies' food courts.

This sector employs over 40,000 individuals, providing 600,000 to 650,000 seats in restaurants and food courts. Of these, 47% are retail sellers, 37% are food producers and caterers, 7% are storage companies, and 8% are involved in transportation. Among them, 85% are micro-enterprises, 11% are small businesses, and 4% are medium and large enterprises. Regarding operational space, 11% of these businesses operate in areas up to 10 square meters, 30% in 10-30 square meters, 16% in 31-50 square meters, 21% in 51-100 square meters, 12% in 101–200 square meters, 6% in 201-500 square meters, and 4% in areas more than 501 square meters. In this sector, most MSMEs have national investors, with 67% being self-employed and 29% operating as LLCs. The duration of business operations varies, and the majority of businesses employ 1-10 individuals with an average annual income of 99 million. Among these enterprises, 85% reported adopting practices to conserve water, 17% use gray water, 39% utilize energy-efficient equipment, 35% employ multiple-use materials, and 38% use recycled materials. A significant percentage, 82%, stated that their equipment requires frequent cleaning, and 83% reported a need for regular maintenance. Regarding product storage, 34% of businesses reported using storage areas, 46% utilize refrigerators and freezers, and 14% have storage equipped with coolers. In terms of distribution, 69% of businesses deliver their products directly to customers, 21% to enterprises, and 8% to state agencies.

Packaging Producers Overview: There are more than 57 factories dedicated to producing packages, employing a total of 3,000 individuals, and generating an annual production value of 150 billion tugriks. This constitutes over 60% of the domestic manufacturing market. According to statistics, the demand for packaging products in Mongolia amounts to 520 billion tugriks per year. However, nearly 70% of this demand is met with imported products, leaving only 30% produced domestically[8]. In other words, local producers are unable to satisfy the local demand for packaging products. Moreover, the sector raises concerns about various environmental issues, including greenhouse gas emissions and waste. It is imperative to prioritize efforts to extend the shelf life of products instead of relying on traditional packaging methods. This involves a focus on recycling, brand development, the production of value-added products, and cost reduction. These measures are crucial not only to enhance the capacity to meet demand but also to mitigate the adverse effects on the environment.

MSMEs Led by Women in Target Sectors:

According to the preliminary results of the 2021 Census on Enterprises by the National Statistics Office (NSO), 38% of enterprises registered in Mongolia have female directors. Particularly noteworthy is the fact

[8] MOFALI (2020) Packaging Sector. Source: https://www.mofa.gov.mn/home

that within the MSMEs category, over 60% are owned by women. However, there has been a decline in the labor force participation rate for women in recent years. In the first quarter of this year, the labor force participation rate for women was 50.4%, while the rate for men was 66.5%. Breaking it down by business sectors, women in the agriculture sector (52%) are predominantly jointly running their businesses, while the percentage of women in retail (80%) and service provider (80%) roles is notably high. In the hotel, restaurant, and processing sectors, 41.6% of MSME business owners are female, and 58.4% are male-owned, resulting in a ratio of 1:1.4[9].

2.2. Demand for Food, Beverage and Packages

Mongolia attracts over 500,000 visitors annually from all corners of the world, as per the statistics[10]. The Global Sustainable Tourism Council predicts a gradual recovery in the Mongolian tourism industry, with an expected increase of 5.5% between 2021 and 2023. Consequently, the food, beverage, and packaging sector within the tourism industry is also anticipated to experience growth.

Simultaneously, one-third of the globally produced food (1.3 billion tons annually) goes to waste, while a staggering 1 billion people face starvation. The food chain is not merely a social and ethical concern but also has significant environmental implications. A substantial amount of natural resources is utilized in the production, distribution, and storage of food products. Food waste alone contributes to 8% of global greenhouse gas emissions, consequently impacting climate change. Given these circumstances, there is a critical need to prioritize the sustainable management of food waste to address issues in the social, environmental, and economic sectors. According to the European Environment Agency, the primary contributors to food waste are households (42%), enterprises in food production and manufacturing (39%), hotels and restaurants (14%), and retailers, grocery stores, and supermarkets (5%)[11]. In summary, it is crucial to prioritize manufacturing practices that are efficient, environmentally friendly, resource-efficient, less wasteful, and centered on recycling, rather than simply attempting to meet demand without considering these factors.

[9] NSO. Enterprises led by women. (2021) Source: https://www2.1212.mn/

[10] MET. Strategy to Support the Recovery of Tourism Industry - Inbound Tourism 2022-2024

[11] FAO. European Commision Preparatory Study on Food Waste (2022) Source: https://www.eea.europa.eu/media/infographics/wasting-food-1

3. Challenges and Opportunities

One of the most significant challenges the Mongolian tourism industry has faced is undoubtedly the COVID-19 pandemic, and its lingering effects persist to this day. According to the MNCCI report, tour operators' income decreased by 80%, hotels by 63%, tourist camps by 84%, and restaurants by 51%. The findings indicate that many of these businesses continue to grapple with challenges in paying their bills and taxes, including property tax, social insurance, income tax, and rental fees. In other words, MSME owners are still navigating the aftermath of the pandemic and working towards recovery.

Table 3. The Study on the Impact of COVID-19 on business owners in the tourism industry[12]

	Restaurants	Hotels	Tourist camps	Tour operators
IMPACT ON THE OPERATIONS OF BUSINESSES				
Operational status of the businesses	- Operational (100%)	- Currently operating (89.2%) - Currently non-operational and planning to resume their operation (5.4%)	- Currently non-operational and planning to resume their operation (68.9%) - Currently operating (27.9%)	
Changes in the income and the number of employees	- Income decreased by 51% - The number of employees decreased by 50%	- Income decreased by 63% - The number of employees decreased by 25%	- Income decreased by 84% - The number of employees decreased by 68%	- Income decreased by 80% - The number of employees decreased by 78%
Impact on the business	- The price of raw materials and products increased (75%) - The demand of the service decreased (37.5%) - The business now has outstanding payments for loans and taxes (37.5%)	- The demand of the service decreased (70.3%) - The business now has outstanding payments for loans and taxes (51.4%) - The price of raw materials and products increased (51.4%)	- The demand of the service decreased (77%) - The income has either decreased significantly or is nonexistent (55.7%) - The price of raw materials and products increased and there is a shortage of available (31.1%)	- No tourists due to border closures (89%) - The income has either decreased significantly or is nonexistent (68.3%) - No funding source anymore (31.7%)
Accessibility of the government support	- Subsidy on water and electricity bills (100%) - Subsidy on Social Insurance payment (87.5%) - Allowance for employees who maintained their position at their organizations /200,000 tugriks	- Government subsidized loan of 3% (67.6%) - Subsidy on Social Insurance payment (62.2%) - Allowance for employees who maintained their position at their organizations /200,000 tugriks	- Subsidy on water and electricity bills (45.9%) - Subsidy on Social Insurance payment (37.7%) - Didn't receive any support (31.1%)	- Subsidy on water and electricity bills (50%) - Didn't receive any support (31.7%) - Allowance for employees who maintained their position at their organizations /200,000 tugriks

[12] MET. Tourism Recovery Strategy Plan, 2022-2024

	monthly for 3 months/ (75%)	monthly for 3 months/ (40.5%)		monthly for 3 months/ (31.7%)
CHALLENGES DURING THE RECOVERY PHASE AND NECESSARY SUPPORTS				
Challenges in receiving tourists in 2022	- Increase in the price of raw materials and products (75%) - Payment of outstanding taxes (50%) - Payment of outstanding property taxes (37.5%)	- Payment of outstanding taxes (51.4%) - Payment of outstanding payments of Social Insurance, and income taxes (51.4%) - Increase in the price of raw materials and products (43.2%) - Payment of outstanding property taxes (35.1)	- Policies and legal measures that overlooks the tourism industry (50.8%) - Uncertainties concerning the assessment and evaluations for resuming operations (39.3%) - Payment for outstanding taxes on land (34.4%)	- Uncertainties related to international flight schedules (64.6%) - Funding sources to do marketing internationally (45.1%) - Loans for generating revenues (43.9%)
Neccesary supports	- Extend the measures to subsidize or waive the water, electricity and heating bills (75%) - Extend the measures to subsidize and waive the payment of corporate income taxes and social insurance (50%) - Extend the deadline for outstanding loan payments (37.5%)	- Extend the measures to subsidize and waive the payment of corporate income taxes and social insurance (51.4%) - Extend the measures to subsidize or waive the water, electricity and heating bills (45.9%) - Ensure the continuity of business operations and avoid implementing lockdown measures (37.8%)	- Provide government subsidized loans for stakeholders of tourism industry (47.5%) - Extend the measures to subsidize and waive the payment of corporate income taxes and social insurance (45.9%) - Reduce the bureaucratic processes in government agencies (29.5%)	- Announce 2022 international and domestic flight schedules immediately (61.7%) - Extend the subsidy on taxes until the end of 2022 (61.7%) - Subsidize, waive or postpone the outstanding payment of social insurance (59.3%)
Activities that need funding support	- Activities to expand their operations within their sector (75%) - Create more jobs (37.5%) - Utilize it for employee salaries (25%)	- Utilize it for employee salaries (48.6%) - Activities to expand their operations within their sector (45.9%) - Create more jobs (29.7%)	- Increase their revenue (52.5%) - Activities to expand their operations within their sector (52.5%) - Create more jobs (34.4%)	- Promote their businesses internationally (47.6%) - Create more jobs (39%) - Activities to expand their operations within their sector (22%)

Tourist destinations are currently in competition with each other, driven by a significant reduction in the number of tourists and demand for international tours. The following trends reflect the competitiveness within the domestic market of the food, beverage, and packaging sector in the tourism industry:

In terms of the market demand, the post-COVID-19 recovery is anticipated to lead to an increase in both domestic and international tourists. However, major tourist destinations are grappling with significant environmental degradation resulting from human activities and climate change. Consequently, there is a shift in tourist demands within the sector, with a preference for packages, products, and services that are not only environmentally friendly but also healthy.[13.]

In terms of market supply, the sector's businesses face significant competitiveness challenges stemming from limited product options, low domestic market competitiveness, a restricted capacity to adapt products and services to meet demand, inadequate sales platforms (mostly reliant on wholesalers), and low production capacity. These circumstances limit MSMEs' opportunities to expand operations, grow market size, and integrate green economy practices into their business operations.

