



IMPACT STORIES



MERCY CORPS MONGOLIA IMPACT STORIES

ULAANBAATAR
2021

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DEAR PARTNERS, STAKEHOLDERS, AND FRIENDS—

Mercy Corps is an international NGO operating in more than 40 countries worldwide. For more than twenty years, our Vision for Change for Mongolia has focused on engagement locally with the private sector, the public sector, and civil society to increase income and strengthen resilience in rural areas.

Mercy Corps has enjoyed a long partnership with civil society and the Government of Mongolia, having worked for over two decades to deliver impactful projects in the livestock, education, and governance sectors. We have provided over 60,000,000 USD of assistance over the years, and have partnered with key government agencies and ministries to implement projects in almost every aimag in the country.

From 2015-2020, Mercy Corps implemented three phases of the Leveraging Tradition and Science (LTS) program. Funded by the Office of Foreign Disaster Assistance at the United States Agency for International Development, the program was aimed at reducing the vulnerability of herder households in Mongolia through disaster risk preparedness, improved rangeland management practices, and participatory disease surveillance.

And until March 2021, under the Resilient Communities Program, Mercy Corps worked with private sector partners in Selenge, Bulgan, and Khentii to stimulate livestock production, strengthen livestock related value-chains, increase market information and access, and create opportunities for economic diversification. To help develop the sector, Mercy Corps worked with livestock actors up and down the value chain.

Now, the agency recognizes that local stakeholders- under the leadership of the government and the innovative thinking of the private sector- are driving development in Mongolia. As such, our headquarters has determined that it is time to sunset our programs here. We will cease our operations in Mongolia in May 2021. We see this as part of a natural progression in development work- and something to be celebrated! We are proud of our two decades of innovative, impactful, influential programming, and we are proud of the contributions we have made here.

This book of Impact Stories captures only a few highlights from the LTS and RCP programs. But these are not our stories alone- these are the impacts and outcomes resulting from joint implementation of innovative projects with Mongolian government, private sector, and civil society partners. The successes showcased in this book belong not to Mercy Corps alone but to the individuals, businesses, organizations and entities driving change in the livestock sector: the herders that raise and supply the animals, the feedlots that fatten cattle for slaughter, the veterinarians that provide animal health services, rural entrepreneurs and farmers that grow forage and feed, the breeders introducing higher quality genetic stock, producers like slaughter plants and meat processing plants, the banks that provide appropriate loans and financial services to livestock actors, and the government agencies committed to and enabling development in rural Mongolia.

Thank you for your on-going support and collaboration. It has been our honor to operate here.

Wendy Guyot
Country Director, Mercy Corps Mongolia
May 2021

Acronyms and Abbreviations

Aimag	A province
AI	Artificial insemination
ALAGAC	Administration of Land Affairs, Geodesy and Cartography
Bagh	The smallest administrative unit in Mongolia
BCP	Business Consultancy Plans
BMC	Business Model Canvas
Khural	Parliament
Soum	Sub-province, county or district
CFA	Call for Applications
CPR	Center for Policy Research
DPP	Disaster Protection Plan
DRR	Disaster Risk Reduction
FMD	Foot and mouth disease
GASI	General Agency for Specialized Inspection
GAVS	Government Authority on Veterinary Service
GPP	Green Pasture Pilot
GoM	Government of Mongolia
KII	Key Informant Interview
KWH	Kazakh Whitehead
LBCP	Local Business Clinic Project
LEGS	Livestock Emergency Guidelines and Standards
LEMA	Local Emergency Management Authority
LRMF	Livestock Risk Management Fund
LQCEP	Livestock Quality Examination and Certification Point
LTS	Leveraging Tradition and Science in Disaster Risk Reduction
MCM	Mercy Corps Mongolia

MOFALI	Ministry of Food, Agriculture and Light Industry
MoU	Memorandum of Understanding
MULS	Mongolian University of Life Science
NAMEM	National Agency for Meteorology and Environmental Monitoring
NEMA	National Emergency Management Agency of Mongolia
NFPUG	National Federation of Pasture User Groups
NGO	Non-governmental organization
OFDA	Office of US Foreign Disaster Assistance
PDS	Participatory Disease Surveillance
PE	Participatory Epidemiology
PENAPH	International Participatory Epidemiology Network for Animal and Public Health
PMP	Pasture management plan
PVU	Private veterinary unit
RCP	Resilient Communities Program
RIAH	Research Institute of Animal Husbandry
RUA	Rangeland Use Agreements
SVCL	State Veterinary Central laboratory
SVM	School of Veterinary Medicine
TAD	Transboundary animal disease
ToT	Training of Trainers
USAID	United States Agency for International Development
YESP	Youth Employability Skills Project
XR	Xanadu Razorback LLC

Livestock Market Systems Development Grants

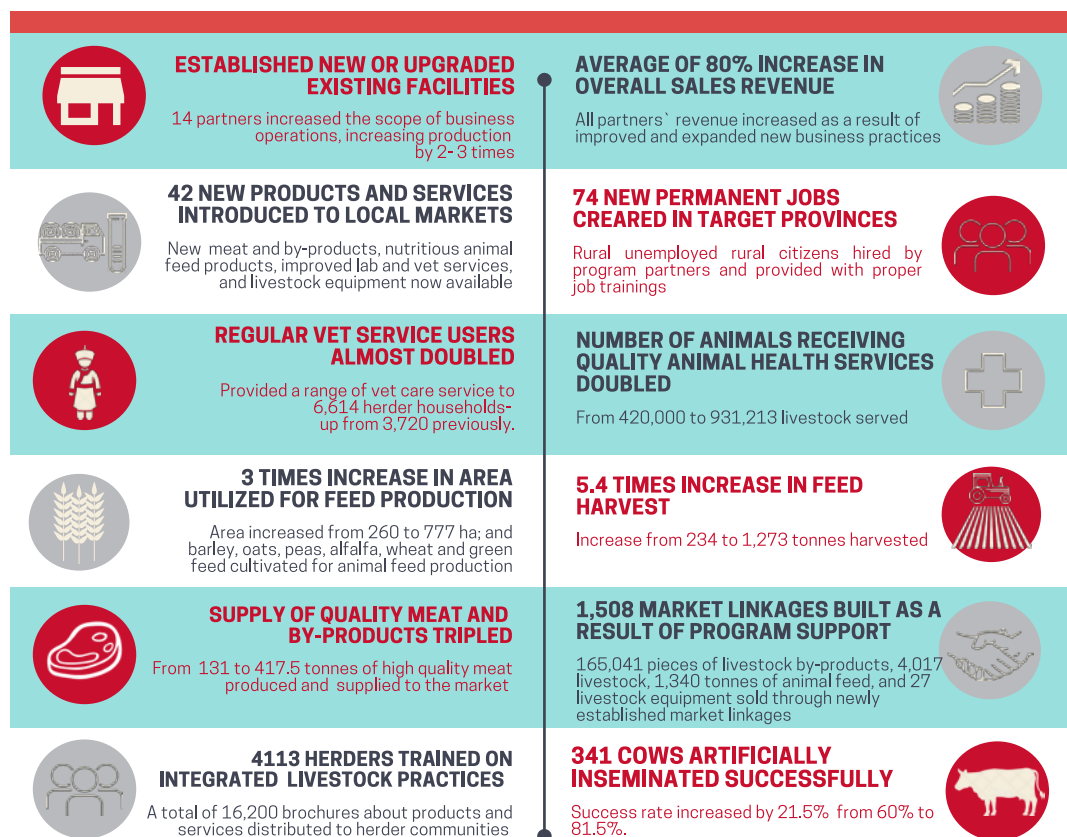
Project locations:	Khentii, Bulgan, Selenge
Partners and Project Duration:	Cycle A (8 partners): Aug 2019 - Jun 2020 Cycle B (6 partners): Apr 2020 - Oct 2020
MCM contribution:	1,273,929,356 MNT (471,544 USD)
Partners` cost-share:	Between 31%-77%

Background

The overall goal of Mercy Corps Mongolia 's Resilient Communities Program (RCP) is to strengthen resilience and bring economic growth to rural Mongolians by: stimulating livestock production, strengthening livestock related value-chains, increasing market information and access, and creating opportunities for economic diversification. To contribute to these aims, MCM launched two competitive Calls for Applications in 2019 and 2020. Through these competitive processes, MCM awarded funding to 14 livestock sector businesses for growth and expansion:

5 feed and fodder producers, 1 livestock breeding unit, 4 meat packing or processing companies, 4 private veterinary units.

