UNDERSTANDING OF THE NATIONAL AGRICULTURE SECTOR POLICY FRAMEWORK AND EXISTING LABELING/CERTIFICATION STANDARDS IN MONGOLIA

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Acronyms

ADF	Agriculture Development Fund	Хөдөө аж ахуйг дэмжих сан
Atar 4 campaign	Sustainable Farming Development Campaign	Атар-4 тариалангийн тогтвортой хөгжлийн аян
CAC	Codex Alimentarius Commission of ISO	Кодекс Алиментариус Комисс
EPA	Economic Partnership Agreement	Эдийн засгийн хамтын ажиллагааны хэлэлцээр
ESG	Environmental, Social and Governance	Байгаль орчин, нийгэм, засаглал
FTA	Free Trade Agreement	Чөлөөт худалдааны хэлэлцээр
GAP	Good Agricultural Practice	Хөдөө аж ахуйн зохистой дадал
GMP	Good Manufacturing Practices	Үйлдвэрлэлийн зохистой дадал
GoM	Government of Mongolia	Монгол Улсын Засгийн газар
HS	Harmonized System, a standardized numerical method of classifying traded products	Бараг тодорхойлох, кодлох уялдуулсан систем
ISO	International Organization for Standardization	Олон улсын стандартчиллын байгууллага
MASM	Mongolian Agency for Standardization and Metrology	Стандарт, хэмжил зүйн газар
MET	Ministry of Environment and Tourism	Байгаль орчин, аялал жуулчлалын яам
MNCCI	Mongolian National Chamber of Commerce and Industry	Монголын Үндэсний худалдаа, аж үйлдвэрийн танхим
MOFALI	Ministry of Food, Agriculture and Light Industry	Хүнс, хөдөө аж ахуй, хөнгөн үйлдвэрийн яам
NDC	Nationally Determined Contribution	Үндэсний хэмжээнд тодорхойлсон хувь нэмэр
NSO	National Statistics Office Mongolia	Үндэсний статистикийн хороо
PGS	Participatory guarantee system	Хамтын баталгаажуулалтын систем
PPM	Processes and production methods	Үйл явц ба үйлдвэрлэлийн арга
SDC	Swiss Agency for Development and Cooperation	Швейцарийн хөгжлийн агентлаг
SDG	Sustainable Development Goals	Тогтвортой хөгжлийн зорилтууд

SFCS LLC	Standard verification company	Эс Эф Си Эс ХХК
SME Fund	Small and Medium Enterprises Development Fund	Жижиг, дунд үйлдвэрийг дэмжих сан
SOGE	Switching on the Green Economy	Эдийн засгийн ногоон шилжилт
SPIA	State Professional Inspection Agency	Мэргэжлийн хяналтын ерөнхий газар
STC	Standardization Technical Committee	Стандартчлалын техникийн хороо
UN FAO	United Nations Food and Agriculture Organization	НҮБ-ийн Хүнс, хөдөө аж ауйн байгууллага
UNICEF	United Nations Children`s Fund	НҮБ-ийн Хүүхдийн сан
URECA	Private carbon offsetting enterprise	Юрика ХХК
Vision-2050	Government of Mongolia`s long term development policy	Алсын хараа – 2050
WTO/SPC	World Trade Organization`s Sanitary and Phytosanitary Measures Agreement	Дэлхийн худалдааны байгууллагын Амьтан, ургамлын эрүүл ахуйн арга хэмжээг хэрэгжүүлэх хэлэлцээр
WTO/TBT	World Trade Organization`s Technical Barriers to Trade Agreement	Дэлхийн худалдааны байгууллагын Худалдаан дахь техникийн саад тотгорын тухай хэлэлцээр

Executive summary

The study aims to provide a comprehensive understanding of the national agriculture sector policy framework and existing labeling and certification standards in Mongolia for the Switching on the Green Economy (SOGE) project, funded by the European Union through the SWITCH-Asia program.

This study used methodological approaches, including a literature review of the enabling policy framework and relevant sustainability initiatives such as standards and green/eco-labels in Mongolia, as well as globally accepted standards and green/eco-labels. Additionally, consultations with the relevant stakeholders were conducted to obtain their opinions and experiences related to the study framework. For this report, the following sub-sectors were assessed within the agri-food and beverages sector: i) crops and vegetables, ii) fruits and berries, and iii) beverages made from crops, vegetables, and fruits.

Although the agricultural sector's economic contribution has been gradually decreasing for the last three decades, the production of the agri-food and beverage sector has been increasing steadily, reaching USD 2 billion in 2020. This is because of the government initiatives to promote the agriculture sector and its commitment to Sustainable Development Goals (SDG) 2030. As of 2019, the agriculture sector employs 1/4 of the total workforce, which implies a great potential to reduce unemployment, especially in rural areas. Mongolia's food and beverage sector are actively seeking to capitalize on the nation's abundant agricultural resources to meet the local market demand and export to neighboring countries. However, the agricultural product basket is not sufficiently diversified. Most of the production is centered around flour and potatoes, and most are no or less value-added products. The majority of the local products are consumed within the country but do not necessarily substitute all imported products.

Mongolia has a comparative advantage in many agricultural products, such as organically grown vegetables, nuts, berries, and fruits. As domestic markets offer a limited scope of scaling up, it is essential to have active coordinated support and leadership from the Government in exploring new markets and facilitating the entry of Mongolian firms into those potential export markets. This also requires tackling barriers to access to commercial finance, reducing the cost of capital overall (especially for SMEs), facilitating access to newer technologies and practices, putting in place credible certification and traceability mechanisms, and harmonizing food safety and quality standards for mitigating cross-border risks. Despite the challenges, the agri-food and beverages market has a promising export opportunity given the emerging preferential trade opportunities, including the Economic Partnership Agreement (EPA) with Japan, and the recent accession to the Asia Pacific Trade Agreement (APTA).

The policy framework for promoting agriculture and sustainable agriculture practices are well defined, and significant commitments by the Government have been made locally and internationally. Market players are willing to adopt green/eco-labeling practices if the correct promotion mechanism is in place. Existing legislative platforms in Mongolia have developed market-based labeling tools and certification programs in line with international rules and standards, but implementation has not been put into efficient use, due to i) lack of correspondence between the aligned ministries and related government authorities, ii) lack of awareness of different labels and their purposes/advantages, and use of public relations tools and activities, iii) lack of knowledge in the application of market regulation tools, due to limited transparency and availability of the regulating policies and standards, iv) farmers and producers lack financial

incentives to apply green/eco-labeling in their operations, v) lack of consumer knowledge about different labelings used in Mongolia; as a result, value adds in green/eco products are not appropriately acknowledged and appreciated by the market, and iv) Organic and green/eco-labeling requirements are broad and complicated, and some verification indicators cannot be applied to some agri-food producers, as they are too costly and distinctive.

Therefore, it is recommended to pilot feasible green/eco-labeling practices in the selected subsectors, as later, the practices will be easily adopted into other agriculture subsectors. The SOGE project team's first step is to have an environmental impact assessment on the agri-food and beverage sector producers. The assessment should prominently cover:

1. Natural resource use for the production
2. The impacts of polluting the environment
3. The ways of reducing the waste
4. Whether the optimal indicators are applied well to the existing environmental management systems.

After the environmental impact assessment, the project team may see what indicators and how significant these are to target as well as how producers are addressing with what measures. The verification and auditing companies for this type of assessment have been established, and experts have been trained already. So that the project team can approach the existing environmental impact assessment verification and auditing companies and then look for ways to facilitate the operation and procedure for the newly developing green/eco-labeling scheme. In this report, the consultant team provided four different scheme options (applicable to the SME producers) based on the idea of selecting criteria from the existing food safety standards and environmental management systems, including GAP, GMP, Organic Food Labeling, and ISO standards.

1. Methodology

This study used methodological approaches, including a literature review of the existing enabling policy framework and relevant sustainability initiatives such as standards and eco-labels in Mongolia and globally. Additionally, relevant stakeholders were consulted to obtain their opinions and experience on the policy framework, sustainability standards, and eco-labels used in Mongolia.

For this report, the following sub-sectors were assessed within the agri-food and beverages sector:

- Crops and vegetables
- Fruits and berries
- Beverages made from crops, vegetables, and fruits.

The rationale for selecting these sectors for the study is that these subsectors are among the highest environmental impacts, and have the considerable potential to grow into not only ensuring domestic consumption but also export-oriented, revenue-generating industries.

1.1 Literature review and analysis

National strategies, policies, and initiatives related to the Mongolian agricultural sector, as well as the trade and economic performance of the industry, specifically for agri-food and beverages production and export, are reviewed. Their relevance is assessed by the different stakeholders engaged in discussions and interviews. Please see Sections 3, 4, and 6 for details of the documents reviewed.

1.2 Stakeholder engagement

The consultant team identified the major stakeholders important for advancing the Switching on the Green Economy initiative and engaged with them through a roundtable discussion and individual interviews. In order to gauge the views and opinions of different stakeholders, including Government agencies, sector experts, and private sector representatives, on the implication of the national and sectoral initiatives aiming to adopt green/eco-labeling standards and promote green growth policies, the consultant team organized a roundtable discussion on June 21, 2022, in partnership with the Technical Advisory Council of the SOGE project. Below is the list of participants joining the discussion.

Table 1: Roundtable meeting participants

Name	Institution	Relevance to the project
Tungalag. D	MOFALI	Head of the Food Production Policy Implementation & Coordination Division
Bayartsetseg. S	MET	Specialist, Clean Technology & Innovation division
Sukhragchaa. M	NDC Implementation/ Paris Agreement	In-Country Facilitator
Bulgantumen	UNICEF	Consultant
Purevdulam. L	URECA	Carbon specialist
Oyunsuvd. N	MOFALI	Analyst, Production, and supply of vegetables
Khosbayar. M	MNCCI	Specialist, Foreign affairs, trade, and investment department

Moreover, the consultant team interviewed selected stakeholders to understand the challenges and opportunities in advancing green/eco-labeling standards in Mongolia. The probing questions include:

1. What are the policies and initiatives supporting green/eco-labeling standards and eco-labels used in Mongolia?
2. What existing enforcements and initiatives are not well implemented? Why?
3. What policies and initiatives are missing to support the sector further?

The below table summarizes the list of interviewees:

Table 2: Interviewee list

Name	Institution	Relevance to the project
Oyunsuvd	MOFALI	Agricultural farming policy department
Tungalag	MOFALI	Food production policy department
Bayartsetseg	MET	Specialist, Clean Technology & Innovation division
Enkhtur	SME Fund, MOFALI	Facilitated loan providing to the farmers
Bulgan	SPIA	Plant protection, restriction, and monitoring department
Davaasuren	MASM	Food production

Khosbayar	MNCCI	Officer, Foreign affairs, trade and investment department
Altantsetseg	UN FAO	Mongol Nogoo project manager
Dorjpagma Badam	Organic development LLC	Organic verification company
Tsetsgee	Selenge Organic LLC	Organic verification company
Narantuya	SFCS LLC	GAP, Organic verification company
Curt Chatelain	Green Hill Farm	Berries and vegetable farm, certified by Japanese Agricultural Standard
Bolormaa	Devshil trade LLC	GAP certification for the company, verified by SFCS LLC
Yanjinlkham	Family farmer in Tuv province	GAP certification for the individual farmer level

2. Overview of the Mongolian Agri-food and beverage sector

Agri-food and beverage sector involves the whole journey from the farm to the plate, including manufacturing and retail. The agri-food and beverages industry is centered on making, processing, preparing, and packaging food products for human consumption. Its raw materials come from the primary sector, specifically from agriculture, livestock, and fisheries.

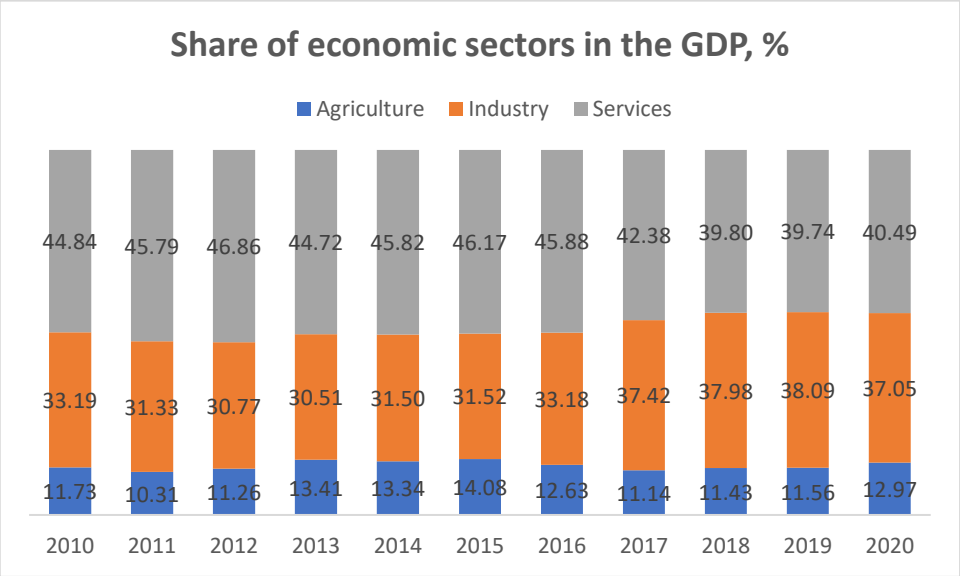
2.1 Trade and economic contribution

2.1.1 Economic contribution

Mongolia has a vast potential in the agri-food and beverages industry, given its history of an agriculture-based economy with a track record of over 50 years of crop production, and 1.2 million hectares of land (73.6% of Mongolian land is agricultural land, including pasturing land, the arable land is 0.85%).[1] Before the 1990s` agricultural and industrial sectors played a vital role in the Mongolian centrally planned economy, and most of the workforce was employed by those sectors. Following the transition to a market-oriented economy, the share of agricultural sector contribution to the economy gradually decreased and has been hovering between 10% to 14% during the last decade, due to a significant concentration of mining-based economic transactions.

Figure 1: Share of economic sectors (% of GDP)

[1] https://investmongolia.gov.mn/agribusiness/

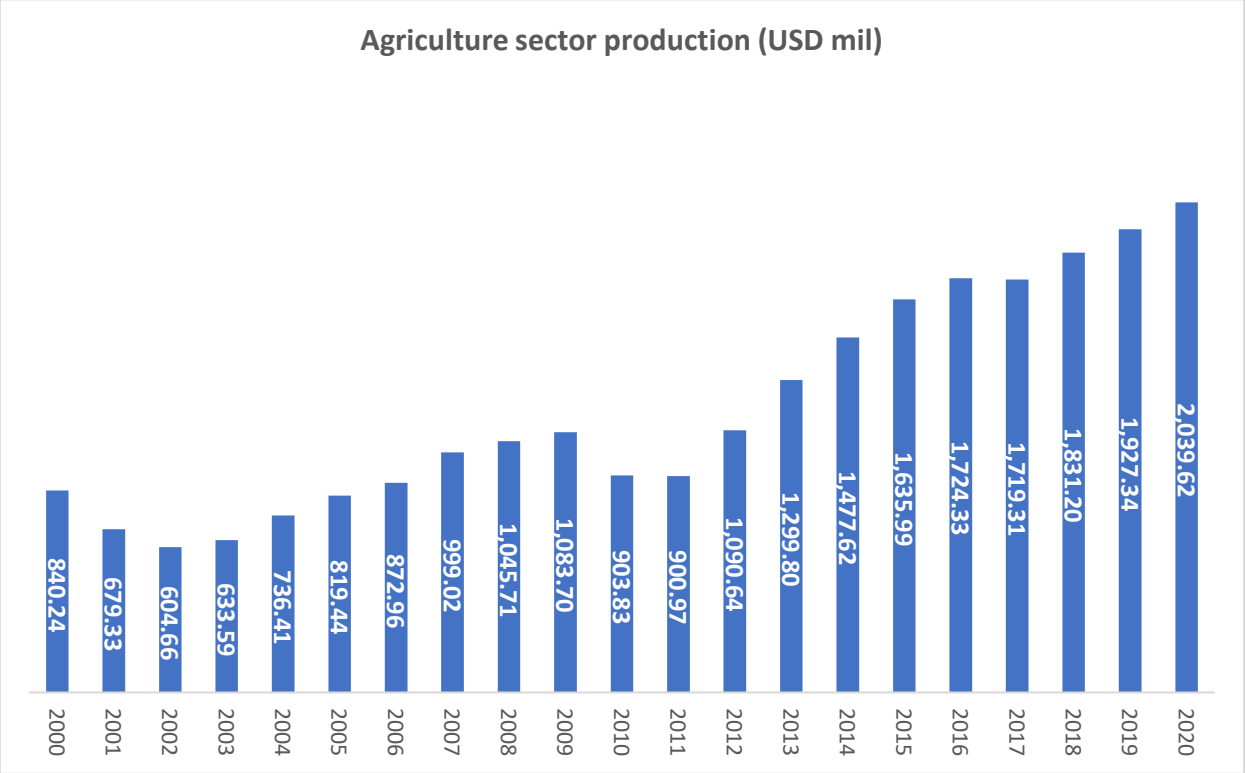


Source: World Bank

2.1.2 Production

Despite its relatively small share in the Mongolian economy, the production of the Mongolian agriculture sector, including agri-food and beverages, has been increasing steadily, reaching USD 2 billion in 2020, and doubled in the last two decades, as a result of the government initiatives to promote agriculture sector aiming to substitute imported agri-foods and beverages and to fulfill its commitments to Sustainable Development Goals (SDG) 2030. However, there is much room to grow more rapidly, if the enabling efficient policy framework and supporting eco-systems for the agriculture sector exist.

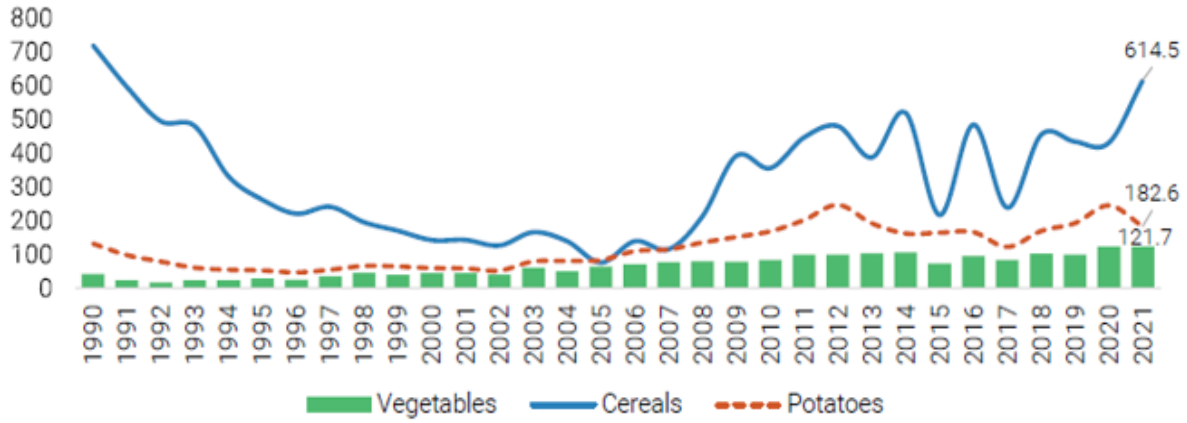
Figure 2: Agriculture sector annual production, constant 2015 USD



Source: World Bank

Moreover, the breakdown of the crop production by type shows that vegetable production, including carrot, beet, and cabbage, has been increasing steadily but slowly since 1990, reaching 121.6 thousand tonnes in 2021. Cereals production decreased until 2005, followed by inconsistent and fluctuational growth. Potato production increased slightly until 2012, followed by a fluctuation, and reached 182.6 thousand tonnes in 2021.

Figure 3: Crops production by types, thousand tonnes



Source: NSO

However, the agricultural product basket is not diversified enough, the majority of the production is around flour and flour products, potatoes, vegetables, and fruits, and most of them are no or less value-added products. Most of the agricultural products produced in Mongolia are consumed locally, substituting some of the import products (40% of the local consumption is supplied by local production)[2] , and very few of them are exported with a small amount.

In 2020, a total of 244.3 thousand tonnes of potatoes, 235.3 thousand tonnes of flour and flour products, 126.5 thousand tonnes of sugars, and sweeteners (raw materials are mostly imported), 121.2 thousand tonnes of vegetables, and 1.6 thousand tonnes of fruits and berries, and 0.2 thousand tonnes of butter were produced domestically. The table below summarizes the agricultural production and exports in 2019 and 2020, by general group categories.

Table 3: Total production of agri-foods, tonnes

Food categories	2019		2020		Change rate, %
	Domestic production	Export	Domestic production	Export	Domestic production
Flour and flour products	209,370.4	111.9	235,286.1	20.3	12.4%
Flour	164,384.3	5	191,120.9	0.2	16.3%
Flour products	44,986.1	106.9	44,165.2	20.1	-1.8%
Potatoes	192,239.9	0	244,261.1	0	27.1%

[2] https://www.adb.org/sites/default/files/publication/674011/vegetable-production-value-chains-mongolia-mn.pdf

Vegetables	99,546.6	16.8	121,235.1	84	21.8%
Pulses	54.3	0	19.6	0	-63.9%
Fruits and berries	8,937.0	30.7	1,665.4	33.6	-81.4%
Vegetable oil	263.8	4.1	17.2	0	-93.5%
Butter	203.9	2	250.0	0.3	22.6%
Sugar, sweeteners	111,976.6	43.6	126,451.5	37.5	12.9%

Source: Indicators for Food security statistics, NSO, 2020

2.1.3 Market players

Mongolia's food and beverage sector is one of the most advanced local industries in terms of technology, equipment, and know-how. This sector is actively seeking to capitalize on the nation's abundant agricultural resources to meet the local market demand and export to neighboring countries. Some leading companies in the agri-food and beverage sectors, such as APU, Atar-Urgoo, and Talkh Chikher are listed and traded actively on the Mongolian Stock Exchange, and privately-held UB Guril, Bayasakh Trade, and Teso are other prominent players in the food & beverage industry.

Alcohol, beer, fruit juices, carbonated drinks, butter, bread, bakery, flour, and herbal products are the main products of the Mongolian agri-food and beverages sector.[3] As of 2020, 1,136 economic entities operating in the agri-food and beverages sector, 48% producing bread, biscuits, and pastry, 10% producing pickled and ready-to-use food, and 6% producing fruits and vegetable products. Alcohol, beer, and wine production are concentrated and dominated by a few large companies. The below table summarizes the economic entities operating in the agri-food and beverages sector.

Table 4: Number of food factories, by type

Description	2019	2020
Fruits and vegetable cultivation, preservation	66	73
Animal and vegetable oil production	7	7
Wheat, rye flour and grains production	65	57
Starchy food production	9	6
Bread, biscuits and fine pastry production	576	549
Cacao, chocolate and sweets production	10	7
Pasta and noodle production	52	52
Pickled and on-hand ready food production	96	105
Other types of foods not included above	139	130
Alcohol production	24	22
Wine production	7	6

[3] Mongolian Business Sectors, MSE

Beer production	12	9
Soft drinks, spring water and regular water production	110	113

Source: Indicators for Food security statistics, NSO, 2020

Alcoholic beverage production composes the main source of revenue, with total sales revenue of MNT 385,6 billion, followed by flour and flour products of MNT 288,8 billion. The table below summarizes the sales revenue of selected agri-food and beverage products in 2020.