Table 4. Internal and external factors affecting MSMEs

External factors affecting MSMEs	Internal factors affecting MSMEs
Circumstances related to COVID-19 pandemic	The sector is seasonal
Economic crisis	The businesses do not adhere to the standards for tourism infrastructure, including safety measures in manufacturing procedures and services. Limited Infrastructure: The underdevelopment of infrastructure in rural areas poses challenges for running businesses in the food and beverage sectors, affecting the resource supply chain for packaging.
The lack of opportunities to get loan or support from the government	Due to the financial instability, there is a lack of chance to increase manufacturing, the equipment and machinery are inadequate.
Increase in the competitiveness within the market	Knowledge, information, skills and experience to develop products that meet the demand and standards required from the customers are lacking. There have been recent trends that customers in this sector prioritize responsible consumption and embrace sustainable tourism practices.
Market supply chain	Businesses lack a primary channel to sell their products and have limited marketing activities.
Environmental degradation	There is limited awareness, knowledge and information on environmentally friendly production procedures.
Limited awareness and experience in the CE practices	There is no waste management system in place for the tourism sector. At the same time, a substantial amount of waste is generated from food and packaging. Business owners lack knowledge and information on waste management, particularly since the waste management infrastructure is relatively new in Mongolia.
Innovation and digital development	Businesses lack capacity and human resources.

"In-Depth Assessment of Agri-Food and Beverage Sector", conducted as part of the "Switching on the Green Economy" project, funded by the European Union through its SWITCH Asia program—an initiative aimed at reducing greenhouse gas emissions, adopting CE practices, and contributing to poverty reduction—revealed that MSMEs in the sector require funding, training, consultancy services, and government support. The primary challenges encountered by MSMEs in securing funding stem from the

[13] MET. Tourism Recovery Strategy Plan, 2022-2024

limited availability of funding opportunities. Additionally, Mongolian financial regulations pose obstacles, as they demand collateral and impose high-interest rates, making it challenging for businesses to meet loan requirements. On the other hand, MSME owners face challenges in developing project proposals when applying for grants from government-subsidized programs and international projects due to a lack of capacity.

Figure 2. The requests that need immediate action[14]

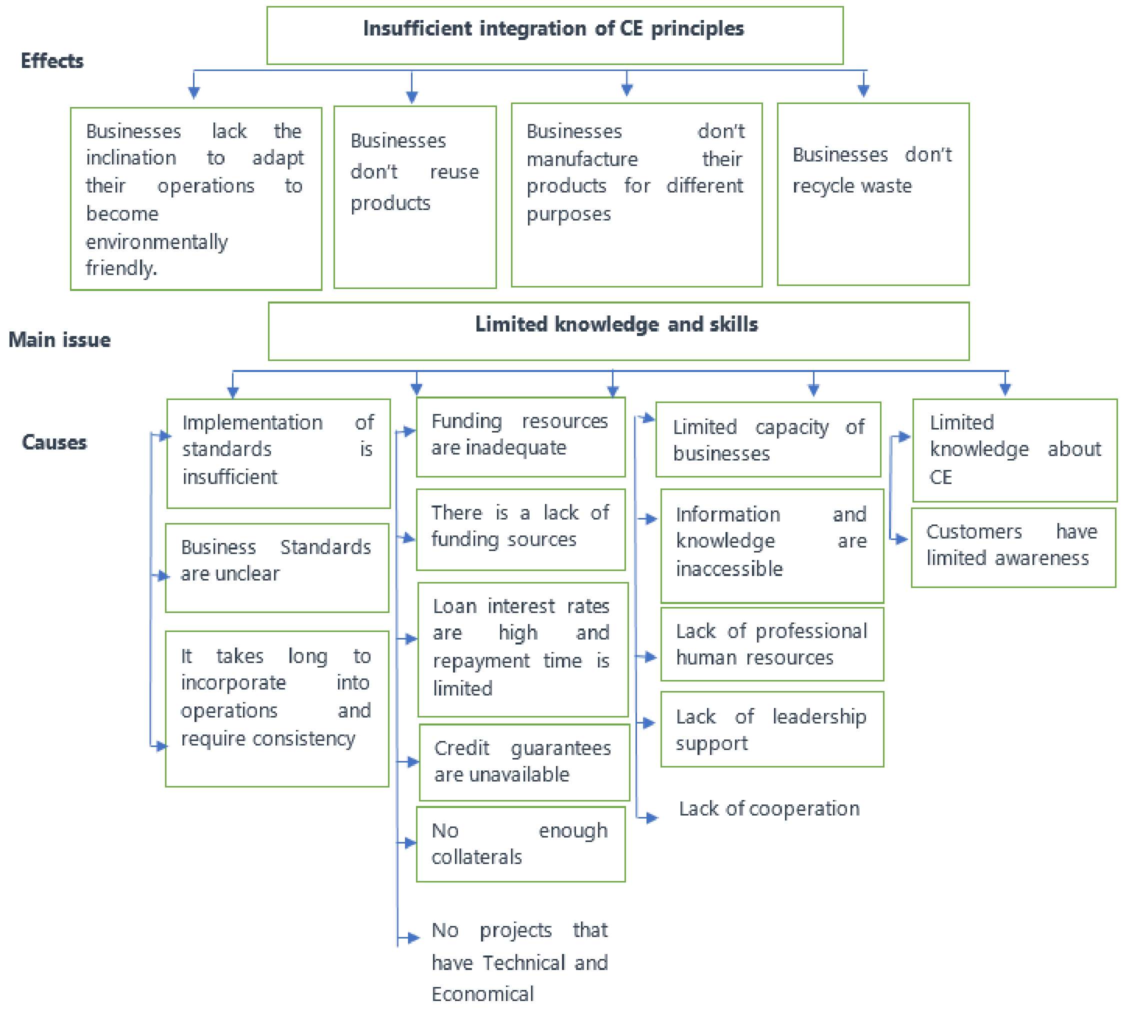
Additional challenges mentioned by the MSMEs include environmental, weather-related, and seasonal factors. They also encounter limitations in channels for selling their products, experience pressures and bureaucratic hurdles from the government, contend with the influence of larger companies, struggle with the scarcity and high cost of equipment, confront low customer awareness, and grapple with a shortage of specialized human resources.

[14] Switching on the Green Economy project (2022) The In-Depth Assessment of Agri-Food and Beverage Sector

Figure 3. Challenges of the sector

The "In-Depth Assessment of Agri-Food and Beverage Sector" revealed that the integration of CE principles in MSMEs' operations is insufficient. The majority of MSMEs lack awareness and knowledge of the concept. The following graphic illustrates the cause and effect of this situation.

Figure 4. Diagram of cause and effect[15]



The tourism sector's development should prioritize environmental considerations and cater to the needs of both local residents and tourists. This can be achieved by enhancing the availability of long-term subsidized loans and increasing awareness of CE principles among MSMEs. With the anticipated growth of the Mongolian tourism sector, there are ample opportunities to address these issues through improved partnerships and the implementation of various projects.

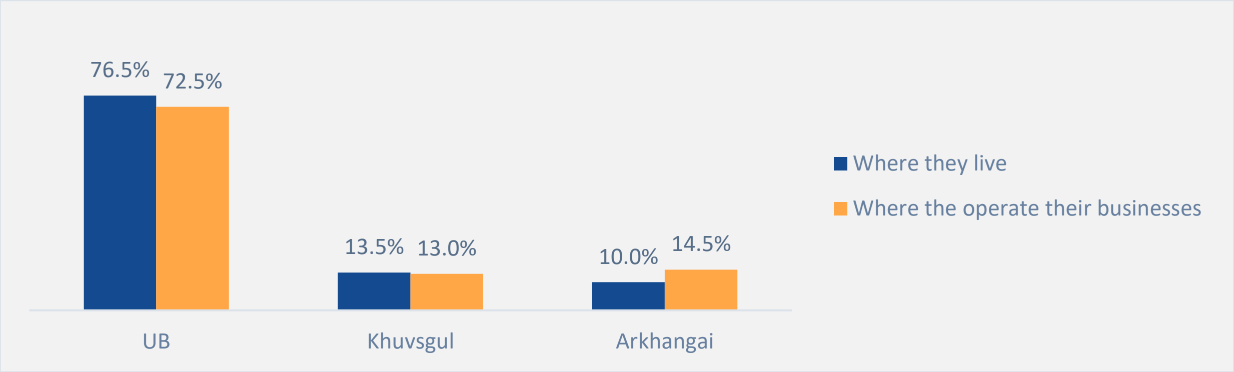
[15] Switching on the Green Economy project (2022) The In-Depth Assessment of Agri-Food and Beverage Sector

4. The Needs of Business Owners Regarding Circular Economy

4.1. Overview of survey participants

Considering the target population of the project, the primary criterion for selecting survey participants was that the businesses are either female-owned or female-led. Consequently, all businesses fulfilled this requirement. However, among the respondents, 80.5% were female, while 19.9% were male, representing their female owners or leaders. It's noteworthy that the locations where they reside and operate their businesses sometimes differ.

Figure 5. Location of where the respondents live and operate their businesses



Out of the 400 respondents aged between 18 and 75 who participated in the survey, the majority fall within the age group of 37 to 39, and 61.5% of all respondents have higher education.

Figure 6. Age group, %

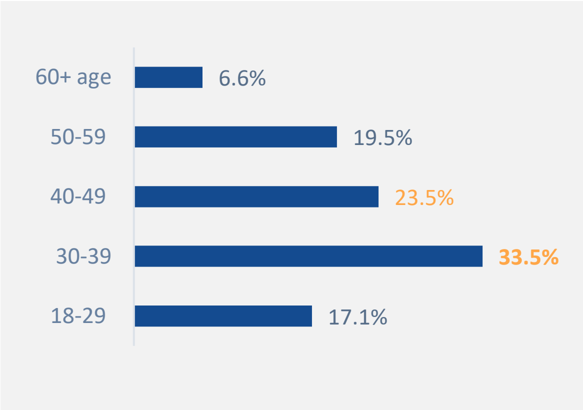
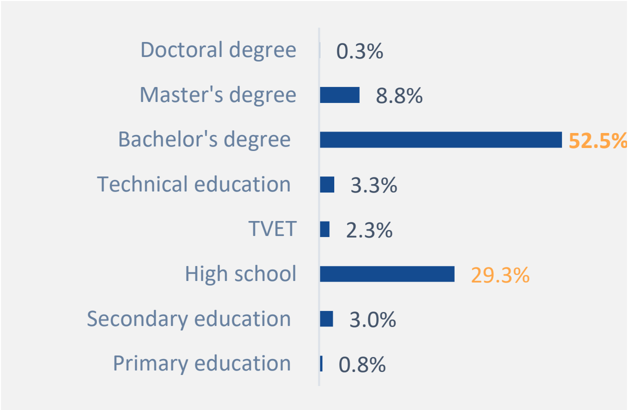


Figure 7. Education level, %



The survey aims to assess knowledge, attitude, and practices, as well as identify needs for knowledge improvement based on the findings. Therefore, it is crucial to determine if there are any differences between respondents with varying education levels.

4.2. Business operation types

This section provides an overview of the characteristics of respondents' businesses including the types of business operations, incomes and the number of employees. 92% of respondents are officially registered businesses, with 90% having LLC status, 1.5% having cooperative and collective status, and 0.8% being NGOs. The remaining 8% consists of family-owned and private businesses. Reasons for not registering their businesses include being involved in a rental business, recently commencing operations, lacking approval to operate, and some reported having no specific reason.

