



**Adopting geographical indications to support local value-added production
in a remote rural region of Mongolia**

Uvs sea buckthorn case study

**Case study on quality products linked to geographical origin in Asia
carried out for FAO**

by

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The views expressed in this information product are those of the author and do not necessarily reflect the views of the Food and Agriculture Organization of the United Nations (FAO).

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Acronyms and glossary

EC	European Commission
ETH	Swiss Federal Institute of Technology, Zurich
EU	European Union
GDP	gross domestic product
GI	geographical indication
NGO	non-governmental organization
SDC	Swiss Agency for Development and Cooperation
TRIPs	Trade-Related Aspects of Intellectual Property Agreement of WTO
WTO	World Trade Organization

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Introduction

Mongolia is a central Asian country situated between Russia and China. With a territory of 1.5 million square kilometres and a population of 2.7 million, Mongolia is one of the most sparsely populated countries in the world, with an average of 1.6 people per square kilometre. In terms of environment, it is located in the transition zone where the Siberian taiga forest, the central Asian steppe, the high Altai Mountains and the Gobi Desert converge.

The main economic activities are mineral mining and quarrying (copper, gold and coal), accounting for 27.5 percent of GDP, agriculture (mainly nomadic herding), accounting for 20.6 percent, and the manufacture of processed and semi-processed products of livestock origin. Although the share of mineral mining and quarrying in GDP and export income is high, the importance of the agricultural sector in the inhabitants' livelihoods is higher, providing employment, food and social security. Almost half the country's workforce is employed in the agricultural sector, within which nomadic livestock herding plays a major role, accounting for 80 percent of total agricultural production.

Mongolia is one of the few countries in the world that still has truly nomadic livestock herding. Pasture land covers 1.2 million square kilometres, or over 80 percent of the country's total land area. There are about 180 000 nomadic herder families today, making up one-third of the country's total population, with 42 million head of livestock (camels, horses, cattle, goats and sheep). These people's livelihood depends entirely on income from the sale of meat, milk, wool and hides.

Mongolia has many products developed on the basis of local natural and human resources. This situation may be attributed to the special features of the country, with its sparse population scattered over a vast territory and the long distances between settled areas, creating a need for self-sufficiency. Since Mongolia adopted its Law on Trademarks and Geographical Indications in 2003, 13 local items have been registered as GI products. The GI system is recognized as a potential way for agricultural producers in marginal rural areas to improve the market competitiveness of their products in a context of increasing globalization and an open trade policy.

Moreover, the presence of very stiff competition in local markets from cheap imported products is leading Mongolian enterprises intuitively to choose a marketing strategy of product differentiation, which is based on the promise of a certain unique quality. Mongolia has the comparative advantages of organic, chemical-free, eco-friendly production, combined with such social factors as image or reputation. Enterprises also choose to focus on products for which Mongolia has clear advantages in terms of production volume, availability of technology and labour skills, and a potential increase in demand and price. However, this trend is still in its very early stages.

Sea buckthorn (*Hippophae rhamnoides L*) from Uvs Province is one of these pioneer products and received GI registration in 2007. Sea buckthorn is a highly nutritious and versatile berry, containing vitamins C, E, beta-carotene and omega-3 fatty acids, and is processed as juice, jam or oil, while oil from the seeds is also very popular for medicinal use. Uvs is the name of the *province* that is home to wild sea buckthorn and where the species was first domesticated

in the country in the 1940s. The intervening years have given birth to a tradition of growing and consumption, and this, combined with the natural and climatic features of the zone, has built up the reputation of Uvs sea buckthorn, so that customers now perceive it as a high-quality natural product.

Taking advantage of this reputation, a small group of producers in this remote rural area of Mongolia is trying to develop and secure the market for its products through GI registration, in order to create legal protection of the name while improving the quality of the product.

1. Institutional context

Mongolia has been a member of the World Trade Organization (WTO) since 1997 and is also a party to the Lisbon Agreement. In line with the Trade-Related Aspects of Intellectual Property (TRIPs) Agreement of WTO, Mongolia developed and adopted its Law on Trademarks and Geographical Indications in 2003.

This law is an important element in the government policy of providing support to added-value industries to create jobs and thus alleviate poverty. The GI system is appreciated for its potential to promote locally-made products. In Ulaanbaatar, Mongolia's capital, there is a growing number of upper- and middle-income residents, and also expatriates working mainly in the booming mining industry. These customers prefer locally-made food products for health and security reasons, rather than imported products that spend a considerable time on the way to shops. Increasing numbers of customers are concerned over food health, for there have been several recent incidents of food poisoning and contaminated products from mainland China. GI registration helps local producers to inform consumers as to the origin of a product and its corresponding qualities.

GI registration is also seen in Mongolia as a tool to open access for local products to foreign markets through promotion of their unique qualities. Mongolia is known as one of the few countries that has maintained its natural environment relatively intact, which gives it a competitive position for the production and supply of organic, chemical-free and ecologically clean products for the international market. The ability of the GI system to link the quality of a product to its geographical origin, embracing unique production practices, know-how, and social and natural assets, is therefore of particular interest to Mongolian producers.

On 17 November 2005, a joint resolution was issued by the Ministry of Trade and Industry, the Intellectual Property Office of Mongolia, the Ministry of Agriculture and Light Industry and the National Chamber of Commerce and Industry, containing a formal commitment to use and foster GIs as a development tool. By the end of 2008, about 15 products had received GI registration, and Uvs sea buckthorn juice and oil was one of these. The resolution lists three main lines of action. First, it promotes registration, development and advocacy of the benefits of GI registration among producers and their partners. Second, it uses GIs as a tool to develop markets and increase the access of local products to the international market. Third, it develops a timetable for the implementation of a GI system in Mongolia.

The key roles identified for the Ministry of Agriculture and Light Industry and the Ministry of Foreign Relations and Trade are to provide policy support and to promote Mongolian GI products in foreign markets.

Since it is a new initiative, the National Chamber of Commerce and Industry offers consultancy services to interested companies and individuals for the filing of GI registration applications and implementation of the GI system. With the assistance of a project of the European Commission to support the development of a GI system and a corresponding legal framework in Mongolia, the chamber opened a National Geographical Indication Centre, which has the main tasks of providing legal advice on practical GI-related issues, highlighting the importance and recognition of GI protection to local producers, introducing the activities of internationally accredited certification bodies for the quality control of GI products, and supporting the export potential of products within the framework of development of a GI system. It offers services in the following areas:

- organization of training and advice on GI issues;
- provision of legal support for GI producers in the registration of their products;
- supply of GI brochures and handbooks to local chambers of commerce;
- methodological assistance in working out the technical specifications of products;
- definition and supervision of a product monitoring system, especially as concerns external monitoring;
- collaboration with international certification bodies;
- granting of the certification logo for GI products registered in Mongolia;
- contribution to the protection of GI products;
- acting as an authoritative body with regard to enforcement, counterfeiting and seizure in GI disputes;
- promotion of GIs at national and international level.

The National Chamber of Commerce and Industry has developed and issued an official national GI logo for products from Mongolia.

The Mongolian Intellectual Property Office is in charge of accepting applications and issuing GI registration. The Law on Trademarks and Geographical Indications states that the following information and documents must be submitted with applications for GI registration:

- name, address and location of production of the applicant (private individual or legal entity);
- name of the geographical indication;
- description of the place of origin of the product;
- name of the product;
- description of the specific quality of the product and its linkage to a geographical zone, its inhabitants and their traditions;
- a statement from the local government confirming that the applicant carries out production activities in the specific geographical zone.

Applicants may apply as a group for GI registration.