Table 5: Manufacture of selected agri-food and beverages, 2020

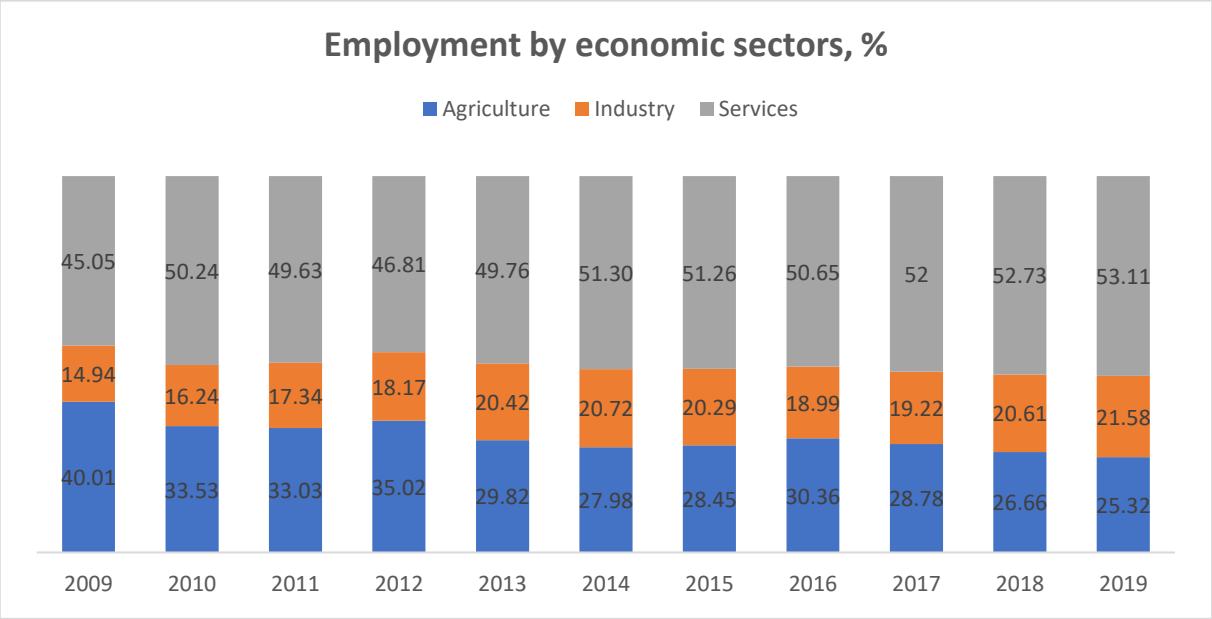
Main products		Meas. unit	Volume	Revenue (MNT million)
Flour	Wheat flour, high-grade	tonnes	51,612.4	52,970.8
	Wheat flour, first-grade	tonnes	159,086.0	32,687.9
	Wheat flour, second-grade	tonnes	24,415.7	13,154.8
Flour products	Bread	tonnes	29,851.6	65,251.3
	Fine pastries	tonnes	25,251.0	85,113.5
	Traditional pastries	tonnes	638.2	3,608.6
	Cake	tonnes	2,750.1	25,823.7
	Cookies/Biscuits	tonnes	883.0	2,981.0
	Noodles/Pasta	tonnes	4,615.8	7,287.9
Alcoholic beverages	Alcohol	thousand. liters	10,063.7	25,323.8
	Vodka	thousand. liters	24,285.4	258,909.3
	Wine	thousand. liters	300.2	2,811.9
	Beers	thousand. liters	92,802.2	96,602.6

Source: Indicators for Food security statistics, NSO, 2020

2.1.4 Employment

Due to Mongolian nomadic culture, the agriculture sector has a long history of providing most of the employment. However, due to the rapid transition into a mining-based economy, once the dominant job provider - the agriculture sector has become less attractive to the job market. From 2009 to 2019, the employment provided by agriculture has been declining rapidly, from 40% in 2009 to 25% in 2019. If the proper actions to diversify the Mongolian economy are not taking place, this trend will likely continue in the upcoming years. On the other hand, automation and innovative mechanisms for the agriculture industry might also play a role here; less human work is required as the technology incentive production is likely to take over in recent years. However, given the sector's capacity, including natural resources and land, smaller business entities will employ more workers as they cannot afford expensive machinery as the sector grows.

Figure 4: Employment by economic sectors, %



Source: World Bank

2.1.5 Export

The current agricultural export basket is extremely limited, reflecting the economy's lack of diversity in the product mix of its exports. Although exports have increased significantly since 2000, the share of non-mining exports has declined significantly. Textiles and livestock are still prominent exports, but no new export sector has emerged, including agri-food and beverages. Mongolia's export basket lacks sophistication, and little progress has been made since 2000 toward exporting more value-added products.

Mongolia has a comparative advantage in many products, especially in agriculture, such as organically grown vegetables, nuts, berries and fruits, which are underdeveloped and not being exported. The World Bank attributes this to a diluted comparative advantage due to Mongolia's weak transport network with China and Russia. In particular, the World Bank identifies high delivery costs, logistics inefficiencies, the gap between domestic and international product standards, poor infrastructure, and Mongolia's weak trade facilitation regime as the main reasons for the country's lackluster performance in producing and exporting goods internationally[4]

Food products, including vegetables and prepared food, compose only 1.5% of the total export of Mongolia as of 2021, with a total value of USD136,3 million.[5] For this report, the following agri-food and beverage products were selected for analysis based on the international Harmonized System (HS) codes.

Table 6: Selected agri-food and beverage products, export value 2016-2020

2 digit HS code	Product description	Exported value in 2020, thous. USD	Exported value (2016-2020), thous. USD

[4] Mongolia`s Economic Prospect, ADB, 2020

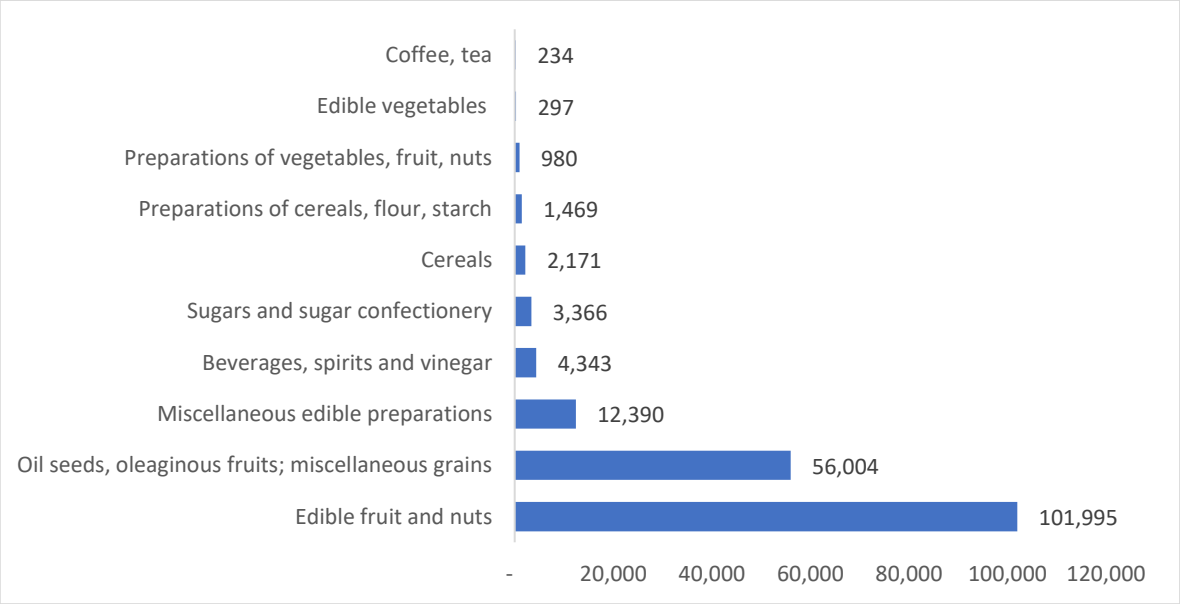
[5] Data retrieved from www.gaali.mn

07	Edible vegetables and certain roots and tubers	18	297
08	Edible fruits and nuts; peel of citrus fruit or melons	135	101,995
09	Coffee, tea, mate and spices	8	234
10	Cereals	213	2,171
11	Products of the milling industry; mat; starches; inulin; wheat gluten	-	56
12	Oil seeds and oleaginous fruits; miscellaneous grain; seeds and fruit; industrial or medicinal plants; straw and fodder	10,645	56,004
17	Sugars and sugar confectionery	80	3,366
19	Preparations of cereals, flour, starch or milk; pastrycooks` products	34	1,469
20	Preparations of vegetables, fruit, nuts or other parts of plants	178	980
21	Miscellaneous edible preparations	3,453	12,390
22	Beverages, spirits and vinegar	898	4,343
	Total	15,662	183,305

Source: Retrieved and analyzed data from www.trademap.org

A total value of USD 183,3 million agri-food and beverages products were exported from 2016-to 2020, of which USD 15,6 million products were exported in 2020. The most exported agri-food during 2016-2020 are edible fruit, peel of citrus fruit or melons with a value of USD 101,9 million, followed by oil seeds and oleaginous fruits with a value of USD 56 million, miscellaneous edible preparations USD 12,4 million, and beverages, spirits and vinegar USD 4,3 million.

Figure 5: Mongolian agri-food and beverages exports, 2016-2020, thous. USD



Source: Retrieved and analyzed data from www.trademap.org

By importing destinations, China imports most of the Mongolian exported agri-food products. During 2016 and 2020, China imported 99.8% of edible fruits, 99.4% of oil seeds, 88.6% of preparation of cereals, flour, and starch, and 66.1% of beverages and spirits exported from Mongolia. Russia is the largest importer of edible vegetables (49.8%), and Japan is the largest

importer of cereals (70%). Other major importer countries include the Republic of Korea, Kazakhstan, and the USA. The Democratic People's Republic of Korea is the major importer (30.4%) of products in the milling industry. Southeast Asia is also an interesting market for Mongolian agri-food and beverages products, Cambodia imports 9.5% of Mongolian beverages and spirits, and Malaysia imports 9.4% of preparations of vegetables and fruits. There are not many importing countries from Europe, except Netherlands and Germany, with a minor value. The below table summarizes the percentage share of major importing countries for a specific group of Mongolian export products.

Table 7: Agri-food exports by importing countries, % of total exports, 2016-2020

% in total exports by destination	China	South Korea	Russia	Kazakhstan	Japan	North Korea	USA	Netherlands	Taiwan	Cambodia	Vietnam	Malaysia
Edible vegetables and certain roots and tubers	34.0%	16.2%	49.8%									
Edible fruit and nuts; peel of citrus fruit or melons	99.8%				0.1%			0.1%				
Coffee, tea, maté and spices	63.2%	6.4%	16.2%	7.7%			6.8%					
Cereals	29.6%		0.3%		70.0%							
Products of the milling industry; malt; starches; inulin; wheat gluten	12.5%		37.5%		19.6%	30.4%						
Oil seeds and oleaginous fruits; miscellaneous grains	99.4%	0.4%	0.1%					0.1%				
Sugars and sugar confectionery	99.0%			0.8%			0.1%					
Preparations of cereals, flour, starc; pastrycooks' products	88.6%		2.5%	4.2%			3.9%					
Preparations of vegetables, fruit, nuts or other parts of plants	42.9%	14.5%		1.8%	24.1%		1.7%		3.0%			9.4%
Miscellaneous edible preparations	69.3%	14.1%	4.8%	9.1%	0.1%	0.2%	0.1%		0.1%		2.0%	
Beverages, spirits and vinegar	66.1%	1.0%	18.2%		0.5%		0.6%	1.5%	1.1%	9.5%		

Source: Retrieved and analyzed data from www.trademap.org

If we break it down by 4 and 6 digits, the HS code for the most exported Mongolian agri-food and beverages products during 2016-2021, fresh or dried nuts, including pine nuts, have the most export value of USD 102.2 million, exported mostly to China and Israel. Rape has the second-highest export value of USD 52.4 million, imported mostly by China, followed by plants used in perfumery and pharmacy, with an export value of USD 3.1 million, mostly imported by China and Korea.

Alcoholic beverages, including vodka, liquors, and wines, also compose a large percent of the total export value of agri-food and beverage; alcoholic beverages of USD 4.9 million of has exported during 2016-2021, mostly to Russia, Cambodia, China, Netherlands, Germany, and the USA. Food preparation products with biologically active ingredients are a growing export sub-sector, with a value of USD 1.7 million exported to China, Kazakhstan, and Vietnam. Vegetable fats and oils (USD 0.6 mln), fruit and vegetable juice (USD 0.5 mln), extracts, essences, concentrates of tea or mate (USD 0.7 mln), and fruit jams and jellies (USD 163 thousand) are also a growing sub-sector with a lot of export potential.

In terms of export destinations, there is a high concentration around neighboring two countries and a few northeast Asian countries such as Korea and Japan. There are also promising markets in farther regions such as Europe (Germany, Netherlands, and Poland), the USA, and southeast Asian countries (Cambodia, Vietnam, and Malaysia) that already import some of the Mongolian agri-food and beverage products, but the export value is low. The below table summarizes the most exported agri-food and beverages products by HS 6-digit code, export values during 2016-2020, and the receiving destinations.

Table 8: Most exported agri-foods and beverages, 2016-2021, USD thousand

HS code 2 digit	HS code 4 digit	HS code 6 digit	Product Description	Export value 2016-2021	Major importing country (in order of the most import value)
07			**Edible vegetables and certain roots and tubers**	252	Russia, China, Germany
08	0802	080290	**Nuts, fresh or dried**	**102,029**	China, Israel
10	1008	100810	**Buckwheat**	**2,046**	China, Japan
12	1205		**Rape or colza seeds**	**52,386**	China
	1211	121190	**Plants used in perfumery, pharmacy**	**3,137**	China, South Korea
15	1515	151590	**Vegetable fats and oils**	**622**	Taiwan, Japan, Germany
19	1905		**Preparations of cereals, flour, starch or milk; pastrycooks' products**	1,747	China
20	2007	200799	**Fruit jams, jellies, purees**	163	Korea, USA, China
	2008		**Prepared or preserved fruits, nuts, and other edible plants**	130	Malaysia, China, Poland
	2009	200989	**Fruit or vegetable juice**	**484**	China, Japan, Korea
21	2101	210120	**Extracts, essences, concentrates of tea or mate**	**673**	Russia, China
	2104		**Soups, broths preparations, including vegetable and fruit**	**1,708**	Korea
	2106	210690	**Food preparations with products biologically active food ingredients**	**1,722**	China, Kazakhstan, Vietnam
22	2202		**Waters, mineral, and aerated waters**	173	China, Russia, Korea
	2203		**Beer made from malt**	**2,730**	China, Russia
	2208		**Spirits and liqueurs**	**1,296**	Russia, Cambodia, China, Netherlands, Germany, USA
		220860	**Vodka**	**910**	Russia, Netherlands, China, Cambodia, Germany, USA

Source: Retrieved and analyzed data from www.trademap.org, www.gaali.mn

As domestic markets offer a limited scope of scaling up, it is essential to have active coordinated support and leadership from the government in exploring new markets and facilitating the entry of Mongolian firms into those potential export markets. This also requires tackling barriers to access to commercial finance, reducing the cost of capital overall (especially for SMEs), facilitating access to newer technologies and practices, putting in place credible certification and traceability mechanisms, and harmonizing food safety and quality standards for mitigating cross-border risks. Despite the challenges, the organic fruits and berries market looks like a promising

export opportunity as the global demand for fruits and berries (HS code 08) is USD 155 billion, and the regional demand is USD 22 billion (for APTA countries to which Mongolia acceded recently). Green Hill Farm, co-owned by Mongolian and U.S. investors, has been operating successfully since 2015, managed to obtain Japanese Agricultural Standards, and preparing for export.

Box 1: Export-oriented Fruit & Berry farm

Green Hill Farm is a 100-hectare farm located 50 km from the center of Ulaanbaatar,
Mongolia which has been organically certified since 2020. The farm is dedicated to open field production of honeyberries, raspberries and cherries. Green Hill Farm products are produced and graded in accordance with Japanese Agricultural Standards—JAS. Green Hill Farm products are sold with the CERES-JAS logo. CERES GmbH is accredited by the Japanese ministry of Agriculture, Forestry & Fisheries (MAFF) according to JAS law number 175 of the year 1950. Various vegetables were tested and successfully grown [open field] in 2021. More organically certified vegetable seeds are currently ordered from the USA and Australia.

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2.2 Social impact

The task of ensuring that all people have access to enough, safe and nutritious food is closely linked to efforts in a range of other areas, including private sector development, job creation, livelihoods, natural resource management, climate change, biodiversity, gender equality, governance, health, education, and nutrition. More than any other sector, the food and agriculture industry has the potential to reduce poverty and drive economic growth in rural areas.

With 27.8% of the overall population living in poverty and one-third of youth unemployed, the creation of inclusive employment and the improvement of livelihoods are top national priorities. Herders have been forced into becoming climate refugees leading to huge socioeconomic costs. With fragile and poor livelihoods, each climate shock has led to a surge of herders migrating to the capital and provincial cities. Today, about 1 in 4 Mongolian lives in the ger district on the outskirts of the capital city—most of whom are former herders.[6]

[6] Achieving Green and Inclusive Growth in Mongolia, IMF, 2019

The agriculture and food sectors offer the best opportunity to grow inclusive employment, given the nature of Mongolian geography, tradition, and culture. As of 2019, only 25% of the total workforce is employed by the agriculture sector, which implies a great potential to reduce unemployment, especially in rural areas, as the food and beverages sector grows. The social risk associated with agri-food and beverage industries may include working conditions and long work hours, low income, informal employment contracts, harsh climate, and certain health risks related to pesticide use and prolonged sun exposure.[7]

Promoting the agri-food and beverages sector will not only help reduce unemployment, but will also contribute to revenue generation, economic growth, and sustainable development. Moreover, the agri-food and beverages sector contributes to export diversification, and import substitution, which further helps improve the balance of payment. Access to locally grown and domestically produced food and beverages also translates into improving national health and food security.

However, the Mongolian agri-food and beverages sector is still underdeveloped compared to its capacity due to insufficient policy support and implementation of promotional activities, as well as the weak system of water supply and poor adoption of modern production practices.

2.3 Environmental impact

Mongolia is vulnerable to climate change due to its fragile ecosystems and geographic location. Climate change impacts are characterized by increased desertification, more frequent droughts and *dzuds*, water resource scarcity, and biodiversity loss. The frequency of extreme weather events has doubled in the last two decades, and occurrence is expected to increase by 23%–60% by the middle of the 21st century. Forest and steppe fires' frequency and spatial extent have increased since the 1950s. Although the future under changing climate conditions is uncertain, climate models predict lower river water levels, higher seasonal variations, and a reduction in groundwater levels due to reduced recharge.[8] Specific environmental impacts caused by the agri-food and beverages sector include the followings:

Use of chemicals

Farmers would usually prime the soil to grow large amounts of food after clearing the land for planting, using heavy applications of artificial herbicides and fertilizers. Moreover, fertilizers, herbicides, and synthetic pesticides are used throughout the growing process to help promote plant growth, while simultaneously preventing competition from other plants and degradation from crop-eating pests. The excessive use of fertilizers, herbicides, and pesticides is unsustainable and environmentally damaging as organisms are exposed to highly concentrated toxic chemicals. While the methods by which these chemicals are applied to crops prevent them from accumulating in the food in harmful concentrations, consuming large amounts of agri-food treated in this manner could lead to health impacts through bio-accumulation. Applying these chemicals to crops also causes them to be released into the atmosphere as harmful air pollutants. Agricultural run-off from heavy rains removes chemicals from the food production site and transports them to other locations, polluting soils, waterways, and other ecosystems. Through this process, known as 'bio-accumulation,' chemicals released into natural ecosystems can grow to potentially toxic concentrations. At this point, they damage the ecosystem by reducing fertility, causing irreparable genetic damage, or even killing important populations.

[7] Mongolian Sustainable Finance Principles: Agriculture Sector Guideline

[8] Mongolia: Environment Sector Fact Sheet, ADB

Monitoring of chemical contamination in foods in Mongolia has been routinely conducted by the State Professional Inspection Agency (SPIA). A study conducted by SPIA, using laboratory tests, revealed that during 2006-2007, 11-17% of samples of vegetables and fruits had pesticide residues over Maximum Residue Limits (MRLs).[9] The Mongolian agriculture sector uses chemical substances on a large scale. Some pesticides are banned, but they have been used in rural areas and may be available on the black market. Many chemicals have appeared at the open-air markets without proper labels, packed in small packages from larger, bulkier consignments. Generally, Mongolian farmers are not well educated about the chemicals they use in their process and storing without any labeling or registration. This has resulted in the misuse or inappropriate application of pesticides and other chemical formulations. Enforcement of related standards, norms and laws in using, transporting, storing and disposing of chemicals is weak at the national level.

Soil erosion

Production levels have increased significantly in recent years but without supplementary fertilization, crop rotations, or management of crop residues for soil enhancement. As a result, soil fertility may decline because current practices are "mining" the soil's nutrients. Combined with levels of soil erosion, poses a serious risk to the long-term productivity of the crop sector. Soil erosion is reported by 58% of household crop farms and 66% of crop business entities. Typically, households and businesses report that 30-40% of their land suffers a medium degree of erosion. Except for the east, soil erosion on farms owned by cropping businesses is consistently reported to be higher than by households.[10] Some consequences of poor natural resource management include soil humus content declining by 15-44%, almost 70% of cropland soil having less than 2.5% humus content, and the average yield of several crops decreasing.[11]

Water resource depletion

Conventional agriculture drains our water reserves at an incredible rate. As water supply is limited, and with climate change expected to enhance drought conditions in the future, conserving water will become more important than ever before. The agriculture sector in Mongolia is entirely rainfed, meaning it only uses green water -water from precipitation that is stored in the root zone of the soil and evaporated, transpired, or incorporated by plants. Agriculture is the biggest user of water (40%), followed by industry (25%), livestock (19%), and domestic (16%) sectors. Most of the water withdrawn by the industry and domestic sectors will be returned to the system as wastewater and (after treatment) is available for reuse. In contrast, most of the water used in agriculture goes to the natural water cycle.[12]

Monocultures

'Monocultures' refer to areas of land where a single crop is grown, like corn or wheat. They are particularly damaging to soils because plants affect and are affected by soil in different ways. If different types of crops are grown together, they can work in concert to improve soil quality. This does not happen with monocultures, and so the land is left barren and unhealthy after harvesting. Sometimes, with the help of artificial fertilizers, the soil is revitalized and used again for agriculture. If it is not, then the dry dirt will blow away in the wind, further contributing to the growing trend of desertification on our planet.

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[9] National Chemicals Management Profile Mongolia, Second Edition June 2008

[10] Agriculture in Transition: Agriculture Productivity and Marketing, Debra Rasmussen and Charles Annor-Frempong, the World Bank 2015

[11] Towards Sustainable Food System in Mongolia, UN, FAO, June 2021

[12] Overview of Mongolia`s Waetr Resources System and Management, ADB, July 2020

The main crop farming in Mongolia, namely, wheat and potatoes, is currently facing some negative impacts derived from monoculture, resulting in production being highly fluctuating: in some years, more than the self-sufficiency rate and in others requiring imports for compensation. A concentration of wheat production in Selenge and Tuv is evident, and potatoes and vegetables cause some negative impacts, such as soil degeneration due to monoculture and continuous cropping.[13] Monoculture also leads to an increased usage of pesticides. As crops are more likely to be affected by blight or pests, these threats can move faster through the area due to its reduced biodiversity, and in response, farmers apply greater amounts of pesticides and herbicides.[14]

GHG emission

The food system now utilizes 30% of the world's available energy, of which more than 70% is used outside the farm gate, and contributes to more than 20% of global greenhouse gas (GHG) emissions (around 31%, if the land-use change is included). The Government of Mongolia (GoM) approved its revised Nationally Determined Contribution (NDC) to the Paris Agreement on climate change in 2019, committing to reduce GHG emissions by 7.2% in 2020, by 12.3% in 2025, and by 22.7% in 2030 compared to the baseline scenario[15]. The agriculture sector will contribute 31.3% of the reductions in GHG emissions. Mongolia's annual GHG emissions were estimated at 34,482.7 thousand tons of CO_2 equivalent in 2014, with 48.5% from agriculture (including livestock), and agricultural methane emissions were equal to 15,980.0 thousand tons of CO_2 equivalent in 2018. The country is one of the countries with high GHG emissions per capita and emissions intensity per GDP despite its small contribution to global GHG emissions (less than 0.1%).[16]

Transportation of food is another factor that contributes to the GHG emission of agri-food production systems. The conventional agriculture model supports small numbers of people tending large monocultures and using industrial equipment to harvest and process the crop. The crops are then transported to their destination, where they are sold to consumers using a large number of fossil fuels.

Food waste

Food is wasted throughout the entire production chain, from initial crop growth to supermarket screening to final household consumption. Food waste includes food scraps, discarded food, and uneaten food. One-third (1.3 billion tons) of food produced globally is wasted every year. An area larger than China and 25% of the world's fresh water supply is used to grow food that is never eaten, including 30% of cereal crops, 40-50% of vegetable crops, and 20% of oil seeds. Food waste produces 3.3 billion tons of carbon dioxide, a greenhouse gas that contributes to climate 22.7change.[17] In Ulaanbaatar, 20.7% of the waste is composed of food waste.[18]

Moreover, other environmental risks need to be addressed, such as the development of herbicide-resistant weed species, increased dust and land disturbance, and loss of biodiversity. Other concerning risk associated with greenhouse production is high rates of energy required for heating, high rates of water usage, water and soil pollution by pesticide usage, and water use-resource

[13] Data Collection Survey for Agriculture and Livestock sector in Mongolia, JICA, August 2017

[14] https://eos.com/blog/monoculture-farming/

[15] https://gggi.org/project/mn19-building-capacity-of-mongolian-government-for-ndc-implementation/

[16] Government of Mongolia, NDC Executive Summary, 2019

[17] https://www.mapleridge.ca/1776/Food-Production

[18] Ulaanbaatar Household Waste Composition Study, The Asia Foundation, 2019

depletion.[19] Due to the food and beverage sector's significant environmental impact, finding innovative ways to transition to a low-carbon circular economy and accelerate poverty reduction is imperative.