68% of the respondents hold leading positions such as directors, owners, or co-owners, providing a comprehensive perspective on their operations. The next significant group comprises managers overseeing their businesses.

The data collection was conducted based on the sample determined by the target sectors for selecting the participating businesses. The formulation of the survey sample was guided by the NSO's Business registry for the year 2022. According to the registry, 2.6% of businesses are in the accommodation and food sectors, while 2.3% are in the food and beverage sectors. The sample size for these sectors was kept the same in the survey. Additionally, the registry indicates that 11% are in the retail sector. However, since it is unclear how many of them are in the food sector, the sample size for this group was smaller, considering the insignificance of this compared to the other two sectors mentioned above.

In terms of the types of businesses, one-third are related to accommodation, including tourist camps and hotels, another one-third are culinary and catering businesses, including restaurants and food courts, and the remaining one-third are from other types of businesses.

Figure 8. Positions of respondents, %

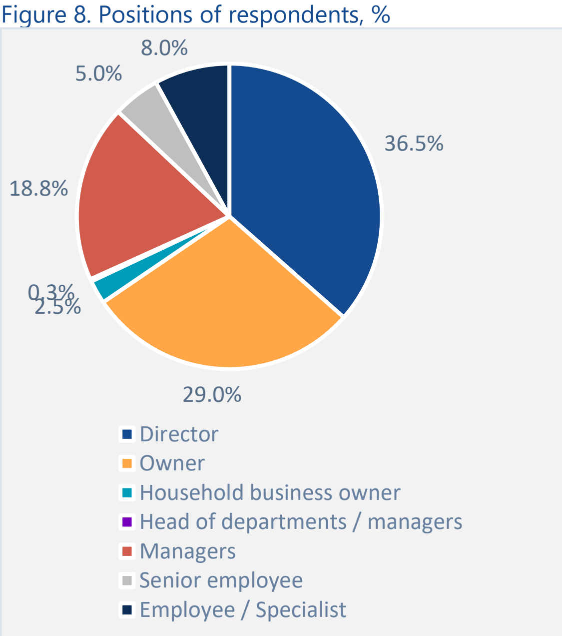
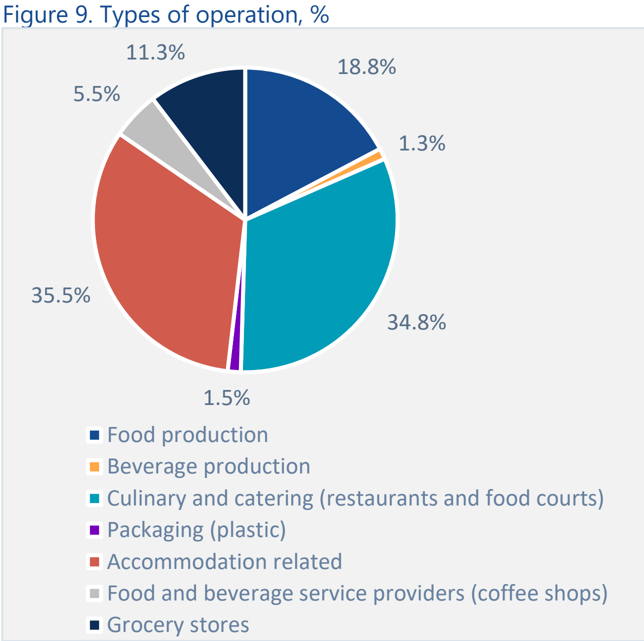


Figure 9. Types of operation, %



97.3% of these businesses have national investors, while the rest have either international or joint investments. The businesses with international investors or joint investors, both national and international, are mostly in food manufacturing and accommodation-related businesses.

The businesses involved in the survey exhibit diverse operational histories, with some being operational for a short amount of time while others for longer. 44.3% of the businesses are relatively new, having operated for up to 5 years, while 37.8% have been in operation for more than 10 years.

Given the project's objective of building the capacity of MSMEs, large businesses with more than 250 employees were excluded from the sample. The majority of the businesses that participated in the survey are micro-businesses with up to 10 employees. (Figure 11). Medium-sized businesses with more than 50 employees are primarily found in food and beverage manufacturing, hospitality, and packaging sectors.

Figure 10. Number of years of operation, %

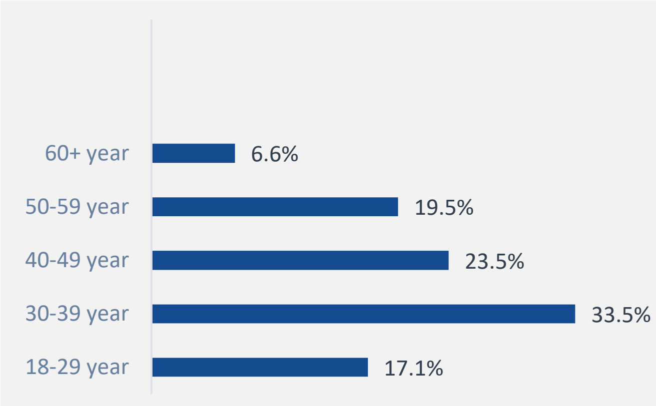
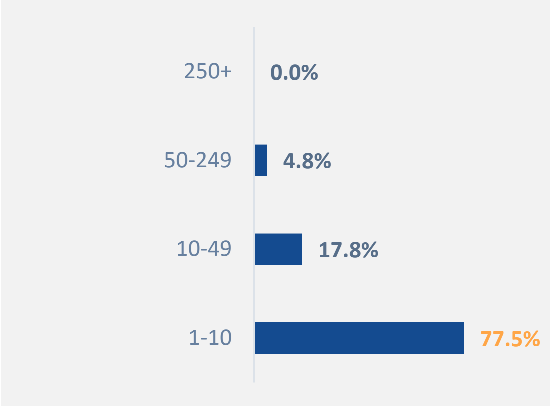


Figure 11. Number of employees, %



80.3% of the businesses operate consistently, while 19.3% are seasonal, and 0.5% operate based on the business owner's discretion for income generation. Seasonal businesses mainly include accommodation and food production, while inconsistent operations are observed in the food and beverage production sectors.

As 20% of the businesses have seasonal incomes, the table displays the annual incomes. (Table 2). The annual revenue of seasonal businesses averages up to 500 million tugriks.

Table 4. Annual revenue 2022

Annual revenue	Total	Consistant	Seasonal
Up to 50 million ₮	**50.7%**	73.4%	25.6%
Up to 99 million ₮	12.8%	84.3%	15.7%
100 - 300 million ₮	19.5%	85.9%	14.1%
301 -500 million ₮	8.0%	84.4%	15.6%
501 million - 1 billion ₮	4.0%	100.0%	0.0%
More than 1 billion	5.0%	95.0%	5.0%

The food manufacturing sector's revenue averages more than 500 million tugriks, while food production averages up to 100 million. Grocery stores have an average revenue of 100-500 million, and accommodation businesses' revenues vary.

The fact that the sample size of businesses participating in the quantitative survey matches the number of employees and enterprise statuses in the Business Registry of NSO 2022 indicates that the sample size accurately represents the overall picture.

4.3. Entrepreneurs' Needs and Requirements Regarding the Circular Economy

4.3.1. Knowledge of circular economy

To comprehend the support needs and prerequisites of entrepreneurs regarding the CE, it is essential to initially ascertain their familiarity and application of this concept. This approach allows us to pinpoint knowledge gaps in the CE process.

Among the surveyed business owners, 6.5% demonstrate a well-founded awareness of environmentally friendly, green, and waste-free technology (CE), 66.8% have heard of it, and 26.8% are unfamiliar with the concept. Notably, the participants' educational background correlates with their understanding of the CE, indicating that an increase in knowledge and education levels tends to correspond with an enhanced awareness of the concept. However, no discernible difference in understanding was observed between urban and rural areas.

Two-thirds (2/3) of the surveyed MSMEs reported having knowledge about the CE. This suggests an increasing integration of sustainable, green, and environmentally friendly business concepts and trends within the tourism sector. Nevertheless, a comprehensive and accurate understanding of the CE appears lacking.

Upon segmenting by activity area, businesses in the food industry and accommodation services exhibit a certain level of knowledge or awareness of the CE. In contrast, those in food and beverage services and grocery store ownership display a weaker understanding of this aspect. The variation in knowledge levels across different business indicators is illustrated in (Table 3).

Table 5. Level of knowledge by some indicators of the organization

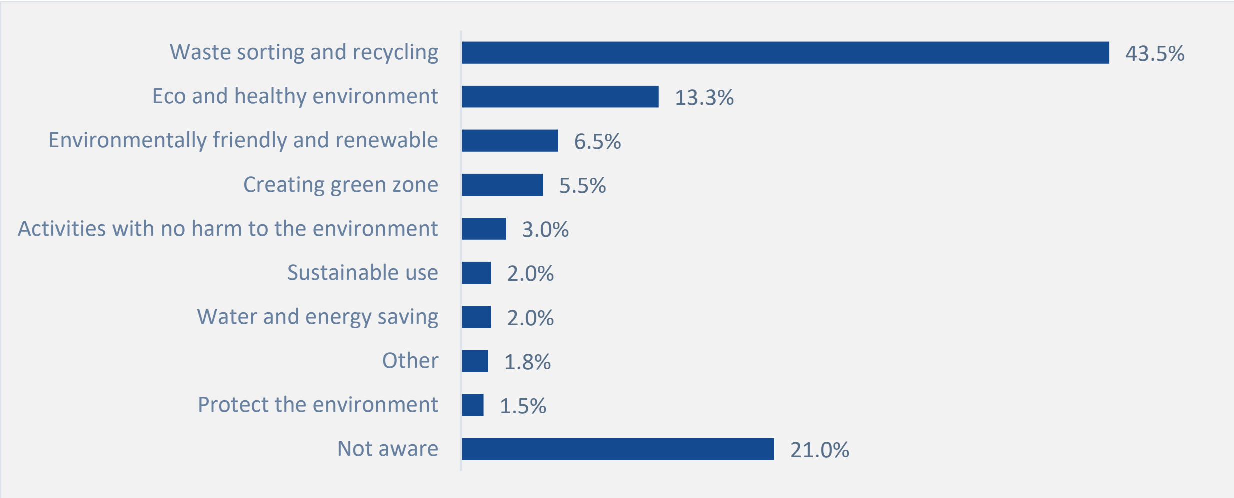
Comparison group	Benchmark	Very familiar	Aware to some extent	Unfamiliar
Position	Director	7.5%	68.5%	24.0%
	Owner	7.8%	63.8%	28.4%
	Family business owner	0.0%	50.0%	50.0%
	Plant and Land Department Head/Manager	0.0%	100.0%	0.0%
	Manager	4.0%	64.0%	32.0%
	Senior employee	15.0%	70.0%	15.0%
	Staff/Professionals	0.0%	78.1%	21.9%
Year of operation	Up to 1 year	2.4%	56.1%	41.5%
	1-2 years	2.6%	63.2%	34.2%
	3-5 years	3.1%	69.4%	27.6%
	6-10 years	6.9%	73.6%	19.4%
	11-15 years	10.9%	64.1%	25.0%
	16-20 years	9.8%	61.0%	29.3%
	21 years or older	10.9%	71.7%	17.4%
Number of employees	1-10	5.5%	63.9%	30.6%
	10-49	11.3%	76.1%	12.7%
	50-249	5.3%	78.9%	15.8%
Annual working capital	Up to 50 million ₮	5.4%	62.6%	32.0%
	Up to 99 million ₮	5.9%	62.7%	31.4%
	100-300 million ₮	9.0%	69.2%	21.8%
	301 million - 500 million ₮	3.1%	81.3%	15.6%
	501 million -1 billion ₮	6.3%	87.5%	6.3%
	1 billion ₮ or more	15.0%	70.0%	15.0%
Total		6.5%	66.8%	26.8%

Long-established businesses generally demonstrate a better understanding of the CE compared to new businesses. However, representatives from businesses that have been operating for up to 2 years often respond with a high degree of uncertainty, indicating a notable lack of awareness about the CE.