Below is a summary of the results and collective impact of these 14 projects.



1 tonne = 1,000 kg



Demonstrating Impact

ESTABLISHMENT OF SLAUGHTERING UNIT IN RURAL DISTRICT

Partner Name: Xanadu Razorback LLC.

Project location: Bulgan Aimag, Khutag-Undur soum

Project Duration: August 2019 - June 2020

Background

Mercy Corps Mongolia (MCM) Resilient Communities Program (RCP) partnered with Xanadu Razorback LLC (XR) to strengthen meat processing capacity and retail opportunities within the livestock market system in Mongolia. XR is a business which manages a cattle feedlot and meat processing unit; they have been supplying high-quality beef to high-end restaurants and supermarkets in Ulaanbaatar since 2009. The foundation of XR's business model is purchasing young cattle from local herders and then raising the cattle until they reach slaughter weight. They then slaughter the cattle and process and package the meat for onward sale. To increase yield within a short period of time and improve meat quality, XR uses an intensive feed system which includes feeding cattle a nutrient dense mixture of dried hay, silage, oats, and wheat.

In the past, cattle from XR's feedlot were slaughtered at the soum center slaughterhouse. After the closure of the local slaughterhouse, XR was forced to utilize manual slaughtering techniques to process livestock. XR had to find a new solution for safe and hygienic meat processing, and find a way to sustainably grow their business. Mercy Corps Mongolia partnered with XR to support the business to achieve their goal: increase the volume of quality meat products produced in order to better meet local market demand. Under this objective, three outcomes were determined; (1) Production of quality meat to domestic market increased; (2) Market linkages strengthened; and (3) Number of herders providing cattle to the feedlot increased. The total budget for this project was 457.1MNT million; Xanadu Razorback LLC provided a 56% cost share, while MCM provided the remaining 44% of the project funding.

Result 1: Increasing Business Growth and Profitability

Xanadu Razorback established an EU Standard slaughtering unit in the Khutag-Undur soum of Bulgan Aimag. It is rare for EU Standard slaughtering units to exist at the soum level, making this project unique and impactful not only for the business itself, but also for the surrounding community. Mr. Thiessen, Director of Xanadu LLC, highlighted the importance of the company's adoption of modern technology, which greatly improves hygiene and safety of the final product, which in turn builds trust among customers. This trust provides a competitive edge for the business and promotes high safety and quality standards for meat products within the market.

The new slaughtering unit has significantly increased the company's scope of operation. Their slaughtering capacity increased from 7 cows to 10-12 cattle, per day; on a monthly basis they are able to slaughter and process 220 cattle. This has resulted in a 21% increase in meat supplied to the market, from 36 to 43.6 tonnes¹, and a 20% increase in revenue for XR over the 10-month project implementation period. Currently, XR is able to provide consumers with 35 different cuts of beef and beef products that meet food safety standards in Mongolia.

As production capacity grew, additional staff were needed to meet the increase in workload. Six new staff were hired – two people were hired in an administrative capacity in the UB based office, and four were hired to work in the slaughtering unit in Khutag-Undur soum. A critical impact of project implementation has been the improved occupational safety measures for XR's staff members in Bulgan aimag. The new staff working in the slaughtering unit were trained in safety and operating procedures for the equipment in accordance with labor safety laws. As a result, staff report being satisfied with their work environment, noting they feel safer and have higher motivation at work because they are working with modern equipment.

According to Mr. Thiessen, “If we did not have slaughterhouse that met these [Mongolian] standards, XR might be closed because the state inspection agency won’t give permission to continue our businesses. Many requirements have been set by the government agency which previously we could not meet. It is very difficult to imagine what would happen if we did not partner with Mercy Corps on this investment. In my opinion, without Mercy Corps, we would have had to spend more than 4 years working to purchase the expensive, high-quality equipment that complies with national and international regulations. This [slaughterhouse expansion] was my dream, and it is a core requirement for exportation of meat products.”

Result 2: Increasing Market Access

The company actively uses their website and Facebook page called “Xanadu Razorback” to market their meat products. As a result of using these digital marketplaces, the company has been able to expand beyond their brick-and-mortar shops to supply to large restaurants, tourist camps, resorts, and Oyu-Tolgoi - the largest mining company in Mongolia. Since the launch of the project, XR has been able to secure contracts with two more restaurants, three more resorts and tourist camps, and have increased their capacity to fill individual orders.

Border closures, as part of COVID-19 restrictions, resulted in a slowdown of exports, negatively impacting the economy and purchasing power of the general public. As cash-flow slowed for consumers, they reduced their meat consumption from restaurants and decreased purchases of high-value cuts of meat. Many restaurants were forced to close or make changes to their usual operations due to decreased demand; as such they were unable to make regular purchases from XR at the same volume as before. Another hindrance to the company’s growth, was the loss of orders from tourist-based businesses such as camps and resorts. During the summer of 2020, no international tourists have been able to enter the country; as a result, these businesses no longer needed to purchase the same quantity of meat as previous years. These circumstances resulted in a reduction in the number of cattle purchased by XR as well as reduction their operating actives.

However, from these difficulties grew innovation! XR created a home-delivery service as a response to the changes in the market. This service increased the regularity of individual orders by 70%. This service is used by local consumers in Khutag-Undur soum and UB-based customers alike. To entice home-delivery users, XR developed new products: minced meat, ribs, sliced soup bones, packaged beef fat, and bone marrow. XR began producing these new products as an adaptation to the preferences and price-points of the average home-delivery customer.

Result 3: Expanding Market Opportunities for Local Herders

As a core function of their business, XR buys cattle from herders year-round to raise, slaughter, process, and sell. The resulting increase in production capacity from the XR slaughterhouse project has in turn enabled XR to double – from 20 to 40 – the number of herders they purchase cattle from on an annual basis. In addition, since October 2019, XR purchased 289 cattle, which is a 5% increase compared with previous year. The increase is illustrative of the business’s economic resilience- despite the significant reduction in sales and revenue due to the economic lull, they were still able to achieve some growth!

XR sees the local herders who supply cattle to the company as key stakeholders in the success of their business. Mr. Thiessen emphasized that the company ensures herders are kept up-to-date with the local market situation, buyer standards and requirements, and the company’s future plans and goals. XR has set and publicized their standards for the purchase of cattle – age, health, vaccinations, and traceability – and pays a premium for cattle that meet the standards in order to incentivize herders to continue supplying quality livestock. The Governor of Khutag-Undur soum highlighted that the XR project has enabled a shift in herders’ mindsets towards new practices in animal husbandry. Viewing XR’s feedlot as a model, herders see the value of investing in animal feed and implementing a feeding system throughout the year. Young people are becoming more aware of the importance of improved cattle feeding practices which lead to increased yield and production of higher quality meat to offer on the market. For example, three young local farmers have replicated XR’s feedlot style in an attempt to better manage their herds, improve the quality of their livestock, and eventually sell to XR.

Result 4: Improving Business Capacities

With support from Mercy Corps, XR developed a four-year business plan which culminates in exporting their products to international markets. A key component of achieving this goal was to build and operationalize an EU standard slaughterhouse to meet the necessary quality and hygiene requirements. The four-year business plan will help guide the company in continuing to grow and improve their operations. Mr. Thiessen highlighted the importance of a four-year window for planning, stating that “innovation in the agricultural sector takes time, at least four years of development. In the beginning there is a huge investment of capital and resources, the profits are low and for one to two years there are no visible results. But with a strong foundation, year three and four you will see profits.” XR’s partnership with Mercy Corps enabled the company to jump-start their innovation process and receive the support needed to successfully expand the business’s operational capacity.