The priority environmental impacts related to the selected subsectors (crops and vegetables, fruits and berries, beverages made from crops, vegetables and fruits) are the use of chemicals such as pesticides, fertilizers, soil erosion, water depletion and food waste. The following chapters discuss in detail the eco-labeling practices applicable to the selected subsectors. Still, the general conclusion is that eco-labeling for these subsectors should have multiple labels, starting from Pesticide free to 100% Organic. The policy framework is well established as the policy makers have pledged to promote organic agriculture. Market size is sufficient, and the players are willing to adopt eco-labeling practices if the correct promotion mechanism is in place. Once the eco-labeling practices are successfully piloted in the selected subsectors, they can be sustainable and easily adopted into other agriculture subsectors. The detailed recommendation can be found at the end of the study.

2.4 Key opportunities and barriers

Mongolia has the human and natural resource base to produce sufficient agri-food and beverages for import substitution on the domestic market. However, a number of factors limit competitiveness, including complex eco-unfriendly supply/value chains, high processing costs and high cost of capital, low product quality, limited branding, and poor employment practices. Concerted efforts are also needed to improve the business environment, including accelerating progress in agro-industries and agribusiness development to promote value addition and competitiveness of local agricultural products in trade at the local, regional, and international levels.

The private sector holds the potential to generate much-needed investment in agriculture and food systems and ensure responsible supply chains that can benefit small producers, workers, and consumers. Introducing eco-labeling practices could boost sales and would help the private sector in attracting affordable financing/investment from the international community. Barriers that hamper access to financing and technology for the private sector need to be addressed. Increasing investment and access to finance is critical to achieving rural transformation, especially for small producers, and rural agri-food MSMEs.

Mongolia hosts one of the world's most extensive and biodiversity-rich grassland ecosystems. The ecosystem is degrading rapidly, and that biodiversity is being lost due to the degradation of grasslands, attributed primarily to overgrazing. Mongolia has no mechanism for proper economic valuation of natural capital and accounting for the social costs in policies and regulations. As a result, a range of natural resources is de-facto open access resources resulting in the classic tragedy of the commons.[20]

Mongolia is also experiencing some of the world's highest rates of climate change. The effects of climate change are complex and difficult to predict. Early warning systems in Mongolia are nascent, and while the development of drought and dzud conditions is monitored regularly, response activities continue to rely mainly on rapid assessments for identifying needs and assessing disaster impact. Existing laws and policies and international commitments provide a

[19] Mongolian Sustainable Finance Principles: Agriculture Sector Guideline

[20] https://summitdialogues.org/wp-content/uploads/2021/09/ENG_sustainablefoodsystems_Mongolia_FSD_Pathway-document.pdf

solid enabling framework for biodiversity conservation and reversal/avoidance of degradation of a country's precious natural resources. However, there is a need to improve institutional capacities and incentives to exercise their mandate in sustainable natural resource management.

Studies on the agriculture sector show a diverse set of difficulties. Vegetable cultivation is increasing in Mongolia, but it lacks modern technology and uses inferior storage methods that make production at scale difficult. Coordination between growers is lacking, increasing their dependence on intermediaries and raising domestic vegetable prices.[21] Particular challenges faced by the agri-food and beverages sector[22] include:

i) overexploited and polluted ecosystems, namely:

- Lack of availability and application of relevant technology
- Inappropriate use and disposal of inputs and outputs (water, waste, energy)
- Poor natural resource and land use planning
- Open access to resources
- Limited awareness and capacity of natural resource users
- Insufficient human and financial resources, resulting in poor enforcement of regulations
- Poor institutional and legal framework, limited interministerial coordination, and ambiguous institutional mandates
- Increasing conflicts between agro-farmers and herders in certain areas

ii) Unsustainable agricultural practices and limited value addition, namely:

- Poorly developed value chains and market access
- Low level of technology, systems, and quality control
- Inadequate skills to meet rising demands
- Limited access to credit
- Insufficient infrastructure (e.g., water points, irrigation, storage)
- The limited capacity of herders and farmers to adapt to and mitigate climate change and,

iii) Climate change impacts and natural disasters, namely:

- Changing distribution, composition, and area of ecosystems
- Decreasing grassland, forest, and wetland productivity
- Reduced precipitation and increasing temperatures
- Increased adverse climatic events (winter storms and droughts)
- Harsh continental climate, an uneven location of arable land

iv) Logistical challenges

- The large distance between supplier and consumer
- Underdeveloped local road infrastructure
- Utmost dependence on two neighboring states on logistics and transportation due to landlocked location

A shortage of advanced storage facilities and methods makes the consistent production of products that use vegetables as raw inputs difficult. Some companies need large supplies of vegetables for their products but must rely on intermediaries because no single farmer can supply the amounts needed. Without external support and coordination, giving part of their profit margin to intermediaries appears to be a less expensive way for small companies to penetrate foreign markets than attempting to market their products themselves, especially under their own brands. For more standard products, such as liquor and beer, penetration costs are high, because companies in these markets incur high fixed costs of setting up and running a distribution network.

[21] Economic Research Institute, 2019

[22] Interim Country Partnership Strategy: Mongolia, 2014–2016, ADB

Government support is needed to help to export companies comply with international food and other safety standards, including the organic certification of products. A World Bank export development project cofinanced some such costs borne by small exporters in a matching grants program. But for minor concerns to continue shouldering these costs may not be sustainable in the long run and the government does not provide this type of cofinancing. [23]

3. Agri-food and beverage sector policies and national strategies

3.1 National strategies

Agri-food and beverage sector policies and national strategies, including contribution to NDC and SDG targets of Mongolia and the other UN Member States, adopted the SDGs Agenda 2030 in 2015, announcing its commitment to sustainable development. In 2016, the Parliament adopted the Mongolia Sustainable Development Vision 2030, in which the goal of sustainable economic development would be attained through diversification. The policy identified the energy and infrastructure sectors for development at the outset and prioritized agriculture, food, and light industry.

Also, in 2018, the government adopted the Three Pillar Development Policy Program, which is consistent with the SDGs and the Government Action Plan. The program sets out specific goals to achieve diversification by promoting three broadly defined sectors: food, agriculture, and light industry; mining and heavy industry; and trade, tourism, and infrastructure.

The deadline for achieving the goals is less than ten years away, and many of these goals—especially on sustainable food systems—are not yet within easy reach. The Government of Mongolia is therefore stepping up its efforts to achieve food security, improve nutrition and promote sustainable food production.[24]

The office of the Prime Minister of Mongolia convened a series of sub-national and national dialogues to bring together diverse stakeholders around the issue of food systems transformation and to identify concrete action pathways for Mongolia to follow the Decade of Action to achieve the SDGs by 2030. The main goal of these national dialogues was to explore what actions should be taken in Mongolia to access sustainably produced food in ways that contribute to equitable, resilient livelihoods and provide healthy, nutritious diets for the whole population while adapting to and mitigating climate change. The dialogues were organized around three thematic areas, including *i) ensuring access to safe and nutritious food, ii) markets and value addition, ii) boosting nature-positive production and resilient food systems.*

Mongolia adopted the "Vision 2050" in early 2020 as the key mechanism to nurture and achieve Mongolian aspiration to become one of the leading Asian countries in terms of social development, economic growth and quality of life. It sets a clear framework and targets for key sectors, including agriculture and the environment. The Vision emphasizes enhanced crop and animal agriculture productivity within the Food and Agriculture sector.[25]

In these national strategies, and action plans, the GoM is obliged to: [26]

[23] Mongolia`s Economic Prospect, ADB, 2020

[24] Towards Sustainable Food System in Mongolia, UN, FAO, June 2021

[25] The Ministry of Food, Agriculture and Light Industry adopted an e-agriculture strategy for Mongolia in 2019. The development of the strategy was supported by FAO and ITU in partnership with CITA.

[26] Towards Sustainable Food System in Mongolia, UN, FAO, June 2021

- Strengthen food consumption, production, and food system statistics to track progress, strengthen monitoring, support evidence-based policymaking, and contribute to reduced food waste and improved utilization of resources
- Prioritize support for SMEs and entrepreneurs in business development, access to commercial finance and help to put risk-mitigation instruments for start-up businesses. Initiate comprehensive financial sector reforms aimed at reducing the overall cost of capital and preferential targeted access to capital by MSMEs
- Develop a long -term vision, strategy and action plan for agriculture exports and provide coordinated support and leadership in exploring new markets and facilitating the entry of Mongolian firms into those potential markets.
- Establish a Ministry of Commerce to streamline commodity and trade standards. Collect, evaluate, and publish data on Commerce and Industry.
- Establish credible certification and traceability mechanisms, harmonize food safety and quality standards for mitigating cross-border risks, and streamline internal processes to reduce the time and costs of obtaining expert permits, licenses, and other necessary documents.
- Develop and promote "Mongol brand" food products in the international and domestic markets. This would also include branding Mongolian food and agriculture products as natural, cruelty-free (particularly for animal products), organic and more sustainable.
- Comprehensively reassess the public expenditure and subsidies in food and agriculture and align the budgeting processes to SDGs
- Mount a massive vegetable production and marketing program to contribute to dietary diversity and reduce dependence on imported vegetables. Support farmer markets for selling local vegetables and encourage consumers to buy local vegetables through public campaigns.
- Mainstream climate-resilient and sustainable food and agriculture interventions into 10-year-long Targeted Development Programs

Government Action Plan 2020-2024

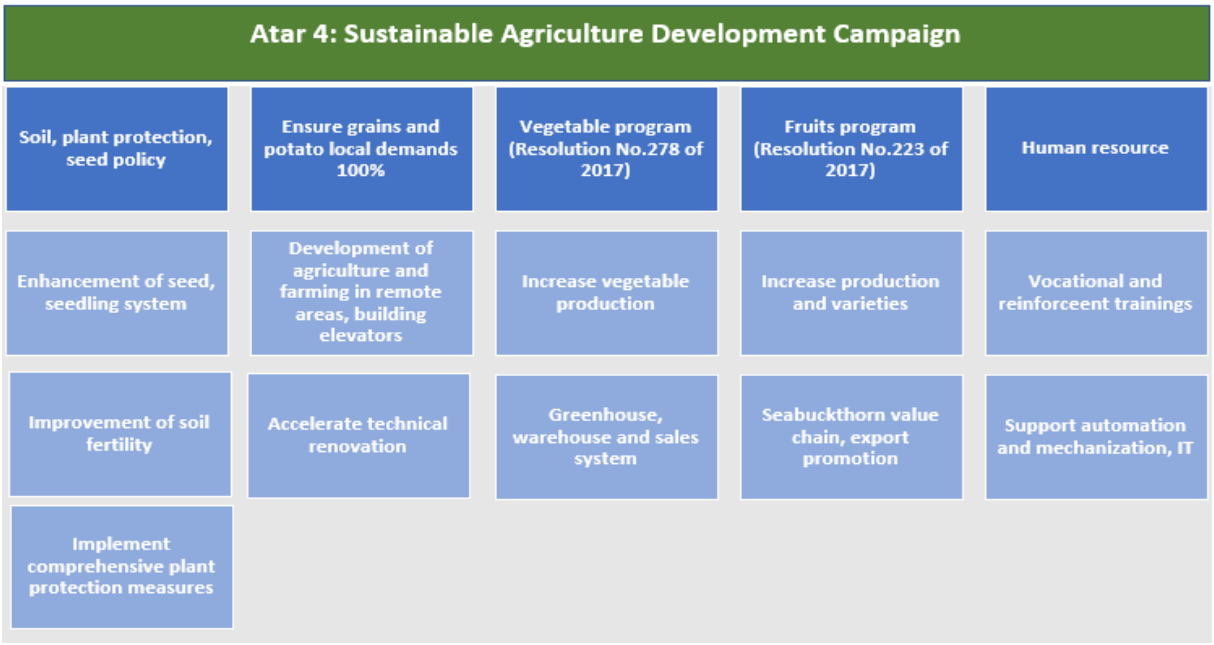
GoM Action Plan for 2020-2024, approved by the Parliament`s resolution No.24 of 2020, includes the following specific actions related to the agri-food and beverages industry.

- Establish and operate an "Export Guarantee Fund" to provide special support to business entities that export their products.
- Develop the production and sales network of agricultural products to meet the domestic demand for key food products fully, and support the production of import-substituting and export-oriented products.
- Implement the Atar-4 campaign, ensure sustainable agricultural production development, increase product export and processing capacity, and increase the productivity and competitiveness of the sector by increasing crop rotation and fodder production.
- Establish the Center for Agriculture and Agro-technical maintenance in Darkhan and Selenge regions.
- The state shall provide incentives to herders and farmers who increase the production of agricultural products and supply their products to national enterprises.
- Establish a logistics network for agricultural transportation and sales, and establish an effective system for quality control and certification of agricultural products.
- Introduce modern forms of financing to SMEs and businesses, and implement a policy to nurture and expand SMEs through business incubation services.
- Increase opportunities for national SMEs to perform contract work for large enterprises such as Oyu Tolgoi and Erdenet.

- Increase funding for public-private partnership green projects that are environmentally friendly and low in greenhouse gases.

3.2 Sector policies

Figure 6: Crops, vegetable, and *fruit sector priorities*



Source: Ministry of Food, Agriculture and Light Industry

Table 9: Crop, vegetable, and *fruit sector policy framework*

National programs	Laws	Decrees/Orders
"Fruits and berries" National program 2017-2022	Law on Crop farming, 2016	Instructions on simplification of agricultural practices in fruit and vegetable production Joint Decrees A/166 and A/251 of the Minister of Food, Agriculture and Light Industry and the Minister of Health
"Vegetable" National program 2017-2020	Law on Seeds and Crop Insurance	Order No. A-43 of the Minister of Food, Agriculture and Light Industry, Methodology for calculating normal waste during short-term storage of potatoes and vegetables,
National program on Desertification and soil degradation	Law on Seeds and Plant Varieties, 1999	Methodology for estimating the damage caused to agricultural producers /Minister of Food, Agriculture and Light Industry, Minister of Justice and Home Affairs, Minister of Finance Order A-136, A-158 and A-210 of 2018/
Atar 4: Sustainable Agriculture Development campaign	Law on Plant Protection, 1999	Procedure for testing, registration, use, deregistration and destruction of plant protection biological substances / Order No. A-63 of 2016 of the Minister of Food and Agriculture /
Industrialization 21-100 National program, 2018	Law on Soil Protection and Prevention of Desertification, 2012	Requirements for the safety of fertilizers to be used in agricultural production /Order A/ 105 of 2013 of the Minister of Industry and Agriculture/
		Procedure for testing and use of pesticides, chemical fertilizers, household pests, rodent control and disinfectants /Minister of Nature, Environment and Tourism, Minister of Food, Agriculture and Light Industry, Minister of Health Joint Order No. 63/67/87 of 2009/

		General procedure for rehabilitation, construction, financing, possession and use of engineered wells and water points /Joint Order No. 101/189/194 of 2005 of the Minister of Food, Agriculture, Minister of Environment and Minister of Finance/

Source: Ministry of Food, Agriculture and Light Industry

To reach the goals and objectives, GoM has planned to implement several projects with foreign loans and investment, including greenhouse farming, establishment of grain elevator farms in remote areas, irrigated agriculture, technical innovation, cooperative warehouse, and wholesale center, and potato processing starch factory

In addition to the government, several multilateral organizations finance trade-related projects to support Mongolia. These include the Asian Development Bank's Agriculture and Rural Development Project, which is aimed at improving the standards of agricultural products with export potential, and the World Bank's Export Development Project to support small businesses by strengthening their export capabilities.

Organic agriculture policies

Organic food product has been defined in the Law on Food, Article 3.1.5, as "organic production of animal husbandry and agriculture, and raw materials and products of purely natural origin that meet Mongolian and international standards."

Due to climate change, not only in Mongolia but all over the world, the yield per hectare is declining, surface and groundwater are being depleted, soil fertility is declining, and desertification is taking place. Urbanization is increasing, the population is growing, and it is becoming challenging to ensure a country's food security in the face of limited food resources. Therefore, organic production plays a vital role in the development plans of the world's governments until 2030, and European countries are working to radically reform their agricultural policies in line with the principles of organic production.

Therefore, Mongolia aims to develop sustainable, organic agriculture practices, in the long run, to introduce organic, sustainable production practices at all food chain levels. By 2030, the sector aims for 5 percent of food and agricultural production to be organically certified.

The Parliament of Mongolia and the Government approved the Law on Organic Food in April 2016. In addition, the "Vision-2050" long-term development policy of Mongolia states that "... to support the consumption of organic food, develop organic livestock production, increase exports, create an organic food chain supplied from rural areas, increase the range of organic products, and invest in creating a favorable environment".

Table 10: Regulations for organic food production

Type	Legal documents
Standard	Guidelines for the processing, production, labeling, and sale of organic food
Standard	HS code
List	List of substances used in agricultural organic production and the production of organic food

Methodology	Methodology for calculating the composition of organic food ingredients
Regulation	Procedures for registration and release of organic food for public consumption
Regulation	Procedures for organic agricultural production and organic food production
Law	Law on Organic Food

Four relevant regulations, one methodology, and one list of substances to be used were approved by Order No. A-09 and A-180 of the Minister of Agriculture and Light Industry in 2018. With the approval of all the procedures, methodologies, and lists accompanying the Law on Organic Food, the legal environment for organic food and agricultural production in Mongolia has been created.

Six signs and label certifications indicate organic products are registered as intellectual property of the MOFALI at the Intellectual Property Agency under number 40-0019373, making it easier for consumers to identify certified organic foods.

Table 11: Labels of organic products

A label certifying that the ingredients are 100% organic by a Conformity Assessment Body	A label certifying that the ingredients are 90-99% organic by a Conformity Assessment Body	A label marking of "transitional products" that meet the first stage of certification by "Organic Mongolian Food" or are under the control of the Conformity Assessment Body	A label certifying that the ingredients are 100% organic by a Participatory Guarantee System body (PGS)	A label certifying that the ingredients are 90-99% organic by a PGS body	A label marking of "transitional products" that meet the first stage of certification by "Organic Mongolian Food" or are under the control of the PGS body

Organic food registration and database www.organic.gov.mn was launched, and to date, 17 PGS bodies, and SFCS and MASM are two conformity assessment bodies for organic food certification. However, as conformity assessment body, SFCS LLC alone has been accredited by the National Accreditation Center in Mongolia. As of October 2021, 417 certified organic and transitional organic foods are registered in the organic food registration and database. Over the past two years, 800 (overlapping) registrations have been made. Users can obtain information from this database on organic and transitional organic foods that have not used chemicals or pesticides during production and can contact the manufacturer directly. The manufacturer's request will be reviewed and audited to register organic products by the Certification Authority and sent electronically to MOFALI through http://organic.gov.mn. If the relevant documents are checked and the requirements are met, the system will assign a 13-digit number with the letter COF for in-conversion organic food, LOF for local organic food and FOF for foreign organic food.

However, farmers lack knowledge about organic methods and principles, do not have access to advisory services, and have poor knowledge and understanding of organic food. Moreover, using the marketing value of the word "organic" to label uncertified products as "organic," "eco," or "natural" might mislead consumers and produce counterfeit products.
To address the challenges, the MOFALI aims to take the following actions in 2022, with the private sector and international development community partnership:

- Draft "Procedure for Incentives for Organic Food Producers" and organize a public consultation;
- Connect the organic food registration database to the E-Mongolia government database and link the size and location of organic food crops and pastures to the Cadaster Database of the Land Management Geodesy and Cartography Department;
- Organize trainings, public awareness campaigns and events on organic food and food packaging.

4. Current policy incentives/enforcements that promote sustainable agricultural farming practices

4.1 List of existing incentives/enforcements

In 2020, the GoM approved a few protocols for sustainable agricultural farming development.[27] Some of the relative protocols include the followings:

1. The MOFALI maintains the production goal for the year on agricultural farming and looks for ways to cover co-ops, entities, and individual farmers with insurance and build a digital information platform for farmers and farming production;
2. To increase the production of wheat, potato and vegetables, and fruits, to assign the new farmland locations with the opportunity of using surface water and deep water, to expand the currently in-use farmlands, and to approve the land for solely the purpose of vegetable farming;
3. Increase the yield and farmland size of the farmers who runs greenhouse and grows wheat, oil plants, fodder plants, potato and vegetables, and fruits. To look for a yearlong resource fund for MNT 150 billion to provide the 3 percent interest loan to the farmers, entities, and suppliers of farming inputs, and pay the amount gaps (MNT 13.5 billion) with the government funds to increase food production stock and stabilize the market price;
4. To support agricultural farming production, release the existing debt and bad quality loans of the Agricultural Development Fund (ADF) and improve the utilization of the existing machineries through easing the loan up to 50% and maintaining the job positions;
5. Make the operation of the ADF more practical to support the farmers;
6. Connect the public institutions buying potato and vegetables, and fruits with the entities that have the ability to supply and has a standard satisfied warehouse and advanced technologies;
7. Implement the greenhouse project and build 20 hectares of winter greenhouse to supply green vegetables with the support of the loan and funds from foreign countries and multilateral organizations;

[27] https://legalinfo.mn/mn/detail/15272

8. Within the scale of strengthening the food safety, sales, and price stabilization initiate the project to build the "Potato and vegetable, and fruit storage and sales center" in Ulaanbaatar with the low-interest loan fund from China and Hungary;
9. Run and advocate the campaign "Let families prepare the food" to the public and support the farmers by supplying tools and machineries at lower prices;

In 2022, the GoM approved the following additional policies to support agricultural food production.[28] Some of the related (to the SOGE project) decisions are as follows:

1. Under the slogan, "Nation's healthy food," run the "Atar-4 national agricultural farming development campaign" in 2022.
2. Within the framework of the "Atar-4 national agricultural farming development campaign," pay the incentives of MNT 100 thousand per ton of vegetables (10 types including cabbage, carrot, turnip, beets, onion, garlic, cucumber, tomato, pepper, and leafy green vegetables) that comply with the relative standards and are responsibly supplied to the buyers in the market.
3. For the year 2022 farming production, supply the seeds to the farmers with 80% payment ease as did in the previous year.
4. Support the public initiatives to start farming to increase the country's vegetable farming production and increase employment opportunities in rural areas. Expeditiously develop and advance the value chain of the potato and vegetables, including its logistics and storage and increase the vegetable consumption of the rural area residents.

4.2 Existing facilitated loan:

The GoM approved the order to "Provide low-interest loans to SMEs through the SME fund" by Resolution No. 113[29] in 2020. The policy aims to boost national production to decrease imports and increase exports, support newly born businesses, and increase employment opportunities. The total fund is MNT 50 billion. In 2022, the MOFALI approved the generic requirements of the MSMEs that can obtain low-interest loans, and applications will be selected through the SME fund and the provincial department of Food and Agriculture. As of now, MNT 12.2 billion in total have been distributed as 3 percent interest loan to 582 individual farmers and vegetable farming entities.

In 2022, the application rolls from June 6, 2022, to July 6, 2022, with the following conditions:

- Purpose: Investment
- Duration: up to 5 years
- Complete payment ease duration: up to 12 months
- Loan interest: 3 percent (annual)

The businesses that are eligible for this facilitated loan are:

1. Dairy production;
2. Potato and vegetables, and fruit production facilities;
3. Food warehouses;
4. Intensive livestock and its production;
5. Hog farming, poultry, and bee farming;

[28] https://legalinfo.mn/mn/detail?lawId=16468213911101

[29] https://legalinfo.mn/mn/detail?lawId=15250

6. Greenhouse farming trees, fruits, and vegetable seedlings;
7. Wooden block manufacturing;
8. Tailored products;
9. Amenity services.

Table 12: 3 percent interest loan distribution to MSMEs in 2022

Category	Employees	Loan distribution	Sales income /MNT/	Loan amount /MNT/	
				Min	Max
Micro	1-9	Directly from SME fund	0-100 million	20,000,000	100,000,000
			100-200 million	20,000,000	200,000,000
			200+ million	20,000,000	300,000,000
Small	10-49	Through the commercial banking sector	300 million – 1 billion	20,000,000	800,000,000
Medium	50-199		1 - 2.5 billion		

Source: mofa.gov.mn

4.3 Tax incentives

Tax exemptions

According to the Value Added Tax (VAT) Law exemption provision 13.1.15, locally grown wheat, potato and vegetables, fruits, and produced flour will be exempted from the value-added tax.[30]

Regarding the Custom's Law, imported or locally traded agricultural tools, including tractors, harvesters, machineries, watering tools, greenhouse machineries, forestry and poultry technologies and compost, and pesticides and other plant protection substances, are exempted from the customs duty.[31]

According to the VAT tax regulation provision 14.1.4, if an individual or entity sells unprocessed produce (potato and vegetables, fruits, and wheat) to local food producers, the buyer entity will be exempted from 10% of the VAT.