When considering factors such as the number of employees and the amount of working capital, the understanding of micro and small businesses is weak, while the understanding of medium-sized businesses is relatively good.

When comparing the positions of business owners, the predominant response is that they were aware to some extent at all levels. It was observed that at the level of directors, owners, and senior staff, the percentage of those who answered "know well" was higher than that of individuals in other positions.

Figure 12. Entrepreneurs' perception of CE



The entrepreneurs' perception of the Ce is predominantly associated with waste. Subsequently, mentions are made of fostering a healthy environment and engaging in eco-friendly, non-harmful activities. However, a significant portion of respondents lacks a clear understanding of the CE. Additional responses amalgamated recurring themes, including concepts such as organic food consumption, technological solutions, and greenhouse gases.

When queried about specific CE concepts, more than 40% of respondents claimed to possess certain knowledge and information about Green Label and waste management. Conversely, there appears to be limited awareness regarding sustainable and green finance, as well as green technology. Notably, the understanding of green technology is primarily confined to aspects related to water and heat conservation. A substantial 61.8% of entrepreneurs expressed a lack of awareness about sustainable and green financing.

Table 6. Knowledge about CE

№	Values	Well aware	Aware to some extent	Unfamiliar
1	Green label (eco label, organic label, label)	47.5%	28.3%	24.3%
2	Sustainable and green financing	17.8%	20.5%	61.8%
3	Green technologies and solutions	22.0%	30.3%	47.8%
4	Waste management	43.0%	32.3%	24.8%

Comparing knowledge across business types, the weakest understanding of the following sectors is observed:

- The knowledge of the food industry and packaging manufacturers about green labeling is notable, while the knowledge of food industry and food and liquid food service providers is comparatively weak.
- Concerning sustainable green financing, the knowledge of food and food production and accommodation service providers is relatively strong, whereas the knowledge of packaging, food, and liquid food service providers is lacking.
- Good knowledge is found among liquid food producers and accommodation service providers regarding green technology, whereas food and liquid food service providers, along with food industry businesses, exhibit weaker understanding.
- Liquid food manufacturers, packaging production, and accommodation service providers display a commendable understanding of waste management, while knowledge is notably lacking among food production and food and liquid food service providers.

In summary, MSMEs encounter significant challenges related to access to financial sources and financing issues, such as high-interest loans. However, knowledge and information about green financing remain weak. Quantitative and qualitative survey outcomes indicate insufficient understanding of the CE among various stakeholders, including entrepreneurs, consumers, and experts from relevant government organizations.

Particularly, there is minimal impact on waste sorting and waste management despite efforts by organizations in this field. Limited government support and insufficient budget hinder their ability to cover a broader spectrum.

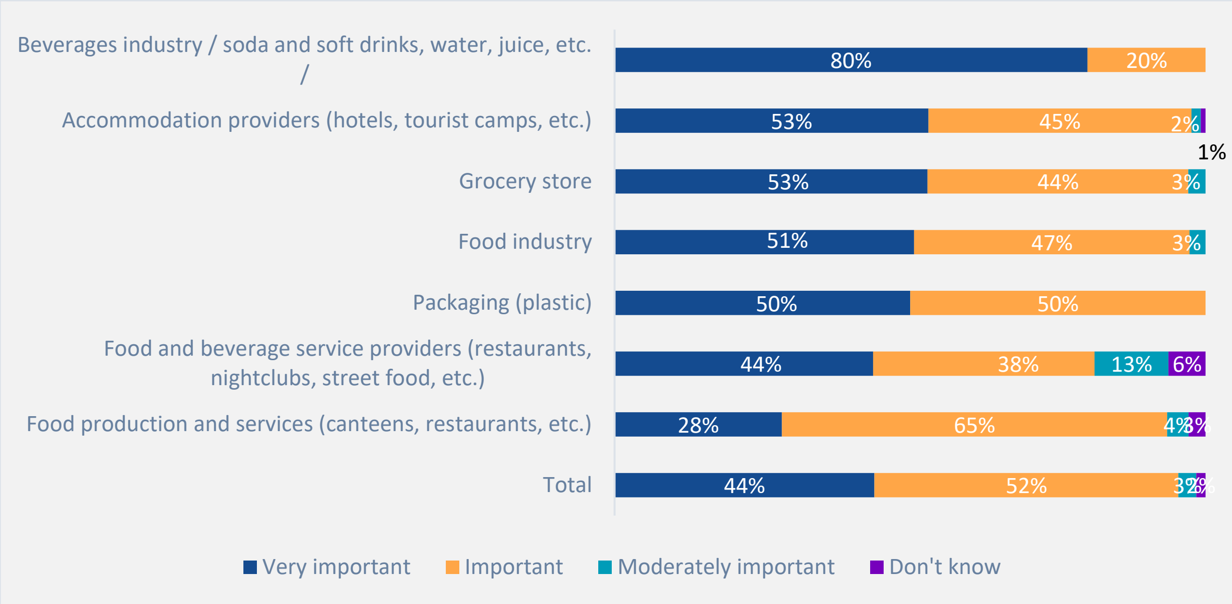
Generally, when evaluating the understanding of the CE in terms of its strategic stages, entrepreneurs exhibit the weakest comprehension of the production and operations stages. Business owners, in particular, have limited knowledge of efficiently using and reducing production and service inputs from the outset, as well as preventing waste. There is a greater emphasis on mid-stage processes, with a focus on waste reuse and recycling. Additionally, it is observed that the concept of incorporating CE principles in the marketing and sales stage aimed at end-users post-consumption is weak.

4.3.2. Attitudes towards the circular economy

Entrepreneurs have evaluated the prospective 5-year development of environmentally friendly, green, and waste-free business practices within their respective sectors. In doing so, they have determined the significance of CE for the future. Additionally, entrepreneurs have identified their training and consulting service needs and have articulated methods and channels for effective information exchange within their businesses. The detailed results are illustrated in the figure below.

Entrepreneurs collectively affirm the high importance of CE development in both their country and industry. The specific results are depicted in the accompanying figure.

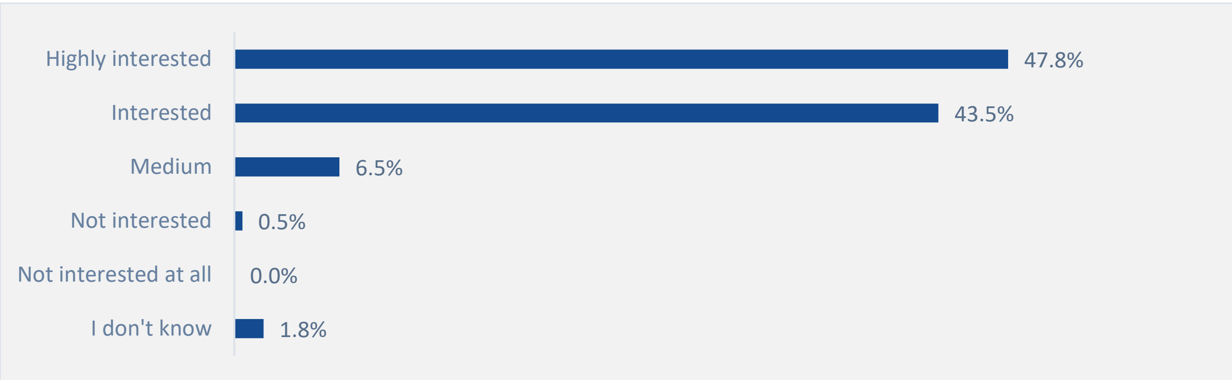
Figure 13. Importance of adopting CE in the country and industry



Entrepreneurs have underscored the importance of introducing CE practices in their industry, with an overwhelming majority (96%) expressing interest in integrating this approach into their businesses in the future. Notably, 80% of beverage manufacturers and 50% of other industries considered it 'very important,' while a smaller percentage of food and water service providers responded with 'moderately important' or 'don't know.' Overall, business owners appear to envision CE as an integral aspect of their future endeavors.

A notable 91.3% of entrepreneurs have indicated their keen interest in developing their business activities in an environmentally friendly manner. In contrast, only 2.3% expressed disinterest or uncertainty.

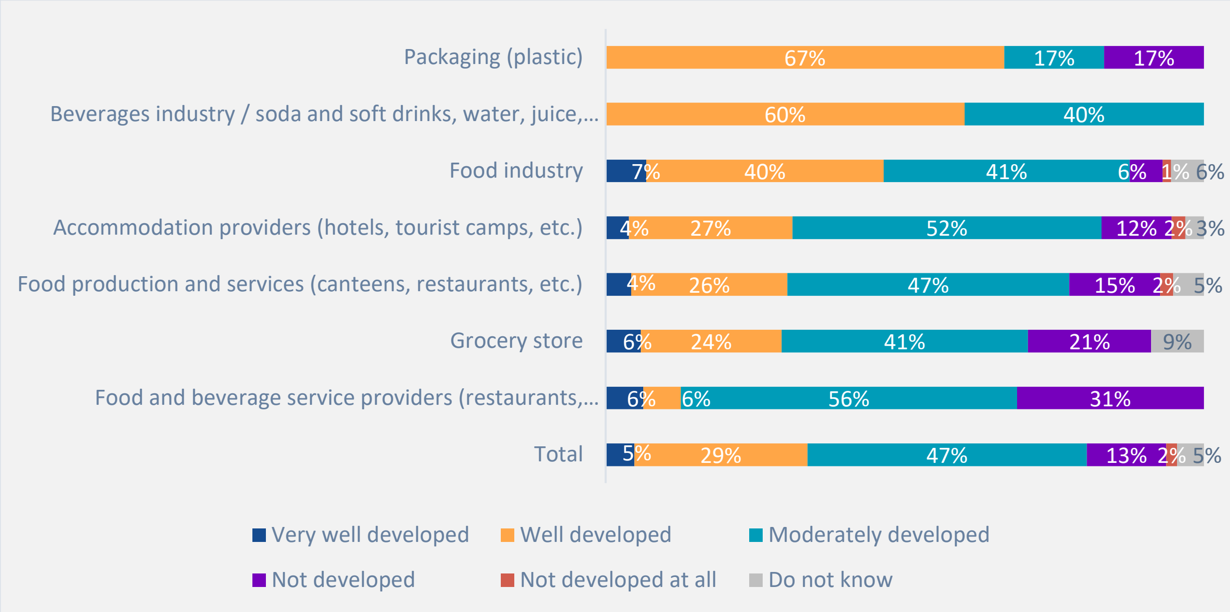
Figure 14. Interest in developing business in an environmentally friendly manner



The result did not reveal any notable differences based on general parameters such as the business direction, form, duration, and stability of entrepreneurs' businesses. However, significant disparities were observed based on participants' familiarity with the CE concept. Entrepreneurs who were previously acquainted with or had prior knowledge of the CE concept expressed a greater interest in developing their business activities in an environmentally friendly manner.