It appears that the law allows a single company or an individual to register a GI in its or his name, which is at odds with the public intellectual property status of such an indication. Moreover, registration requires neither a real code of practice for production of a GI product, nor a quality control system. In this respect, only a description of the specific quality of the product and its linkage to a geographical area, its inhabitants and their traditions is necessary for registration.

Recognition of the role of sea buckthorn in local development

The local government attaches great importance to sea buckthorn planting and processing as a key source of employment and income for local inhabitants. In 2006, with the support of the Council of Uvs *Province* Native People and the World Bank Trust Fund, and financed by the Government of the Netherlands, the *province* government developed a two-phase sea buckthorn development programme. During Phase I from 2006 to 2010, the *province* government is seeking to encourage the local population to plant sea buckthorn by facilitating access to the relevant knowledge and skills, and also to financial and other production inputs. The aim is that at the end of Phase I each *province* household will have planted 10 to 15 trees as a source of income. The second phase is planned to run from 2010 to 2016 and will focus on improving value-added production.

The quality, reputation and uniqueness of Uvs sea buckthorn mean that there is growing interest among the local research community in analysing its properties. The National Sea Buckthorn Research Centre was established at the State Technical University, and carries out laboratory and consumer-based tests. The National Sea Buckthorn Council was established with the support of the Zoos Bank, mainly on the initiative of native people from Uvs Province and the research community, which hosts an annual national workshop that has become a popular forum where research, state and private communities share information and exchange knowledge.

In collaboration with the local government, the Khas Bank has developed a microcredit programme for small growers, accepting sea buckthorn trees as collateral. The local government is responsible for providing growers with relevant training and guaranteeing security of land tenure, while the Khas Bank extends loans for working capital, together with training on loan management.

Mercy Corps International has been implementing the Market Opportunities for Rural Entrepreneurs Project in Uvs Province, and sea buckthorn is one of the value chains selected for support. The focus of the project is business service development. There are two pertinent lines of action for sea buckthorn production. The first is to train local entrepreneurs and improve their skills in developing business plans, and the second is to provide collateral support to improve small enterprises' access to bank loans.

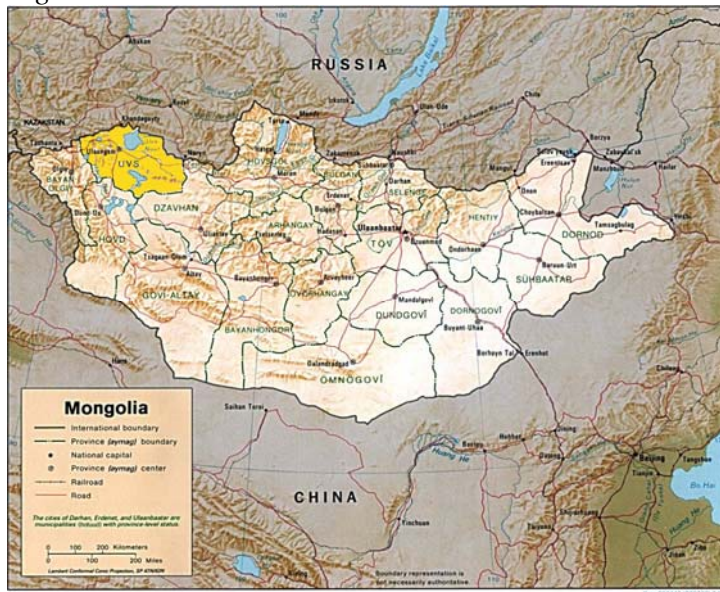
All these efforts are being translated into real action, and sea buckthorn planting has been steadily increasing in Uvs Province.

2. Geographical zone and specific resources

General context

Geography and natural environment. Uvs Province is Mongolia's most westerly province, covering an area of about 96 000 square kilometres. It is located at the junction of the Altai and Khangai mountain ranges in the basins of the Great Lakes. It is endowed with a rich diversity of plant and animal wildlife, and natural underground resources (see Figure 1). There is a different ecological zone every 200 kilometres, and it is said that all the ecological zones existing on earth, except for tropical rainforests, are found in Uvs Province. The Great Lakes basin valley was placed on the UNESCO world natural heritage list in 2004.

Figure 1. Uvs Province



The climate is very harsh, with winter temperatures reaching $-30\text{ }^{\circ}\text{C}$ to $-50\text{ }^{\circ}\text{C}$ and summer temperatures of $30\text{ }^{\circ}\text{C}$ to $40\text{ }^{\circ}\text{C}$. Average annual rainfall ranges from 140 to 200 millimetres, and 300 to 400 millimetres in mountain areas.

A fragile economy dominated by nomadic livestock rearing. The country's western region, which consists of five provinces, has the highest percentage of people living below the poverty line (42 percent on average), i.e. on less than US\$ 1 per day. In Uvs Province 38 percent of the inhabitants fall into this group. The total population of the province is about 90 000, with 47 percent of them living in the one town (20 000 people) and the 19 villages, while the remaining 53 percent are nomadic herders living in the countryside. The ratio between men and women is fairly even – 49 to 51 percent. People of working age account for 56.7 percent of the population and unemployment affects more than 50 percent of these.

Agriculture, particularly nomadic livestock rearing, is the main economic activity of the province. Agriculture contributes 72.4 percent to GDP, industry 4.1 percent and the service sector 23.5 percent. Nomadic livestock production accounts for about 90 percent of total agricultural output. Nomadic livestock rearing is practised in its classic form, with nomadic herders moving around freely on open-access pasture land. In order to allow pastures time to regenerate, herders practise rotational grazing, moving four to eight times a year between four seasonal camps. They stay longest (three to five months) in their winter camp, and six weeks or less in the others. There are about 21 900 nomadic herders, with 2.6 million head of livestock: 60 000 camels, 80 000 horses, 130 000 cattle, 1.3 million sheep and 1.1 million goats. The *province* produces 24 000 tonnes of meat a year, 1 400 000 tonnes of sheep's wool, 600 000 pieces of skin and leather, and 324 tonnes of cashmere. Nomadic livestock herding provides employment and income for 70 percent of the rural population.

The poor are mainly those who lost their jobs at the start of the transition period –former employees of state farms and organizations. Many of these people live in or near settlements, and keep a few head of livestock to meet their households' basic food and livelihood needs. The main challenge is to find employment, apart from livestock rearing, that will yield additional income, and also to promote the market sale of the small surplus of livestock products left after household consumption. These people usually have no means of transport

and cannot afford the cost of moving products over a long distance to the nearest market. This causes a congestion of large herds in one area over a long period, which is leading to severe degradation of much pasture land around urban and settled areas. The second most degraded pastures are around water points. Herders have to use the same pastures repeatedly, since there is no water for animals and humans in some of the pastures they used previously. Many wells dug during the Soviet era have stopped working because of unclear ownership status, with neither herders nor government taking responsibility for upkeep. Many natural sources of water, such as rivers and springs, have dried up in recent years because of climate warming and decreasing rainfall.

Limited agricultural diversification. After nomadic livestock rearing, the second largest economic sector in the province is the growing of wheat, livestock forage and vegetables. During the 70 years of a centrally planned economy, the province's crop production developed to the point that the province was supplying wheat flour, livestock forage and hay to the other four provinces in the western region. Several thousand hectares of land were placed under cereal crops, potatoes and vegetables.

With the economic transformation to market-driven development in the early 1990s, all state-owned farms and enterprises were closed down. Only after 15 years of the new economic structure did crop production gradually start to revive, with new types of producer: small private family-based businesses, and small- and medium-scale private enterprises. In 2007, about 1 500 hectares were planted to cereals, 200 hectares to potatoes and vegetables, and 280 hectares to forage crops. Cereals, potatoes and vegetables current account for 5 percent of gross province production, butUvs is one of the few provinces that are self-sufficient in vegetable production.