Tax reduction

According to the Corporate Income Tax revision 22.5.10[32], the entity or company which produced or grew the following crops will be released 50% of the income tax:

a. wheat and grain, potato and vegetables;
b. milk;
c. fruits;

[30] https://legalinfo.mn/mn/detail/11227

[31] https://www.customs.gov.mn/?page_id=2206

[32] https://legalinfo.mn/mn/detail/14407

d. fodder crops;
e. intensive poultry farming meat and meat products;

Subsidy

Based on the total yield of wheat, potato and vegetables, oil crop, and fodder crops in 2020, it is predicted that in 2022 Mongolia can supply wheat consumption of 100%, potato consumption of 140%, and vegetable consumption of 60%.

In 2019, the GoM approved the order to pay *monetary incentives* to the entities and farmers growing wheat. In 2022, to support wheat growth and production, the GoM decided to pay entities or individual farmers MNT 80,000 as a subsidy per ton of wheat qualified with the relative food standards and supplied to local flour manufacturers, ADF, and Country Reserve Funds. Since the order was approved, the GoM paid MNT 22.7 billion to wheat growers.[33]

In 2022, the GoM also decided to provide entities and individual farmers MNT 100,000 as a subsidy per ton of vegetables (10 types including cabbage, carrot, turnip, beets, onion, garlic, cucumber, tomato, pepper, and leafy green vegetables) grown in fields and greenhouses. It is predicted that the incentive will increase the local supply of vegetables by up to 80%. To strengthen this goal, the MOFALI contracted with the local governments in provinces to increase the farmlands of vegetables by an additional 2200 hectares.

To incentivize the implementation of Good Agriculture Practices (GAP) in Mongolia, the Minister of Food, Agriculture, and Light Industry, and the Minister of Economic Development jointly approved a decree in July 2022 on providing subsidies for agricultural producers.
The procedures for agricultural producers to apply for the subsidy are:

1. To be registered to plant.mofa.gov.mn
2. Produce safe food and introduce GAP, and organic farming (those who are transitioning to organic farming are also considered to comply with the criteria).
3. Producers are subject to subsidies when they trade through official channels as requested to provide e-tax evidence.

This procedure can positively affect the SOGE project for several reasons:

1. Agricultural primary producers are likely to be registered at www.plant.mofa.mn, and potential clients and necessary data can be gathered from there.
2. Some resource supports for producers to switch to a green economy is provided by the government.
3. Small entities to be covered by SOGE who wish to switch to a green economy in the supply chain can be defined.

In addition, the GoM considered that the gas price increase from MNT 1,600 to MNT 4,030 per liter could become a considerable cost to the farmers who are transferring their local produce to the urban areas. As a response, MOFALI provided 250 entities and individual farmers with another 10,000 tonnes of seeds at a 30% discounted price and 108 entities and farmers with 1,1 thousand tonnes of gas with a subsidy.

[33] https://uramshuulal.gov.mn/wheat.aspx

4.4 Other supports

To support the farmers' sales in Ulaanbaatar, MOFALI, in partnership with City Council, opened 45 sales points in 9 districts and transformed the parking spot (capacity of 1000 cars) next to the rail station into the vegetable wholesale point for rural farmers until November 2022.

4.5 Plant Origin, the traceability system

Within the framework of the e-agriculture policy in Mongolia, MOFALI has been developing the digital traceability platform (Plant Origin System) with the UN FAO's (Food and Agriculture Organization of the United Nations) sponsorship since 2020. The platform integrates two key items i) plant traceability and ii) pests and disease control, to keep the record-keeping data for crop farming and to improve food safety measures in the country. For the long-term, the platform (www.plant.mofa.gov.mn) intends to provide the public with data on country-level crop farming, record keeping, tracing, and pesticide information for the local produce across the entire wheat, grain, vegetable, and fruit value chain. The MOFALI is also planning to launch a mobile app version of Plant Origin, which will be used primarily for data collection directly from farmers in the country. The platform is not publicly available or launched since the development is still ongoing.

The main features of the Plant Origin platform include the following:

1. The farming permission – the function shows the list of the approved farmlands, including the farmland size, location, duration of the land use, and ownership.
2. Arable land – In this part, the system shows the list of the farmers in each province. By selecting a farmer, we can see farmland code, size, location, the date the farming started, ownership, and file details. Additionally, there are two types of information details:
    - Record keeping: the system shows crop names, planted duration, collected date, weight/scale, farm field, and planted field size.
    - Pesticide records: Tracking of pesticide type, name, main crop, intended use, utilization date, size of the land on which the pesticides have been used, and the size of the pests. The section specifies that the frequent usage of pesticides to fight disease should be explained in detail separately.
3. Farmers' roster – The list shows the farmers' names, citizen ID numbers, province citizenship, type of business (whether smallholder farmer or formal business), contact number, currently using farming tools, verification, and the farmers' action. A search engine on this part allows searching by province, soum, bag, farmer's name, and type of business (informal/individual smallholder or formal business).
4. Certifications – This part shows the list of the certifications of the farmers in the province. The section lists the certification number, region, name and address of the certified farmer, and valid date and certification purpose. It is also possible to see the status of the certification applications submitted by the farmers. A search engine on this part enables a search by certification number, status, purpose, and farmers' ID registration number and/or certification approval date. In addition, the logistic vehicle number, driver's name and contact number, valid date, lab expert summary, and lab results will be added, attached, and saved. MOFALI referred that the certifications, including standard ones (GAP, Organic), will be available.

5. Production plan - Every year, each province's department of agricultural farming submits the plan to MOFALI based on the farmers' crop plans for the following year. This part of the system shows the year, the list of the plan, crop variety, crop name, the list of the farmers in charge of planting, the size and location of the farmland, and the yield capacity per farmer. The search engine of this part allows one to search by year (run through all the previous and upcoming years), soum, crop variety, and name.
6. Equipment – The list shows pictures of each tool and machinery, type, starting date of use, duration of usage, purpose, owner, renter, manufacturing country, number, capacity, and function.

Cluster farming practice is essential in developing sustainable agri-food and beverages industry. There are several GoM inactivates on cluster development, such as the Sea buckthorn cluster. However, as of today, there is no legal framework or definition of cluster business, so it is difficult for farmers to get into an organized cluster system.

4.6 Interview findings

The consultant team interviewed selected stakeholders to understand the challenges and opportunities in advancing sustainable labeling standards in Mongolia. The probing questions include:

1. What are the policies and initiatives supporting sustainability standards and eco-labels used in Mongolia?
2. What existing enforcements and initiatives are not well implemented? Why?
3. What policies and initiatives are missing to support the sector further?

The below table summarizes the main findings on the implementation and effectiveness of such incentives and enforcements from the interviews:

Table 13: Interview findings

Incentives/Enforcements	Perspectives
Ministry of Food, Agriculture and Light Industry	
Organic food regulation GAP food safety Facilitated loans Subsidy for wheat and vegetable Subsidy for seed and gas Plant Origin System Packaging standards	Consumers are not aware of the labeling at all. Ongoing activities target producers and farmers, but consumers need more knowledge of labeling. Organic labeling is not going well as it is hard to implement for SMEs due to advanced indicators. GAP is mandatory for all farming communities, but still, the implementation is weak. Total 34 companies, co-ops, and farmers got certified between 2019-2021. ESG is not well identified in the sector, so the current 3% loan is not categorized as a green loan. Plant Origin System, a traceable digital platform, is in the development process and planning to connect all related services in the sector. MOFALI is open to all partnerships for the system development and implementation stages.
Ministry of Environment and Tourism	
	MET is providing:

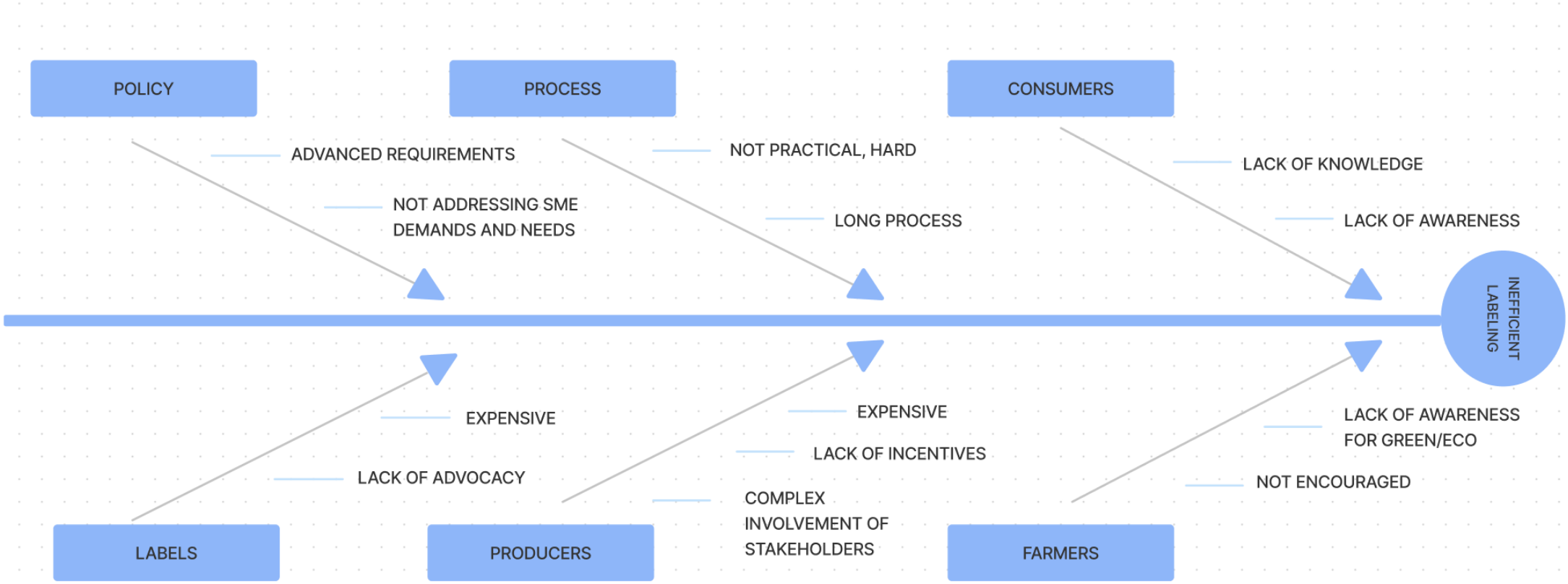
Green certification Eco product label	1. Green certificate for entities 2. Eco label for products Since 2019, total 16 entities acquired green certificates, and 0 products have been verified with eco-labels. Eco-labels for products have indicators challenging to implement and launch, so they should be facilitated. Only 2 food sector companies acquired green certificates: Coca-Cola and Everyday farm greenhouse. Newly developed labeling should have well-aligned so that all the stakeholders have an integrated understanding.
UN FAO	
Green/Eco-labeling scheme in Mongolia	In 2018, the GoM approved the labeling regulation, but it only provides general food labeling knowledge. Two ways of acquiring verification: 1. Through MOFALI-certified organization 2. Internationally certified organization Organic labeling regulation is not well implemented in Mongolia. Farmers, producers, and consumers need to be educated on what organic is. Retailers need to be educated and hold strong initiatives. According to the food regulation law, the farming community members now must implement the GAP, but all stakeholders within the entire value chain must follow-up and implement it. MOFALI requires farmers to implement GAP to be covered for subsidy. GAP is more for food safety; nutrition perspectives are missing in the sector.
SME Fund, MOFALI	
Facilitated loans	Nationally, we have not identified what is green, so working with World Bank to identify the indicators of green (applicable to the livestock sector more) More investment, specifically green financing, is necessary to distribute the subsidy for wheat and vegetables. SMEs want to become green businesses, but existing verification is not well developed and quite expensive to implement. The verification process must be easy, and its cost should be affordable. 3 main issues because SMEs cannot obtain 3 percent interest loan 1. Reporting, financial reports, and receipts 2. Collateral problems 3. Lack of financial knowledge
General Agency for Specialized Inspection	

Labeling standard for packaged food products (standard MNS 6648)	Organic labeling is not well implemented. It takes food-producing companies to implement the standard for at least 2-3 years. Farmers are not aware of organic perspectives and consumers are not aware of what precisely it is. Among existing standards for farming, production GAP implementation is practical and MOFALI is making it mandatory. GAP is easier and affordable since the cost is based on the farmers' land size and whole production status. The existing packaging standard requirements are cumbersome for small producers who sell their products in very small quantities.
Mongolian National Chamber of Commerce and Industry	
Labeling standard for packaged food products (standard MNS 6648)	In 2018 MNCCI launched the eco-label. Organic labeling is based on IFOAM international labeling practice. MET – green certificate and eco-labeling MOFALI Organic labeling is not well implemented due to inconsistent administration and governance. Effective standard is needed. Verification companies should be capable, and food sector lab partnerships are needed. Standard indicators should be different based on different foods. Other countries' standards are hard to apply to Mongolia's market. The leverage of public advocacy is necessary. The encouragement of obtaining the eco-label is necessary.
Verification companies: Organic development, Selenge Organic (ADRA), SFCS LLC	
GAP, Organic food labeling verification	We should train and educate farmers on GAP and organic production. Rather than a new verification system, it is important to run PR activities to raise awareness among farmers, producers, and consumers. 1. Farmers are not well-aware of existing standards; the information is not well communicated to them. 2. Not value added – producers' sales are not growing by paying for standard verifications. The verification should be well advertised and advocated. 3. Consumers lack awareness. Consumers should be willing to buy organic or green products and pay higher prices. 4. Retailers are not aware of the standard verifications and verified products. Retailers should advocate verified organic or green products. 5. Scientific institutions/scientists need to collaborate with the stakeholders in the sector to advocate standard verifications. 6. The policy is important. Organic.mn was the verifying website for organic, like SOGE project platform, but it is now ignored and transferred to the Information Technology (IT) department of MOFALI. It is not clear who and how the platform will be maintained. An online verification platform will save time and facilitate the process but cannot reduce the fundamental cost of the verification. 7. GAP is for fundamental farming production. Organic has much more requirements with a larger scale (it has big-scale indicators). Do we know if the producers have the capacity to be certified as organic? There answer is we do not know, and we do not have thorough research on this at the country level. 8. The basic food production process should be well communicated to the farmers because sometimes farmers are not aware of the specific demand of the producers for vegetables and fruits as input for manufacturing. 9. Local verifiers for PGS should be competent and well-trained.

	10. It would be easier if the labeling was provided for the entire farmland instead of the types of vegetables and fruits separately. 11. Verification for a cluster may encourage many more farmers to become organic or green, and this may boost their participation in the value chain.
Farmers and producers who obtained/have not obtained the certificates: Devshil trade LLC, Green Hill Farm, A family farmer	
Obtaining certification for entities and family farmers	Certifications should have a good reputation. Certifications are not in English, and hard to find information for foreign-owned companies. Farmers and verifiers would like to get a certification for production. The most challenging problem with farming so far: - Growing process - Weather – lack of rain or flooding - Mold, Rust For labeling – An explanation is key so that it should be easy to understand and clear to the consumers. Eco is not organic. Difference between Organic and Green/Eco – we must be careful with the public because sometimes farmers and consumers think that it is the same concept. Having organic food production is totally different from having Gree/Eco products depending on the specific criteria of the standards. Once the entities get a GAP certification, it is convenient to get the certification extended following the annual check. Usually, GAP certification does not help boost sales on the market. Entities feel that GAP improves internal operations by making all the processes well structured. It took 2 months for the entities we interviewed. It is essential to differentiate the organic certification and GAP certification. Organic production farmers do not use chemical-based fertilizers, while GAP farmers may use fertilizers at appropriate levels. MOFALI is expected to advocate the GAP and organic certifications publicly. GAP Auditors mentioned that many companies struggle to get a GAP certification because the information, including how, where, and requirements of GAP, is nowhere to find. MOFALI does not provide sufficient information and knowledge on existing standards. It would save a lot of sources and facilitate many things if the current verification process is digitalized. Food safety is important, so GAP is important verification that farmers should be aware of at least. Requirements are quite specific. Information about GAP is scarce on the MOFALI website. Facebook is the main channel many farmers find out about GAP. It can take 6 months to get the verification for the family farmer fully. Verification documents help family farmers to sell to local public institutions and consumers. Farmers say that the GAP cost is high for most of them: MNT500 thousand for the individual family farmer and MNT3 million for the entity. Depending on the farmer's capacity, requirements may not necessarily be hard to satisfy. Farmers are not aware of the GAP advantages very well.

4.7 Cause and effect of insufficient labeling scheme

Figure 7: Cause and effect of inefficient labeling schemes



5. Detailed review of existing green/eco-labeling standards and labels in the sector

5.1. Background/historical development

5.1.1 Product certification and eco-labeling

Product certification and eco-labeling are tools that can be used to support environmental management. While interrelated and serving the same goal, these tools have important differences as currently applied in the food trade. Governments commonly mandate product certification, often mutually agreed upon by competent regional organizations, to ensure that only legally harvested and reported agri-food can be traded and sold in the domestic or international markets.

The principal objective of product certification is to prevent, deter and eliminate illegal, unreported, and unregulated agri-food per the national legislation. Product certification does not necessarily involve a product label at the retail level. Where product certification comes with a label to inform consumers; however, it can influence consumers' choices.

Product labels can be mandatory or voluntary and may refer to different product characteristics or attributes, including the product's composition or contents, product quality or form, and environmental or social aspects of the product's production process or method.

The principal objective of an eco-labeling scheme is to create a market-based incentive for better management of agri-food and beverages by creating consumer demand for mentioned products from well-managed stocks. Therefore, voluntary labeling practice is recommended to start with.

Different types of environmental labels are distinguished in the literature. The International Organization for Standardization (ISO), for example, distinguishes between three different types of environmental labels:
Type I environmental labels are those based on voluntary multi-criteria product life-cycle assessment of environmental effects with verification through a third party.
Type II environmental labels are based on self-declared environmental claims by producers, importers, and retailers on products and services.
Type III environmental labels provide quantified product information according to pre-set indices, like general consumer information on product packages.

While ISO's general guidelines for environmental declarations and labels call for product life-cycle assessments (from the cradle to the grave), in agriculture, there are examples of so-called single-issue labels such as "pesticide-free" to indicate that pesticide was not used in the production.

Eco-labeling initiatives aim to promote a sustainably managed agri-food and beverage industry and highlight their products to consumers. Product claims associated with eco-labeling aim at tapping the growing public demand for environmentally preferable products. Usually, a claim appearing on a product must be preceded by a chain of custody exercise that documents that the product was derived from, for example, agricultural raw materials certified as being "sustainably managed." Important institutional aspects of eco-labeling schemes are the scope of the certification process, the standards for accreditation of certifiers, standards for the certification process, the accountability of certifiers, and the costs of certification.

The following matters should be explored when developing criteria. What is the consistency with the existing legal framework (domestic and international)? Is there an appropriate institutional framework for agri-food production management? Are stocks monitored and assessed? Is there consultation and joint decision-making? Are management measures selected and implemented

appropriately? Product certification is being used as an extension of regular monitoring and enforcement activities.

EU's farm-to-fork strategy is currently the most known initiative that strongly relates to product certification and eco-labeling frameworks. This strategy is the main tool for the EU to achieve SDGs and tackle the challenges of a sustainable food system. Farm to fork aims to accelerate the transition to a sustainable food system that should have a neutral or positive environmental impact, aid in mitigating climate change and adapt to its impacts, reverse the loss of biodiversity, ensure food security, nutrition, and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food, and preserve the affordability of food while generating fairer economic returns, fostering the competitiveness of the EU supply sector and promoting fair trade[34]. EU agriculture is recognized worldwide as the only major system that has reduced GHG emissions by 20% since 1990. Farm to Fork Strategy specifically highlights the agricultural farming needs to reduce dependency on pesticides and antimicrobials, reduce excess fertilization, and increase organic farming, all of which are crucial criteria for establishing credible eco/green labeling schemes.

5.1.2 Background of Standardization and conformity assessment of Mongolia

Standardization

Standardization services in Mongolia were established in 1953 and are handled today for the whole country by the Mongolian Agency for Standardization and Metrology (MASM). MASM is a National Standards and Metrology Body, and its Chairman is appointed by the GoM and reports to the Deputy Prime Minister's Office.

The role of MASM in standardization is to contribute to the development of Mongolian society, economy, industry, and trade by establishing standards based on mutual understanding and voluntary agreement between parties in governmental authorities, industry, and business, concerning consumers' rights and continuously developing standardization activities aligned to the market system.

Also, MASM develops product, service, and management system certification in accordance with national and international laws and standards, conducts conformity assessment and certification of products using safety marks, conducts conformity assessment of organizations that have implemented international management system standards, specializes in product, service and management system certification, to provide methodological support, expand the scope, increase the knowledge of users about the certification activities, and create conditions for them to make the right choice and increase their confidence in their activities;

The preparation, application, and promotion of national standards are set out in the Mongolian Law on Standardization, technical regulation, and accreditation of conformity assessment revised in 2017.

Box 2: Mongolian Law on Standardization

1.1. Purpose of this law is to establish a legal framework for standardization, technical regulation, and accreditation of conformity assessment, to ensure the quality and safety of products, productions, services, and

[34] Farm to Fork Strategy EU 2020 (https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf)

management systems, and to regulate relations concerning the protection of interests of consumers and producers.

Law on Standardization, technical regulation, and accreditation of conformity assessment, 2017

MASM approves and publishes all Mongolian standards, represents Mongolia in international standardization within ISO, and is the Mongolian WTO/TBT Enquiry point.

MASM and the government have identified improving food quality and safety standards for imports and exports as essential goals. However, lack of capacity and fiscal constraints chronically limit MASM's ability to develop and implement standards. MASM is working to meet this goal by adopting standards from other countries with which Mongolia has significant trade ties, such as China, the EU, Russia, and the United States, and from regional and international organizations. MASM employs foreign standards on an ad hoc basis, reflecting a domestic need or funding source for standards development. The EU, through its Support to the Modernisation of Mongolia's Standardisation System project (SMMSS), has consistently funded such programs; consequently, MASM has a tendency to adapt EU standardization practices to Mongolian circumstances. Because China is Mongolia's largest trading partner, Chinese standards also inform MASM's practices. Mongolia is not a member of any regional body that develops standards, but is a member of ISO, the International Telecommunications Union, and the Pacific Area Standards Congress Standards (PASC).

The Department of Standardization and Technical Regulation and conformity assessment policy regulates the standardization and technical regulation. Mongolia has about 6,342 national standards, 65 percent of which are based on international or regional standards. Within the Agreement signed with the European Committee for Standardization (CEN) framework, Mongolia aims to raise compliance to 90 percent. The list of national standards is available here.

The GoM authorizes the development and approval of all regulations. MASM issues, reviews, and concludes draft technical regulations, and is a member of the International Laboratory Accreditation Cooperation (ILAC), the International Accreditation Forum (IAF), and the Codex Alimentarius. The Codex Alimentarius Commission (CAC) was established in May 1963 by the UN FAO and the World Health Organization (WHO) to protect the health of consumers and promote fair trade and is an international food standards organization.

There are 93 CAC standards in force in Mongolia. These standards must be reviewed and updated, as most are at least 10 years behind schedule. We still use 20 standards that have been removed from the standard database by the CAC. 73 standards issued by the CAC must be translated and introduced for food security and export. It is also necessary to review all applicable standards, revise and interpret, and ensure the translation is free from errors.

Improving food safety, domestic food production, and export-oriented products, and introducing and implementing international standards for controlling imported food products are critical to ensuring food security for consumers. Therefore, adopting the Code of Standards, guidelines, and practices recommended by the WTO as a national standard is necessary.

Although the Code's standards are in the form of non-binding recommendations, adopting national standards by countries will ensure their implementation, facilitating trade and reducing trade barriers with other WTO members.

Table 14: CAC and MNS CAC standards

Subject standards	Total	CAC Guidelines	CAC Recommended code of Practices	Miscellaneous	Minimum Residue Limits	CAC STAN
CAC	378	81	54	4	1	238
MNS	93	13	11	-	1	68
Withdrawn by CAC	19	1	-	-	-	18
Withdrawn MNS	2	2	-	-	-	-
CAC has revised. Need to adopt	54	7	4	-	1	42
Not translated	285	68	43	4	-	170
Recommendations needed for adoption	72	15	6	1	-	44

CAC standards are recognized worldwide and its general and specific requirements for food have been specified and some of them would be needed for the project. It's possible if translated and adopted into MNS, but we need to check if those translated versions are still intact with CAC as many of them are outdated. As presented in the table, the abbreviations mean GL (guidelines), CAC RCP (Recommended code of practices), MISC (miscellaneous), and MRL's (Minimum residue limits).

ISO Technical Committee (TC) is responsible for the development of standards. ISO TC 207 is focused on environmental management systems, auditing, verification/validation, related investigations, environmental labeling, environmental performance evaluation, life cycle assessment, climate change, mitigation and adaptation, eco-design, material efficiency, environmental economics, and environmental and climate finance.