Additionally, entrepreneurs anticipate that the near-term development of the CE in their business sector will be generally positive to moderate.

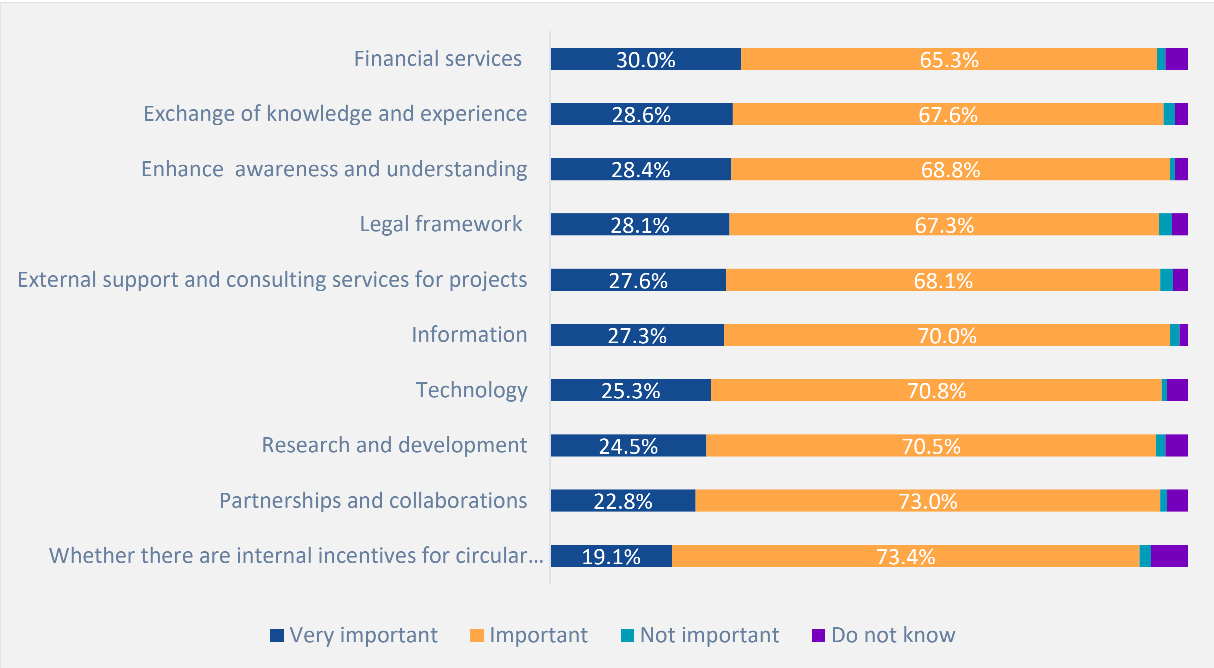
Figure 15. CE's development forecast for the next 5 years



The evaluation of environmentally friendly, green, and waste-free business development within their respective sectors varies among respondents. Notably, more than 50% of entrepreneurs engaged in the production of packaging and beverages characterized the development as 'well developed.' In contrast, 12% of service providers offering food and water assessed the development as 'very well' and 'well developed.' Across most sectors, business owners generally perceived the CE's development to be at an intermediate stage, emphasizing the need for further advancement.

The accompanying figure illustrates the responses of businessmen regarding the importance of factors essential for the future development of environmentally friendly, green, and waste-free business (CE).

Figure 15. Importance given to the factors required for the development of CE



Entrepreneurs rated the level of importance of each of the factors mentioned in the survey as "important" and "very important" by 93 percent or more. In particular, the importance of financial services, knowledge and information provision was answered by a high percentage as "very important". This result did not show any differences depending on general parameters such as business direction, form, duration, and stability of the business of entrepreneurs.

Looking more closely at the quality data, it was observed that the service centers operating in the tourist area are more interested in introducing the CE approach to their operations. Because foreign tourists often make suggestions and demands regarding CE standards and activities.

Quota 1. Foreign travelers are interested in whether CE is implemented in the tourism industry

The number of travelers with this awareness is increasing each year. It has been observed that when travelers express specific requests, such as the availability of waste sorting facilities, the presence of an automated management system, or the issuance of documentation confirming environmentally friendly practices, entities tend to adapt accordingly. However, it is noteworthy that travelers in urban areas seldom make such demands.
This insight is derived from interviews with entrepreneurs.

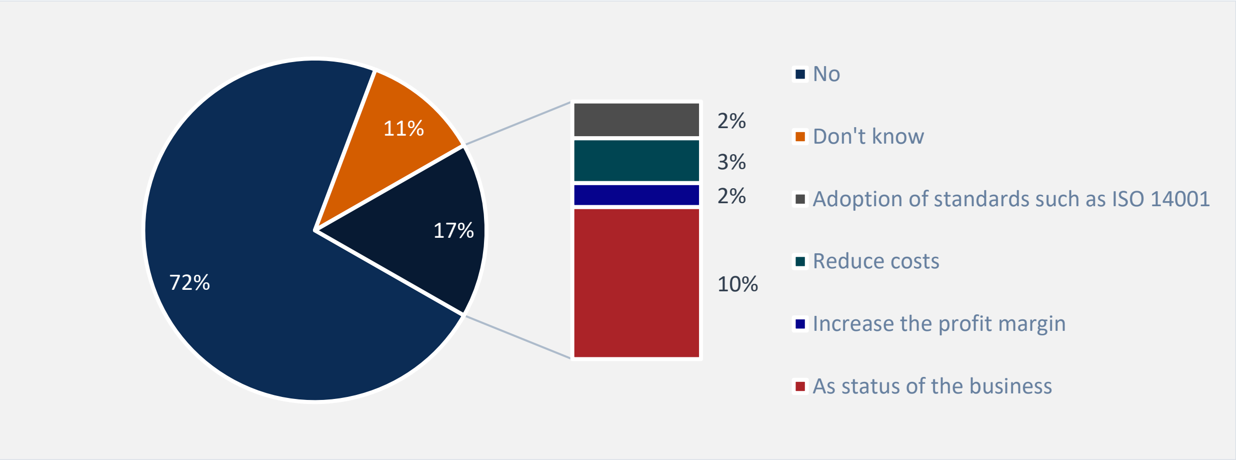
4.3.3. Experience with circular economy

Approximately half of the surveyed businesses (49.8%) reported incorporating environmentally friendly, green, and zero-waste (CE) business processes to some extent in their operations. Notable examples include:

- Products and services using natural materials – 11.5%
- Composting waste – 7.8%
- Using waste as animal feed – 13.8%
- Sending waste to downstream processing plants – 10%, among various other activities.

However, only 17% indicated the existence of policy documents, budgets, and plans specifically aimed at developing environmentally friendly, green, and waste-free production and services. The majority of these initiatives are typically aligned with the organization's mission. This suggests that businesses are inclined to integrate sustainable development goals into their future business policy planning.

Figure 16. Whether the business has a policy document related to CE and, if so, the reason for the development



Among the surveyed businesses, 24.5% of relevant specialists and human resources reported having received training related to environmental sustainability, green practices, and waste reduction. Notably, half of the representatives from businesses that participated in training in this area belong to the group that expressed a strong understanding of the CE concept. This highlights the significant role of training and information counseling in enhancing knowledge.

To specify the types of training attended, participants mentioned programs organized by the ministry and local entities. These included sessions on waste sorting, project-based waste management, obtaining recycled products, green financing, eco-food, among others. Notably, waste management training subjects constitute the majority of the mentioned training topics.

Approximately 31.5% of business owners stated awareness of a business that has introduced equipment and technology related to environmentally friendly or CE practices in the last 5 years. To clarify what solution was introduced:

- Energy-efficient equipment: 8%
- Garbage recycling: 7.5%
- Sewage, biotech, and gray water technologies: 3.5%
- Solar energy: 2.3%
- Organic packaging: 1.8%
- Water-saving technology and steam cleaners: 2.1%
- Gas and energy-efficient refrigerators: 1.3%
- Planting of trees and vegetation: 0.8%
- Notably, 0.5% mentioned the highest frequency of adopting a single-use plastic refusal policy.

Qualitative studies provided examples of tourism-related areas improving waste management and exhibiting more responsible practices. Incorporating these real-world cases and examples into training and counseling activities, along with actively seeking opportunities to learn from such experiences, can significantly enhance results. Detailed case examples are included in Appendix 1; please refer there for details.

4.3.4. Barriers to adoption of circular economy opportunities

The business owners participating in the survey identified the following challenges they encounter in implementing environmentally friendly and green waste-free practices in their businesses.

Table 7. Challenges in implementing CE in your business

№	Challenges in Implementing Environmentally Friendly and Green Waste-Free Business Activities:	Response rate
1	Insufficient economic and financial resources, coupled with limited access to support	59.0%
2	Lack of investment opportunities	52.0%
3	Limited access to information regarding recent developments in environmentally friendly technologies and global, regional, and national trends in the CE	49.5%
4	Insufficient information about CE principles, implementation design, strategy, and solutions	46.3%
5	Inadequate legislative support, incentives, and encouragement	44.0%
6	Lack of knowledge sharing among organizations, government agencies, partners, and users	38.8%
7	Limited support for entering and expanding into new markets	38.5%
8	A limited number of sustainable suppliers in the supply chain in Mongolia	36.8%
9	Uncertainty about what steps to take and where to initiate efforts	36.3%
10	Vulnerability to short-term, unstable political changes	32.3%
11	A scarcity of local businesses capable of providing CE-related services	31.0%
12	Implementation of CE solutions in companies tends to incur high costs	25.5%
13	Absence of leadership and support from top management	25.3%
14	Limited knowledge, skills, and experience among the management team and employees	24.8%

Among the challenges faced by entrepreneurs, economic, financial, and investment issues were prominently mentioned. Approximately half of the participants highlighted the need for a thematic international approach, technological information, and methodological knowledge to implement CE approach. Conversely, internal challenges associated with implementing CE solutions within companies and issues related to leadership, support, and the knowledge and skills of organizational management were mentioned by a smaller percentage compared to other problems, but collectively accounted for about 25% of survey participants. Notably, these results did not exhibit significant variations based on general parameters such as business direction, form, duration, and stability.