In addition, as the scope and scale of the business has grown, XR has identified a growing need to strengthen human resources within the company. Recruiting and retaining staff has been a significant barrier for the business. With these challenges in mind, XR is

working with a business consulting firm, a service provided by Mercy Corps, to address and improve the company's recruitment policies and processes. In operationalizing these structural improvements, XR plans to hire a farm manager and a slaughterhouse manager in the near future.

Moving forward

Xanadu Razorback LLC plans to achieve integration into international export markets within the next four years. The business will begin by increasing monthly meat production by 20% in 2021, and by an additional 66% by 2023. The company plans to expand its slaughtering operations to include small ruminants (sheep and goats), which are readily available in the surrounding area and for which sufficient market demand exists for those meat products. With the increase in production, it is expected that the slaughterhouse will be able to operate at full capacity 5 days a week in the future. In addition, XR is planning to improve their business relationship with herders through formalized contracts to ensure accountability of both parties, and to provide further financial security for local partner-herders.



Demonstrating Impact

QUALITY MEAT – RELIABLE SUPPLY

Partner Name: Minjiin Bor Utug LLC.

Project location: Selenge Aimag, Sukhbaatar soum

Project Duration: August 2019 - June 2020

Background

Minjiin Bor Utug (MBU) is a grocery store in the Selenge aimag center which supplies fresh meat and by-products such as intestines, heads, shanks and calves-foot jelly to local consumers. Given its key location in the provincial (aimag) center, MBU's grocery store serves customers from three neighboring communities (soums), where retail meat sales are not available locally. With the support of Mercy Corps Mongolia 's Resilient Communities Program, MBU implemented a project called "Quality Meat - Reliable Supply," from August 2019 through June 2020 in Sukhbaatar soum of Selenge aimag.

The objective of this project was to increase volume of quality meat produced to meet market demands. The intended outcomes of this project were 1) improved meat processing capacity (including improved business management, meat processing and

sales) 2) increased number of herder households supplying livestock to MBU 3) Increased volume of meat and by products supplied to the local market.

Through this project, MBU has increased their production capacity by establishing a processing unit, a vacuum packaging system, and cold storage unit which can hold 20 tonnes of meat reserves, in turn increasing the supply of high quality meat products available for the market. In addition, MBU operationalized a feedlot for 20 head of cattle to ensure sustainable supply of quality meat during the spring, which usually has a shortage of meat.

Result 1: Increasing Business Growth and Profitability

The impact of project implementation is clearly seen in MBU's ability to operate year-round, as previously meat processing was only possible during the autumn and winter months. The combination of extended time periods for the company to operate and improved storage facilities has helped them double the amount of meat produced and triple the amount of by-products produced. MBU produced and sold 100.6 tonnes of meat and 15.8 tonnes of by-products to the local market over the 10 months of project implementation. This is double the amount sold last year. The increase in MBU's production capacity resulted in an increase of sales revenue by 71%, and their market share has doubled, from 15% to 30%.

Another advantage of having cold storage in their production facility is that MBU can now reserve meat in a safe and clean environment, which contributes to overall food safety and consumer protection. Since MBU upgraded their by-product processing facility, the company began producing 10 new value-added products to meet local market demand. Products include: choice cuts of meat, and by-product goods such as meat jelly, packed liver, dumplings, and pre-cooked head and shanks. The director of MBU noted that by-product goods sell particularly well because these products are high-quality for a low price. Previously, these by-products were wasted due to lack of storage space and appropriate processing equipment. However, as a result of project implementation, which includes improved storage and installation of proper equipment, the by-products are now a key resource for business growth. MBU produces value-added products which reduces by-product waste and generates new revenue for the company.

Furthermore, MBU equipped their grocery store with two refrigerated meat cases. As customers become more demanding in terms of quality and safety, MBU decided it was important to have safe storage in their store. One of the regular costumers said "I like this store more than other stores. Because I know the livestock is slaughtered in an authorized facility, I'm confident in the meat quality and hygiene. The meat is fresh and the price is lower in comparison to other retail shops. Plus, the store environment is convenient and safe- nearly all other meat retail shops in our community have no proper refrigerators." The director of MBU also mentioned their price setting policy for the store, "we have intentionally implemented a lower price policy since 2016. Our price is lower

than others by 500 MNT per kg, customers are attracted to our price, so we also have a competitive edge in the market. As a result, we sell more meat and sales are speedy.”

As the business has grown, MBU has hired four people as permanent employees. Partnering with Mercy Corps, MBU has also engaged employees in the development of soft skills like improving supplier relationships, and implementing a sales tracking system. Mercy Corps field staff provided support to the company, including facilitating training sessions on how to use a computer to record supplier information, track sales and financial transactions. Previously, when MBU hired staff, there was no written agreement between MBU and the employee; however, now the company has the skills to create employment contracts and a filing system to keep those contracts safe and confidential. The director of MBU noted that “without Mercy Corps’ support it would have taken 4-5 years to achieve the current state of our business. One year ago, the business was a small meat shop, now we are considered a reliable actor in the local meat market system. This project was not only financial support; it was also a great learning experience for us.”

Result 2: Market Opportunities for Herding Communities

Before project implementation, MBU regularly bought livestock from 100 herders. As MBU expanded their scope of operations, they have been able to purchase more livestock from more local herder households. Currently, over 240 herders supply livestock to MBU. A total of 2,300 livestock have been purchased from these herders over the last 10 months – double the number of animals purchased in previous years.

To engage new herders as regular suppliers, MBU purchases livestock at a premium based on age, health, and weight of the animal. Herders are attracted to selling to MBU because they earn a better income than when they sell to middlemen/ traders. Compared to the price from middlemen, MBU offers around 5-7 USD more per small ruminant and 25-30 USD more per head of cattle. As the business has grown, MBU has been recognized by herders from other neighboring soums. Herders are interested in selling to MBU because of the beneficial price policy. In addition, unlike other buyers of raw materials, MBU sends their company vehicle to herders’ locations to transport livestock to the soum center, reducing the transportation cost for herders. This reflects MBU’s dedication to expanding the market for herders in remote communities by making it physically easier to reach markets and enabling herders to sell their livestock when they need the income.

Result 3: Adopting New Animal Husbandry Practices

After seeing Xanadu Razorback’s feedlot, the Director of MBU was motivated to expand the business’s existing feedlot. MBU bought 20 cattle and fed them over the winter. Each cow gained an average of 100kg in body weight. Once the cattle gained enough weight, MBU slaughtered them, and then processed and sold the meat. MBU then bought 20 more cattle to keep the feedlot stocked. Over the winter and spring, MBU fed a total of

40 cattle and produced 8.3 tonnes of meat which exceeded the 1.3 tonnes they had originally planned for.

The MBU Director highlighted the importance of having a feedlot, “Feeding cattle over the winter and early spring is very helpful to ensure that sustainable and quality meat is available at all times. Winter and Spring are very critical times for livestock as this is the time when they often lose weight. Almost no herders slaughter their livestock during these times. Conversely, customers want new, fresh quality meat, even during shortages. Thus,



running a feedlot is a good way to meet market demand for beef as meat will be consistently available.” In addition to enabling the company to supply meat to their stores during regular periods of meat shortages, it also stabilizes their supply chain when there are larger market shortages. For example, during the COVID-19 pandemic, MBU was unable to purchase meat from herders; however, the company was able to close the gap and keep meat in their store because they could butcher and process their own cattle. This practice increases the business’s economic resilience.

Result 4: Increasing Engagement with Other Market Actors

There is a local slaughterhouse in the soum center where MBU operates. However, due to a lack of customers, the slaughterhouse was operating at only 30% capacity. Throughout the project, MBU has closely collaborated with the slaughterhouse, bringing over 2,300 livestock for slaughter, and then taking the meat and by-products back for processing and packaging. The slaughterhouse manager reported that “MBU’s service requests increased significantly during this time, which has resulted in the expansion of our business and revenue.” As a result of MBU’s increased production capacity, the local slaughterhouse has doubled the volume of livestock they slaughter, and revenue is five times higher than last year.