Table 15: Standards by ISO/TC 207/SC 3 Environmental labeling

ISO/TC 207/SC 1	Environmental management systems
ISO/TC 207/SC 2	Environmental auditing and related environmental investigations
ISO/TC 207/SC 3	Environmental labeling
ISO/TC 207/SC 4	Environmental performance evaluation
ISO/TC 207/SC 5	Life cycle assessment
ISO/TC 207/SC 7	Greenhouse gas and climate change management and related activities

.
To develop an eco-label, it is recommended to follow the below ISO standards.

Table 16: Eco-labeling ISO standards, and their status of translation into Mongolian

№	ISO standards	Translated into Mongolian/ or not
1	ISO 14020:2000 Environmental labels and declarations — General principles	Yes, and available for use
2	ISO 14021:2016 Environmental labels and declarations — Self-declared environmental claims (Type II environmental labeling)	Outdated; need to translate the new version
3	ISO 14021:2016/AMD 1:2021 Environmental labels and declarations — Self-declared environmental claims (Type II environmental labeling) — Amendment 1: Carbon footprint, carbon neutral	Outdated; need to translate the new version
4	ISO 14024:2018 Environmental labels and declarations — Type I environmental labeling — Principles and procedures	Outdated; need to translate the new version
5	ISO 14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures	Outdated; need to translate the new version
6	ISO 14026:2017 Environmental labels and declarations — Principles, requirements, and guidelines for communication of footprint information	Need to translate
7	ISO/TS 14027:2017 Environmental labels and declarations — Development of product category rules	Need to translate
8	ISO/TS 14029:2022 Environmental statements and programs for products — Mutual recognition of environmental product declarations (EPDs) and footprint communication programs	Need to translate

In Mongolia, the names of products and services that harm the environment, eco-classification, and indicators for defining such impacts have not been established.

Following the procedure approved by the Government Resolution No. 95 of 1998, the Ministry of Nature and Environment in late 1999-s selected individuals and companies that have introduced environmentally friendly technologies and produced “ecologically clean” products:

- "Khustai" cheese of "Byaslag" cooperative, Altanbulag soum, Tuv aimag,
- Goat cashmere sweater of "Gobi" JSC, camel wool blanket,
- Pasteurized milk and whey ice cream of Suu JSC. and
- "Epitoxin," a bio preparation for plant protection, has been certified as an "environmentally friendly technology introducer" by biotechnology. Tsolmon. J, the head of the Institute of Natural Resources laboratory and "Tanantsar" LLC, produces bio-compost fertilizers and introduces them to agricultural production. These were the first experiences with issuing a certificate of "Environmentally friendly technology introducer."

However, to address the issue more comprehensively, in conjunction with ISO 9000 and ISO 14000 Resolution No. 290 of the GoM dated September 27, 2017, approved the "Procedure for

rewarding citizens, economic entities and organizations that have introduced environmentally friendly and advanced methods and technologies" which replaced the Resolution No. 95.

According to Article 2.1.1 of this regulation, “Green Certification" shall be issued to a citizen, business entity, or organization that has introduced advanced environmentally friendly methods and technologies, as specified in 2.1.2. “Eco-labeling” shall be issued to the products and services of business entities and organizations attempting to reduce their product’s negative impact on the environment. Starting in 2017, MET has been issuing “Green Certification" and “Eco-labeling.” Individuals, business entities, and organizations operating with efficient and rational use of natural resources and trying to reduce air pollution and greenhouse gas emissions are eligible.

The issuance of “Green Certification” and “Eco-labeling” has the advantages of participating in domestic and international exhibitions, attracting green loan funds and other domestic and foreign soft loans and investments, and mediating cooperation with similar international high-tech organizations.

However, our interview findings present that the implementation of such an initiative is weak. According to the MET, there are only 16 entities (of which only two are food producers) that acquired the “Green Certification,” and 0 products have been verified with “Eco-labeling” up to date.

The MET has been organizing the “Green Technology” event every year since 2013 to promote environmentally friendly technologies, innovative solutions, and products, and to issue Green Certification and Eco-labeling.

Conformity assessment

Mongolia is a member of the World Trade Organization (WTO). The Ministry of Foreign Affairs oversees trade issues and accepts domestically the technical regulations other WTO member countries proposed to apply in international trade (per the WTO Agreement on Technical Barriers to Trade). The central body in charge of standard issues, MASM, notifies other WTO members no less than three months before adopting technical regulations.

Box 3: Testing, Inspection, and Certification Conformity Assessment

4.1.6. "Conformity assessment" is an activity of determining whether a product or professional skills of workers, or management system meet the requirements of standards and technical regulation;

4.1.7. "Conformity assessment body" is an organization authorized to undertake the activities specified in Article 4.1.6 of this Law;

Article 13. Purpose and scope of conformity assessment

13.1. The purpose of conformity assessment shall be to ensure product safety, increase product competitiveness, and protect consumer rights and interests.

13.2. Products potentially harmful to human and livestock health, environment, national security, and public interest shall be subject to mandatory conformity assessment.

13.3. Products other than those referred to in Article 13.2 of this Law, may be subjected to conformity assessment at the request of manufacturers, suppliers, or consumers.

> 13.4. List of products referred to in Article 13.2 of this Law and regulations on their admission to the Mongolian market and crossing the national borders following attestation shall be adopted by the Government.
>
> ***Law on Standardization, technical regulation, and accreditation of conformity assessment, 2017***

For Agri-food and beverage industry, conformity assessment services are regulated by the following law and not limited by:

- Law on standardization, technical regulation, and accreditation of conformity assessment, 2017
- Food law
- Law on the safety of food products
- Law on organic food
- Law on GMO
- Law on animal and livestock health
- Law on crop farming

In accordance with the WTO Agreement on Technical Barriers to Trade (TBT), Mongolia committed to applying conformity assessment activities in compliance with ISO standards. Conformity assessment involves a set of processes that show your product, service, or system meets the requirements of a standard.

Undergoing the conformity assessment process has several benefits:

- It provides consumers and other stakeholders with added confidence.
- It gives the producer company a competitive edge.
- It helps regulators ensure that health, safety, or environmental conditions are being met.

The main forms of conformity assessment are testing, certification, and inspection. In addition, ISO has a committee, CASCO, that develops standards and addresses issues related to conformity assessment.

Table 17: Conformity assessment standards used in the certification

Standards	Used for
ISO/IEC 17007:2009 Conformity assessment — Guidance for drafting normative documents suitable for use for conformity assessment	Drafting standards for use in certification
ISO/IEC 17021-1:2015 Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 1: Requirements	Organizations certifying against ISO 9001, ISO 22000, ISO 14001, ISO 50001 standards are subject to using this standard in their certification processes
ISO/IEC 17065:2012 Conformity assessment — Requirements for bodies certifying products, processes, and services	Organizations certifying products (Safety mark, product certification, organic certification, etc.), processes (GAP, GMP, HACCP, etc.), and services are subject to using these standards in their certification processes
ISO/IEC 17067:2013 Conformity assessment — Fundamentals of product certification and guidelines for product certification schemes	Those who are about to develop certification schemes (standards) have to follow the guidelines prescribed in the standard to get recognition in the market

5.1.3 Mongolian Agri-food and beverage industry conformity assessment (certification)

As mentioned earlier, mandatory and voluntary product certification is used in trade. Mandatory certification is used for regulatory purposes and is reflected in the legislation.

Box 4: Mandatory certification

> 13.2. Products potentially harmful to human and livestock health, environment, national security, and public interest shall be subject to mandatory conformity assessment.
>
> ***Law on Standardization, technical regulation, and accreditation of conformity assessment, 2017***

> **Article 7. Methods and forms of ensuring safety in the food supply chain**
> **7.1 Depending on the type of its activity, a food business operator shall introduce the following good practices specified in Articles 4.1.19-4.1.21 of this Law:**
> 7.1.1.Good agricultural practices in primary production of agricultural raw materials and products;
> 7.1.2. Good hygiene practices at all stages of the food chain;
> 7.1.3.Proper production practices at the stage of production of food raw materials and products.
> 7.3. A food producer can implement a hazard analysis and critical point (HACCP) control system to identify, assess and control hazards affecting the safety of food and raw materials.
> 7.4. The inspection body shall issue methodologies and recommendations on the introduction of good practices, hazard analysis, and critical point monitoring systems specified in Articles 7.1 and 7.3 of this Law.
>
> ***Law on Safety of food products of Mongolia***

For voluntary certification, we use the below provision of Law on Law on Standardization, technical regulation, and accreditation of conformity assessment.

Box 5: Voluntary certification

> 13.3. Products other than those referred to in Article 13.2 of this Law, may be subjected to conformity assessment at the request of manufacturers, suppliers, or consumers.
>
> ***Law on Standardization, technical regulation, and accreditation of conformity assessment, 2017***

Table 18: Available agrifood and beverage certification schemes

№	Name of the certification scheme	Mandatory/ voluntary	Issues covered by the schemes			Certifying bodies
			Safety	Quality	Environment	
1	Safety Mark	M	+			MASM, SFCS
2	Product certification GOM Decree № 291	M	+	+		MASM, SFCS
3	Product certification	V	+	+		MASM, SFCS
4	Good agricultural practices	M	+	+	+	SFCS
5	Good manufacturing	M	+	+	+	SFCS

	practices					
6	Good hygiene practices	M	+	+		SFCS
7	HACCP	V	+			MASM, SFCS
8	Organic food	V	+	+	+	SFCS
9	Halal	V		+		Muslim association
10	GMO-free	M		+		Not provided in Mongolia yet
11	Green certificate/ eco-label	V			+	MET
12	ISO 9001	V		+		MASM, SFCS, Moncertf, and others
13	ISO 22000	V	+	+		MASM, SFCS, Moncertf, and others
14	ISO 14001	V			+	MASM, SFCS, Moncertf, and others
15	ISO 45001	V	+			MASM, SFCS, Moncertf, and others
16	ISO 50001	V			+	MASM
17	Global GAP	V	+	+	+	Foreign entities
18	Geographical indication	V		+		Foreign entities

5.2 Review and overview of different approaches

5.2.1 International initiatives and standards implemented in Mongolia

Mongolia has been a member of WTO since January 29, 1997, and has duties and obligations regarding trade principles and disciplines. Mongolia is one of the first countries to adopt the Sustainable Development Goals. Six months following the adoption of the SDGs by the global community, the Parliament of Mongolia approved its long-term development strategy (Mongolia's Sustainable Development Vision 2030), reflecting sustainable development.

Vision-2050 is a long-term, national cross-sectoral policy of Mongolia for the period 2021-2050. The policy aims to make agriculture, forestry, and fisheries more productive and sustainable and ensure quality assurance, monitoring, and conformity measures at all food supply chain levels. Within the frame of this policy, Mongolia is committed to improving hygiene and safety standards and requirements for food supply, creating a stable system of guaranteed food production and having organic, fortified, regulated, and healthy food consumption.

To this end, it is planning to promote a sustainable consumption and production pattern with efficient use of natural resources, low greenhouse gas emissions, and reduced waste generation; sustain the ecosystem's carrying capacity by enhancing environmental protection and restoration activities, and reducing environmental pollution and degradation; increase investment in natural capital, human development, and clean technology by introducing financing, tax, lending and other

incentives for supporting a green economy; and encourage education, science, and technology to catalyze green development, and develop cultural values and livelihoods that are in harmony with nature; and create and promote incentives, like payment for ecosystem services for herders who take the initiative to contribute towards preventing pasture degradation and damage by breeding livestock in accordance with pasture capacity, and by maintaining water sources and springs.

Vision 2050 is incorporated in the Government Action Program, sector policy documents, and public investment programs. Incentives shall be provided to citizens, the private sector, and civil society to encourage their participation in the policy implementation and to expand cooperation and partnerships between them.
Out of certification schemes operated in Mongolia, the followings address environmental aspects.

Table 19: Certification schemes

1	**Good agricultural practices, 47 Farmers were certified by Mongolian GAP**
Good Agricultural Practices (GAPs) are the basic environmental and operational conditions necessary to produce safe, wholesome fruits and vegetables. The purpose of GAPs is to give logical guidance in implementing best management practices to help reduce the risks of microbial contamination of fruits and vegetables. Examples of GAPs include worker hygiene and health, manure use, and water quality throughout the production and harvesting process. Growers, packers, and shippers are urged to take a proactive role in minimizing food safety hazards potentially associated with fresh produce. Being aware of and addressing the common risk factors outlined in GAPs will result in a more effective, cohesive response to emerging concerns about the microbial safety of fresh fruits and vegetables. Furthermore, operators should encourage the adoption of safe practices by their partners along the farm-to-family food chain. This includes distributors, exporters, importers, retailers, produce transporters, food service operators, and consumers.	
2	**Good manufacturing practices, 3 entities have been certified including Chinggis Beer LLC, Gazarshim GBT Trading LLC, and Bagro LLC**
Good Manufacturing Practices (GMPs) are the basic operational and environmental conditions required to produce safe foods. They ensure that ingredients, products, and packaging materials are handled safely, and that those food products are processed in a suitable environment.	
3	**Organic food, 776 agri-food were certified (SFCS certified 69 products and the rest was certified by PGS based organizations, and MASM certified zero)**
The Organic food labeling scheme is developed per CAC GL 32:1999 Guidelines for producing, processing, labeling, and marketing organically produced foods. Organic agriculture's increased momentum is due to consumer demand and to positive environmental impact. Many aspects of organic farming are important elements of a systems approach to sustainable food production, including in developing countries, both for domestic consumption and export. Nevertheless, there is a possibility that products falsely claimed to be "organic" may be presented to the consumer. These Guidelines define organic production and labeling to protect the consumer and the scrupulous producer of "organic" foods. Organic agriculture is among the broad spectrum of methodologies that support the environment. Organic production systems are based on specific and precise production standards that aim to achieve optimal agroecosystems that are socially, ecologically, and economically sustainable. Terms such as "biological" and "ecological" are also used to describe the organic system more clearly. Requirements for organically produced foods differ from those for other agricultural products in that production procedures are an intrinsic part of the identification and labeling of, and claim for, such products. "Organic" is a labeling term that denotes products produced by organic production standards and certified by a duly constituted certification body or authority. Organic agriculture is based on minimizing the use of external inputs and avoiding the use of synthetic fertilizers and pesticides. Due to general environmental pollution,	

organic agriculture practices cannot ensure that products are completely free of residues. However, methods are used to minimize air, soil, and water pollution. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals, and people. Organic agriculture is a holistic production management system that promotes and enhances agroecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, cultural, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system. An organic production system is designed to: a) enhance biological diversity within the whole system; b) increase soil biological activity; c) maintain long-term soil fertility; d) recycle wastes of plant and animal origin to return nutrients to the land, thus minimizing the use of non-renewable resources; e) rely on renewable resources in locally organized agricultural systems; f) promote the healthy use of soil, water, and air, as well as minimize all forms of pollution that may result from agricultural practices; g) handle agricultural products with an emphasis on careful processing methods to maintain the organic integrity and vital qualities of the product at all stages; h) become established on any existing farm through a period of conversion, the appropriate length of which is determined by site-specific factors such as the history of the land, and the type of crops and livestock to be produced.	
4	**Green certificate/ eco-label, 16 entities have been certified by MET, and 2 companies are from agri-food and beverage**
"Green Certificates" and "Eco-label" for products and services to citizens and business entities that have introduced advanced methods and technologies that are environmentally friendly	
5	**ISO 14001 Environmental management systems — Requirements with guidance for use. Just up to 11 entities, only 2 of which are from the Food and beverage sector, implemented this standard and if compared with other management system certifications, this standard is not that popular in Mongolia.**
For companies and organizations of any type that require practical tools to manage their environmental responsibilities, there's the ISO 14000 family-The Environmental management system standard.	
6	**ISO 50001 ISO 50001:2018, Energy management systems — Requirements with guidance for use.**
This document specifies requirements for establishing, implementing, maintaining, and improving an energy management system (EnMS). The intended outcome is to enable an organization to follow a systematic approach to achieving continual improvement of energy performance and the EnMS.	
7	**Global GAP, there are few entities certified by Global GAP**
The core value is to positively impact the world by providing solutions to global problems faced by agricultural supply chains.	

5.2.2. Eco-labeling and trade requirements

Eco-labeling schemes are complex, and concerns are related to developing countries and small businesses' ability to compete in the market. Labeling is one of the subjects assigned to the WTO's Committee on Trade and Environment (CTE). It is part of item (3b) of the committee's work program. The committee is assigned to consider the relationship between the provisions of the WTO's agreements and the requirements governments make for products to protect the

environment. (In addition to labeling, requirements include standards and technical regulations, packaging, and recycling requirements.)

The complexity and diversity of environmental labeling schemes raise concerns. This is especially the case with eco-labeling based on life-cycle analysis, which looks at a product's environmental effects from the first stages of its production to its final disposal. These requirements could create difficulties for developing countries, particularly, SMEs in global markets.

WTO members generally agree that labeling schemes can be economically efficient and helpful in informing consumers and tend to restrict trade less than other methods. If the schemes are voluntary, they allow all sides to participate in their design, based on the market-based approach and transparency.

However, these same schemes could be misused to protect domestic producers. For this reason, the schemes should not discriminate between countries and should not create unnecessary barriers or disguised restrictions on international trade.

Here are some experiences on the use of different environmental labeling schemes and their impact on trade.

At the WTO technical committee meeting of May 2007, the United States presented the US "Energy Star" energy efficiency program, a voluntary performance-based labeling scheme covering more than 50 product categories. This self-certification scheme was created to reduce greenhouse gas emissions and facilitate consumers to identify and purchase products with enhanced energy efficiency. Information was provided on how the relevant requirements are developed with guiding principles and involve public notifications as well as stakeholder consultations; how the label is used inside and outside the US; how the integrity of the label can be protected; and how coordination efforts have been made with other WTO Members on harmonization of specifications and testing procedures.

The use of criteria linked to processes and production methods in eco-labeling schemes causes doubt about complying with WTO agreements.

WTO Members agree that countries are within their rights under WTO rules to set criteria for the way products are produced, if the production method leaves a trace in the final product, for example, cotton which has been grown using pesticides leaving pesticide residue in the cotton itself.

However, they disagree about discriminatory measures based on "unincorporated PPMs" (or "non-product related PPMs"), i.e., process and production methods that leave no trace in the final product. For instance, simply looking at it cannot tell whether a table has been produced from sustainably managed wood.

The key question is: are these measures consistent with WTO agreements? Many countries argue that measures that discriminate between products based on unincorporated PPMs, such as some eco-labels, should be considered inconsistent with WTO agreements.

For voluntary environmental labeling schemes, the TBT Agreement contains a "Code of Good Practice for the Preparation, Adoption and Application of Standards". Agencies and organizations that develop labeling requirements are encouraged to accept this code.

One of the TBT's tasks is to review the TBT Agreement's implementation. It does this every three years. In the second review, in November 2000, the TBT Committee "reiterated the importance of any such labeling requirements being consistent with the disciplines of the Agreement, and in particular stressed that they should not become disguised restrictions on trade."

In October 2003, the TBT Committee held a "Learning Event" on labeling to provide members with a better understanding of the preparation, adoption, and application of labeling requirements. This took into account of both the implementation of the TBT Agreement, and the impact of the requirements on market access. The event was based on real case studies, focusing on developing countries' concerns. It considered a range of labeling schemes in different sectors and with varying objectives, including environmental labeling schemes.

5.2.3 Free/Preferential trade agreements

Mongolia – Japan Economic Partnership Agreement

Mongolia and Japan entered into an Economic partnership agreement (EPA)[35] on June 7, 2016, to liberalize and facilitate trade and investment flows between the two countries and to create a regulatory framework for further cooperation on improving the business environment generally. The EPA is the *first and only* free trade agreement concluded by Mongolia.

The EPA consists of 11 chapters covering topics such as trade in goods and services, customs procedures and trade facilitation, electronic commerce, investment protection, movement of persons, competition, protection of intellectual property, dispute resolution, and the improvement of the business environment. To facilitate trade in goods between the two countries, the EPA removes or gradually decreases customs duties and taxes for certain goods and commodities.

A significant number of agri-food and beverage products are exempted from the customs duties per the agreement. For instance, the following agri-food and beverages products, which are the most exported by Mongolia (See Table 8), are exempted from the Japanese customs tax effectively upon signing the agreement or after a periodical period. Vodka and other alcoholic beverages – customs duties on vodka, gin, liquors, cordials, rums, and whiskies have been eliminated as of the date of the EPA.

Table 20: Most exported agri-food and beverages products with preferential tariff

HS code 4 digit	Product Description
0802	Nuts, fresh or dried
1008	Buckwheat
1211	Plants used in perfumery, pharmacy
1515	Vegetable fats and oils
2008	Prepared or preserved fruits, nuts, and other edible plants
2101	Extracts, essences, concentrates of tea or mate
2104	Soups, broths preparations including vegetable and fruit

[35] Agreement between Japan and Mongolia for an Economic Partnership | Ministry of Foreign Affairs of Japan (mofa.go.jp)

2203	Beer made from malt
2208	Spirits and liqueurs
	Vodka

Concerning trade in goods and services, the contracting parties undertook to provide equal (national) treatment to the other party's goods and services or service providers. To benefit from the reduced or "0" tariff rates, a certificate of origin must be supplied.

The EPA has detailed regulations on rules of origin, customs tariffs and procedures, sanitary and phytosanitary measures (Chapter 5), technical regulations, and conformity assessment procedures (Chapter 6). For the sanitary and conformity assessment procedures, the parties must adhere to the WTO`s SPC and TBT Agreements, as both Mongolia and Japan are members of the WTO. No specific clause or definition is related to eco, green or organic products.

Mongolia – USA Trade and Investment Agreement

Mongolia- USA Trade and Investment Framework Agreement[36] (TIFA) was signed in 2005, and under this agreement, the parties established the Joint Trade and Investment Council, which monitors trade and investment relations, to identify opportunities for expanding trade and investment, and to identify issues relevant to trade or investment, such as intellectual property, labor, or environmental issues that may be appropriate for negotiation in an appropriate forum. For the sanitary and conformity assessment procedures, the parties must adhere to the WTO`s SPC and TBT Agreements, as both Mongolia and the USA are members of the WTO. No specific clause or definition is related to eco, green or organic products.

Mongolia – EU Partnership and Cooperation Agreement

The agreement on trade and economic cooperation between the European Economic Community and Mongolia was signed in 1993 and revised in 2013 as the Partnership and Cooperation Agreement (PCA) between the EU and its Member States and Mongolia.[37] Under the PCA, the signing parties are fully committed to promoting all aspects of sustainable development, including environmental protection and effective cooperation to combat climate change, food security, and effective promotion and implementation of internationally recognized labor and social standards.

Under Chapter III, Cooperation on Sustainable Development, the parties have agreed to promote environmental sustainability, regeneration and best practices, the preservation of natural resources, preventing and tackling the consequences of climate change, and to include commitments on social and environmental aspects of trade, reconfirming that trade should promote sustainable development in all its dimensions and it should promote the assessment of its economic, social and environmental impacts.

The parties must adhere to the WTO`s SPC and TBT Agreements for the sanitary and conformity assessment procedures. No specific clause or definition is related to eco, green or organic products.

[36] https://investmentpolicy.unctad.org/international-investment-agreements/treaty-files/3098/download

[37] https://data.consilium.europa.eu/doc/document/ST-9485-2015-ADD-1/en/pdf

Asia Pacific Trade Agreement

Mongolia acceded to the Asia-Pacific Trade Agreement[38] (APTA) in 2020 as its seventh member and the agreement entered into force on January 1, 2021. Participation in APTA enables Mongolia to enjoy reduced tax tariff barriers on certain export items.

APTA, previously known as the Bangkok Agreement, was established in 1975 between China, India, South Korea, Sri Lanka, Laos and Bangladesh with the aim of promoting the economic development of its members through the adoption of mutually beneficial trade liberalization measures that contribute to regional trade expansion and economic cooperation. The four sessions of the Ministerial Council of APTA have enabled the participating countries to enjoy a reduced tax tariff on 10,677 types of products in trade.[39]

According to the authorities, joining the APTA is important to trade, as about 90% of Mongolia's exports are to APTA members, and 30% of its imports come from them. As a member of the APTA, Mongolia will benefit from a 30% reduction of customs duties on over 10,000 items exported to the other six APTA members. For instance, Mongolian agri-food and beverages products such as nuts and seeds, barley, rape, plants used in the perfumery, pharmacy, prepared or preserved fruits, extracts, essences, and alcoholic beverages will benefit from a 5-30% reduction in customs duties when exported to China.[40] Mongolia's concessions to the APTA include tariff reductions on 366 HS 6-digit lines.

The APTA is based on the margin of preference (MOP) which means that a specific percentage reduces the customs duty. Each of the APTA countries has its own schedule of concessions, namely the list of products on which it grants tariff preferences. The products eligible for preferential concessions for APTA shall be supported by a certificate of origin issued by an authority designated by the government of the exporting Participating State and notified to the other Participating States.