From both quantitative and qualitative survey findings, it is evident that coordination among the government, business owners, and professional organizations involved in CE implementation is weak. The lack of government support for businesses in this domain, especially for CE implementers, limits opportunities to disseminate information to the public and influence activities. Consequently, business owners face constraints in acquiring relevant information in this area.

Quota 2. Lack of leadership in local waste management.

There is a notable absence of individuals taking leadership roles in waste management within the context of tourism. This can be attributed to a poor understanding of the issue. Beyond a lack of knowledge, there is a deficiency in the delivery system for waste classification, hindering effective waste management. While individuals have the option to bring their waste for classification, it is not a common practice. Additionally, only Murun soum has an organization that purchases secondary raw materials, and this service is unavailable in other soums. Few individuals express interest in initiating a business focused on collecting secondary raw materials, even after establishing a waste disposal site. The recruitment of public waste inspectors in soums faces challenges, primarily due to financial constraints. This limitation may hinder the ability to implement effective waste management practices.
Specialist, Environment and Tourism Department, Khuvsgul Province

Quota 3. Experiences and Challenges of NGOs Implementing CE approach

After sorting, obtaining the sorted recycled raw materials is a significant task. This process faces challenges when individuals are instructed to separate their garbage but duplicates are not collected. While 60-70% of household waste is recycled, tourist camps achieve an impressive 80-90% recycling rate. Notably, items such as alcohol bottles, water and beverage bottles, and plastic bags contribute significantly to this recycling stream. However, the policy environment lacks support. In the capital, the government spends 40 billion MNT on collecting household garbage and transporting it to landfills. Yet, when waste is recycled from family yards and converted into wealth before being transported to recycling plants, it not only creates jobs but also safeguards the environment. A modest investment of at least 4 billion or even a few million MNT in the recycling industry could help Mongolia effectively manage its waste. Unfortunately, the industry, which has positive societal impacts, receives minimal support, even lacking support as low as 100,000 MNT. While there exists legislation on waste management, mandating everyone to separate their garbage, provisions empowering capital and provincial governors to collaborate on waste recycling projects with companies and non-governmental organizations remain unimplemented. We approach sub-districts of the Chingeltei district, requesting information to facilitate waste collection. In October and November, we have collaborated with several tourist centers in Terelj to streamline waste collection. The aim is to allow individuals to deliver their separated waste in one trip. Seven or eight tourist camps plan to cooperate with us, requesting that we manage their garbage when operations commence in May. They have also sought our assistance in connecting them with providers of trash cans for sorting garbage. In Terelj tourist camps, we've agreed not to charge any fees, instead opting for a 50-50 cost-sharing model for gasoline expenses. As we are distant from our base, we are in the process of negotiating contracts to formalize this arrangement. The initiative is set to commence in May.
It's Not Waste, It's Wealth' NGO

Quota 4. Policy challenges in developing CE approach.

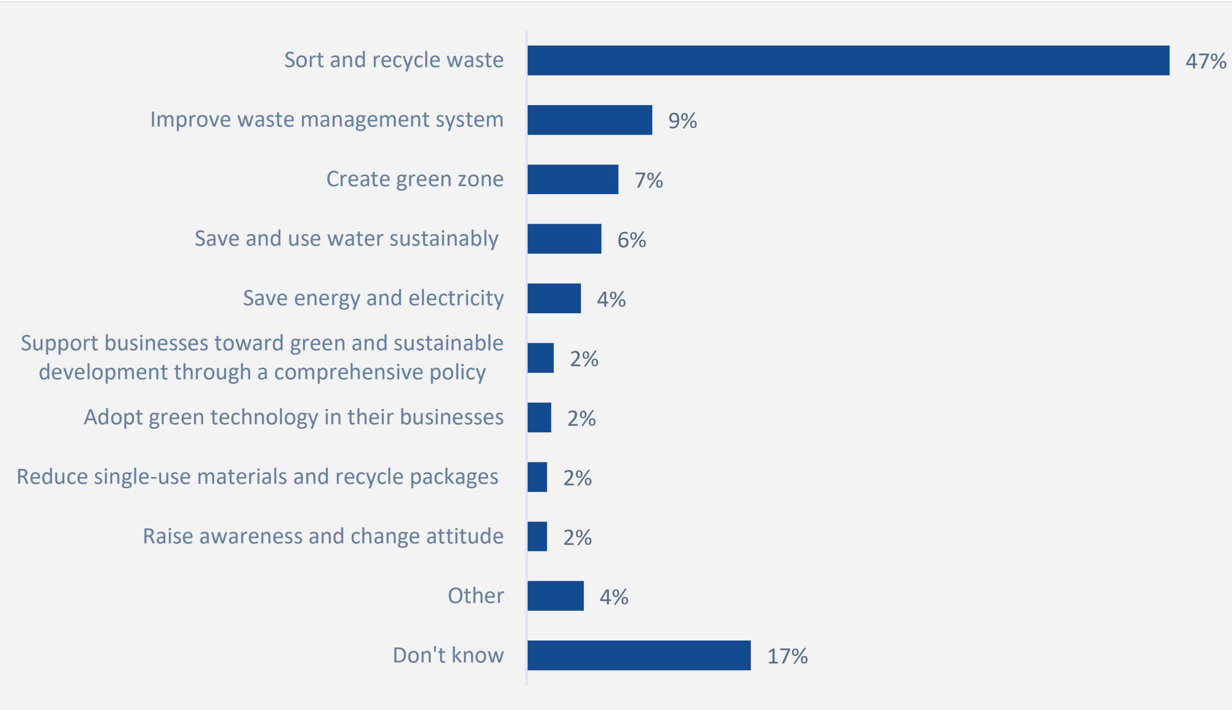
According to the Law on SMEs enacted in 2010, loans were issued, primarily benefiting the packaging sector rather than the recycling sector. The packaging sector, which deals with finished products, enjoys customs duty exemptions. In contrast, the waste sector focuses on recycling imported waste products. However, citizens and

landfills encounter challenges as they must complete E-Barimt documentation when delivering waste to the factory without paying E-Barimt (VAT). To address this, a release mechanism is necessary. It has been suggested that 10% of the original VAT be considered absorbed in the value-added tax on vegetables and wool. This approach should be adopted. Countries that generate wealth through waste processing should be exempted from sales VAT. Such an exemption would significantly bolster the development of this industry.
National Association for Waste Reduction NGO

4.3.5. Need for training and support on circular economy

Entrepreneurs were queried about the environmentally friendly, green, and waste-free principles of CE they plan to introduce and cultivate in their business operations, eliciting open-ended responses.

Figure 17. Desired direction for implementing CE in theirour businesses



More than half of the entrepreneurs who took part in the survey expressed their interest in focusing primarily on "waste sorting and recycling" and "waste management improvement." Additionally, a small number of entrepreneurs mentioned their attention to issues such as creating green spaces, conserving water, using it efficiently, saving electricity, and more.

Businesses perceived a substantial demand (81.9%) for CE training and consulting services.

Table 8. Comparative data on the need for training and consulting services by group

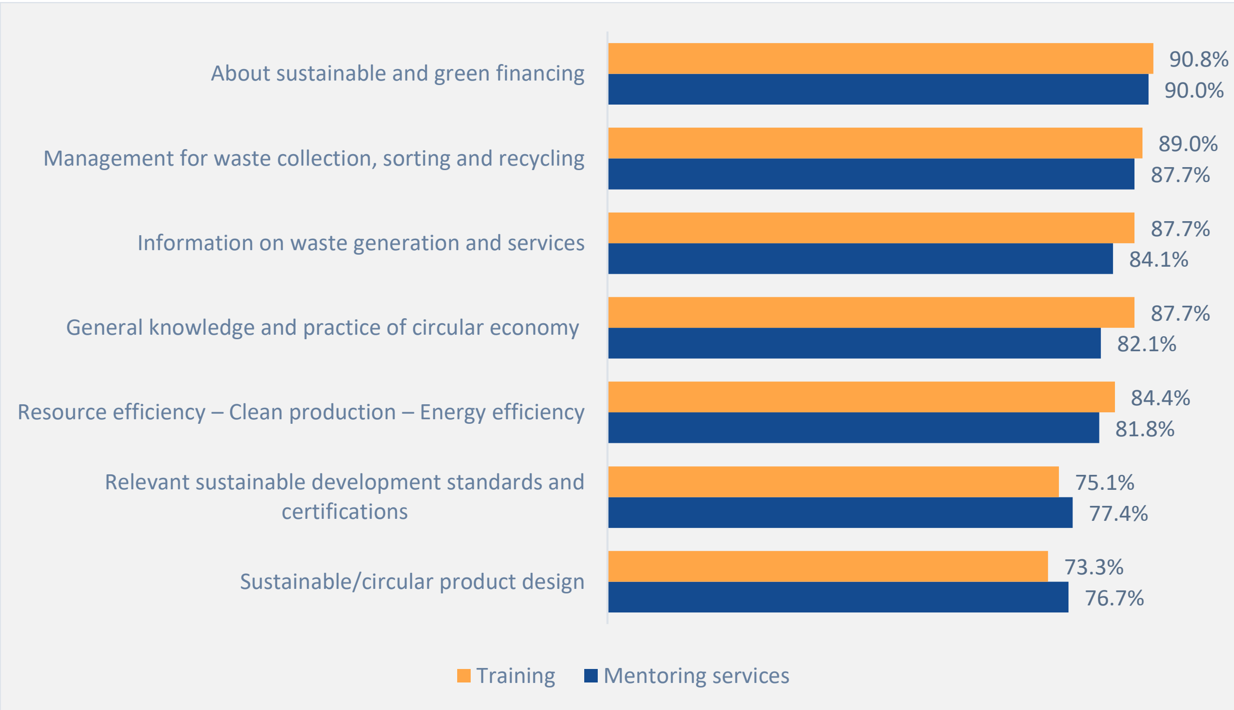
Comparison group	Benchmark	% of need
Areas of activity	Food Industry	80.4%
	Production of beverages (carbonated drinks, water, juice, etc.)	94.2%
	Food production and services (canteens, restaurants, etc.)	81.0%
	Packaging (plastic)	90.4%
	Accommodation providers (hotels, tourist camps, etc.)	82.4%
	Food and beverage service providers (restaurants, nightclubs, street food, etc.)	77.6%
	Grocery =stores	84.8%
Position	Director	85.1%
	Owner	80.0%
	Family Business Owner	92.8%

	Plant and Land Department Head/Manager	100.%
	Manager	79.0%
	Senior employee	77.1%
	Staff/Professional	81.9%
Location	City	78.9%
	Rural	91.4%
Total		81.9%

The demand for training and consulting services varied among different business sectors, with beverage and bottle manufacturers, as well as packaging manufacturers, expressing the highest needs, exceeding 90%. In contrast, food and water service providers indicated the lowest demand, with a percentage of 77.6% compared to other businesses. Additionally, it was observed that entrepreneurs from rural and local areas expressed a higher need for training and consulting services compared to those from Ulaanbaatar city. The table above also illustrates that family entrepreneurs exhibit a higher demand for such services.