There is one meat processing company, which sells carcasses to the Ulaanbaatar market and also exports small quantities to Russia. It sells processed meat products, such as sausages and frozen dumplings, in the local market. The largest food processing company in the province was established on the basis of a former state food-processing enterprise. It is the main supplier of bakery products, soft drinks and processed dairy products to the local market, and employs about 150 people. It is also the leading producer of sea buckthorn juice and oil in the *province*. There are also about ten small processing enterprises, none of them employing more than 10 people.

The limited employment opportunities in the manufacturing sector leave local inhabitants with no options other than to keep a few animals or cultivate a small plot to ensure their livelihood. However, this is possible only for those who have appropriate skills and a community or relatives who will lend or grant them an initial stock to build on. Indeed, there are few ways of escaping poverty.

Some advantages to be built on. Although located 1 300 kilometres from the main national market in Ulaanbaatar, the province has access to Chinese and Russian markets along paved roads. The proximity of these markets also gives the local population an opportunity to obtain basic household appliances and some imported food products at cheaper prices than those transported from the Ulaanbaatar central market.

However, poorly developed infrastructure and lower economic integration hamper the region's potential for economic development. The absorption capacity of the local market of the province with its population of 90 000 is relatively low, so that local producers and

businesses need access to regional, national and indeed international markets in order to achieve sustainable growth.

Society as a whole is still in a transition period and is learning to live and run businesses in a free market environment. The lack of business management and marketing skills is prevalent in the private sector.

Nevertheless, the province has many advantages and the potential to develop a thriving economy. Beside its rich mineral resources, its beautiful landscapes and diverse ethnic cultures offer opportunities for developing such new industries as tourism. It also has relatively fertile soil. However, its greatest advantage is its human capital, with a high literacy rate (95 percent), a youthful population and a relatively high proportion of people with more than elementary education.

Sea buckthorn: an asset for the local economy. The province is home to wild sea buckthorn, which grows in an area of about 29 000 square kilometres beside the basins of the Great Lakes and the cold-water rivers that flow into the lakes. The muddy soil texture and the iodine-rich water are especially suitable for planting sea buckthorn. The expertise, technology and skilled labour that have been built up during the tradition of sea buckthorn cultivation is one of the advantages of the province. There is an ever-increasing demand for sea buckthorn on the domestic market, and international buyers from Japan and Korea are particularly interested in Uvs sea buckthorn. Because of its high quality (with a very high oil content) and the organic growing practices used, it is suitable for use in medicinal and cosmetic products.



Sea buckthorn fruit and trees

In the mid-1960s, sea buckthorn was domesticated for the first time in Uvs Province by a group of researchers. Over the years, this initiative developed into a research station where species selection and research are carried out. The largest fruit farms of that time in Mongolia planted 300 hectares and employed 600 people. The main species planted in Uvs Province are cross-breeds of local wild species and species imported from Russia. These cross-breeds have been developed to possess the high resistance to harsh climatic conditions of local wild species and the high production yield of species from Russia.

The research station in Uvs Province is the largest sea buckthorn research and plant centre in the country. It supplies 60 000 to 70 000 sea buckthorn saplings to the local and national markets each year, and demand for saplings is growing steadily. Due to the tree's ability to resist harsh weather and its strong rooting system, it is planted in various parts of Mongolia in efforts to combat sand movement and desertification.

The local government recognizes the potential of sea buckthorn planting and processing, seeing it as a major way of reducing unemployment and poverty in the province. It set up the Sea Buckthorn Development Programme in 2007, aiming to support small growers with up to 1 hectare and increase overall plantations to 3 million hectares in the forthcoming five years. As part of the programme, the local government has developed and launched a lending programme in cooperation with the local branch of the Khas Bank, which has agreed to accept sea buckthorn trees as collateral for loans.

Delimitation of the area

Uvs sea buckthorn production corresponds to the boundaries of the specific *terroir*. Uvs province has a unique environment and climate, with a major difference between winter and summer temperatures (-50 °C to +35 °C) and encompassing the basins of the Great Lakes, salty, muddy soil and cold-water mountain rivers fed by permafrost water (see Figure 1). Since it is the home of wild sea buckthorn, the local population has traditional knowledge and skills regarding the use and processing of the species. People use it in herbal treatments in the case of such illnesses as colds, influenza, stomach ulcers and digestive disorders. Moreover, a number of simple hand-made tools have been developed over time to harvest and process sea buckthorn.

Wild sea buckthorn was first domesticated in Uvs Province and over the 40 years since then, local people have learned skills and knowledge about planting the species, while a significant processing capacity has also been built up.

Growers in Uvs Province are now the leading producers of sea buckthorn in Mongolia, accounting for about 60 percent of total production.

Since demand is high, sea buckthorn is being planted not only in the neighbouring western-region provinces, but all over Mongolia. Although wild sea buckthorn also grows in other provinces, the name and reputation of Uvs sea buckthorn is distinct, and its specific qualities and properties are acknowledged by customers.

Specific resources

As the home of wild sea buckthorn and with its tradition of planting the species, Uvs Province has become synonymous with "Uvs sea buckthorn", which customers see as a guarantee of the quality and genuineness of the product (oral communication from pharmacies and supermarkets in Ulaanbaatar).

The unique qualities of Uvs sea buckthorn, recognized by customers in the domestic market, encompass both physical and more cultural characteristics.

Specific climatic and natural conditions. The natural environment of Uvs Province is very specific in terms of both climate and soil. The zone has an extremely harsh climate, with winter temperatures reaching -30 °C to -50 °C, and summer temperatures ranging from 30 °C to 40 °C. In order to withstand the cold, harsh climate, sea buckthorn is rich in oil and mineral elements. Muddy iodine-rich soil fed by permafrost water also contributes to the unique qualities of Uvs sea buckthorn.

Local species of tree. The unique quality can also be attributed to the fact that local varieties have been developed over the years through selective cross-breeding of wild varieties with varieties from Russian Siberia. Researchers have developed special varieties that combine the hardiness of local species with the productivity of imported varieties from Russia. This was the main work of the local research station established in the mid-1970s.

Traditional expertise in processing sea buckthorn. Wild sea buckthorn has traditionally been widely used by local people as a vitamin and nutritional supplement during the region's long, cold winter months. Through long years of planting and processing it, local people developed skills and knowledge not only about the tree itself but also about its processing and conservation.



Harvesting of sea buckthorn

In addition, a hundred years of sea buckthorn production and consumption by the inhabitants of Uvs Province, combined with their distinct cultural heritage, have created a strong image for the product. Even before domestication, local people and herders used wild sea buckthorn in their daily diet and for curing a wide range of illnesses. They had “home technology” to make juice and fermented syrup, which were (and still are) used especially during celebrations of the lunar new year. The link between the fruit and the name Uvs appeals to many local customers because of their strong ties to their homeland, culture and traditions.

Issues regarding these resources

Usurpation. The good market reputation of the product has prompted some businesses to use the name of the product fraudulently. This is one of the main reasons why a leading processor in Uvs Province, the Uvs Food Company, applied for GI registration, seeking legal protection of the name and its associated qualities.

Unsustainable resource use. The increasing demand for local and organic fruit and vegetable products, especially in urban areas, also leads people to harvest wild sea buckthorn without due care for the trees. Combined with the effects of decreasing rainfall and advancing desertification, this is causing a decline in the number of wild sea buckthorn trees. According

to the Uvs Research Station, there have also been increasing instances of disease- and insect-affected trees in recent years. Since land is publicly owned in Mongolia, people often use land resources without due care. In recent years, recognizing wild sea buckthorn as an important source of income, the local government and international development agencies working in the region have started to raise the local population's awareness regarding sustainable harvesting practices. The establishment of a community user rights system for wild sea buckthorn is one of the areas of concern.