For the sanitary and conformity assessment procedures, the parties shall adhere to the HS system elaborated under WTO and apply the standards and recommendations of the Revised Kyoto Convention for Simplification and Harmonization of Customs Procedures and apply the WTO`s Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade (GATT) 1994.

Other Preferential access

Australia, Canada, the European Union, Japan, New Zealand, Norway, Switzerland, Turkey, and the United States provide preferential access to Mongolia under their Generalized System of Preferences[41] (GSP) arrangements. Since 2006, Mongolia has been eligible for the GSP+ arrangement of the European Union.

Furthermore, Mongolia concluded a joint feasibility study on a possible EPA with the Republic of Korea, and it is in the process of conducting a joint feasibility study for a potential FTA with China. It has sought to join the Asia-Pacific Economic Cooperation since its inception. Mongolia also proposed to launch a feasibility study for an FTA with the Eurasian Economic Union (EAEU).

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[38] https://www.unescap.org/apta

[39] https://www.wto.org/english/tratop_e/tpr_e/s406_e.pdf

[40] https://www.unescap.org/apta/tariff-concessions

[41] a preferential tariff system which provides tariff reduction on various products.

5.2.4 Mandatory standards/regulations/labels

The GATT has become the WTO's umbrella agreement and applies in all cases. In addition, specific agreements have been negotiated that address specific aspects of the trade. The Agreement on Technical Barriers to Trade (TBT) is the most relevant agreement for standards and certification programs.

The TBT Agreement aims to ensure that technical regulations, standards, and conformity assessment procedures are non-discriminatory and do not create unnecessary obstacles to trade. At the same time, it recognizes WTO members' right to implement measures to achieve legitimate policy objectives, such as the protection of human health and safety, or the protection of the environment. The TBT Agreement strongly encourages members to base their measures on international standards as a means to facilitate trade. Through its transparency provisions, it also aims to create a predictable trading environment.

"Standard" - Document approved by a recognized body that provides, for common and repeated use, rules, guidelines, or characteristics for products or related processes and production methods, with which compliance is not mandatory [emphasis added]. It may also include or deal exclusively with terminology, symbols, packaging, marking, or labeling requirements as they apply to a product, process, or production method.

Mandatory or voluntary?

Compliance with national organic agriculture regulations and organically produced products is only mandatory if one chooses to label a product as organic. Hence one could argue compliance is voluntary, but also that compliance is mandatory if organic products are considered as a distinct product category. In a paper presented to the TBT Committee and the Committee on Trade and Environment (CTE) in 2001, Switzerland questioned the justification of the distinction between mandatory and voluntary standards/regulations. They argued that if a standard has the effect of market segregation, compliance with the standard becomes factually mandatory for a producer wishing to access the new market segment. Some countries agreed that, in some cases voluntary schemes could be dubious in their voluntary or mandatory nature or that voluntary schemes could have a bearing on competitiveness or the perception and choices of consumers.

5.3 Analysis of commonality and difference between existing schemes

The potential usefulness of eco-labeling schemes to create market-based incentives for environmentally friendly products and production processes was recognized by the government and among policymakers and the community. Government agrees to "encourage expansion of environmental labeling and other environmentally related product information programs designed to assist consumers in making informed choices."

On the other hand, with regard to the safety of food, consumers have a right to get information about products offered on the market that is relevant to their values and preferences, especially information pertaining to product safety or impacts on health or the environment.

Any certification scheme that uses labels for communication in the market is to share the common assumption that consumers' product choices are not just motivated by price and mandatory product information such as composition and nutritional contents. Other product attributes taken into account by consumers can relate to environmental and ecological objectives as well as economic

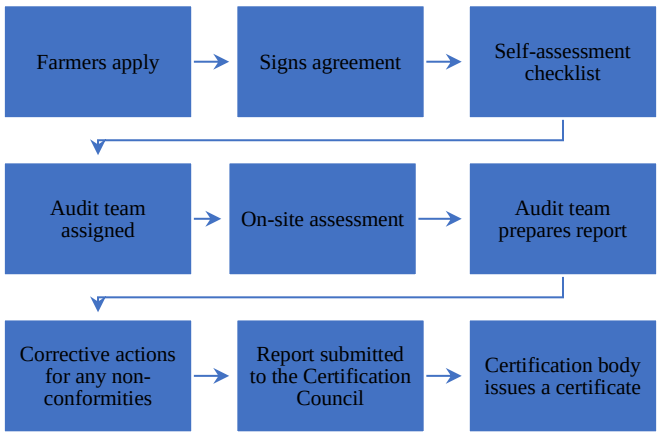
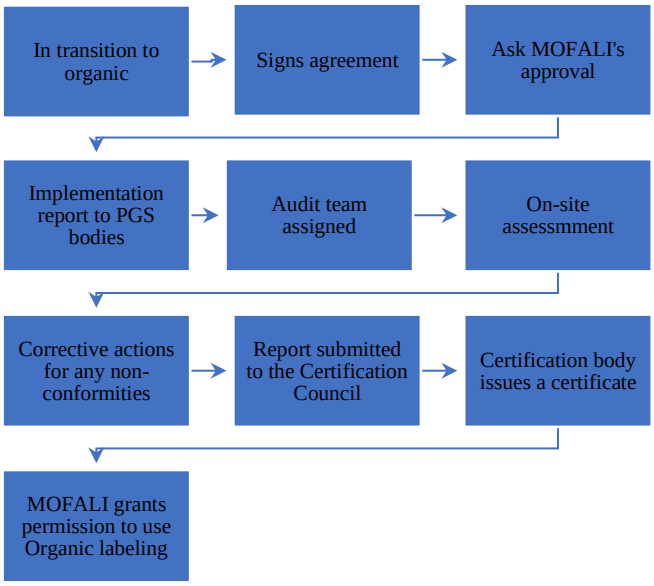
and social objectives such as fair trade and support for small farmers. So, existing agrifood and beverage market certification schemes more or less use sustainability indicators as well.

Eco- or environmental label is a general term, and we use eco- or environmental labeling to express friendliness to the environment of particular products. Perspectives in our interview with the farmers and certifying companies refer to the fact that many farmers and consumers mix the concept of organic food labeling with eco- or environmental labeling, while the specific indicators can differ in many.

GAP (Good agricultural practices), Organic programs are complex certification schemes and include common environmental criteria too so that they can be regarded as types of eco-labeling programs. The difference between the GAP and Organic certification process is as follows:

Table 21: Indicators and process of the most common schemes used in Mongolia

	GAP	Organic
Scale	Food safety for producer farmers and entities on crop production and livestock	Agriculture-based organic food and unprocessed raw materials, products, organic food using natural plants, organic fodder for livestock, organic fertilizers, plant seed and seedlings.
Indicator similarity	**Seed selection** – quality verified seed **Soil** – no pollution, protection, safe packaging, approved pesticides, and chemical substances, record keeping for taken activities on soil **Fertilizer** – approved and verified, should be stored separately from the packaging, seed, and pesticides, record keeping on fertilizers **Water usage** – qualified water usage, no polluting water, watering techniques, etc., **Plant (produce) protection** – approved and verified use of pesticides, record keeping, pesticide applying technologies should be clean, laboratory verification, pesticide storage and discard management **Environmental management** – not polluting the environment, record keeping on the waste	**Seed and sort** – verified by domestic and international bodies, adaptive to local soil conditions and weather, pest resilient, and approved as organic, cleaned and prepared with the approved substances and techniques. **Soil** – use of techniques protecting soil from pollution and erosion, **Fertilizer** – use the crop and plant remains, and environmentally friendly animal and insect dumps as the fertilizer for the soil; use approved and verified fertilizers; use natural fertilizers **Water usage** – prevention from pollution, productive water usage, annual plan for recycling rainwater for production **Natural plant resource usage** – resource should be at a distance of at least 1 km away from the non-organic farm, road infrastructure, and polluted areas; natural resource soil should not be polluted **Pollution and waste management** – constant prevention measures on soil, plant, and seed from environmental pollution or unapproved use of substances, persistent record keeping on production

Indicator difference	**Produce collection** – tools and machineries used during the collection should be safe and well used with instructions, safe pesticide usage after collection, tools, and machineries should be sanitized and clean, clean the farm field after collection **Storage and logistics** – safe and qualified storage facilities, standard verified packaging and logistic system, precise record keeping during storing and transferring, clean tools and machineries during the collection, employees wear clean clothing and tools, customized storage room per standard (temperature, air pressure, moisture, and light) **Employees' health, safety, and welfare** – safety measures for employees, safe pesticide application, safe and clean clothing and tools **Training** – producer farmers and entity employees should be trained. Once a year, farmers and employees should have training on GAP knowledge and implementation methods	**Organic production plan** - including the contract with the verifying organization Precise **record-keeping** at all production levels **Packaging** – should be all types of materials, except the nanostructured ones **Transition time** – follow the production principles of transitioning from inorganic to organic The use of the **substance for all levels of product storage, logistics, and sales** - approved and verified **Tools and machineries** – consistent cleaning and sanitation for all inputs and facilities **Pesticide and disease control** – appropriate selection of sort, hand using and mechanic soil preparation and waste removal, use of approved pesticide and disease control techniques for organic production
Duration	Type I - Conformity assessment 2 weeks – 3 months Depends on the farmer or organization getting the certification	Type II – Participatory Guarantee System 2 weeks – 3 months (each phase could take) Three phases: a) in transition to organic b) 99% Organic c) 100% Organic
Process		
	
Cost (SFCS LLC fee rate - http://sfcs.mn/)		

Individual farmer – 550,000 MNT Official entity, co-op – 1,100,000 MNT	Greenhouse (50-500ha) => 3.5-8.5million MNT Open field (50-500ha) => 4.5-9.5million MNT

Table 22: Indicators of criteria of GMP, ISO 14001, and ISO 22000

	GMP	**ISO 14001**	**ISO 22000**
Scale	Good Manufacturing Practices for food-producing entities and companies	This International Standard specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance.	Requirements for a Food Safety management system (FSMS) to enable an organization to be directly or indirectly involved in the food chain.

Main indicators	**Food manufacturing construction** *Construction management* - *Land location*: should consider that location is safe and does not contain any pollutants - *Manufacturing safe hygiene zone*: the location should be satisfied with MNS 5105:2002 requirement to be as healthy zone *Construction internal structure* - *Internal structure*: well-designed for the production process and protected from polluting the product - *Internal facility*: should be protected from external pollutants and appropriate and easy for cleaning and maintenance (floor, wall, ceiling, window, door, lifting facilities, product transferring fields) *Supporting facility* - *Water management*: the factory should be connected to the central water supply and water cleaning system. Water in use should be satisfied with the MNS900-2005 standard - *Waste management*: should have own regulation for waste recycling and waste management plan - *Hygiene and cleaning*: should have a hygiene and cleaning section at the factory - *Fitting and rest rooms*: the employees should have fitting and restrooms with decent space and doors should not be directly connected to the production facility rooms - *Quality assurance labs*: should be well separated from the production facility rooms - *Air conditioning*: should be well set for protecting the products from external impacts, including air, smell and dust during production, storage, and logistics phase - *Lights*: should be enough natural and factory lights	**Context of the organization** *Understanding the organization and its context* The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system. Such issues shall include environmental conditions being affected by or capable of affecting the organization. *Understanding the needs and expectations of interested parties* The organization shall determine: a) the interested parties that are relevant to the environmental management system; b) the relevant needs and expectations (i.e. requirements) of these interested parties; c) which of these needs and expectations become its compliance obligations. *Determining the scope of the environmental management system* The organization shall determine the boundaries and applicability of the environmental management system to establish its scope. When determining this scope, the organization shall consider: a) the external and internal issues; b) the compliance obligations; c) its organizational units, functions and physical boundaries; d) its activities, products and services; e) its authority and ability to exercise control and influence. Once the scope is defined, all activities, products and services of the organization within that scope need to be included in the environmental management system. The scope shall be maintained as documented information and be available as part of the management system used to manage environmental aspects, fulfill compliance obligations, and address risks and opportunities *Environmental management system* To achieve the intended outcomes, including enhancing its environmental performance, the organization shall establish, implement, maintain, and continually improve an environmental management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard. **Leadership** *Leadership and commitment*	**Context of the organization** *Understanding the organization and its context* The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended result(s) of its FSMS. *Understanding the needs and expectations of interested parties* To ensure that the organization can consistently provide products and services that meet applicable statutory, regulatory and customer requirements regarding food safety, the organization shall determine: a) the interested parties that are relevant to the FSMS; b) the relevant requirements of the interested parties of the FSMS. *Determining the scope of the food safety management system* The organization shall determine the boundaries and applicability of the FSMS to establish its scope. The scope shall specify the products and services, processes and production site(s) that are included in the FSMS. The scope shall include the activities, processes, products, or services that can have an influence on the food safety of its end products. When determining this scope, the organization shall consider: a) external and internal issues; b) the requirements referred in the needs and expectations of interested parties. *Food safety management system* The organization shall establish, implement, maintain, update and continually improve a FSMS, including the processes needed and their interactions, in accordance with the requirements of this document. **Leadership** *Leadership and commitment*

	- *Warehouse and storage*: should be sorted and diversified sections that contains raw materials, selling products, and returns. The entire sections should be satisfied with MNS 5364:2011 standard **Food production facilities, tools, and machineries** - *Facility tools and mahcineries*: should be able to be frequently cleaned and maintained - *Pots and box*: should be well designed for production processes such as boiling, thawing, freezing, and heating for appropriate temperatures - *Quality assurance lab tools*: the lab should be equipped with all the possible measurement technologies and equipments - *Temporary waste and non-food substance storage:* should use the special box and basin for chemical waste and storage - *Storage for equipments and tools:* the equipments used other than production should be separately stored from the production equipments and tools **Raw materials and supporting materials:** The raw materials and other supporting inputs for the food production should be satisfied with the hygiene requirements and tested by verified labs *Water:* should be satisfied with the water standard for food production MNS 900-2005 *Ice:* should be made of water satisfied with the water standard *Packaging materials:* should not negatively impact the food products, harmless, well-designed for the product and its storage requirements. **Food production technology and production phases:** The quality	Top management shall demonstrate leadership and commitment with respect to the environmental management system by: a) taking accountability for the effectiveness of the environmental management system; b) ensuring that the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization; c) ensuring the integration of the environmental management system requirements into the organization's business processes; d) ensuring that the resources needed for the environmental management system are available; e) communicating the importance of effective environmental management and of conforming to the environmental management system requirements; f) ensuring that the environmental management system achieves its intended outcomes; g) directing and supporting persons to contribute to the effectiveness of the environmental management system; h) promoting continual improvement; i) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility. *Environmental policy* Top management shall establish, implement and maintain an environmental policy that, within the defined scope of its environmental management system: a) is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services; b) provides a framework for setting environmental objectives; c) includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization; (NOTE Other specific commitment(s) to protect the environment can include sustainable resource use, climate change mitigation and adaptation, and protection of biodiversity and ecosystems.) d) includes a commitment to fulfill its compliance obligations; e) includes a commitment to continual improvement of the environmental management system to enhance environmental performance. The environmental policy shall: —be maintained as documented information;	Top management shall demonstrate leadership and commitment with respect to the FSMS by: a) ensuring that the food safety policy and the objectives of the FSMS are established and are compatible with the strategic direction of the organization. b) ensuring the integration of the FSMS requirements into the organization's business processes. c) ensuring that the resources needed for the FSMS are available; d) communicating the importance of effective food safety management and conforming to the FSMS requirements, applicable statutory and regulatory requirements, and mutually agreed customer requirements related to food safety; e) ensuring that the FSMS is evaluated and maintained to achieve its intended result(s); f) directing and supporting persons to contribute to the effectiveness of the FSMS; g) promoting continual improvement; h) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility. *Policy* *Establishing the food safety policy* Top management shall establish, implement and maintain a food safety policy that: a) is appropriate to the purpose and context of the organization; b) provides a framework for setting and reviewing the objectives of the FSMS; c) includes a commitment to satisfy applicable food safety requirements, including statutory and regulatory requirements and mutually agreed-on customer requirements related to food safety; d) addresses internal and external communication; e) includes a commitment to continual improvement of the FSMS; f) addresses the need to ensure competencies related to food safety. *Communicating the food safety policy* The food safety policy shall: a) be available and maintained as documented information; b) be communicated, understood and applied at all levels within the organization c) be available to relevant interested parties, as appropriate. *Organizational roles, responsibilities, and authorities*

	assurance team will be in charge for all phases of production. *Raw materials and packaging:* all main and supporting raw materials and packaging should be satisfied with the hygiene safety standards and then verified by verified labs. **Food packaging, labeling, temperature monitoring** *Packaging:* materials and packaging process should be harmless and have no other negative impacts *Labeling:* should be clear to the consumers about consuming. Food labeling should include the info about product name, raw materials, producers name and contact, number and size, product codes, produced dates, storing conditions, and consuming deadlines, storing conditions, logistics and sales requirements, production methodologies whether it is frozen etc., nutrition and contents, consuming instructions, and restrictions and possible impacts. *Temperature monitoring:* should be done during the preparation of production, packaging, storing, logistics, sales, and food servings. **Record keeping and verification** Depending on the food products, the producer will have record keeping that includes: - *Production facility moisture and temperature* - *Health and hygiene check* - *Professional trainings* - *Freezing facility, camera, and freezing temperature* - *Lab test results* - *Cleaning and hygiene* - *Insect prevention activities* - *Equipment repair and maintenance* - *Product raw material traceability* - *Raw material supply chain* - *Elimination of the bad quality raw materials* **Storage, logistics, and deliveries:** should be all aligned with the safety and hygiene standards	—be communicated within the organization; —be available to interested parties. *Organizational roles, responsibilities, and authorities* Top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization. Top management shall assign the responsibility and authority for: a) ensuring that the environmental management system conforms to the requirements of this International Standard. b) reporting on the performance of the environmental management system, including environmental performance, to top management. **Planning** *Actions to address risks and opportunities* The organization shall establish, implement and maintain the process(es) needed to meet the requirements. When planning for the environmental management system, the organization shall consider: a) the issues referred to in organizational context; b) the requirements referred to in the needs and expectations of interested parties; c) the scope of its environmental management system; and determine the risks and opportunities, related to its environmental aspects, compliance obligations and other issues and requirements, identified that need to be addressed: — give assurance that the environmental management system can achieve its intended outcomes; — prevent or reduce undesired effects, including the potential for external environmental conditions to affect the organization; — achieve continual improvement. *Environmental aspects* Within the defined scope of the environmental management system, the organization shall determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective.	Top management shall assign the responsibility and authority for: a) ensuring that the FSMS conforms to the requirements of this document; b) reporting on the performance of the FSMS to top management; c) appointing the food safety team and the food safety team leader; d) designating persons with defined responsibility and authority to initiate and document action(s). The food safety team leader shall be responsible for: a) ensuring the FSMS is established, implemented, maintained and updated; b) managing and organizing the work of the food safety team; c) ensuring relevant training and competencies for the food safety team d) reporting to top management on the effectiveness and suitability of the FSMS. **Planning** *Actions to address risks and opportunities* When planning for the FSMS, the organization shall consider the issues referred to in **the** organizational context and the requirements referred to in understanding the needs and expectations of interested parties and determining the scope of the FSMS, and determining the risks and opportunities that need to be addressed to: a) give assurance that the FSMS can achieve its intended result(s); b) enhance desirable effects; c) prevent, or reduce, undesired effects; d) achieve continual improvement. The organization shall plan: a) actions to address these risks and opportunities; b) how to: 1. integrate and implement the actions into its FSMS processes; 2. evaluate the effectiveness of these actions The actions taken by the organization to address risks and opportunities shall be proportionate to: a) the impact on food safety requirements; b) the conformity of food products and services to customers; c) requirements of interested parties in the food chain. *Objectives of the food safety management system and planning to achieve them*

	Protecting the food from pollutants: Food production quality assurance team should have a plan for cleaning and sanitation for the entire food production process *Cleaning:* should use the permitted substance and detergents for cleaning the facility and equipment *Sanitation:* should use the sanitation methods suggested for food production by verified organizations **Employees' health and hygiene** *Hospital check-up:* employees working in the production facility should be checked-up for health *Infectious disease:* the employee with the infectious disease will intensely impact the food products, so employees should be prevented from infections. *Sickness and accidents:* employees who are inflicted with certain sicknesses and accidents in the factory should inform the administrators and receive hospital treatments. *Hygiene:* Employees handling the production process should maintain a good hygiene practice. *Visitors:* should be informed about the hygiene regulations and should wear the special clothing for factory visit. **Employees' trainings:** the organization should have a training curriculum and the budget for necessary fundamental trainings for the employees. *Hygiene:* regular trainings for employees on hygiene regulations and food safety *Vocational training programs:* Depending on the departments, the organization should have tailored trainings for all employees. **Public relations:** the organization will leverage public TV programs and other PR channels to advertise the product, service, and its quality. **Returns, recycling, and dissolution:** If the distributed product may contain the danger to negatively impact consumer health, the producer should notify all the value chain stakeholders and retrain	When determining environmental aspects, the organization shall take into account: a) change, including planned or new developments, and new or modified activities, products and services; b) abnormal conditions and reasonably foreseeable emergency situations The organization shall determine those aspects that have or can have a significant environmental impact, i.e. significant environmental aspects, by using established criteria. The organization shall communicate its significant environmental aspects among the various levels and functions of the organization, as appropriate. The organization shall maintain documented information on its environmental aspects and associated environmental impacts; criteria used to determine its significant environmental aspects; significant environmental aspects. *Compliance obligations:* The organization shall: a) determine and have access to the compliance obligations related to its environmental aspects; b) determine how these compliance obligations apply to the organization; c) take these compliance obligations into account when establishing, implementing, maintaining and continually improving its environmental management system. The organization shall maintain documented information on its compliance obligations. The organization shall plan to take actions to address its 1. significant environmental aspects, 2. compliance obligations, and 3. risks and opportunities identified. Also, the organization shall plan how to 1. integrate and implement the actions into its environmental management system processes or other business processes, 2. evaluate the effectiveness of these actions. When planning these actions, the organization shall consider its technological options and its financial, operational and business requirements. *Environmental objectives* The organization shall establish environmental objectives at relevant functions and levels, considering the organization's significant environmental aspects and associated compliance obligations, and considering its risks and opportunities. The environmental objectives shall be consistent with the environmental policy, measurable (if practicable), monitored, communicated, and updated as	The organization shall establish objectives for the FSMS at relevant functions and levels. The objectives of the FSMS shall: a) be consistent with the food safety policy; b) be measurable (if practicable); c) take into account applicable food safety requirements, including statutory, regulatory and customer requirements; d) be monitored and verified; e) be communicated; f) be maintained and updated as appropriate. When planning how to achieve its objectives for the FSMS, the organization shall determine: a) what will be done; b) what resources will be required; c) who will be responsible; d) when it will be completed; e) how the results will be evaluated. *Planning of changes* When the organization determines the need for changes to the FSMS, including personnel changes, the changes shall be carried out and communicated in a planned manner. The organization shall consider: a) the purpose of the changes and their potential consequences; b) the continued integrity of the FSMS; c) the availability of resources to effectively implement the changes; d) the allocation or re-allocation of responsibilities and authorities

	the products from the market and dissolve.	appropriate. The organization shall maintain documented information. When planning how to achieve its environmental objectives, the organization shall determine a) what will be done, b) what resources will be required, c) who will be responsible, d) when it will be completed, and e) how the results will be evaluated, including indicators for monitoring progress toward achievement of its measurable environmental objectives. **Support** *Resources* The organization shall determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of the environmental management system. *Competence* The organization shall: a) determine the necessary competence of person(s) doing work under its control that affects its environmental performance and its ability to fulfil its compliance obligations; b) ensure that these persons are competent on the basis of appropriate education, training or experience; c) determine training needs associated with its environmental aspects and its environmental management system; d) where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken. *Awareness* The organization shall ensure that persons doing work under the organization's control are aware of: a) the environmental policy; b) the significant environmental aspects and related actual or potential environmental impacts associated with their work; c) their contribution to the effectiveness of the environmental management system, including the benefits of enhanced environmental performance; d) the implications of not conforming with the environmental management system requirements, including not fulfilling the organization's compliance obligations. *Communication: Internal and External* The organization shall establish, implement and maintain the process(es) needed for internal and external communications relevant to the environmental management system, including: a) on what it will communicate; b) when to communicate; c) with whom to communicate; d) how to communicate.	**Support** *Resources* The organization shall determine and provide the resources needed for the establishment, implementation, maintenance, update and continual improvement of the FSMS. The organization shall consider: a) the capability of, and any constraints on, existing internal resources; b) the need for external resources. *People* The organization shall ensure that persons necessary to operate and maintain an effective FSMS are competent. Where the assistance of external experts is used for the development, implementation, operation, or assessment of the FSMS, evidence of agreement or contracts defining the competency, responsibility and authority of external experts shall be retained as documented information. *Infrastructure* The organization shall provide the resources for the determination, establishment and maintenance of the infrastructure necessary to achieve conformity with the requirements of the FSMS. Infrastructure can include: - land, vessels, buildings and associated utilities; - equipment, including hardware and software; - transportation; - information and communication technology. *Work environment* A suitable environment can be a combination of human and physical factors, such as: a) social (e.g. non-discriminatory, calm, non-confrontational); b) psychological (e.g. stress-reducing, burnout prevention, emotionally protective); c) physical (e.g. temperature, heat, humidity, light, air flow, hygiene, noise). These factors can differ substantially depending on the products and services provided. *Externally developed elements of the food safety management system*