The entrepreneurs' needs were categorized into training and consulting services, and the information was evaluated based on specific topics, as depicted in the following figure. No significant differences were noted in needs across the categories of training and consulting services. It may be beneficial to provide additional training in areas such as waste management, sustainable and green financing, and other essential knowledge and information activities. However, seeking consulting services might be more appropriate for tasks such as implementing standards, obtaining certification, and developing the design of sustainable circular products.

Figure 18. Demand for training and consulting services on CE solutions



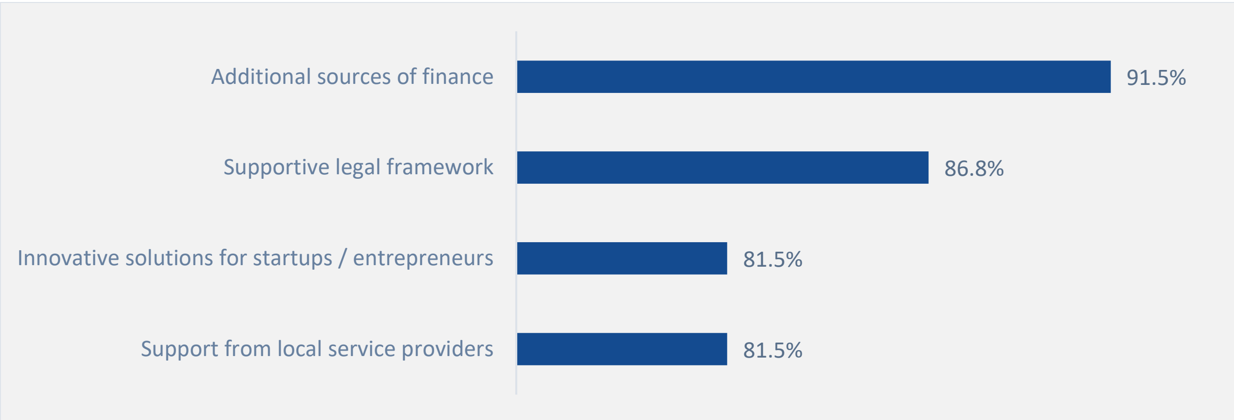
Entrepreneurs expressed strong appreciation for the proposed training topics in the survey. Notably, the concepts of 'sustainable and green financing' and training related to waste management, production, and services exhibited high demand compared to other topics. The significant participation in waste management, production, and service-related training, along with a substantial future training need, underscores the importance of these topics. The comparison data for each group of entrepreneurs and each indicator for the aforementioned questions can be found in the next table.

Table 9. Comparative data on training and consulting service topics by group of entrepreneurs and indicators

Comparison group	Benchmark	A4	A3	A2	A1	A6	A5	A7
Locasion	City	82%	80%	70%	68%	85%	83%	86%
	Rural	97%	89%	84%	84%	94%	95%	98%
Position	Director	88%	86%	77%	74%	89%	90%	92%
	Owner	85%	80%	74%	72%	82%	80%	87%
	Family business owner	90%	100%	90%	80%	100%	90%	100%
	Head/manager of industrial and land department	100%	100%	100%	100%	100%	100%	100%
	Manager	81%	79%	68%	68%	85%	87%	85%
	Senior employee	90%	90%	45%	50%	95%	80%	90%
	Staff/Professional	84%	69%	75%	75%	88%	84%	81%
Areas of activity	Food Industry	81%	84%	73%	77%	84%	80%	86%
	Production of Beverages (Carbonated drinks, water, juice, etc.)	80%	100%	100%	80%	100%	100%	100%
	Food Production and Services (Canteens, restaurants, etc.)	87%	80%	74%	70%	85%	83%	89%
	Packaging (Plastic)	100%	83%	83%	83%	83%	100%	100%
	Accommodation Providers (Hotels, tourist camps, etc.)	87%	84%	70%	71%	88%	89%	88%
	Food and Beverage Service Providers (Restaurants, nightclubs, street food, etc.)	81%	69%	69%	63%	94%	88%	81%
	Grocery Store	85%	85%	79%	71%	91%	91%	91%

In the future, business owners are outlining the support they require for implementing environmentally friendly, green, and waste-free business solutions within the CE framework as follows;

Figure 19. Support needs for implementing CE solutions



Environmentally Friendly, Green, and Waste-Free Business: Over 90% of respondents underscored the necessity for support in creating additional financial resources during the implementation of CE solutions in their business operations. While there was no significant difference in responses based on the company's monthly and annual working capital, a notable trend emerged: as the amount of capital increased, the percentage of those advocating significant support with additional financial resources also increased.

In the survey, 87% of participating entrepreneurs highlighted the need to enhance the legal environment supporting meaningful activities. Respondents particularly emphasized that this pertains to endorsing proposals and initiatives introducing environmentally friendly, green, and zero-waste business (CE) solutions. Notably, more than 90% recommended a 'supportive legal environment' for grocery stores, food and water supply services, accommodation services, and food production service providers.

4.3.6. Training organization

Entrepreneurs shared their preferences regarding effective methods and channels for organizing training and counseling in the field of CE:

A comparison of training organization by location reveals differences in methodology and channels for receiving information. Businesses in the Ulaanbaatar region expressed a preference for training and consulting in the form of lectures, whereas those in local areas favored a more hands-on approach. However, both groups expressed a desire for practical, hands-on training, emphasizing the importance of learning through good practices and conversations.

The perceived need for training goes beyond acquiring knowledge and understanding of the subject; it extends to integrating CE practices into their business routines. Thus, organizing training and mentoring activities based on their own business context and examples is likely to be more effective and beneficial.

Figure 20. Methods of organizing training, %

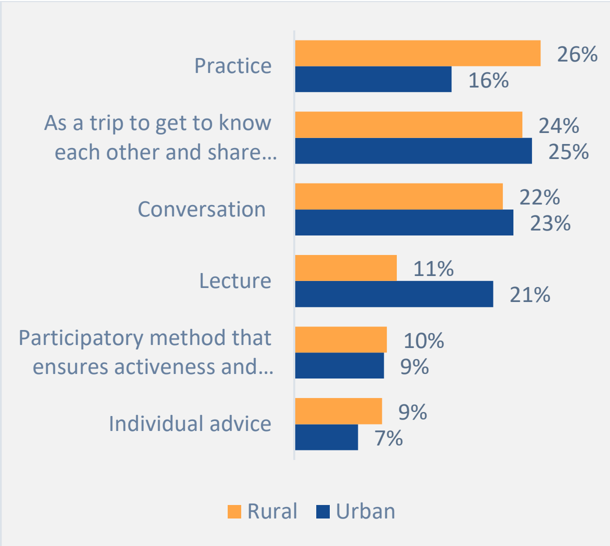
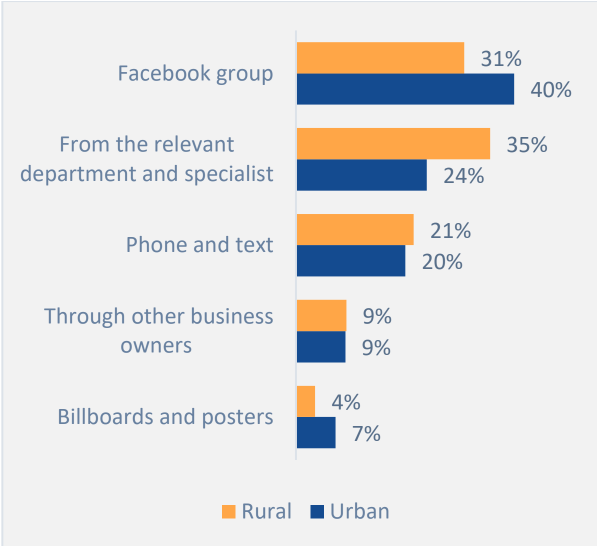


Figure 21. Channels for receiving training and counseling information, %

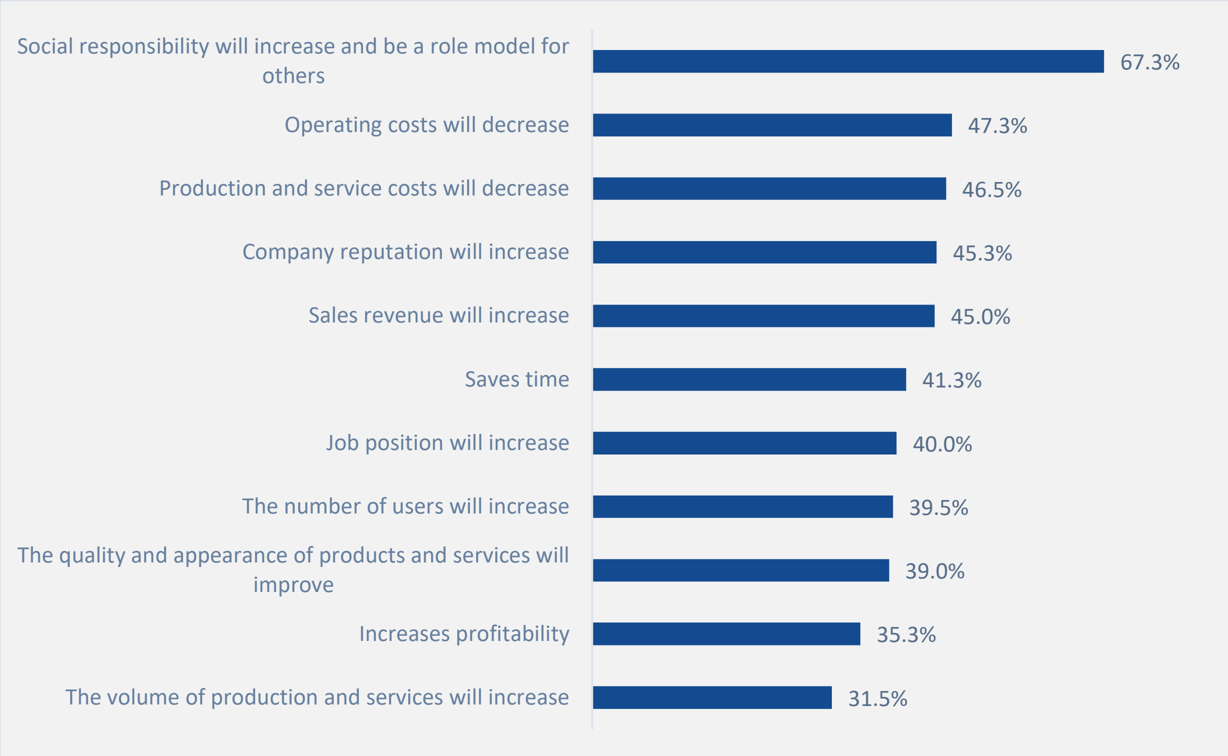


Training and consulting were noted to be more readily available in the city through Facebook groups. Conversely, rural and local residents expressed a preference for receiving information directly from relevant departments and specialists in a face-to-face manner compared to other methods (refer to Figure 19). Nevertheless, utilizing the Facebook platform for direct information delivery was deemed convenient in any case.