As MBU’s processing and production increases, they have also diversified their distribution channels. Previously, MBU sold meat only through the company’s small meat shop. Currently MBU sells meat and by products through 10 local shops and has made contracts with six local restaurants. Lastly, MBU’s business growth facilitates market interactions with other businesses, which leads to mutual benefits within the value chain system. This is one indication of a sustainable market system, because relevant businesses are now linked to each other.

Unexpected Changes and Adaptive Management

Since January 2020, the entire world has been impacted by the COVID-19 pandemic. Small enterprises have encountered problems in production continuity due to a decline in orders and sales. MBU's sales have decreased by twice the normal amount because restaurants were closed under governmental restrictions. In addition, border closures have caused a slowdown in money circulation between traders and communities. However, MBU has been able to have a continuous supply of meat in their stores because they had cattle in their feedlot and reserved meat in their cold storage unit.

Business Sustainability and Outlook for Near Future

MBU's vision is to extend their current market share (30%) to more than half of the total market (50-60%) at Sukhbaatar soum. To reach this goal, feedlot expansion with improved breeds is an essential task for company development. Moreover, extending the scope of MBU's business would require the company to enhance their internal capacity in terms of accounting and business management. As noted by the director, this is a basic requirement to further strengthen MBU as a company.





Demonstrating Impact

DEVELOPING ANIMAL BY- PRODUCT PRODUCTION

Partner Name: Mon Meat Trade LLC

Project location: Khentii Aimag, Kherlen soum

Project Duration: August 2019 - June 2020

Background

Mon Meat Trade LLC is a meat processing business that has been operating since 2007. In addition to production facilities in Khentii aimag, Mon Meat has butcher shops in suburban Ulaanbaatar, where it is well-established with consumers as a trusted meat supplier. Mon Meat is unique in their approach to reduce waste from meat processing; instead of discarding by-products, they collect, store, and process the heads, shanks, and offal to make high-quality affordable products to sell in Ulaanbaatar city and nearby suburbs.

With support from Mercy Corps through a Resilient Communities Program sub-award, Mon Meat has expanded their production and cold storage capacities, enabling them to supply high-quality by-products to the market throughout the year. The project was

intended to increase volume of high-quality meat produced to better meet market demand. Under this goal, three outcomes were determined; (1) Increased processing and storage capacity; (2) Innovative and productive use of animal by-products scaled up; and (3) Strengthened market linkages.

Result 1: Expanded Business Capacity

The company has expanded its small by-product processing operations into a larger independent production branch of their meat processing business. Now, animal by-products, like heads and shanks of small ruminants and cattle, can be processed throughout year. Moreover, the expansion in production provides a steady supply of animal by-products to the urban marketplace. The director of the company stated that “previously, production was highly dependent on the general availability of raw materials. Winter and spring often come with shortages of by-products while summer and autumn provided an excessive amount of by-products because it’s the slaughtering season. Mon Meat didn’t have adequate storage for the excess of by-products, which led to waste, and loss of potential profit. As such, as part of project implementation Mon Meat prioritized establishing 300 tonnes of cold storage.”

Access to cold storage in Mon Meat’s newly renovated facility has had two major impacts on the business’s growth. Firstly, by-products can now be safely stored during warmer months, preventing spoilage and retaining quality of the meat. Mon Meat is now able to purchase and store a large amount of head and shanks during the summer, when by-products are 3-4 times cheaper than in other seasons.

This cold storage allows the company to maintain a steady supply of by-products to the market, while still making sustainable profit. Secondly, Mon Meat’s production capacity increased because there is a safe and reliable place to store the products once processed. Because there is no need to immediately sell the goods, Mon Meat is able to produce large quantities without risk of waste or profit loss.

In response to market demand, Mon Meat developed three types of animal by-products during the implementation period: offal dumplings, offal fried meat pies, and sheep head meat dumplings. These products are best-sellers among the customers because they are both high quality and affordable. Since the project started, production of these processed by-products has increased by eight times the previous capacity- from 31 tonnes to 258 tonnes – leading to a ten-fold increase in revenue.

To meet the company’s increased production needs, Mon Meat hired 18 new employees and trained them in by-product processing and safety. Among them, six of them are single mothers, two are people with disabilities and the rest are under 35. The director of the company noted that keeping employees and on-the-job skill development was very challenging. Frequently, employees would be hired, come to work until they receive their first paycheck, and then not return to work. The director attributed this behavior to the general disincentive of labor-intensive work. To address these challenges, the

company implemented two changes: 1) issuing contracts for employees, 2) establishing a performance-based payment system for workers to motivate them. This second adaptation encourages employees to continue working and improve their daily performance.

Result 2: Expanded Opportunities for Herders and Local Suppliers

Mon Meat adds value to animal by-products by taking raw material and processing it into something that is ready for consumers to buy and eat. By purchasing and processing these by-products, Mon Meat has contributed to a decrease in the amount of animal waste dumped in local landfills. The Director of the company and Mr. Enkk-Amgalan, Head of Agricultural Department in Khentii aimag reported, “Before, high amount of animal by-products were being thrown in the dump area in Khentii aimag center. Now we have the opportunity to address this issue while producing value added products as a result this project.”

Herders also benefit from this new venture because they are now able to sell those raw materials to Mon Meat for a good price. Before the expansion of Mon Meat’s business, most animal by-products were wasted because the raw materials were discarded. However, Mon Meat has created a new market channel for these products. Since the start of the project, the company has already spent 324 million MNT (113,684 USD) to purchase raw materials from 447 herders – up from only 40 in previous years. In addition, Mon Meat has signed an agreement with three local slaughterhouses to purchase their by-products during the summer, when slaughterhouses have an excess of by-products.

Mon Meat entered into an agreement with four companies, which produce sausage and cow-foot jelly. Mon Meat supplies them with extra by-products needed produce their goods. This is beneficial for Mon Meat as they scale up the amount of offal and by-products they supply to those four new distribution channels. Furthermore, this is also beneficial for suppliers as they have sustainable and quality inputs for further production.

Result 3: Increased Demand among Customers and Clients

The company’s key customers for these products live in the ger district areas² in Ulaanbaatar city, where people tend to have lower incomes and are interested in cheap but high-quality food. Previously, Mon Meat had one shop in Tolgoit ger area; two new shops were added in Yarmag and Khailaast areas as a result of the project. The director of the company mentioned that “they have no trouble selling animal by-products because customers are now familiar with the products and want to buy them.”

Mon Meat’s increased sales demonstrate that many people prefer to purchase the cheaper, but high-quality, by-products which are half the price of cuts of meat. Demand is growing; as COVID-19 impacts families’ cash flow, they turn to these types of products.

² A ger district is a form of residential district in Mongolian settlements. They usually consist of land parcels with one or more detached houses or gers (hence the name), surrounded by two-metre high wooden fences. Even in Mongolia’s capital Ulaanbaatar, around 62% of the population live in such districts.

The sheep head meat is particularly popular – currently the company can only supply 40 kg per shop on a daily basis. This product sells out so quickly that people stand in a queue outside the stores before they open for the day to ensure they can buy some. As the director said, “My only concern is how to produce enough by-products to keep up with the demand.”

The company has also expanded the amount of by-products supplied to the Ulaanbaatar branches of Little Sheep restaurant, an international hot pot chain restaurant. Previously they supplied 2 tonnes of ox tongue annually, and have add 8 tonnes of sheep-head meat supplied annually to that existing contract.

Business Sustainability and Outlook for Near Future

The director of Mon Meat noted, “The animal by-products business is very simple, but very profitable as well. However, most people cannot see this because they see it as mostly just labor intensive.” Mon Meat is expected to work at full capacity and process all animal by-products that come out of the capital of Khentii aimag. The company director highlighted that “there is no need to develop new products because really what the company needs is a way to increase the amount of animal by-products we produce to meet the overwhelming demand.”