		Documented information The organization's environmental management system shall include: a) documented information required by this International Standard; b) documented information determined by the organization as being necessary for the effectiveness of the environmental management system.	When an organization establishes, maintains, updates and continually improves its FSMS by using externally developed elements of an FSMS, including the hazard analysis and the hazard control plan, the organization shall ensure that the provided elements are: a) developed in conformance with the requirements of this document; b) applicable to the sites, processes and products of the organization; c) specifically adapted to the processes and products of the organization by the food safety team; d) implemented, maintained and updated as required by this document; e) retained as documented information. *Control of externally provided processes, products or services* The organization shall: a) establish and apply criteria for the evaluation, selection, monitoring of performance and re-evaluation of external providers of processes, products and/or services; b) ensure adequate communication of requirements to the external provider(s); c) ensure that externally provided processes, products or services do not adversely affect the organization's ability to consistently meet the requirements of the FSMS; d) retain documented information of these activities and any necessary actions as a result of the evaluations and re-evaluations. *Competence* The organization shall: a) determine the necessary competence of person(s), including external providers, doing work under its control that affects its food safety performance and effectiveness of the FSMS; b) ensure that these persons, including the food safety team and those responsible for the operation of the hazard control plan, are competent on the basis of appropriate education, training and/or experience; c) ensure that the food safety team has a combination of multi-disciplinary knowledge and experience in developing and implementing the FSMS (including, but not limited to, the organization's products, processes, equipment and food safety hazards within the scope of the FSMS); d) where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken; e) retain appropriate documented information as evidence of competence. *Awareness*

			The organization shall ensure that all relevant persons doing work under the organization's control shall be aware of: a) the food safety policy; b) the objectives of the FSMS relevant to their task(s); c) their individual contribution to the effectiveness of the FSMS, including the benefits of improved food safety performance; d) the implications of not conforming with the FSMS requirements. *Communication: External and Internal* The organization shall determine the internal and external communications relevant to the FSMS, including: a) on what it will communicate; b) when to communicate; c) with whom to communicate; d) how to communicate; e) who communicates. *Documented information* The organization's FSMS shall include: a) documented information required by this International Standard; b) documented information determined by the organization as being necessary for the effectiveness of the environmental management system. c) documented information and food safety requirements required by statutory, regulatory authorities and customers
		Operation *Operational planning and control* The organization shall establish, implement, control and maintain the processes needed to meet environmental management system requirements, and to implement the actions by: — establishing operating criteria for the process(es); — implementing control of the process(es), in accordance with the operating criteria. *Life Cycle* consecutive and interlinked stages of a product (or service) system, from the raw material acquisition or generation from natural resources to final disposal. Consistent with a life cycle perspective, the organization shall: a) establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each life cycle stage; b) determine its environmental requirement(s) for the procurement of products and services, as appropriate;	**Operation** *Operational planning and control* The organization shall plan, implement, control, maintain and update the processes needed to meet requirements for the realization of safe products, and to implement the actions by: a) establishing criteria for the processes; b) implementing control of the processes in accordance with the criteria; c) keeping documented information to the extent necessary to have the confidence to demonstrate that the processes have been carried out as planned. *Prerequisite programs (PRPs)* The organization shall establish, implement, maintain and update PRP(s) to facilitate the prevention and/or reduction of contaminants (including food safety hazards) in the products, product processing and work environment. The PRP(s) shall be: a) appropriate to the organization and its context with regard to food safety b) appropriate to the size and type of the operation and the nature of the products being manufactured and/or handled;

		c) communicate its relevant environmental requirement(s) to external providers, including contractors; d) consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment and final disposal of its products and services *Emergency preparedness and response* The organization shall establish, implement and maintain the process(es) needed to prepare for and respond to potential emergency situations	c) implemented across the entire production system, either as programs applicable in general or as programs applicable to a particular product or process; d) approved by the food safety team. *Traceability system* The traceability system shall be able to uniquely identify incoming material from the suppliers and the first stage of the distribution route of the end product. When establishing and implementing the traceability system, the following shall be considered as a minimum: a) relation of lots of received materials, ingredients and intermediate products to the end products; b) reworking of materials/products; c) distribution of the end product. *Emergency preparedness and response* The organization shall a) respond to actual emergency situations and incidents by: 1.ensuring applicable statutory and regulatory requirements are identified; 2.communicating internally; 3.communicating externally (e.g. suppliers, customers, appropriate authorities, media); b) take action to reduce the consequences of the emergency situation, appropriate to the magnitude of the emergency or incident and the potential food safety impact; c) periodically test procedures where practical; d) review and, where necessary, update the documented information after the occurrence of any incident, emergency situation or tests. *Hazard control* To carry out the hazard analysis, preliminary documented information shall be collected, maintained and updated by the food safety team. This shall include, but not be limited to, applicable statutory, regulatory and customer requirements; the organization's products, processes and equipment; and food safety hazards relevant to the FSMS. The organization shall maintain documented information concerning the characteristics of end products to the extent needed to conduct the hazard analysis, including information on the following, as appropriate: a) product name or similar identification; b) composition; c) biological, chemical and physical characteristics relevant for food safety; d) intended shelf life and storage conditions; e) packaging;

			f) labeling relating to food safety and/or instructions for handling, preparation and intended use; g) method(s) of distribution and delivery. *This section has much more details in the Product intended use, flow diagrams and description of processes, hazard analysis, selection and categorization of control measure, hazard control plan, updating the information specifying the PRPs and the hazard control plan, verification related to PRPs and the hazard control plan, and control of product and process conformities all of which SOGE team can clarify and refer to the attached document of the consulting team.*
		Performance evaluations *Monitoring, measurement, analysis, and evaluation* The organization shall monitor, measure, analyze and evaluate its environmental performance by determining: a) what needs to be monitored and measured; b) the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results; c) the criteria against which the organization will evaluate its environmental performance, and appropriate indicators; d) when the monitoring and measuring shall be performed; e) when the results from monitoring and measurement shall be analyzed and evaluated The organization shall establish, implement and maintain the process(es) needed to evaluate the fulfillment of its compliance obligations. *Internal audit* The organization shall conduct internal audits at planned intervals to provide information on whether the environmental management system: a) conforms to: 1) the organization's own requirements for its environmental management system; 2) the requirements of this International Standard; b) is effectively implemented and maintained. *Management review* Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.	**Performance evaluations** *Monitoring, measurement, analysis, and evaluation* The organization shall determine: a) what needs to be monitored and measured; b) the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results; c) when the monitoring and measuring shall be performed; d) when the results from monitoring and measurement shall be analyzed and evaluated; e) who shall analyze and evaluate the results from monitoring and measurement. The analysis shall be carried out to confirm that the overall performance of the system meets the planned arrangements and the FSMS requirements established by the organization, to identify trends that indicate a higher incidence of potentially unsafe products or process failures, and to provide evidence that corrections and corrective actions are effective. *Internal audit* The organization shall conduct internal audits at planned intervals to provide information on whether the FSMS: a) conforms to: 1) the organization's own requirements for its FSMS; 2) the requirements of this document; 3) is effectively implemented and maintained. *Management review* Top management shall review the organization's FSMS, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

		Improvement *Nonconformity and corrective action* When a nonconformity occurs, the organization shall: a) react to the nonconformity and, as applicable: 1) take action to control and correct it; 2) deal with the consequences, including mitigating adverse environmental impacts; b) evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by: c) implement any action needed; d) review the effectiveness of any corrective action taken; e) make changes to the environmental management system, if necessary. Corrective actions shall be appropriate to the significance of the effects of the nonconformities encountered, including the environmental impact(s). *Continual improvement* The organization shall continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance.	**Improvement** *Nonconformity and corrective action* When a nonconformity occurs, the organization shall: a) react to the nonconformity and, as applicable: 1) take action to control and correct it; 2) deal with the consequences; b) evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by: 1) reviewing the nonconformity; 2) determining the causes of the nonconformity; 3) determining if similar nonconformities exist, or could potentially occur; c) implement any action needed; d) review the effectiveness of any corrective action taken; e) make changes to the FSMS, if necessary. *Continual improvement* The organization shall continually improve the suitability, adequacy and effectiveness of the FSMS. Top management shall ensure that the FSMS is continually updated. To achieve this, the food safety team shall evaluate the FSMS at planned intervals. The team shall consider whether it is necessary to review the hazard analysis, the established hazard control planand the established PRPs.
Cost	1-5 employees – 2,750,000 MNT 6-10 employees – 3,437,500 MNT 11-15 emplyees – 4,125,000 MNT 16-25 employees - 4,812,500 MNT 26-45 employees – 5,500,000 MNT	1-5 employees – 4,125,000 MNT 6-10 employees – 4,812,500 MNT 11-15 emplyees – 6,187,000 MNT 16-25 employees – 7,562,500 MNT 26-45 employees – 9,625,000 MNT	The price quote is not publicly available

5.4 Success stories for launching the existing standards in Mongolia

5.4.1 GAP

Many international and multilateral organizations are becoming more aware of the benefits of existing standards, especially of GAP and Organic verification for the target farmers of the projects and started helping to obtain the certifications. The most prominent example is the project “Mongol Nogoo” conducted by the UN FAO and sponsored by the SDC. Within its scale of domesticating the vegetable seed and sorts, the Mongol Nogoo project supported the producer entities in introducing the GAP into their activities and created co-ops consisting of family farmers. As of today, Mongol Nogoo project farmers are successfully selling their local produce through big supermarkets, including Nomin and Orgil. “Mongol Nogoo” project implementing stakeholders commenced GAP introduction and certification activity in Crop production and focused on the initiation of the GAP validation system. As of 2022, more than 40 vegetable producers launched the GAP in their operation, and all those producers have been certified by a conformity assessment body and one external certification organization. Training on “Capacity building GAP Certification for auditors training Module” was conducted in hybrid mode (online and in person)

in partnership with MOFALI in April 2022 to strengthen the establishment of the GAP national certification system.[42]

5.4.2 Organic

APU Dairy LLC developed its own strategy to produce organic food products and supply them to international markets. To do so, the company is currently working to build the PGS establishment and develop the value chain in Chuluut and Tariat soums in Arkhangai province.
Cheese Republic brand has recently transformed its cheese factory in Selenge province into organic production and encouraged its milk suppliers to become organic for complete certification.

The partnership of the Organic Agriculture project funded by ADRA Mongolia is another good example. The project aims to develop organic agricultural production, establish a PGS, and improve the livelihoods of farmers in Selenge province. The project duration is from 2019-2022, and some of the project highlights include:
- 15 organizations were established using the PGS in 11 districts in Selenge province. Activities include the formulation of PGS internal bylaws, developing peer-review inspection documents, and using the traceability books of organic farmers and beekeepers. As of the end of 2021, 220 cooperative members are involved in the internal peer-review and duly registered in the national government's organic registration system.[43]

5.5 Key barriers and lessons learned from existing schemes

Existing legislative platforms in Mongolia have developed market-based labeling tools and certification programs in line with international rules and standards, but implementation has not been credible and efficient.

The main reasons are:

1. Lack of correspondence between the aligned ministries and related government authorities in regard to the eco-labeling. Moreover, terms such as eco, green, and organic are often used interchangeably, creating confusion, and sometimes overlapping when implementing the existing legislative tools, which undermines efficiency.
2. Lack of awareness of different labels and their purposes/advantages, and use of public relations tools and activities. At all levels (policymakers, implementing agencies, farmers, producers, and consumers of agri-food and beverages), integrated understanding, knowledge, and awareness of the different labels used are very low; as a result, market-based eco-labeling initiatives are not succeeding.
3. Lack of knowledge in the application of market regulation tools, due to limited transparency and availability of the regulating policies and standards, as outlined in Chapter 6 of this report.
4. Farmers and producers lack the financial incentives to apply eco-labeling in their operations. Moreover, SDG taxonomy is not explicitly defined in agri-foods and beverages sectors; therefore, it is difficult to classify who should be applied for financial support such as a concessional loan.
5. Lack of consumer knowledge about different labeling used in Mongolia; as a result, value adds in eco and green products is not appropriately acknowledged and appreciated by the market.

[42] https://www.fao.org/mongolia/news/detail-events/fr/c/1505756/

[43] https://issuu.com/adramongolia/docs/adra_mongolia_annual_report_2021

Key barriers to the implications of the existing local standards/labels:

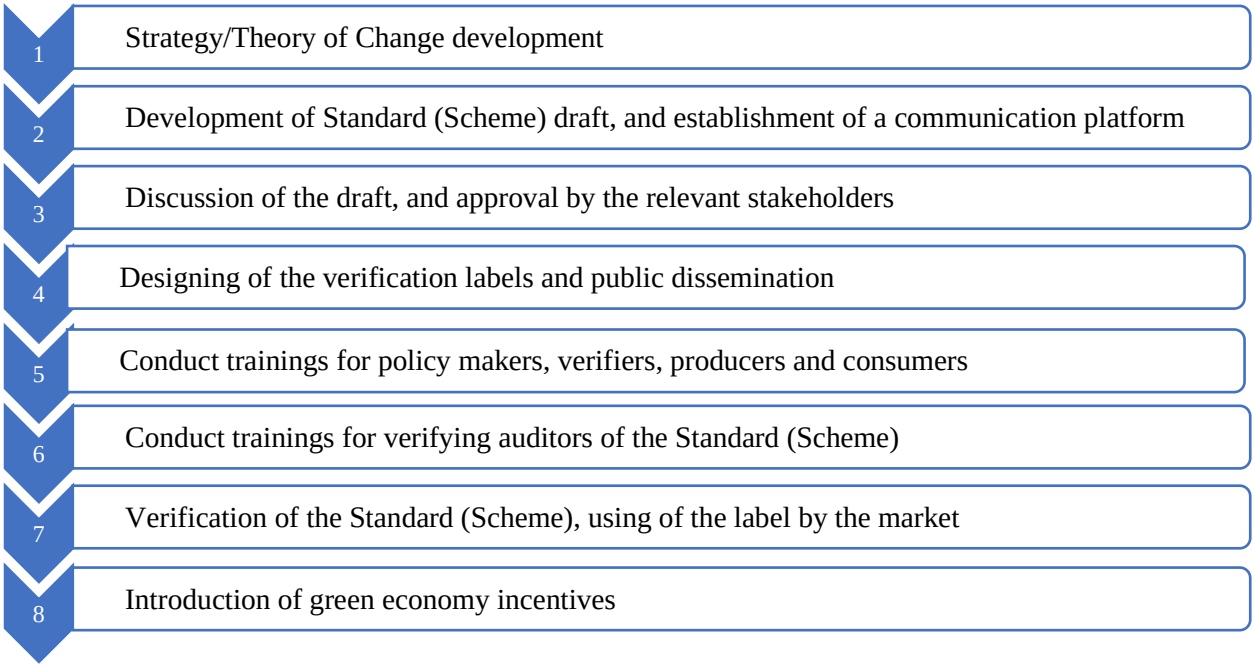
1. As there is no public awareness of the organic and eco-labeling and standards among the consumers, the existing local standards/labels cannot add value to the farmers and producers, as they are not translating into boosted sales. On the other hand, as the farmers and producers have to pay to obtain verification and there is no cost-offset of having a verification by increased sales, they are not incentivized to go through costly and time-consuming verification procedures.
2. Organic and eco-labeling requirements are complicated and too broad; therefore, farmers/producers struggle to satisfy their indicators. As a result, it is not attractive for micro and small enterprises that often have weak financial and human resources capacity.
3. Documents related to organic regulations are not transparent and not available in English. Several foreign-owned farmers/producers in Mongolia are willing to add Mongolian certification; however, they tend to be left due to a lack of information in foreign languages.
4. Campaigns/programs on educating consumers on healthy, green, or organic labeling, which is the key to inducing consumers to promote organic and eco-agri-food production, are completely lacking. The majority of the existing labeling is unclear to the conscious buyers (producer's perspective).
5. The distinction between organic and green products has not been well established; therefore often used interchangeably, further creating confusion and disincentives the consumers.
6. Retailers are also not aware of organic and eco-labeling, therefore not promoting such products. The organic section of retailers is not well merchandised, advertised, and advocated, which further disincentives the consumers and the producers.
7. There is a big gap in verification in rural areas. Local/rural verifiers are not well trained and competent enough to operate and advocate for the verification. Online training platforms and modules are necessary to develop as the in-person trainings to reach all remote areas is costly and inefficient.
8. Some verification indicators are too distinctive and cannot be applied to most agri-food producers. For instance, some producers cannot be verified as organic due to their current location and already-built facilities. Also, location and facilities sometimes make it hard to be qualified with specific indicators.

6. Roadmap and recommendations

6.1 Roadmap

The suggested roadmap for developing and introducing eco-labeling is outlined below:

Figure 8: Roadmap for eco-labeling



The SOGE project team can launch the green/eco-labeling scheme by integrating efforts with existing label schemes for the agri-food and beverage sector or develop a new scheme using the existing scheme's specific criteria such as GAP, Organic, GMP, and ISO. Regardless of the approach, the roadmap will include the above-mentioned 8 steps. The first step would be establishing the type of scheme and strategy for implementation. The team should decide whether the scheme should be mandatory or voluntary, Type I or II, and what perspectives should the new scheme include. The second step would be the development of a standard. At this stage, the scheme's specific criteria and SOPs should be clarified and drafted as well as how the scheme certification platform would look and operate for the target producers. Third, after designing the scheme with its criteria and SOPs, all the relevant stakeholders should agree and approve the scheme. After that, the design of the verification label should be developed and disseminated to the public. The fifth stage is important since all the policymakers, verifiers, producers, and consumers are aware of the scheme and support the entire initiative. After establishing the scheme, hiring and training all the verifying auditors of the standard is crucial.

6.2 Green/Eco-labeling scheme as a general and possible options

Table 23: Labeling options

Type of scheme (Type I, II, or III)	The type of scheme (Type I, II, or III) relates to the products. First, we must define the scope of the green/eco-label. If we Label the product? Process? Services? Management system? The project usually focuses on products, processes, and services but not management systems. However, we use management system certifications to certify the products, processes, and services.

Scheme type I (environmental labels based on **voluntary** multi-criteria product life-cycle assessment of environmental effects with verification through a third-party) **suit most for the SOGE project**.

Different varieties of criterias can be selected and used from either existing schemes or newly developed for the purpose of the Project.

If we develop new criteria all stakeholders can become "Scheme owners". Ownership will be governed by the rules defined in the scheme. This would be more flexible for all stakeholders and suit the market demand. Financing organizations can take responsibility for developing and so be the owner of the scheme.

The consulting team suggests the SOGE team to develop the new voluntary scheme by selecting the applicable criteria from the existing certifications. If the project team decides to use the entire existing scheme in the market, the project team cannot be the owner of it because the one who developed the entire scheme would be a scheme owner. In this case, how those schemes are used would be up to the owners of the Recommended Scheme.

Advantage	Disadvantage
- Reliable - Innovative - Flexible	- Takes time for development Strong PR is needed by the Conformity assessment body

Advantages of this scheme type include that it is more reliable since verifiers are specialized experts and well trained, and innovative and flexible since scheme owners can create the criteria and it could be a totally new concept.

Disadvantages of this scheme type include that it may take some time to develop the scheme and raise awareness among stakeholders, establish or contract a reliable conformity assessment body, and run intense PR activities among the community.

Mongolia is not ready to use Type II and III environmental schemes, as the country does not have enough third-party environmental testing, inspection and certification facilities to determine environmental criterias like gaseous and particulate emissions factors.

Should it be PGS? or Conformity?

PGS (Type II) does not suit the SOGE Project purpose since PGS is not a legal entity and all the stakeholders have the same responsibility. PGS suits farmers that are located nearby and certify each other in the community.

For the project, the conformity assessment bodies should be involved. Conformity assessment bodies include laboratories, inspection bodies, and certification bodies.

This scheme should be **VOLUNTARY** until the producer decides to apply and use the preferences of the Scheme. In other words, it is up to the producers whether to obtain scheme certification or not, but once they decide to obtain the certification, they should follow all the rules and operating procedures of the scheme as mandatory.

Green label scheme criteria or indicators	Here are examples of the existing Schemes. The project team can use these separately or combine criteria and use them as green indicators in the newly developing Scheme. Examples of existing schemes: ● Implementation of the ISO 22000:2018 ● Implementation of the ISO 14001:2015 ● Implementation of GAP ● Implementation of GMP ● Implementation of Organic Schemes The environmental management system: 1. It is being implemented by conducting an impact assessment and evaluating the implementation of appropriate measures. There are companies that run and evaluate environmental impact assessments. However, environmental audit companies audit the measures taken in accordance with environmental protection laws and environmental impact assessments. 2. As the ISO 14001 standard is introduced, organizations that adopted the ISO 14001 have declared their policy for implementing BOS-friendly management, set goals for its implementation, and conducted impact and risk assessments. Plans are developed and implemented accordingly. ISO 14001 certification companies run an audit and certify. There are 4-5 accredited organizations that perform ISO 14001 certification in Mongolia. Some of the examples of indicators we can put or create. (Possible options are listed later in this section) Based on an Environmental impact assessment of the food and beverage industry: ● Pesticides free (used in EU): challenges can arise in determining conformity to the criterias, but there are several accredited laboratories that analyze pesticide residues. Moreover, MOFALI is working on the adoption Pesticide traceability program. ● Waste recycling: this can be integrated or harmonized with the Municipality programs on Waste disposal. We can create different criteria, such as the use of recycled raw materials, or implementation of waste classification, or whatever public objectives cannot be implemented properly. ● Fairtrade ● Use of natural resources Schemes for producers' products, processes, or services can be developed. So, certification is to be granted for Green products, Green processes, or Green services according to ISO/IEC 17067. The SOGE project team should note that green criteria should be added on top of the mandatory food safety requirements. In most developed countries, consumers are highly aware of food safety and require green food products to be safe, but in Mongolia, consumers are not aware of food safety issues and standards, so GoM does intervene in the sector by requiring food producers to obtain food safety standard certifications (GAP for farm producers). GoM has not yet approved GMP for the producers, but the project team should consider including the GMP criteria for the scheme.

Certification Standard Operating Procedures (scoring or checklist, cost etc.,)	International good practice of the scheme development is to include the followings: 1. Scheme governance rules 2. The certification criteria 3. Certification procedure • The application process for the certification • Determination of the conformity to criteria (plan, the appointment of experts or audit teams, checklist, on-site audit, scoring rules, request for laboratory or inspection reports from other conformity assessment bodies (CABs), report writing). • Qualification requirements for experts or auditors • Decision making (decision rules like conditions for granting, suspending, withdrawing, extending), development of the label design and guidance on the proper use of the label, certificate format, surveillance, communication with clients, etc. 4. Training requirements • Introduction training (explanation of the Scheme) • Implementation training • Training for experts and auditors The scheme owner has the authority and responsibility for all CABs contracted. CABs receive the Application for certification and take responsibility for certification processes until granting the Certificate of conformity to the criteria and sending it to Scheme owners. With this Scheme, owners grant a license for the use of Green/eco-label with a unique code number. Scheme owners make information for the use of green/eco-labels publicly available. Certification cost estimation is subject to the decision of CABs in consultation with the Scheme owner. Service cost depends on the time spent on certifying the product, process, or services. Scheme owners can determine the average audit days spent for a particular type of product, process, and service but can also leave this for CAB to decide. CABs define the cost for 1 audit-day. CABs have the authority for decision-making. This could be by individual or by committee.
Scheme ownership	All major stakeholders can be Scheme owners. However, if many members have the ownership simultaneously is harmful to the scheme's flexibility. The consultant team's suggestion is to include only key players (cover forms of NGOs, private companies, co-ops etc.) of the Scheme as owners and stakeholders: 1. Financing institution 2. Food producers' association 3. Association of Conformity assessment bodies. CABs include certification bodies, testing labs, and inspection bodies, all of which are gradually increasing in numbers in Mongolia. There is no need to have a government-authority member since the scheme is voluntary and the project team uses a market-based approach, but it would be good if the project team obtains government support. The Scheme should follow legislation and support the implementation of Government policy.