Loss of knowledge. During the era of a centrally planned economy, a number of local sea buckthorn species were developed at the local research station, combining the best qualities of wild sea buckthorn and species from Russia. The high survival and resistance capacity of wild sea buckthorn and the high productivity of Russian species were combined to produce a unique local species. However, during the transition period, this research halted, and data and information were lost, so that these species are no longer bred purely, but are often mixed with Russian and wild species in growers' plots.

3. Product specification

Specific quality

The fruit grown in Uvs Province is the primary source of product specific quality. As stated above, the unique qualities of Uvs sea buckthorn are associated with the region's climate, soil and water. However, the processing technology adopted also contributes to the specific quality of sea buckthorn products from Uvs, as local companies are producing pure juice and oil without any additives.

Specific quality of sea buckthorn grown in Uvs Province. Although it has not been scientifically proven, consumers consider Uvs sea buckthorn, grown under extremely harsh climatic conditions and in the unique natural environment of the salty Great Lakes basins and the cold-water rivers fed by permafrost water, to be a rich source of vitamins, particularly vitamin C, and various minerals. In resistance to the cold weather, the fruit produces oil, which is found in all its parts – seeds, shells and flesh. It is understood that the vitamins and useful minerals are retained in the fruit for a long time and are found at even higher levels in the processed products.

Sea buckthorn trees usually live for 15 years, yielding 5 to 35 kilograms of fruit each year. The more mature the tree, the higher the yield: in the first harvesting year, it yields only 5 kilograms, but the amounts increase as the tree grows older. Experience shows that when planted in other areas of the country, trees do not live as long and yield lower amounts of fruit. Researchers and growers offer two possible reasons: first, it could be a result of the adaptation of local species to the extreme climate and the quality of soil and water in Uvs Province; second, it could be because the planting of sea buckthorn trees requires at least some basic technical skills on the part of growers. The trees start bearing fruit three years after planting, but need care during this time so that they grow well and are capable of bearing fruit. It is important to have a carefully positioned combination of male and female trees in a plot. The presence of skilled labourers who used to work on former state farms and access to experts at the local research station make Uvs Province the most suitable for the growing of sea buckthorn.

Another specific property that consumers attribute to Uvs sea buckthorn is its organic quality, for it is considered completely chemical-free. In 2005, laboratory analysis in Japan confirmed that the fruit and its by-products made in Uvs Province were free of any outside chemical elements and completely natural.

High quality of products processed in Uvs Province. In 2008, the quality of Uvs-processed products was compared with products from Ulaanbaatar in a Swiss laboratory. The results showed that the content of nutritional elements in Uvs products was very consistent, whereas it was very variable in other products. Experts suggest that Ulaanbaatar-based products may be mixed with considerable amounts of outside ingredients, such as oil or flavouring products. The results of comparative analysis of four different bottled sea buckthorn oils produced in Mongolia are given in Table 1.

Table 1. Comparison of sea buckthorn oils produced in Uvs Province and those produced in the Ulaanbaatar area

Source: Mediplant Center, Lausanne, Switzerland, 2008.

	Fatty acids (%)					
	Palmitic acid	Palmitoleic acid	Stearic acid	Oleic acid	Linoleic acid	Linolenic acid
Uvs Food Company (based in Uvs Province)	33.9	41.4	0.80	3.27	10.3	0.92
Us Erdene Company (based in Uvs Province)	35.7	38.1	1.07	3.70	11.2	1.32
Food Technology Research Institute (Ulaanbaatar-based producer)	18.2	15.1	2.73	13.3	39.5	6.65
Baragshin Company (Ulaanbaatar-based producer)	9.58	1.00	3.97	17.7	60.1	7.48

In the first place, it can be seen that there is a consistency in the content of elements in sea buckthorn oil from the two Uvs producers. The profile of fatty acids is very clear, with a very high content of palmitic and palmitoleic acids, which are appreciated in the cosmetics industry for their anti-ageing effects. The content of elements in oil from the two Ulaanbaatar-based producers varies considerably, possibly in part because the products are mixed with other oils, according to experts. These results confirm in general the need to define and enforce a code of practice for processing in order to ensure quality and consistency.

Reputation. Uvs sea buckthorn is a very popular name among local customers, conveying various messages such as authenticity, quality and associated social and environmental factors. Since Uvs Province is the home of wild sea buckthorn in Mongolia and the area where it has been domesticated, the name and reputation are the result of many years of tradition and recognition by customers.

Local people often even identify themselves with sea buckthorn, and there are many anecdotal tales associating the good results of students from Uvs Province with their use of sea buckthorn since childhood. Thanks to extensive marketing campaigns in recent years,

organized by the local government and private businesses from Uvs Province, Uvs sea buckthorn is well-known and is one of the most widely recognized products on the domestic market.

Uvs sea buckthorn is also well known in Japan and Korea. In Japan, some private businesses are interested in using Uvs sea buckthorn as a raw material for organic juices and cosmetic products. Pure Uvs sea buckthorn juice was once tested on children exposed to radioactivity during the Chernobyl disaster in Russia, and the results were apparently very positive (oral communication from researchers at the Sea Buckthorn Study Centre at the National Technical University), although no documented results of this experiment could be found. Research on the detoxification effects of sea buckthorn has been continued in Japan, prompted by the fact that in one Japanese province that has a concentration of atomic power stations local inhabitants are showing a growing interest in detoxification products for everyday use. Uvs sea buckthorn is being tested for this purpose. There is ongoing research on the transplantation of sea buckthorn to Japan, tests of products, and opportunity studies on the exportation of frozen sea buckthorn for processing or the exportation of processed products.

Qualification process and dynamics of GI registration and implementation

Prompted by the growing demand, the largest sea buckthorn processing company in Uvs Province, the Uvs Food Company, applied for GI registration in 2007. The application was approved in the same year. According to L. Munkhnaran, Executive Director of the Uvs Food Company, who was interviewed in July 2007, the company had to take steps to obtain legal protection for the name and reputation of the product through GI registration, because the name was frequently being misused for similar products from other regions of Mongolia or from Russia in order to increase sales.

In the GI registration, Uvs sea buckthorn is described as sea buckthorn “growing at an altitude of 900 metres above sea level, enduring temperature oscillation ranging from -40 °C to +40 °C in muddy brown soil of the dry steppe ecological zone for 180 to 230 days”.

Although the law does not require a code of practice or a quality control and monitoring system, the Uvs Food Company voluntarily developed a code of practice and included it with its application for registration. This code of practice is based mainly on the current processing practices of the company itself. However, small companies use mainly artisanal processing methods and are not as mechanized as the Uvs Food Company, so they may not be able to comply with the code.

The GI registration of Uvs sea buckthorn by the Uvs Food Company alone has caused a dispute among other local processors and growers, who claim that the name “Uvs sea buckthorn” is a public intellectual property and can be used by all local producers and processors in the province. All sea buckthorn growers and processors in the province therefore continue to use the name in oral marketing or have it printed as part of their own logos, albeit without any official GI sign.

This situation worries the Uvs Food Company, for it fears that if the other companies allow quality to slide, it may damage the reputation of all products from the province, including their own. The company therefore started intensive discussions with the two smaller processors, trying to persuade them to follow a common code of practice and ensure quality

monitoring. However, the small-scale processors were unwilling to cooperate, since they were not involved in the registration process and there is no obligatory quality control system.

Code of practice

According to oral communications from members of the Uvs Food Company management group (because of business secrecy, the code of practice is not made public), there are three key issues in the code of practice:

- the product must be free of chemicals and produced organically;
- there must be a high level of traceability in the processing chain from raw material to end product;
- the sea buckthorn used must come from Uvs Province.