Additionally, the company has identified a new market, dog breeders, which are primarily located in UB. The residues from by-product processing are very nutritious for dogs. Approximately, 1 tonne of dog food is required per day for the dogs at these breeding organizations, and quality dog food is in high demand. Mon Meat sees great opportunity here since, for example, there is approximately 100g of residue left over from processing a sheep head that can be used for dog food. Due to unsafe storage of most raw dog food at markets, the dog breeders have expressed their interest in working directly with Mon Meat.



Demonstrating Impact

BRINGING THE MEAT MARKET CLOSER TO HERDERS

Partner Name: Deedsiin Sureg LLC

Project location: Khentii aimag, Norovlin soum

Project Duration: April - October 2020

Background

Deedsiin Sureg LLC, a meat market business, is located in Norovlin soum, Khentii aimag. The business, established in 2007, owns cattle and runs two butcher counters in Kharkhorin market in Ulaanbaatar (UB) - one of the largest markets in the capital city. In addition to these two sales points, they have large-scale resale customers including Chinggis Khaan International Airport and a number of meat exporting companies.

Deedsiin Sureg wanted to expand their business to better meet the needs of the herders in their soum. Norovlin soum is home to about 2,400 residents, of which 60% are herders. One of the few sources of income for herders is livestock sales during the slaughtering season (September-December). Since there is no designated central location in the soum for herders to sell their meat or livestock, they often dedicate a significant amount of

money and time to transportation in order to sell in UB markets. Alternatively, herders often sell to “middlemen” for lower than market price, to forego the expense of transport. Moreover, due to lack of cold storage facilities, a large amount of animal by-products, such as offal, heads and shanks are discarded after processing.

To expand their business to include a local meat processing unit and cold storage facility, Deedsiin Sureg partnered with the Resilient Communities Program. Their goal was: “increased volume of quality meat produced to meet market demands”. To achieve this objective, three outcomes were determined; (1) Improved business capacity to enable year-round supply of meat and by-products to the market (both in the soum and UB); (2) Strengthened partnerships and market linkages with local herders to increase knowledge on market demands and requirements; and (3) Herders have increased knowledge and awareness of market demands and requirements of hygiene and quality.

Result 1: Growing Business Capacity



Deedsiin Sureg LLC, with support from Mercy Corps, was able to establish its own by-products processing unit and cold storage facility, the first of its kind in the soum. Before this project, the company purchased live animals from herders and sold them in UB market, where by-products from livestock processing were thrown away, unutilized and wasted. Now the company can

process by-products locally, store them safely, and deliver quality meat and value-added products directly to UB markets. As a result, herders receive fairer prices that are true to market price; Deedsiin Sureg negates the need for intermediary steps in the meat value chain of Norovlin soum- each of which reduces the amount of money going directly to herders for their raw product. Furthermore, a number of local officials emphasized the importance of Deedsiin Sureg’s ability to localize the meat market system. The head of the Agricultural Department of Norovlin soum remarked: “Local access to markets is a significant and immediate need for our soum, which is located more than 210 km away from the aimag center and 540 km from UB. If a herder goes to the aimag center to sell one cow, it costs at least 100,000 MNT for the transportation. Moreover, herders of the neighboring soums of Dadal, Bayan-Uul and Bayan-Ovoo no longer need to go to UB thanks to Deedsiin Sureg’s capacity to purchase meat from herders and store it for long periods of time. Because transportation fees are high for individuals, the majority of rural herders sell their livestock to middlemen, who take care of transportation, but offer low prices for the livestock. But now, Deedsiin Sureg has tackled those issues; providing a profitable opportunity for the herders to receive direct cash payment for their animals based on weight, providing similar rates as in UB markets, rather than local rates on livestock, which tend to be very low.”

Livestock slaughter in Mongolia is highly seasonal, with the bulk of it occurring between mid-August and November when animals have put on weight from summer grazing. Similarly, meat prices are prone to seasonal fluctuations. As animals are slaughtered, meat prices are driven down due to an over-abundance on the market; in contrast, in spring and early summer meat prices rise as meat becomes scarcer.

Because many soum-level livestock businesses struggle with cold chain preservation, meat is typically sold as quickly as possible, post-slaughter. However, Deedsiin Sureg's cold-storage unit makes it possible to store meat for up to seven months, from slaughtering season through to late spring. This helps keep meat prices reasonable and relatively stable due to consistent supply to the market. Thus, the business maintains stable supplies of meat and products throughout the year while reducing their seasonal dependency. This new capacity has impacted the business's ability to operate on a year-round basis, providing stable cash flow to the company and steady work for the employees. The unit stores a large amount of meat and by-products, ensuring meat quality and hygiene, and provides reliable and safe meat products to consumers.

The Deputy Governor of Norovlin soum said that "Herders tend to throw away animal by-products, including heads and shanks as waste, but now the new workshop provides an opportunity for herders to avoid discarding those products, and, in fact, make additional income from them. If by-products are clean and processed in the right form, they can be supplied to the high-end restaurants and other markets in UB as value-added products."

Through the partnership with Mercy Corps, Deedsiin Sureg is now equipped with a small animal by-product processing unit which has the capacity to process at least 300 pieces of offal each month. In November 2020, the company received their inspection certification from the Khentii Aimag "Department for Specialized Inspection" which allows the business to officially start their new production operations. As a result, during their first month, Deedsiin Sureg purchased 1,419 heads of livestock from 68 herders whose livestock and meat meets the health and hygiene requirements set by the company. All by-products were sorted, cleaned, and packed "ready-to-sell" to the consumers. Carcasses were wrapped with plastic wrap to prevent loss of mass and to ensure hygiene, and stored in the cold storage unit.



Since the establishment of the unit, those previously wasted by-products became value-added products which will also impact the income increase of herders. It is planned to introduce three new by-products to the market such as cleaned and vacuum-packed beef offal, mutton offal, and shanks.

The director of the company stated that "Building my own facilities in my hometown was one of my dreams. I am happy that my dream came true. Specifically, it is extremely rare

to have cold storage at the soum level. I hope that we can strengthen our partnership with rural entities as well as herders through these newly established facilities. However, overall, the path to complete the work was not as easy as I initially thought”.

There were some unexpected challenges during the construction work; the electrical installation was particularly challenging because the soum-level electricity supply could not meet the voltage required to run the cold storage cooling-equipment. Also, prices for building materials increased due to border closure as COVID19 prevention measures were put in place which restricted movement of people and goods. But the company worked hard to handle challenges effectively, investing an additional 80 million MNT (approx. 29,000 USD) that was not planned originally. With this additional investment, the company was able to connect the appropriate cooling system to the correct electrical source, and construct the facilities with material sourced in Mongolia.



The local Deputy Governor has highlighted the new facilities as having long-term impacts on the cattle industry in the soum. This new infrastructure is in line with the government’s policy to improve local people’s livelihoods. The newly established processing unit created jobs in the rural community. The company hired 3 new staff from their soum – all of whom were previously unemployed- as permanent employees; in addition, they hired an Operations Manager from UB who is experienced in the sector. The newly hired manager said that his family lives in UB, but he moved his family and settled down in Norovlin soum for this job opportunity. The Operations Manager expressed his satisfaction about working for Deedsiin Sureg, stating that he is confident in the quality of operations in the processing unit because Deedsiin Sureg provided health and safety training to the newly hired employees.



Like all Mercy Corps’ sub-grantees, Deedsiin Sureg LLC received technical support from King Consulting, a professional business consulting firm, as part of Mercy Corps’ Local Business

Clinic project. Through tailored, targeted supported provided by King, Deedsiin Sureg improved their marketing strategy and strengthened their Human Resources processes. In addition, through this technical support, DS developed its business plan, strengthened HR documentation and record keeping, and established a presence on social media.

Result 2: Strengthening Market Linkages

To expand market linkages, the company developed a promotional leaflet about new market opportunities and posted it on social media. Soon after Deedsiin Sureg launched their social media page, which had reached more than 6,000 people by the end of the project. As a result, there was a significant increase in service requests, among potential customers like the local school, kindergarten, hospital and community members.

The company also built an effective partnership with the Soum Agricultural Department to help provide outreach to herders to raise awareness about the new facilities which allow them easy access to the meat market. Within a few weeks after opening, the company built new business relationships with 68 herders. The herders were informed of the company's purchasing criteria for livestock to ensure high-quality production and traceability of the products.