4.3.7. Expectation

Entrepreneurs saw the change in their business by using green technology in their industry and services and moving to the CE model, primarily from the point of view of "increasing social responsibility and becoming an example to others." Detailed results can be found in the following picture.

Figure 22. Anticipated changes with the transition to the CE model



Other positive changes were noted by 30% to 50% of surveyed businesses, expressing expectations of reduced operational, production, and service costs. Despite these positive changes in business services, no discernible differences were observed in terms of general indicators such as business direction, form, duration, and operational stability.

5. Conclusion and recommendations

Among the entrepreneurs who participated in the survey, the understanding of the CE concept is insufficient, with the majority having limited knowledge and merely hearing about it. Differences in perception were observed based on business capabilities (number of employees, working capital, length of service, etc.) and the position and education level of the participants. Hence, there is a critical need to prioritize empowerment activities (such as training, consulting services, etc.) focused on CE, especially for small and medium-sized businesses.

Entrepreneurs express significant interest in the development of CE both in the country and within their industry, demonstrating a keen desire to integrate it into their own businesses. To further advance CE, it is crucial to introduce it to financial services, facilitate knowledge and experience exchange activities, and make necessary enhancements to the legal environment. This emphasizes the need for creating an integrated management system aimed at providing business owners with knowledge and information about the CE, fostering connections among them, coordinating their interests and activities with other stakeholders, and monitoring and verifying their actions.

One in four organizations involved in the survey has received relevant training, predominantly related to waste management, sorting, and recycling. Additionally, one in five organizations has experience in developing policy documents, budgets, and plans for environmentally friendly, green, and waste-free production and services. Typically, these are crafted with the intention of introducing ISO standards, reducing organizational costs, and increasing profit levels. Consequently, there is a need to enhance the accessibility of direct training and consulting services in the context of sustainable development and the CE, along with the introduction of policies and planning activities for individual businesses.

Entrepreneurs encounter economic, financial, and investment challenges in implementing CE activities. The lack of methodological and technical knowledge and education further complicates the incorporation of CE solutions into their operations. Therefore, there is a pressing need to enhance coordination and information exchange methods between government institutions, professional organizations, and entrepreneurs responsible for implementing crucial CE functions. Regular distribution of important legal frameworks and support opportunities by the government, provision of technical training by professional organizations, and sharing impactful activities and good experiences among business owners are vital for improvement.

The most valuable training and consulting services for entrepreneurs include information on sustainable green financing and waste sorting, recycling, and manufacturing services. Despite a significant number participating in waste management, production, and service-related training, the high demand for further training in this field underscores the importance of the subject for entrepreneurs. The most effective methods of organizing training and consulting services differ slightly based on the location of the business. Entrepreneurs in rural areas find face-to-face and physical methods more effective, while those in Ulaanbaatar city prefer distance methods (online, telephone, etc.).

6. Appendix

Annex 1—Illustrative cases

Case Study 1

JAMOGRAND LLC, General Manager B. Dulamsuren /99022507/

A tourism enterprise with foreign investment operating three tourist camps, located in Khuvsgul, Terelj, and Umnugobi.

The 5R principles are applied in their business operations.

Rethink - They prioritize choosing products and raw materials that generate less waste before every purchase. All their orders are carefully evaluated based on their contribution to smooth operations.

Reuse - They source water, beverages, and liquid food exclusively from APU JSC because of their commitment to reusing product bottles and plastics.

Repurpose - In 2019, their store was constructed using recycled materials, a feature that has proven highly popular among tourists.

Reduce - They have completely cleared all their warehouses, opting not to store anything. They now sell only what they need and have transitioned from three city warehouses to a single garage. By vacating the warehouse at the tourist camp, they've significantly reduced waste.

Recycle – Although they previously diligently sorted recyclables for two years, they ceased re-sorting after 2019. This decision was prompted by the mixing of sorted garbage with other waste during transportation, making the effort meaningless. Consequently, they established a waste storage facility, focusing solely on sorting plastic and glass, which they manage and return themselves.

The predominant source of waste is plastic from drinking water bottles. To address this, tourists are encouraged not to provide clean water in disposable bottles but to fill their own reusable bottles from public water purifiers or dispensers. However, the implementation of this practice has been hindered, particularly due to concerns among foreign tourists, especially those related to Covid-19 (e.g., potential water leakage when filling from dispensers).

It has been identified that the quantity of trash cans is insufficient, and merely placing more trash cans may not be the ideal solution. When people dispose of waste in bins, it tends to be perceived as general garbage, making recycling difficult. On the contrary, without visible trash cans, waste is treated differently, perhaps as it's not immediately recognized as trash.

The 5R principles are included in the environmental and safety instructions and are actively practiced by the employees. Those who take initiative in waste management are rewarded. While no new ideas have been introduced, employees have access to various off-site courses.

In the city of Murun, Khuvsgul Province, there is a waste management training program, and there is an initiative to designate a special garbage collection day to address waste mixing issues. If this initiative is put into action, it would greatly benefit the camps.

Ways to reduce and prevent soil pollution:

The primary source of pollution to healthy soil is roads, marked for designated use, but visitors often create dirt roads. Consequently, various measures have been implemented to minimize the development of numerous trails around and within the camp. This includes the construction of pedestrian pathways within the camp, restrictions on car roads around the resort, establishment of a single road, and the creation of a cement parking lot. In the Gobi, soil disturbance leads to dust rising, so efforts are made to plant trees, including native species, to mitigate this impact.

Ways to save energy:

In 2019-2021, the camps underwent comprehensive renovations, and energy-efficient lamps with a duration of more than 10 hours were installed. Additionally, a "turn off the lights" reminder is placed under each switch. Water conservation instructions are also posted under each shower and faucet. The Standard Operating Procedure (SOP) for dishwashing follows a specific sequence with illustrated steps, and new employees are introduced to this procedure by the manager and trained through practical application.

Challenges in waste reduction:

The process of shipping and ordering a transporter of the recyclables is unavailable, making it challenging to access services like the "Tsartsaa Nogoon" duplicate service. Controlling the packaging of raw materials poses difficulties; large packages risk spoilage, while small packages generate less food waste. Most items come in small packages, and glass cans are generally considered trash. Attempts to convert food waste into compost faced challenges, with chef training being the most unpredictable aspect. Feeding old food scraps to animals resulted in unpleasant smells as small animals did not consume them.

Challenges in water conservation initiatives:

The company's camps feature outdoor swimming pools, and there is ongoing survey on gray water systems to reuse the pool water for irrigating planted trees. However, opportunities for implementing such systems in Mongolia are limited. Among 11 organizations purifying gray water, 10 consider it unrealistic and unsuitable for tree irrigation. Organizations often produce gray water solely for green loan qualification, and the actual reuse of gray water is not practically implemented. Consequently, efforts to reuse thepool water have been abandoned due to inefficacy, with investigations into European and international solutions underway. While using purified water for tree irrigation, animal watering, and toilet use is beneficial, water purification technology is costly, and Mongolia lacks a suitable solution.

Regarding general industry trends:

The tourism industry exhibits a strong inclination towards becoming more eco-friendly compared to other industries. In most companies, at least one person is environmentally conscious. Many tour operators and tourist camps provide waste education to all staff during their spring training sessions. Additionally, tourists express a desire for eco-friendly travel, leading to training initiatives aimed at aligning the practices of both service providers and customers.

Implementing eco-friendly, resource-saving, and re-use solutions requires capital and is generally undertaken by companies with financial capacity. Broadly speaking, there are three levels of camps in Mongolia: (1) high-end camps with financial resources, catering to foreign tourists (80 percent of the company's customers) who are willing to pay more and are usually well-educated and well-traveled. (2) mid-level camps, which learn from good examples and attract visitors. (3) eco-camps, preferred by mobile and Mongolian travelers, but often generating more waste. Given that high-level CE support bases possess the necessary financial capacity, it is deemed effective to introduce eco-friendly practices to them first before extending such initiatives to others.

Case Study 2

DMD XXK, General Director J. Soyolmaa /77115534/

A tour operator company with foreign investment (50 percent from France) operates non-concrete structures, offering eco-friendly, authentic Mongolian-style nomadic camps in Elsen Tasarkhai and Uvurkhangai provinces, catering to tourists from France and other European countries. The company has earned an international award for environmentally friendly practices and holds a "Green Hotel" eco-label issued by the National Institute of Natural Resources and Environment.

Waste reduction solutions:

Avoiding Plastic: All decorations and furniture in the house are crafted from wood and natural materials.

Absence of Trash Cans: The camps intentionally do not provide trash cans.

Packaging Management: Most waste comprises raw material packaging. Efforts are made to collect and sort the packaging, which is then sent to local garbage points. However, it is unclear whether locally generated waste is directed to a recycling plant.

Water Container Reuse: Fresh water is obtained in 5-liter bottles instead of smaller ones, and tourists are provided with reusable water bottles. The 5-liter water bottles are not discarded; instead, they are reused by local dairy farmers for various purposes such as fermentation and milk production.

Water-saving solutions:

The camps have set an exemplary standard for water efficiency. Tourists are encouraged to conserve water by using towels soaked in essential oils for body and hair cleansing, providing a relaxing home service without using a shower. A tourist staying at the camp consumes a maximum of 5 liters of water. This environmentally friendly approach resonates with tourists, particularly European travelers showing a growing interest in eco-friendly travel.

Solutions for soil pollution:

The Ger Camps have addressed their pit latrines without using chemicals, opting for a natural approach with minimal impact on the soil. The method involves digging a 1.4 m hole in the toilet, covering it with straw for liquid separation, adding sawdust on top, and refraining from throwing toilet paper into the pit.

Energy-saving solutions:

Tourist accommodation units lack electricity entirely, and heating is done with smokeless fuel in stoves.

Supporting local development:

To bolster the livelihoods of local herders and promote the sale of local handicrafts and souvenirs to tourists, the company invited a felt designer from France to train over ten local herders in felt processing. These individuals continue to supply their products to the camp shop.