Two observations can be made regarding this code of practice:

- it is wider and more comprehensive than requested: GI registration concerns only the fruit, but the Uvs Food Company's code of practice also includes elements concerning the processing of juice and oil;
- the code of practice of a GI product should be public and accessible to consumers or other producers who may wish to produce the GI product.

The processing technology is reviewed each year depending on the weather conditions – sun, rainfall, length of winter and the harvesting season. With regard to environmental concerns, the code states that no elements harmful to the environment may be used. However, it contains no requirements pertaining to planting practices or care of trees.

Each company pursues its own processing technology. It seems that in small processing companies the processing technology or code is not consistent, but combines manual processing with the use of simple hand-made equipment and machinery. For example, cleaning is carried out manually and pressing is carried out with a simple hand tool, while juice and oil extraction are more mechanized. Neither of the small processing companies has a written code of practice. The Uvs Food Company has its own code of practice, and since it uses more advanced technology, it is able to control the consistency of its products.

After GI registration, the Uvs Food Company approached the other two processors with a request to agree on a common code of practice in order to ensure and maintain the quality of Uvs products, but discussions are still under way. Even if market demand for these products is high, small companies are reluctant to invest, or find it troublesome, whereas the Uvs Food Company is concerned about long-term reputation and the maintaining of competitiveness. There are increasing numbers of producers of sea buckthorn in regions other than Uvs, and according to the Executive Director of the Uvs Food Company, product differentiation and quality are key elements for competitiveness.

The two small processors also explain that it is hard to comply with the production code, inasmuch as they use manual techniques and simple processing equipment, while the Uvs Food Company uses industrial equipment, some of which is produced in Korea.

4. Stakeholders and collective organization

Types of stakeholder involved and organization of the supply chain

There are three main actors in the Uvs sea buckthorn value chain: sapling growers, tree growers and processors. Some growers combine sapling production with tree planting.

Sapling growers. Some growers combine tree-planting with sapling growing because market demand is expanding all over Mongolia. Sea buckthorn trees are widely used in environmental protection initiatives by the government, in international projects to stop sand movement and reduce the desertification process and in rehabilitation work by mining companies.

Farmers/Growers. The number of sea buckthorn growers is increasing each year, so that in 2008 there were 32 in Uvs Province. Growers are mainly small private entrepreneurs who run their activity as a family business. Full-time employees are usually family members, but part-time labour is hired locally at harvest time. The 32 producers plant sea buckthorn on plots of 0.1 to 10 hectares. Local residents, mainly herders, also harvest wild sea buckthorn. According to informal sources, between 200 and 300 tonnes of wild sea buckthorn are sold in the local market each year. As the harvesting season continues until mid-October or even early December, local growers and wild sea buckthorn sellers find it easy to transport the frozen product to Ulaanbaatar and regional markets, selling it for a higher price. Larger producers usually rent a truck, while smaller producers often club together to rent a truck or carry up to 50 kilograms of fruit in a bag on a public transport minibus.

Processors. There are currently three local processing companies producing bottled sea buckthorn oil and juice. The largest is the Uvs Food Company and then there are two smaller companies, the Us Erdene Company and the Tenggis Invest Company, which were initially established as family businesses and later expanded into real companies.

Table 2. Capacity of the three local processing companies

	Uvs Food Company	Us Erdene Company	Tenggis Invest Company
Processing capacity (tonnes of fruit)	500 tonnes/year	50 tonnes/year	15 tonnes/year
Own planting of sea buckthorn trees	100 ha, but only 50 ha in production	17 ha	4 ha
Anticipated harvest for autumn 2009	120 tonnes	50 tonnes	6 tonnes
Storage capacity	Have their own cold storage facilities and are able to keep the fruit frozen in good condition and can therefore produce juice and oil throughout the year		-

In addition, the local vocational training college has its own 0.5-hectare planting area and small processing unit, which are used to train students, while the products are sold in the market.

In addition to harvesting their own plantations, the processing companies also purchase fruit from local producers.

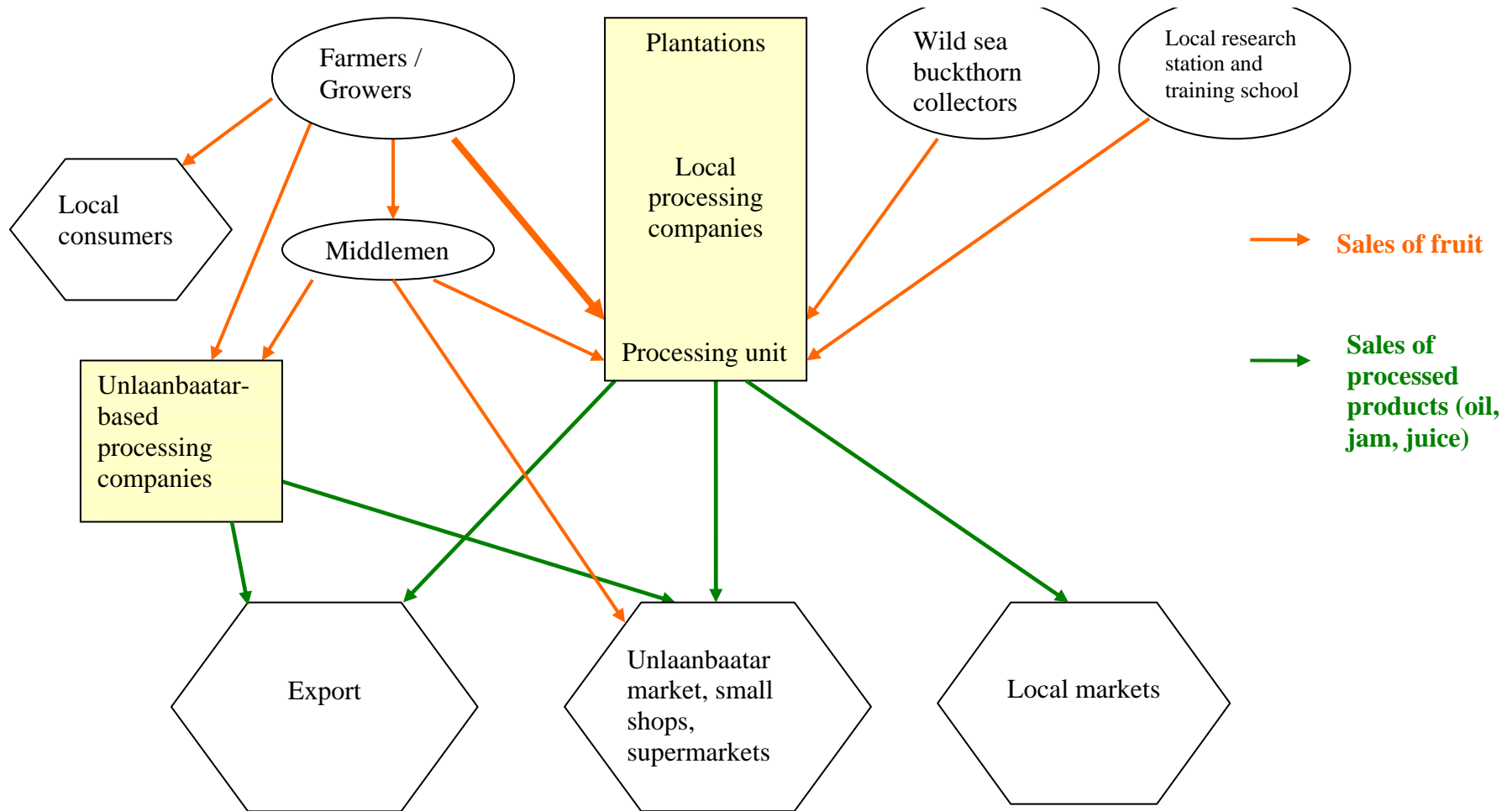
The Us Erdene Company has its own shop in the province's main town, where it sells products directly to consumers, as well as selling to regional and Ulaanbaatar markets.