The Deputy Governor said “Norovlin soum is home to five public organizations, including a school and a hospital, which regularly purchase meat from individuals. The school requires an

average of 300-400 kg of meat per month. The price of meat fluctuates in autumn, December and March. However, because the cold storage makes it possible to stabilize the meat prices, these public entities sign an agreement with Deedsiin Sureg LLC to procure meat in bulk at a reasonable price, and store it without losing quality.” For example, within only a few months of operating the company signed a business agreement with the local kindergarten to store 1.5 tonnes of meat in their cold storage unit.

In addition, herders and community members of Norovlin and neighboring soums are making requests to use storage space for their meat; however thus far, most are only oral expressions of interest. Furthermore, Mon Meat LLC, a former Mercy Corps partner and meat market supplier in the aimag center, has submitted a request to Deedsiin Sureg LLC to partner with them to supply raw materials when Mon Meat reserves are diminished during winter and spring. Based on these emerging demands, the DS Director is working to make contractual arrangements for renting space in the future.

Result 3: Increasing Herders' Awareness about the Meat Market

According to the Director of Deedsiin Sureg, the business had not prioritized marketing in the past. Now, as a result of their partnership with Mercy Corps and through the King Consultancy support, they realized the value of marketing and outreach. The company has started to broadcast videos on YouTube; they also share key messages on meat safety through a variety of marketing approaches such as brochures, individual meetings, community meetings, and the company's social media page. This marketing strategy has been very effective in improving people's understanding of the business's concept. Through public messaging, Deedsiin Sureg LLC is trying to spread awareness and raise understanding about livestock health and meat quality. It pushes herders and

other suppliers to think differently about livestock handling practice which will contribute to the productivity in the livestock industry and improve food safety in the marketplace.

Now, the company provides information to herders to improve the awareness about the company's requirements and standards for purchasing livestock from individual suppliers. This includes adhering to antibiotic withdrawal periods, good animal husbandry practices, and timely animal health care and records. Deedsiin Sureg also stresses the importance of processing meat under hygienic conditions, and ensuring quality and traceability of livestock and animal products. Throughout project implementation, Deedsiin Sureg has ensured transparent advertisements about the opportunity to sell to the company and the requirements for sale, giving herder households an understanding of the current market needs and requirements. Selling to Deedsiin Sureg improves herders' livelihoods by supporting best practices in animal husbandry, bringing animals directly into the meat value chain, and securing herders a fair and reasonable price for their livestock.

Moving forward

The Head of the aimag Agricultural Department said, "We aim to generate a local brand of meat. Private businesses like Deedsiin Sureg can contribute to the development of the local livestock market. Therefore, as the local government we support businesses, livestock related input service suppliers, and herders to link and support each other in strengthening an effective value chain. An immediate example is that we introduced the local private veterinary unit to the Deedsiin Sureg LLC hoping these two entities could coordinate future works to ensure marketable and reliable meat supplies with clear source of origin, free from vaccine and drug residues."



The Director of Deedsiin Sureg is committed to continue in depth study of the meat production industry, potential challenges, risks, and opportunities for success. The director described the business's priorities moving forward: "Expanding this business is my priority now. Moving forward, I will actively advertise high-quality, safe meat that meets the standards for human consumption. Relevant logistics are also important to ensure quality and hygiene. In the next 1-2 years, I'll focus on expanding my business by providing needs-based delivery service. By that time, I will be known in the market as a reliable supplier, people will say "meat and meat products supplied by Deedsiin Sureg are high-quality and reliable."



Demonstrating Impact

ESTABLISHMENT OF ONE STOP LABORATORY FOR LIVESTOCK AND ITS PRODUCTS IN A RURAL AREA

Partner Name: Sats Manal PVU

Project location: Khentii Aimag, Bayankhutag soum

Project Duration: January 2020- October 2020

Background

One of the key objectives of the Resilient Communities Program is to strengthen the animal health sector by improving the quality of and increasing access to veterinary and laboratory services, increasing technical capacities of local veterinarians, and raising herders' awareness on animal health with effective partnership with government and private entities.

Mercy Corps implements the Resilient Communities Program in three aimags, including Khentii. Khentii is in the top five aimags in terms of livestock numbers, while also ranking towards the bottom in terms of rangeland and degradation. Neighboring Sukhbaatar and Dornod aimags are largely viewed in Mongolia as epidemic centers for livestock diseases.

Moreover, all livestock from these aimags pass through Khentii aimag on the way to market in the capital city, Ulaanbaatar.

In addition, significant changes were made to the Animal Health Law (AHL) of Mongolia through an amendment process in December 2017. Under the amended AHL, it is a legal requirement that livestock and livestock products must be tested in a laboratory and certified as having met food safety requirements before it can be supplied on the market. This requirement has resulted in an increased demand for laboratory testing services at the local level.

Taking these factors into account, the government of Khentii aimag has put a special emphasis on animal health, disease prevention and detection, control of livestock diseases within the aimag, and the creation of a One-Stop Laboratory as part of a Private Veterinary Unit (PVU) at the soum-level. A One-Stop Laboratory is a central place that provides veterinary services and laboratory tests both to herders and other users.

Given our focus on animal health and long-standing partnerships with aimag-level vet departments in Mongolia, the Local Government of Khentii aimag request Mercy Corps' support to establish a 'pilot' One Stop Lab in the aimag. The first step was identifying a partner PVU at the soum level in Khentii. Together with local and national experts, Mercy Corps explored options in Bayanmunkh, Bayankhutag, and Bayan-Ovoo soums of Khentii aimag.

One of the key assessment criteria was local demand for laboratory services. Furthermore, legal requirements for a soum veterinary laboratory were explored, the required investment and operational costs were estimated for each potential partner soum, and existing human resources as well as equipment were inventoried and assessed at each PVU.

Overall, the assessment identified several critical barriers facing PVUs that create significant challenges for establishing local level laboratories. These include: lack of human resources, shortage of equipment, and insufficient laboratory technical expertise. Most importantly, revealed that profitability of laboratory services was likely to be low until local demand for laboratory services increases.

Despite these challenges, Sats Manal PVU in Bayankhutag soum demonstrated interest in and commitment to establishing a One Stop Laboratory at their PVU. The location met the criteria, as Bayankhutag soum has the highest number of livestock in the aimag, hence creating demand for local services.

Thus, in February 2020, a Memorandum of Understanding between Mercy Corps, the Aimag Veterinary Department, the soum government and Sats Manal PVU was signed and collaboration under this project was officially launched. Sats Manal provides veterinary services to 240,000 head of livestock – roughly 70% of all livestock in the soum. Services include detection and prevention of livestock diseases, treatment, surveillance, anti-parasitic services, sanitation and disinfection, and vaccination. Now, with the expansion

of the business to include laboratory services, Sats Manal's PVU is able to conduct hygiene, safety and sanitation tests and services needed for livestock, meat, and dairy products at the soum-level beyond regular veterinary services.

The establishment of the One-Stop Laboratory at the soum local level enables the local herders as well as livestock sector businesses to obtain valid hygiene certificates easily without traveling to the aimag center. Most importantly, local herders are able to make more profit by supplying certified products that meet food safety requirements. In addition, based on the laboratory test results, herders are able to manage better their herd structure and size by detecting, preventing animal diseases and classifying livestock by health status, breeding effectiveness and productivity.

The soum government, Sats Manal PVU, and Mercy Corps all played an active role in setting up the first One-Stop Veterinary Laboratory in the soum. Mercy Corps provided lab equipment for the new laboratory, and trained three PVU employees at two-week long laboratory trainings at the State Veterinary Central Laboratory (SVCL) in Ulaanbaatar. The PVU invested in renovation of the laboratory building, furniture for the lab, reagents and laboratory consumables, and paying for their staff travel and meals during the trainings at the SVCL. In addition, the soum government and Aimag Veterinary Department provided policy support and demonstrated leadership in enforcing the implementation of the new Animal Health Law on the ground effectively. Key contributions included working with the Governor's Administration to ensure that Animal Health Certificates are issued based on relevant test results from the laboratory and facilitating herders' understanding of the benefits of having laboratory services offered at the local level through awareness raising activities, seminars and events.