	The scheme owner and stakeholders' only responsibility is to communicate their activities to the related Government authorities, including MOFALI, MASM, and Special Inspection Office.
Myths (Not necessarily true)	1. The scheme must be adopted by Government authority (there is an international standard on how to develop and use the Schemes ISO/IEC 17067, which is translated into Mongolian and regarding this standard, anyone can develop, approve themselves, and use); 2. The conformity assessment body must be accredited (according to the Law on Standardisation, technical regulation and accreditation of conformity assessment, not all conformity assessments are subject to accreditation).

6.2.3 Possible options and their challenges, and pros and cons

Different criteria of various existing standards or schemes can be combined and create 2-5 levels of classifications of the scheme. Those classifications could offer different levels of financial support.

Option 1: Type I - Green/Eco-labeling

Select **a single indicator** that reflects the implementation of the **environmental management system**. An organization's environmental management system consists of two important activities:

1. Reducing the negative impact on the environment,
2. Ethical use

Depending on the product type and procedure, there is a difference between the environmental impacts of the producers. Some companies conduct environmental impact assessments and environmental audit companies that evaluate measures taken in accordance with environmental impact assessments. The SOGE project team can start by running an Environmental impact assessment for the target SMEs. By doing this assessment, the project team would be able to track down the key areas impacting the environment and select the most applicable criterias from the existing environmental management system schemes. Working consistently with the audit companies to conduct an Evaluation of the implementation of appropriate measures can help effectively conduct the scheme. There is an association of environmental impact assessment bodies in Mongolia. It would be helpful if the project team approached the association and possibly collaborated on it.

Advantages	Disadvantages
Comply with international standards that drive the market toward the needs and demands of local and international society while supporting the implementation of the State policy on the green economy. The activity would be in line with existing legislation on Environmental protection.	Recognition by the consumers would be effort and time-taking. The SOGE project team scheme targets food and beverage producers but not consumers of the food and beverages. Consumers are also beneficiaries, but our focus is on Producers.

	The newly adopted Scheme's aim is only to support the producers, so acceptance and recognition by them would not be challenging, but the project team should engage consumers on a large scale. So that producers can boost sales and benefit from the new scheme.
Recommended Scheme suggests freedom from any political and other bureaucracy harms. Flexibility in the operation of the Scheme can easily address the needs and challenges of the targeted community, and the scope of activity can be expanded or squeezed down	Establishing or contracting to the CABs. Government policy supports the creation and development of the CABs (In the Parliament decree and the President's call for Food supply and Safety). There are several conformity assessment bodies established and the number will increase in the long run. As in other international Schemes, Recommended Scheme can contract Conformity assessment bodies.
Develop Scheme using the existing scheme criteria	
Use the services of the existing organizations specializing in environmental impact assessment and environmental impact measure audits	

Option 2: Type I - Green/Eco-labeling

The combination of existing schemes ISO 9001, ISO 22000, and ISO 14001

ISO 9001 is almost the same as GMP, so the criteria of either one of these can be copied and used to develop the new scheme. ISO 14001 is the environmental management system and ISO 22000 is the food safety management standards. Combining the criteria of these three would reflect the food safety and green/eco perspectives of the agri-food and beverage sector the project team is looking for. Since we are selecting and combining specific criteria of the existing international standards it could be best to contract and work with the existing conformity assessment bodies in Mongolia. After developing the scheme and its SOPs, the rest of the tasks would be facilitated since the conformity assessment bodies are familiar with the criteria of the new scheme already. The new scheme can be divided into different stages so that the target SMEs can obtain each stage certificate at different times and pay for each stage or pay all at once. The different options should be given as a choice for the target groups.

Advantages	Disadvantages
Indicators/criteria already exist	Criteria could be challenging to implement micro or small-scale entities
Assessment of conformity to the criteria is easy	
Flexible (scheme can have different levels/phases obtained separately)	

Option 3: Type II or Type I - Green/Eco-labeling

3.1 The complementary eco-mark for Organic (PGS-based)

The project team may consider designing and developing the eco-mark, which is complimentary to the existing scheme, Organic food labeling. Eco-mark can be focused on one key area of the producer, such as Energy friendliness. For example, if a certain producer gets certified for organic food labeling, the energy efficiency can be evaluated, and the eco-mark can be accompanied by Organic certification and then used on the product label as well. The GoM fully supported Organic food labeling, developed the agenda, and established laws and regulations to strengthen the labeling standard in the country. Organic food labeling satisfies the fundamental food safety standards required for the food industry. The GoM would highly support if the project team wishes to help the sector's producers to become organic. If the project goes with the PGS certification process will be free of charge for the SMEs, and the project team could consider collaborating with ADRA project on this.

Advantages	Disadvantages
Organic schemes and indicators/criteria already exist	Very few producer entities are certified for now
Certification is free of charge or less expensive	Most farmers are involved in the PGS , so it could take some time to train all the producer and their stakeholders for PGS
Obtain all possible policy-related support from the GoM	Inputs (tools and machineries) for the organic producer could be costly

3.2 The complementary eco-mark for ISO 22000 (Conformity assessment)

Another sub-option could be designing and developing the complementary eco-mark for ISO 22000. As we mentioned in the 3.1 option, the eco-mark could be focused on energy efficiency and could be named as "Energy friendly." ISO 22000 is a big-scale international standard that covers most of the criteria from GMP, ISO 9001, and HACCP food safety standards. In Mongolia, ISO 50001 standard for Energy management systems has been translated and applied in the food industry already. Several auditing companies have been established for this standard and the project team can approach these companies and then look for opportunities to work together.

Advantages	Disadvantages
Scheme and indicators/criteria already exist	It could be a bit complicated for producers
Conformity assessment and audit companies exist for verification and evaluation	The price for auditing and certification would be higher

Option 4: Type I - Green/Eco-labeling

Single criteria: Responsible waste management system

The project team may decide to design and develop a single criterion-based green/eco-labeling based on the waste management system. The GoM passed and approved the Waste Law, and

according to this law's Section 2, Article 10, provision 10.2, those may be used as the main indicators for the responsible waste management scheme.

10.2. The organization or individuals take the following responsibilities for the waste management:
10.2.1. According to the waste management law provision 9.1.3, the waste must be classified;
10.2.2. As indicated in the waste management law provision 15, the standard satisfied waste/trash bins must be placed;
10.2.3. The organization must have contracted with the individuals or entities that provide the waste disposal service;
10.2.4. The waste must be transferred to the organization that is validated for waste disposal;
10.2.5. The waste disposal point must be clear and agreed upon among waste producing and collecting organizations
10.2.6. The organization must actively participate in public cleaning events;
10.2.7. The organization must pay the waste disposal service fee on time;
10.2.8. Practice waste reduction, classification, and recycling;
10.2.9. The organization must not place the waste become likely paper ads on privately owned buildings, walls, and fences;
10.2.10. Clean any waste, snow, or ice within ownership areas according to this law;
10.2.11. The organization must contract with the validated waste disposal individual or entity and pay waste collection and disposal fees for the case of building, renovating, and destructing the facility;
10.2.12. Waste management training must be conducted to improve waste knowledge;
10.2.13. Reduce the negative impact on the environment and human health with the most practical methods and technology;
10.2.14. Satisfy with all the related waste regulations, and standards;
10.2.15. Notify the relative government agency, police, and health organizations if fatal conditions for human and environmental health are created due to the waste disposal;
10.2.16. The organization's administration is responsible for conducting waste management training for employees and improving employee's knowledge and awareness of waste management;
10.2.17. The organization must have a unit or employee in charge of waste recycling, collecting, transferring, eliminating, disposal, and contracting with the validated waste disposal individual or organization;
10.2.18. The organization must have the plan to reduce the waste's negative impact on human and environmental health.

Advantages	Disadvantages
The activity would be in line with existing legislation such as Waste Law.	Engaging and encouraging local governments to build waste recycling factories (rural areas) could be challenging and costly
Possible to develop a Scheme using existing criteria	

Can easily get support from the Government authorities	
Assessment of conformity to the criteria does not require complicated techniques	

6.3 Engaging relevant stakeholders

Figure 9: Stakeholder mapping

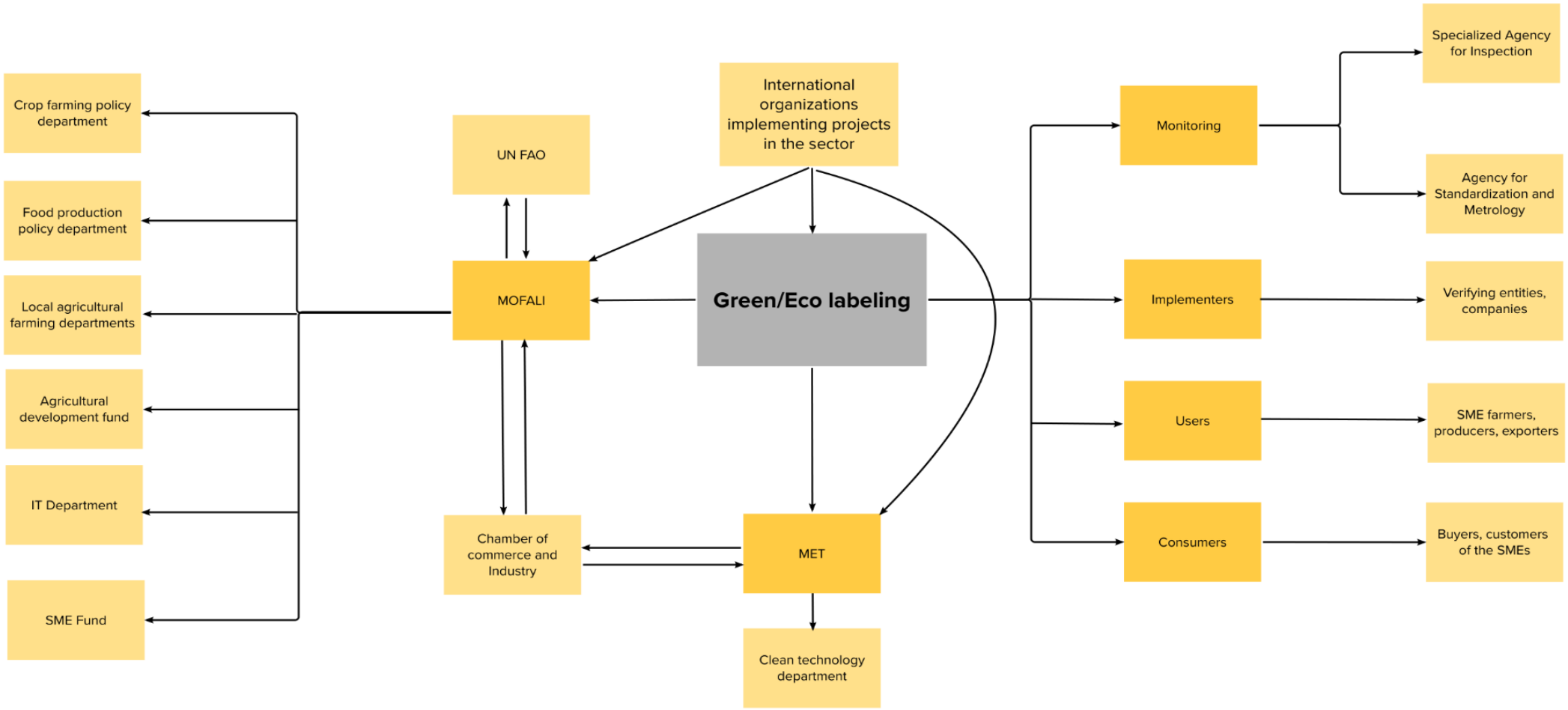
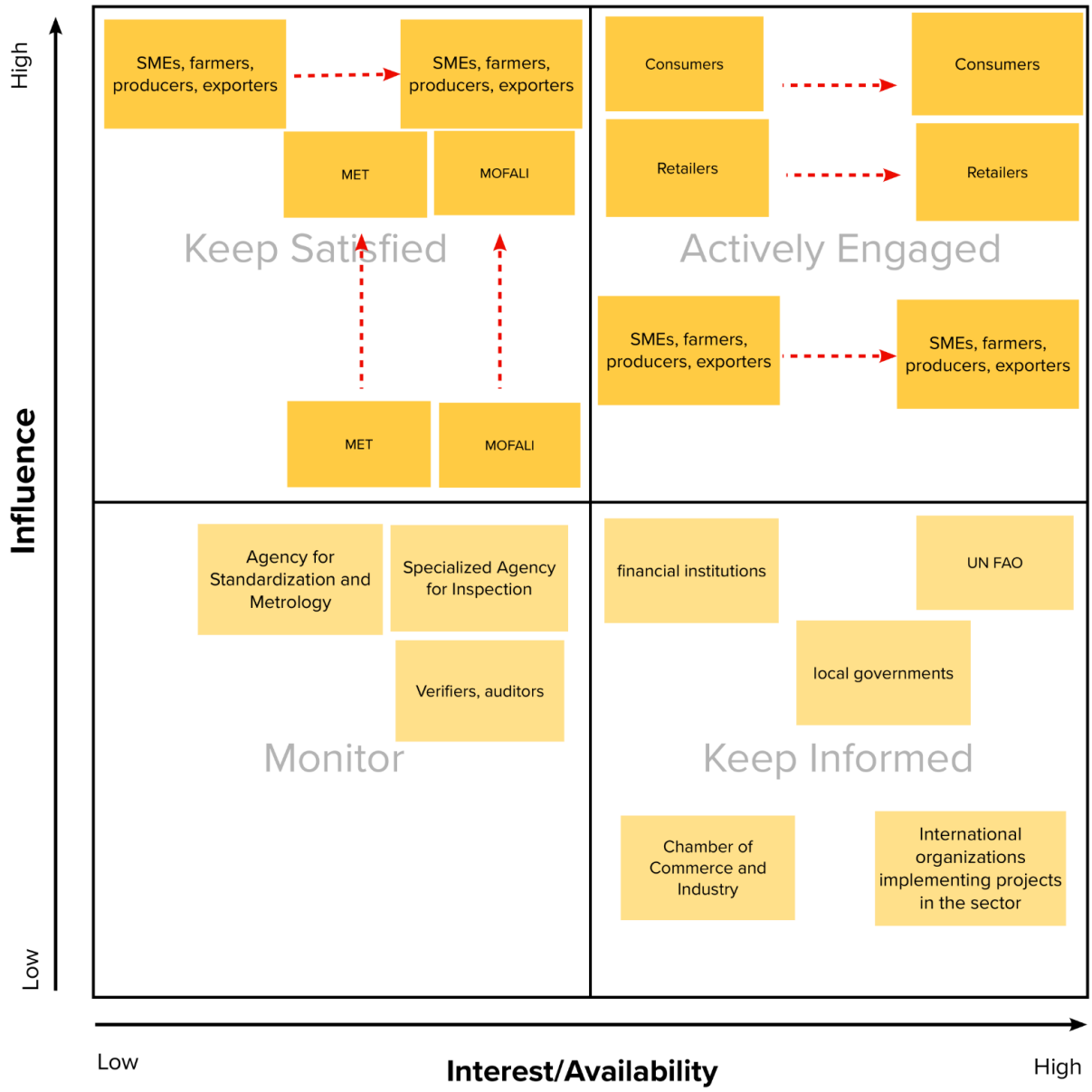


Figure 10: Actor mapping



6.3.1 Policymakers

Labeling specific

Once environmental labeling, in general, is defined as "making relevant environmental information available to appropriate consumers," the contribution of the agrifood and beverage industry can be defined in the implementation of the Vision 2050 of Mongolia within the SOGE project. Specifically, as outlined in 6.4.5 of the Vision 2050, introducing the MNS ISO14000 set of environmental management standards, including the green certification, will intensify sustainable production and consumption practices.

Environmental labeling may cover different attributes of agrifood and beverage products. Thus, improving the data collection and information on the agrifood and beverage industry's environmental impacts would be helpful in successfully implementing the SOGE.

Development of environmental labeling criterias shall be based on the major or priority impacts of the industry on the environment. Environmental labeling may reflect the impact of the life cycle of a product on the environment, or some portion of the life cycle, such as the impact of the production process, the product's use and/or disposal on the environment.

Government of Mongolia

Given the commitment of the GoM to promote sustainable agriculture according to Vision 2050, comprehensive policy support, including financial incentives for the farmers and producers in agri-food and beverage adhering to GAP and sustainable agriculture practices, shall be developed. As outlined in Chapter 4, there are several incentives for agri-food producers, but they are fragmented in nature, limited, and not applicable to the broader target.

Most of the farmers and producers are SMEs. Many of them are informal entities, or household farmers excluded from GoM supports such as 3% facilitated loans or SME support loans. In order to apply for the SME support loan, the farmer/producer must obtain an SME certificate from MOFALI, and for that, they need to be registered as an official enterprise. However, registering as an official enterprise would require them to pay taxes, and since they are small and weak in capacity, the applicable taxes become a huge financial burden for them. As a result, they tend to stay informal, having no access to GoM subsidies and supports, and as a result, their production remains small. To address this problem, it is recommended to offer an exemption of 100% (currently, it is 50%) of Corporate Income Tax for the first five years of operation for newly established agri-food producers/farmers. Furthermore, as the collateral (mostly required to provide immovable assets) is the main challenge for SMEs to obtain a loan, it is recommended that relevant agencies consider introducing an innovative mechanism that can be used as collateral, such as future revenue, and/or future crops and yields.

Regarding the subsidies such as MNT 100,000 as a subsidy per ton of locally grown crops and vegetables, it is recommended to increase the amount of subsidy, as well as broaden the applicable types of vegetables (currently, its offered to 10 types of vegetables only), and fruits/berries.

Also, to promote green procurement, it should be integrated into the GoM`s procurement policy, including the Law on Procurement of Goods, Works and Services with State and Local Funds (Public Procurement Law). According to Article 10.1.1 the legal entities that are able to supply locally originated goods, or recycled goods have the priority to enter into public procurement bids. It is recommended to amend this article to include the entities that are able to supply goods and services with eco-label, and have introduced environmental management systems in their operations.

Moreover, to address the financing gap, it is recommended to look for opportunities to introduce innovative green financing mechanisms at a higher level, as outlined in 6.4.16. of Vision 2050, to launch the national green financial system (green bank, green bond, green exchange, green insurance) to develop environmentally friendly sustainable production. Given its reputation and expertise, MSFA has the potential to advocate for this initiative to the GoM.

Lastly, given the high capacity of potential revenue generation through export by agri-food and beverages, GoM is recommended to offer more incentives to the export-oriented agri-food and beverages industry, including VAT exemptions. Currently, agri-food and beverages products are not included in the list of export products applicable for 0% VAT (Article 12, Law on VAT). It is

recommended to include value-added/processed agri-food and beverages products rather than raw/unprocessed products.

Implementing agencies

Gaps and overlaps of the relevant ministries, such as MOFALI and MET should be addressed. A clear definition of organic, green/eco products shall be set out first, in order to establish a clear boundary in the responsibilities of the implementing bodies.

In terms of implementation of the existing policies and regulations related to labeling, all the relevant information for getting a verification, processes related to the application, and market and financial opportunities available for the verified/certified farmers and producers shall be available and transparent to the public. All the verifying and monitoring organizations including MASM, SPIA, and verification companies, should be well informed on the newly developed green/eco-labeling scheme. Moreover, a public campaign led by the implementing agencies shall be done on a broader scale to educate the producers and consumers on the importance of green/eco-labeling. Newly verified farmers and producers need to be promoted publicly and their information shall be disclosed and highlighted on the related web pages of the agencies.

Moreover, the CAC standards need to be reviewed and updated. Most of them are at least 10 years behind schedule, and we still use 20 standards that have been repealed by the CAC and removed from the standard database. There are 72 standards issued by the CAC that need to be translated and introduced for food security and export. It is also necessary to review all applicable standards and revise them for translation errors, in case any foreign-owned local producers want to obtain it to operate in a domestic market.

6.3.2 Market players

Public relations activities should be addressed by communicating that every support in implementing the green/eco-labeling programs would be welcomed and accounted for. Nowadays, responsible companies are usually looking for more comprehensive ways to contribute to social developments.

Large companies

Large companies such as TOP-100 enterprises and Tier-1 publicly listed companies need to adhere to sustainable standards and lead the ongoing developments related to sustainable agriculture and, organic and green/eco-labeling initiatives. As Mongolian SMEs follow the examples of the large companies, leading agri-food and beverage companies such as Devshil, Teso, APU must demonstrate the best practices in their operation. It is also recommended that large companies introduce a sustainable supply chain practice, requiring small suppliers to adhere to GAP. To promote that, MSFA has a leading role in incentivizing the large agri-food companies to join this agenda, and expand its membership to the private sector, and SMEs operating in the agriculture sector.

Professional associations

Professional associations are encouraged to provide training and consultation services for enterprises in completing gree/eco-labeling criterias, and establishing dedicated units to provide conformity assessment services such as inspection, verification, and certification.

Moreover, professional associations have a vast capacity to publicly advocate green/eco standards and/or certification, and to train and educate retailers on organic/eco-labeling and its merchandising.

As the representation of the private sector, professional associations also have the mandate to advocate for comprehensive policy support for agri-food producers, and to collaborate with the GoM on the favorable terms and conditions to be offered by such policy support.

Verifiers

Verifiers possess the most important role in introducing green/eco-labeling into the Mongolian market and ensuring efficient implementation. Therefore, it is recommended to include the representatives of the verifying organizations throughout the project. Once verifying organizations are highly aware of the newly developed green/eco-labeling scheme, it would be easy to conduct series of training and awareness-raising campaigns among verifiers and auditors of the green/eco-labeling scheme.

6.4 Project-specific recommendations

1) The Ministry of Environment and Tourism is one of the key stakeholders and should be taken into account. The project team needs strong support from them, so additional focus discussions with MET and the MOFALI as separately and together. All the stakeholders must be on the same page, sharing a similar expectation/vision of the project's outcome.
2) From the consumers' perspective, the more types of labels with particular purposes are used in the market, the more challenging it would be to control the behavior of consumers. So, we recommend using or involving current schemes in developing green/eco-labeling criteria. The green/eco-labeling criterias to be developed on several levels, from simple to more complicated criteria. For example, the initial or basic criteria could be "Responsible Waste Management," and the high-level criteria could be "Organic."
3) For voluntary programs such as green/eco-labeling schemes, a more comprehensive survey on the target community preferences needs to be conducted, and the Theory of Change with specific outcomes and milestones shall be developed to ensure the change in the behavior of consumers.
4) To consider that within any labeling scheme, the criteria selected for inclusion in a scheme will reflect a compromise between the demands of the consumers and the capabilities and willingness of the producers, and intermediates, to meet those demands.
5) Representatives of the different interested parties, including the producers, processors, retailers and consumers, should jointly develop the set of criteria actually applied in any green/eco-labeling scheme. The criteria should be developed in a participatory and transparent process, and the criteria selected should be "practical, viable and verifiable."
6) Choose simple and cost-efficient conformity assessment tools to verify that established criterias are fulfilled.
7) Be transparent and establish a communication platform connecting all interested parties.
8) For the users of the labels developed, complete training modules shall be developed, not only on how to obtain the labels, but also the advantages and market/financial opportunities that will be enabled by obtaining such labels.
9) To ensure the project's overall efficiency, it is recommended that MSFA lead the policy advocacy part, given its leadership role and proven expertise in sustainable finance. MSFA is also encouraged to lead the public-private partnership and innovative financing mechanism outcome, leveraging its membership and influence among financial institutions and large corporates.
10) It is also encouraged to recruit professional verification organizations and professional associations when developing green/eco-labeling requirements, terms, and indicators.
11) Lastly, it is recommended to develop and apply green/eco-labeling practices in agri-food and beverages subsectors, as outlined in this report, during the first phase of the SOGE

project. Once the application for the specific subsectors is demonstrated as a successful pilot project, we can expand this practice as a model to apply to other sectors.

Annex 1: Contact list of the stakeholders

	Organization/Department	Name	Position	Contact
	MOFALI			
1	Food Production Policy Implementation & Coordination Division	Tungalag	Head of Division	99193886
2	Agricultural Farming Policy Division	Oyunsuvd	Senior analyst	99299308
3	SME Fund	Enkhtur	Director	99624962
4	SME Fund Loan Division	Sugarbayar	Head	99052936
	MET			
5	Clean Technology & Innovation division	Urnaa	Head	99180175
6	Clean Technology & Innovation division	Bayartsetseg	Specialist	95952848
	MASM			
7	Agri-food and beverage	Davaasuren	Specialist	99058172
	SPIA			
8	Plant protection, restriction, and monitoring department	Bulgan	Senior expert	99171662
9	UN FAO			
10	Mongol Nogoo project	Altantsetseg	project manager	99016382
	MNCCI			
11	Foreign affairs, trade and investment department	Khosbayar	Officer	99051059

	Verification companies			
12	Organic Hugjil	Dorjpagma	Director	99113749
13	Selenge Organic	Tsetsgee	Director	99041678
14	SFCS LLC	Narangerel	Senior Advisor	90116571