The Uvs Food Company has its own shop in Ulaanbaatar, where it sells products to end consumers.

Organization of the supply chain. The Uvs sea buckthorn supply chain is organized as a spot market (see Figure 2). Processing companies do not have contracts with growers, who usually bring the fruit to them. Then, after a quality check and some bargaining as to price, the companies pay in cash. The two small processing companies do not buy much from the market, since they use their own fruit. The Uvs Food Company is the largest buyer and since it always has cash, growers often sell their fruit to it. The company sets the trend in market prices each year. It has other business branches and is the monopoly producer of bakery, juice and alcohol products in the province, producing one of the best brands of vodka in Mongolia, which is also a “specific” product because of the water used. As the largest producer, it spends considerable money and effort on the marketing of Uvs sea buckthorn, which also benefits all the other producers.

There is little cooperation and coordination among small growers, apart from the sharing of transportation costs when they deliver products to distant markets such as Ulaanbaatar.

Figure 2. Sea buckthorn supply chain in Uvs Province



Role of outside support and facilitation

Technical and scientific support. The selection and correct planting of saplings are important issues and represent a challenge that growers often face. If a mistake is made, it takes three years of time and investment to realize this.



Saplings in an open field (left) and in a green house (right)

Mercy Corps' 2008 assessment reveals that sapling production is being carried out in an unprofessional manner and that low-quality saplings are being supplied to the market. It identified the following problem areas:

- most sapling growers lack an official permit;
- saplings are grown in technologically unsuitable conditions, and saplings are sold on the market with no guarantee that they will grow;
- sapling growers lack the knowledge and skills to care for saplings;
- most sapling growers do not maintain mother plants to use green branches to grow saplings, but instead use currently fruit-bearing trees;
- some sapling growers are fraudulently selling saplings of similar-looking plants to sea buckthorn on the market.

Before the 1990s, researchers at the local research station developed domesticated species by combining the best qualities of wild sea buckthorn and species from Russia, but this knowledge and information have somehow been lost. All species are now grown mixed together in the research institute's plot. As species differ in terms of productivity and other capacities, greater knowledge would help local producers to make better decisions concerning the species to select and the care to give their trees.

Since the specific quality of Uvs sea buckthorn is also associated with trees and species, it is important for the government and other agencies working in the province to increase awareness and establish official certification for sapling growers. There is a need for the government to develop official regulations for the issuing of permits to sapling growers, provided that they meet certain technical conditions and demonstrate the necessary skills and knowledge.

The next common issue of concern is that although there are several research initiatives analysing the specific quality of Uvs sea buckthorn, none of them is solid and broad enough. Uvs producers are keen to carry out such research and learn about the full scientific background.

An assessment of sustainable planting and harvesting technology is also needed. From the beginning, opportunities have to be sought and taken advantage of in order to enjoy lasting benefits from the lucrative comparative advantages of the region. In particular, sea buckthorn plantations require large amounts of water and most growers are currently digging wells or using river water by building channels. Water use is fairly inefficient at present, and various technologies such as drip irrigation need to be introduced and tested in order to improve efficiency.

Financial support. Access to financial resources is a challenge for many small growers, who are often unemployed or poor and who try to supplement family income by planting a small plot of sea buckthorn. Most suitable plots with access to water and good soil have already been taken by larger enterprises. Small growers usually establish a small plot near their family home. First-time preparation of the soil, which includes the removal of bushes, the erection of fencing to protect from animals and the purchase of saplings, represents a considerable investment. Moreover, during the three years before the first sales, the trees have to be cared for, watered and weeded, for which money is also required. Access to long-term loans or some other source of finance is therefore very important.

In brief, sea buckthorn plantations have a great future in the province and may contribute significantly to creating employment and income opportunities for local inhabitants.

Collective organization and action

There is very little cooperation between local processors and no common agreed code of practice. The Executive Director of the Uvs Food Company says that in the short term this should not be a problem since there are not many competitors. However, as sea buckthorn is being planted and produced in more and more provinces, the competitiveness of Uvs sea buckthorn may decline unless local processors consider maintaining its specific quality and properties.

In 2003, before registration of the Uvs sea buckthorn GI, Uvs producers and growers established the Uvs Sea Buckthorn Producers' Association on the suggestion of a Japanese businessman interested in purchasing sea buckthorn from Uvs for use in cosmetics in Japan. The intention was to facilitate cooperation between the two sides. However, since the export project collapsed, the members lost interest in participating in an association.

The leading processing company, the Uvs Food Company, registered the Uvs sea buckthorn GI in 2007, acting very fast in order to protect the name of the product in the market. Since the end of 2008, the Uvs Food Company has been using the GI sign on its products. This has led to discussions in the local government and among other processors and growers. However, small processors are not participating actively in discussions, as the market for the product is expanding at present and demand is high. The local research station has been involved in the application process, as the specific quality of the product is linked to the fruit.

Since the Uvs sea buckthorn GI is at an early stage, it is hard to make any predictions as to how the collective organization will evolve. The incentive to join the association and give it the authority to coordinate action among producers is slight, unless the local government or international development projects in the region act as facilitators and boost the role of the association.

The Uvs Sea Buckthorn Producers' Association could take on the role of independent certification body, provided that it developed human and technical capacities with the support of local government or international development projects in the region.

5. Marketing

Markets

No real market study has been carried out on the demand for sea buckthorn in domestic markets. This could be because there is high year-round demand. As the growing season is short in Mongolia, people can use fresh vegetables for only four or five months of the year, and sea buckthorn is a very important complement to their diet in winter months. For herders and other people in rural areas, sea buckthorn is an important source of vitamins and minerals, which they obtain either by eating the fruit or by making juice or syrup.

There are all types of customer for sea buckthorn products. People with lower incomes purchase fruit and make juice or jam at home, which is cheaper. Upper- and middle-income customers not only purchase fruit, but also tend to use ready-made sea buckthorn juice or jam for everyday consumption. Sea buckthorn oil is used mainly for medicinal purposes and is known to be helpful especially in treating early-stage stomach ulcers. More people buy it when they are sick, but some wealthy customers use it for everyday consumption. When people use sea buckthorn oil for medicinal purposes, they prefer the Uvs product because they trust its quality.

There is a growing market for sea buckthorn in Mongolia, for two apparent reasons. One is that there is a growing demand for safe, locally-made food products. During the transition period, vegetable production has declined significantly, and sea buckthorn, which is rich in vitamins and minerals, is widely used as a substitute for vegetables. In the winter months, the Ulaanbaatar market is filled with imported vegetables of unknown and often poor quality. People prefer to purchase sea buckthorn or other locally-grown fruit to complement their usually heavy meat diet.

Because of growing demand, sea buckthorn is increasingly being planted in other parts of Mongolia. However, the reputation of Uvs sea buckthorn and consumers' trust in its quality keep the demand for its products high.

Sea buckthorn is sold in three different forms in Uvs Province: raw berries, juice and oil. Prices vary on the basis of quality, location and specific sales point (see Table 3). Raw berries are sold in local villages and in the provincial and Ulaanbaatar markets. Most berries are sold directly to processors under verbal contracts with producers, in the province's urban centres or through middlemen who bring berries to processors for sale. Local markets are a major

outlet for both processed and raw products. School lunch programmes in district and province urban centres are direct markets for processors (see Figure 2).

On the international stage, there is an interest from Japanese experts and companies in Uvs sea buckthorn oil. This is the third year that the Uvs Erdene Company has been selling oil to a Japanese cosmetics company, evidence that the first sales were well received. This year's purchases have been much larger than in previous years, and the Uvs Erdene Company was in fact unable to meet the full demand of the Japanese firm, so that it has recently been informed that the Japanese are expanding their potential suppliers (Mercy Corps, 2008).