Lastly, the State Veterinary Central Laboratory in Ulaanbaatar undertook significant efforts to develop and deliver tailored training curriculum specifically for soum-level veterinary staff. The first of its kind, the certification training took a practical, hands-on approach to laboratory testing and services that are most likely to be in demand at the local level. The SVCL has now an optional training curriculum which can be rolled out again for other stakeholders in a rural context as more and more laboratories are established at the soum level in Mongolia.

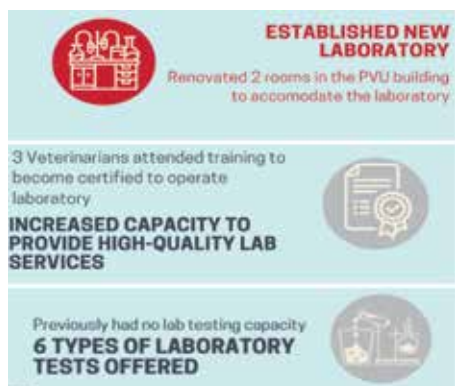
Methodology

With consultation of the RCP's Animal Health team, the MEL team developed a qualitative learning plan with guiding questions to capture overall project impacts and changes in business growth of Sats Manal PVU in Bayankhutag soum of Hentii aimag. For this purpose, Mercy Corps conducted five key informant interviews in October 2020 with the director of the PVU, the soum governor, the head of Aimag Veterinary Department, and representatives of herders who used vet and laboratory. Quantitative data were analyzed and verified with qualitative evidence collected through project implementation by both the MEL and RCP team.

Result 1: Increased Capacity of Veterinary Laboratory

In partnership with Mercy Corps, Sats Manal PVU renovated two laboratory rooms and installed 15 pieces of equipment to ensure the laboratory had the technical capacity to meet testing needs. The PVU hired 2 veterinarians to work in the newly established laboratory. The director of PVU and the newly hired staff attended a four-week veterinary laboratory technical training in Ulaanbaatar. As a result of this training, the Sats Manal veterinarians are now specialized lab technicians certified by the State Laboratory. The vets are now able to test for and diagnose animal diseases, test for hygiene and quality to ensure livestock and products meet food safety standards.

The director of PVU highlighted the importance of including laboratory services as a PVU:



“These days, veterinary science is rapidly developing and changing, which drives PVUs to keep pace with technological advances. There is a need for laboratory testing for hygiene and quality of animal products supplied to the market. That is why we aimed to introduce this service in our local community. Fortunately, as a result of this collaborative project, we now have a new laboratory with essential testing equipment. Without Mercy Corps, we would have spent more than 6 years establishing something similar to this laboratory.”

The soum-level veterinary laboratory now offers six hygiene tests for meat and milk to ensure the animal products are safe for consumers. This is done through testing pH levels and antibiotic residue in meat products, and testing for impurities and additives, proteins, and carbohydrates in milk products. In addition, serological testing is now available at soum level, this type of testing makes it possible to detect six types of zoonotic and infectious diseases through rapid tests using chemical reagents: 1) Anthrax, 2) Rabies, 3) Hemorrhagic septicemia, 4) Enterotoxaemia, 5) Brucellosis, and 6) Tuberculosis.

The director of PVU and the head of the Aimag veterinary laboratory both state that the availability of testing is of great strategic importance in the detection, control and prevention of animal diseases. The early detection of animal diseases makes it possible to administer the appropriate vaccines and prescribe proper drugs in a timely fashion, helping keep animals healthy and free of zoonotic diseases. Moreover, the head of the aimag laboratory is supportive of the soum level laboratory:

“Having a laboratory has enabled the Sats Manal PVU to certify that animals and their products are entirely free from infection, which is beneficial for trade purposes and contributes to the elimination of infectious diseases in soum livestock populations. They are able to confirm and treat the suspected and clinical cases of disease in a timely manner.” Access to these new testing services creates a significant advantage for local

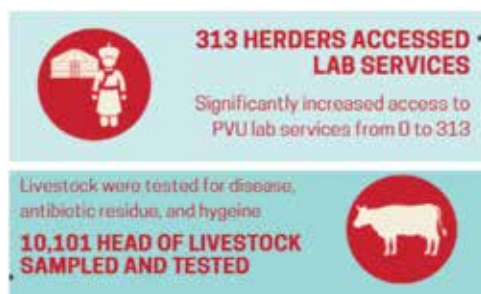
herders and businesses because it allows them to link with the national livestock traceability system. The PVU issues hygiene certificates for meat and health certificates for live animals. All certificates are recorded on the National Traceability System which is overseen by the General Authority for Veterinary Services (GAVS). This system benefits retailers and ultimately end-users and they are able to check the overall safety and hygiene standard of meat product and are also able to check where the product comes from, and what vet services the animal received before it was slaughtered. As a result, herders and retailers are able to sell the products at a competitive price, and consumers are able to purchase the certified livestock products with improved confidence in safety and hygiene.

The first job undertaken by the Sats Manal lab was the primary screening and tests for brucellosis of a total of 3,400 head of sheep. This job was commissioned by the Government of Mongolia, as part of the government's donation of 30,000 sheep to China. The Head of Aimag Laboratory commented on Sats Manal's work: "the PVU successfully completed this work and showed they are fully capable of carrying out their laboratory operations.

They have shown that they can share responsibilities with Aimag Laboratory. Our aimag handed over 8,000 sheep without any infectious diseases to the Government of Mongolia. Sats Manal PVU played a key role, they were responsible for almost 43% of the total work of this large-scale testing operation. " The PVU's ability to deliver this service, in a timely manner, illustrates the PVU's increased capacity to deliver laboratory services.

Since starting its operations in June 2020, the PVU has reached 10,101 head of livestock from 313 herders, testing a total of 189 tonnes of meat for hygiene and safety. The lab expansion has opened a new revenue stream for the business, generating 10 million MNT (3,807 USD) far from laboratory services during the first six months of operation.

In addition, as the scope of laboratory services has expanded, Sats Manal identified a growing need to strengthen their ability to function sustainably as a business. Sats Manal worked with a business consulting firm, a service provided by Mercy Corps, to develop the PVU's business profile and visibility as well as their business and marketing plan. With guidance of King Consulting, the PVU has been able to craft their mission statement, develop a logo, and create a web page for the business. Additionally, business and marketing plans were developed based on revenue projection and current demand.



The director of the PVU emphasized the importance of the consultancy: “Now we understand that we were drifting as a business, because we weren’t looking at supply and demand. We only wanted to open a lab; there had been no clear mission or plan. Now I’m really aware of the importance of planning in detail. It was an eye-opening experience”.

Result 2: Expanded Partnership with Local Actors



The addition of a laboratory to the Sats Manal PVU has allowed the PVU to expand their partnerships and market linkages because they now offer laboratory services that many individuals and large

entities need. The soum Governor and the aimag Vet Specialist emphasized that timely access to laboratory service will save time and money for herders, local businesses, and public entities. Valid certification enables herders to sell their livestock and products at a premium with improved confidence in quality and safety, potentially helping them expand their partnerships with other business entities in other aimags and Ulaanbaatar. For instance, over the past six months, the One-Stop Lab has served 70 herders, and conducted hygienic tests for 6,000 sheep which were then supplied to the meat company ‘Healthy Mongol Meat Eco’ which is located at Nalaikh district of Ulaanbaatar City.

Similarly, Sats Manal PVU had only been operational for a short period of time, but was able to make service agreements with the soum school, kindergarten, hospital and one canteen. Sats Manal is responsible for testing the meat and milk products purchased by those entities to ensure quality and hygiene, and that food safety requirements are met.

The local government supports the PVU’s expansion into laboratory-based testing. The soum has a total of four PVUs and all of them have agreed to use Sats Manal LLC laboratory for hygiene testing for meat and dairy products, with all hygiene certificates awarded by Sats Manal. The government is taking an active role in supporting the One-Stop Lab by creating linkage between the PVU and other local entities. The soum government has encouraged slaughterhouses and canteens to use laboratory testing for their food products.