Table 3. Uvs sea buckthorn products and prices

		Uvs Erdene Company	Tenggis Invest Company	Uvs Food Company
Product and price	Fruit	US\$ 3 per kg		
	Bottled syrup (700 ml)	US\$ 3.5		
	Bottled oil (50 ml)	US\$ 13		US\$ 13
	Bottled oil (100 ml)	US\$ 25	US\$ 23	US\$ 23
	Bottled pure juice (700 ml)	US\$ 3		
	Jam (1 000 ml)	US\$ 3		
	Bottled concentrated juice (500 ml)		US\$ 2.8	
	Bottled concentrated juice (350 ml)		US\$ 2.2	US\$ 3
Production	Oil	5 800 litre	2 000 litre	6 000 litre
	Syrup	7 700 litre		
	Pure juice	5 500 litre		
	Jam	120 kg		
	Concentrated juice		3 000 litre	8 000 litre
Capacity		500 kg/day	30 000 kg/year	700-1 000 kg/day

Collaboration of local stakeholders in marketing

Uvs Province has a small population, with only 90 000 people in all. Wild sea buckthorn grows in five districts in the province. Each district has a population of about 5 000. Distances between districts are on average 300 to 400 kilometres, and more than 200 kilometres from the province centre to all the districts except two. In addition to long distances, the high cost of fuel and poor road conditions make it hard for rural residents to travel and transport goods to market. These circumstances lead the local community to club together in access to market and in transportation. There is a strong traditional social network among local people, who usually cooperate by sharing transportation costs and marketing products in bulk.

Sea buckthorn growers are mainly concentrated around the province capital of Ulaangom. Despite the Uvs Sea Buckthorn Producers' Association, which was mentioned above and is no longer active, there is no existing informal cooperation or coordination initiative or organization. However, there are informal and social ties among growers, who exchange information and learn from one another.

Since sea buckthorn is the image product of the province, it is often included in various types of public marketing event and campaign, helping to raise the reputation of the product. Processors participate actively in local, regional and national trade fairs jointly or individually.

Training is usually provided by the local research station. The largest advantage of the province is the presence of the best known experts in Mongolia. Retired researchers offer their services together with young researchers and are highly respected figures in the local community for their knowledge and experience.

The sea buckthorn harvest is the busiest season, when many unemployed and low-income people obtain work. The GI registration should promote a cooperative spirit in line with the strong identification of local people with sea buckthorn. It has the potential to create an active platform among stakeholders for discussion and negotiation for the common good. So far, however, it has been the individual effort of the Uvs Food Company.

The promotion of collective action should be supported with appropriate legal and policy instruments. The current Law on Trademarks and Geographical Indications does not encourage collective action, inasmuch as it allows an individual or a single company to obtain a GI registration. The actual GI is registered on the basis of an explanatory note showing that the unique quality of the product is linked to a specific geographical region or local population. The law does not require a common code of practice or a quality control system for a GI-registered product.

Certification and monitoring mechanisms

The key problem is that there is no independent certification agency or body to monitor and certify the qualities connected to the GI. Since the province-level public inspection agency lacked the capacity, the Uvs Food Company took the initiative, establishing a quality control laboratory within the company. However, it has no legal power to force small processors to have their products inspected at its laboratory in order to bear the GI sign.

Although the Uvs Food Company holds the legal GI sign and the right to use it, other processors and growers also use the Uvs sea buckthorn GI sign on their products. Third-party intervention and facilitation (perhaps by the government) may be needed in order to encourage all Uvs sea buckthorn GI producers to adopt a common code of practice and an effective quality control system.

The Uvs Food Company, one of the few in the country to do so, recently introduced the international ISO standard.

All companies now periodically (four times a year) undergo inspection from the State Hygiene and Inspection Office at province level and follow national standards.

Since there is no independent quality certification body or laboratory to ensure that the quality connected with the GI sign is in conformity, consumers do not have a guarantee of quality. Their only guarantee is the Uvs Food Company's long-term strategy of maintaining the quality and reputation of the product in order to retain its market.

6. Impact analysis

Perception by stakeholders

Legal protection of the name has been established through GI registration. The Uvs Food Company is concerned that cooperation between processors and growers is not progressing as hoped. Support from the local government and/or the National Geographical Indication Centre is needed in this endeavour.

The managers of the Uvs Food Company realize that to create long-term competitiveness and a solid market position, investments in quality and marketing need to be designed jointly. They are also afraid that small processors may let quality slide, which may affect the reputation of the product.

There is a high market demand for the product, so that small companies see little reason to invest. The two small processors also explain that it is hard to conform to a production code because they use manual methods and simple processing equipment, while the Uvs Food Company uses more industrial equipment. They claim that the name “Uvs sea buckthorn” is a public intellectual property and should be used by all producers and processors in the province. They therefore continue to use the name in oral marketing or have it printed on their logos, but without the official GI sign, a situation leading to confusion.

Impact on rural development: economic and social aspects

Sea buckthorn production is the second largest source of employment and income (after nomadic livestock rearing) in Uvs Province. Uvs sea buckthorn oil is sold on the domestic market at prices at least double those of similar products. GI registration, the introduction of strict monitoring measures, and coordination among local producers, processors and other stakeholders are expected to maintain this premium price.

In 2008, there were about 300 people with full-time jobs growing and processing sea buckthorn. Apart from full-time employment, the sector also creates short-term employment at harvest time for about 1 000 people. As a result of increasing sea buckthorn planting and production, associated services, such as shops, petty trade, transport, consultancy and training, are also expanding. The sea buckthorn programme designed by the local government aims at increasing sea buckthorn production by planting up to 5 000 hectares in the forthcoming ten years.

It is estimated that Uvs Province producers and processors together supply about 130 tonnes of sea buckthorn products to the local market. According to sources in Mercy Corps Mongolia, 15 percent of this is sold as fruit and the remainder is processed into oil, juice and jam.

In Mongolia, provinces are dependent on central budget subsidies, since there is little industry or value-added production for taxation and income at the local level. There are only a few provinces with large mining sites that are starting to become independent, generating enough income to support public services and even establish a private-sector development fund. Uvs

Province is one of the few provinces that is successfully building up a local value-added industry based on sea buckthorn.

In Uvs Province, 42 percent of the population lives with an income below the poverty line and unemployment affects almost half the 90 000 population. Before the 1990s, when sea buckthorn production was booming, 300 hectares were planted and 600 people were employed in its production. Its quality and reputation gave it a nation-wide reputation and it was even exported to Russia.

The basis that was created during that time still exists: the land, skilled and experienced labour, research results and knowledge. If the process is carefully managed, there is an opportunity to exceed previous attainments in the new free-market development context.

As in many other locations in Mongolia, pasture land degradation is a major issue in Uvs Province. One of the key reasons is the increased numbers of livestock and herders. Many of those who lost their jobs during the transition period have turned to herding and are generating income from it. One way to reduce pressure on pasture land is to reduce the number of herder households by creating alternative employment opportunities. It is anticipated that increasing sea buckthorn production will create such an alternative for some new herders.

Culture and traditions

Traditional recipes and ways of preparing sea buckthorn juice, oil and other products have largely been neglected. Today, with the increasing diversity of consumers, many products could be revived. For instance, the Us Erdene Company has been testing technology to make sea buckthorn yoghurt and soft curd.

The revival in sea buckthorn production is eliciting considerable encouragement and enthusiasm from the local community. Mongolia's relatively small population is scattered, and settlements are usually a long way apart. Community networking and solidarity are therefore integral parts of survival strategies. People from western Mongolia, especially Uvs Province, tend to keep up contacts and to support one another. Those who have left still feel strongly attached to their roots. And sea buckthorn is one of the things that helps the local community to identify with its home region.

Environmental impact

Historically – and also today – sea buckthorn has been used for its soil and water conservation properties. It grows well in light sandy soils with a pH between 5.3 and 8.3, conditions that are often unsuitable for other crops. It is also one of the few nitrogen-fixing plants able to grow in these conditions. It is drought-resistant, making it ideal for conditions in western Mongolia.

If the sea buckthorn forest expands, there will be several positive effects for the region's environment, such as protection from wind erosion, sand movement and desertification.

Sea buckthorn trees require large quantities of water, especially during their first three years, i.e. before they start bearing fruit. Producers with land alongside rivers currently dig channels

and lead water into their fields, a method that wastes a huge amount of water and also contributes to water erosion of the soil. A careful assessment is well overdue, and standards and rules must be enforced for good water management practices.

Although a GI code of practice could be a means of introducing and maintaining environmental standards, the present initial draft does not include any strong environmental indicators.

Internal strengths and weaknesses

There is a strong sense among producers and processors of belonging to the region and community. In the case of any market reduction, a joint long-term perspective is likely to bring together producers, processors and other stakeholders to work together for the common good.

As mentioned above, the local government has recently designed a programme to encourage all citizens to plant sea buckthorn in order to increase their income. This may be successful, but it may in fact hamper both coordination among producers and processors and also quality monitoring.

The main weakness is that collective action concerning a GI system has not been developed. Agreement has not yet been reached among local producers and processors on a common code of practice for items (oil and juice) produced from GI-registered fruit.

Context-linked opportunities and dangers

Local producers' and processors' experience and skills in sea buckthorn production is the largest advantage. The existence of the local research station is also a major asset.

A potential danger is that a shortage of cash could lead many producers and small processors to focus more on short-term gain than on quality. If this goes on for very long, such assets as localized tree species could be compromised, while the misuse of wild trees or soil and water resources may damage production sustainability.

There is a growing threat of counterfeiting, both locally and outside the country in China. However, as the unique quality of Uvs sea buckthorn is bound up with the climate and environment of the region, such counterfeiting is not easy.

Success and failure factors

Since the Uvs sea buckthorn GI is in an early stage of implementation, the success and failure factors refer to the future.

Based on the findings of the present study and personal experience, the following factors need to be considered with a view to successful implementation of the GI system.

- Uvs producers and processors should agree on and adopt a common production code to guarantee the quality and reputation of the product.

- Local producers and processors should adopt an appropriate quality control and monitoring system.
- All stakeholders should cooperate under a long-term marketing strategy in order to improve and maintain the competitiveness of Uvs sea buckthorn products.

These first three points could be promoted and facilitated by the local government and/or the National Geographical Indication Centre, while international aid and development projects may also provide expertise.

- Uvs producers and processors should maintain organic, chemical-free production.
- The local government needs to implement a policy promoting the development of specialized sapling nurseries and adopt a quality certification system so that growers are supplied with quality material.
- The local government should develop rules and regulations supporting the GI system.
- Local producers and local government need to pool their efforts and cooperate to open up new markets internationally, because the domestic market is limited.

The following factors may limit the potential for sea buckthorn production and implementation of the GI system:

- the increasing number of quality failures or instances of misrepresentation on the market;
- the failure of local producers, processors and other stakeholders to cooperate under the GI sign;
- unsustainable production practices detrimental to such natural resources as water, soil and wild trees.

Support and capacity-building required by stakeholders

- Training in hygiene and sanitation practices must be provided at production and processing levels.
- The local research station requires capacity-building in order to improve its service to local producers.
- Capacity-building at the local vocational college is needed, so that it can continue to train technicians and skilled labourers.
- Local organization of collective value-chain action regarding the GI system: the creation of an Uvs sea buckthorn producers' association (including farmers/growers and all processors) now seems necessary in order to manage the GI collectively.

7. Conclusions and recommendations

Conclusions

- Mongolia's Law on Trademarks and Geographical Indications contains some loopholes that allow an individual or a single company to register a GI, which contradicts the status of a GI as a public intellectual property.
- The fact that no common code of practice or quality control system for GI production is required may negatively affect implementation of the GI system in a real sense in Mongolia, reduce the positive impact on rural development and lower consumer trust in GI products.
- Although the Law on Trademarks and Geographical Indications has been in force since 2003, local producers are insufficiently aware of the benefits and implementation of GI registration.
- Since a GI is a public intellectual property and if successfully used can benefit the entire business community of the local area and provide positive social and environmental benefits, the government needs to assume a certain responsibility regarding such issues as independent certification, public marketing and awareness-raising to ensure successful implementation.
- Uvs sea buckthorn GI registration was obtained almost entirely on the initiative of the Uvs Food Company, which has invested considerable financial and intellectual resources. As the law is not strictly enough enforced, other producers and processors are using the name without following the code of practice, but simply benefiting from the awareness raised through GI registration and the marketing campaign organized by the Uvs Food Company. This situation discourages the company from pursuing the process.
- However, since GI registration and implementation are driven by the economic interests of the Uvs Food Company, it has a strong incentive to obtain the cooperation of other producers and processors in following a common code of practice and ensuring quality standards. Without the support of local government and law enforcement bodies, this may turn out to be extremely time- and resource-consuming for the company.
- GI registration is a suitable marketing and organizational tool to help Mongolian products in general gain access to international markets. The competitive advantage of Mongolian producers rests mainly on high quality and differentiation for niche markets. Inasmuch as geographical indications link the technical quality of the product to social and environmental elements, they can be a very powerful tool.

Recommendations

- First of all, Mongolia's Law on Trademarks and Geographical Indications should be reviewed to include and reflect the key requirements for GI production, i.e. a common code of practice and a quality control system.
- The law should also be reviewed to reflect the public intellectual property right status of GIs and spell out the possibility of a private individual or single company registering a GI in its own name.
- Local government agencies and key professions require awareness-raising on GI registration, its implementation and the role of the government.
- The issue of main importance for local producers and processors is that of finding a way of agreeing on a common code of practice and introducing appropriate inspection and monitoring mechanisms. The facilitation and intervention of a third party (local government or the National Geographical Indication Centre) can play an important role in mediating a compromise and finding a common strategy.
- The role of the government is particularly important in negotiating the inclusion of sustainable production issues in the common code of practice and designing an appropriate quality control system.
- After producers and processors agree on a common code of practice, they may approach the local government or international aid and development projects in the region to assist in establishing an independent quality control system.
- The role of producers/growers needs to be boosted, inasmuch as they play a critical role in the chain and the uniqueness of the product comes from the raw material, i.e. the fruit.
- Each and every link in the production chain has to be codified and standards have to be agreed upon and enforced.
- The unique qualities and properties of Uvs sea buckthorn have not been scientifically researched and proven, and this is an area where local and national government should provide support.
- The capacity of the local research station needs to be boosted so that it can fully assume its role of providing extension and research services for local producers.
- Capacity-building in the local vocational college is important inasmuch as it is the key institution where local labour and technical specialists are trained, and also provides technical training for local producers in such subjects as hygiene and sanitation practices.

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Annex : Methodology

Methodology for data collection and analysis.

1. The report has largely benefited from information collected during the interview with sea buckthorn growers and processors which has been carried out in summer 2008 in Uvs *aimag*. The open question of the interview was designed to reveal challenges and opportunities from the perspective of local producers. It has provided useful insights as to the production and its inputs as well as marketing and quality issues.
2. In order to update some information, phone calls and emails have been exchanged with key informants from Uvs *aimag*.
3. The report has also used statistical data and partial assessment studies have been completed by the local government, NGOs and development projects operating in the province.