The soum veterinary specialist said, “we will encourage other business entities to collaborate with the One-Stop Lab since the PVU is fully capable and delivers quality services in a timely manner.” The soum Governor plans to connect with the southern soums of Khentii aimag because herders from the south frequently pass through Bayankhutag soum to get to Khentii aimag center, and onward to Ulaanbaatar. The herders of those soums often utilize a slaughter unit located in Byankhutag soum, so there are additional opportunities to test meat in the One-Stop Laboratory. There is also an opportunity to cooperate with the recently established Dry Milk Factory to test the raw materials used in the production of powdered milk. Each person interviewed noted that the lab examination and tests for the sheep donated to the People’s Republic China was a clear example of how the PVU

built effective partnerships with local market actors such as herders, local government and the aimag laboratory.

Result 3: Visibility of One–Stop Laboratory Amongst Local Community

As a result of project implementation, Sats Manal’s capacity to deliver services has increased, and in turn, their visibility in the community has also increased. Since the project started, the PVU provided veterinary and laboratory services both to 595,182 head of livestock which has increased by 2.8 times from 210,000 compared with previous year. The number of users (herders and businesses) also increased by 4.9 times from 214 to 1,046. From these, 313 herders used lab tests and 10,101 heads of livestock sampled and tested.

Local herders in the soum have reported that they now know more about what testing is and why it is important, and understand the value of testing meat and milk products. As one herder said, “Now we have a laboratory and we do not need to go to the aimag laboratory. It is a very easy and safe service. We can now have valid animal health certificates, based on testing results. Before, vets just looked at the meat and provided certificates, but now the tests are based on lab tests. Now we are very confident to sell our meat to the market because we know for certain that our products are safe for consumers.”

The soum governor also highlighted the importance of having a lab in the community:

“Having a One-Stop Lab at the soum-level is a first in Khentii aimag. In our soum, there are four private veterinary units and each of them has identified a high demand for laboratory services. Sats Manal PVU took the initiative to lead the establishment of One-Stop Laboratory with support of Mercy Corps; other PVUs have agreed to use and pay for the lab services. The One-Stop Laboratory involvement in sheep supply to China has greatly promoted its reputation among soum residents, now they are very confident in the service provided from this laboratory because the aimag laboratory pronounced them as a capable PVU.”



In November 2020, the PVU invited other veterinarians to visit Sats Manal as part of a study tour designed to provide information about the lab services offered and to share experiences, ideas, and innovations that could be replicated in other areas. Fifteen local veterinarians of nine soums of Khentii aimag attended the event. It was a useful and practical demonstration for the participants of how laboratory services work, how to establish a similar laboratory, and how to provide high-quality and timely services. The participants were specifically interested in the smaller sized equipment which is affordable and convenient for small rooms. Moreover, they were significantly inspired, and some participants expressed that they could establish a collective lab where there is high demand.

The Sats Manal Director said that “it was a very exciting moment when I introduced my laboratory operations and documentation. I cannot believe what we’ve done together to get to this point. I hope our PVU has a very bright future.”

Business Sustainability and Outlook for Near Future

It is apparent that the business will be sustainable with increased market demand. The director of the PVU has highlighted that herders and laboratory service users are requesting the lab to further diversify types of testing availability and further widen the scope of testing to meet market-driven demand. For instance, horse trading is booming, therefore, testing for horses is lucrative service so the One-Stop Lab will need to diversify their tests to include equine testing.

Moreover, the PVU director has proposed a surveillance survey to monitor the antibiotic residue in the livestock in the soum. This proposal was developed with the support of soum Veterinary Department, and submitted to Citizens’ Representatives Khural for budget allocation. This surveillance would be innovative and also strategically beneficial for herders and entities to expand their meat supplies to internal and external markets.

With Mercy Corps support, Sats Manal received tailored, targeted business consulting services from a Mongolian firm, King Consulting. A key focus of these sessions was on marketing and outreach to potential customers about their newly expanded services. Sats Manal has now better understanding of how to effectively connect with herders, how to increase their customer base, and how to conduct effective outreach. For example, the PVU has now developed a brochure that includes multiple veterinary and laboratory services and distributed it to local herders.

Lastly, another planned action is to collaborate work with soum government and other relevant organizations to connect with central heating in 2021 to expand the PVU business moving forward.

Lessons Learnt

This section includes some ‘lessons learned’ from Mercy Corps’ and Sats Manal’s experience establishing a soum-level laboratory.

- Estimate cost of investment against laboratory service demand strategically. With project support, Sats Manal established a model laboratory that is easily replicable in other areas. The feasibility assessment done before this project revealed that at least 30 million MNT will be required to procure necessary equipment, tools and reagents etc. This is prohibitively high for many rural soum-based PVUs at the moment and, as such, additional investment from the government or international partners will be essential when establishing laboratories at the soum level. Most importantly, the PVUs and other interested organizations need to estimate the number of livestock, amount of livestock products to be sampled and tested regularly and determine the best location for a laboratory for long- term sustainability and

eventual profitability.

- Focus on both technical and business management capacities. The lack of technical expertise and business management skills make it difficult for rural veterinarians to run their PVUs as a business. In addition, PVUs often lack working capital due to herders' unwillingness or inability to pay for vet services; as such, the PVUs are highly dependent on scheduled vaccination campaigns paid for by the state. To be successful, the vets need to improve their technical, business management capacities and skills and computer literacy first and be active to seek and link with technical expertise outside the soums and aimags. The SVCL now has tailored, targeted curriculum specifically for the PVUs wishing to establish One-Stop Laboratories; this, along with business/ management support, will likely be needed for other PVUs interested in establishing local laboratories.
- Collaboration with different stakeholders is key to success. Collaboration with key stakeholders at different levels- soum and aimag, private and public- is critical. While the PVU delivered vet services and laboratory tests to herders and private business entities, the PVU also actively worked with local government organizations, such as schools, kindergartens, hospitals and made business agreements for future testing. These linkages will be beneficial for the PVU in terms of sustainable partnership with local entities and ensuring demand for their new services into the future.



Demonstrating Impact

INTRO LABORATORY TRAINING FOR SOU M LEVEL PVUS

Partner Name: State Central Veterinary Laboratory

Project locations: Bulgan, Khentii and Selenge Aimags

Project Duration: August 2019 - June 2020

Background

Under the new Animal Health Law that came into effect in 2018, Mongolia introduced a new animal health system which traces health of livestock from birth; it includes information about vaccines and veterinary services as well as the animals' geographical movement. This allows more herders and veterinarians to provide accurate and verifiable information on animals to buyers and consumers.

In addition, the Government of Mongolia (GoM) has put in place several policies and regulations that require improved testing for meat and livestock derived products for them to be sold in the market. The success of this new traceability system is contingent upon the ability of local Private Veterinary Units (PVUs) to test and verify the food safety of any livestock derived products.

However, at the community level, PVUs have been slow to adopt and implement this policy, not only because of lack of funding, but also due to lack of knowledge and capacity. In many cases, veterinarians and PVUs in the soum do not know where to start, which legal requirements to follow, which basic test to do, what equipment and reagents to buy or where to buy them.

For these reasons, Mercy Corps supported “Intro-level Veterinary Laboratory Training” for 15 local veterinarians of three RCP aimags. The overall goal of the training was to reduce the gap in laboratory knowledge of local PVUs to contribute to early detection and prevention of livestock disease, enhancing food safety, and increasing marketability of livestock and livestock derived products.

In October 2020, MCM contracted State Central Veterinary Laboratory (SCVL) to design and deliver the training. The State Central Veterinary Laboratory is the highest biosecurity laboratory in Mongolia and has over 18 in-house laboratories specializing in livestock diseases and testing. It is highly beneficial to local PVUs to learn from and build relationships with SCVL, as SCVL is a national level reference laboratory responsible for confirming the diagnosis and test results for local veterinary laboratories.

Justification for choosing SCVL

Prior to this training (in May and June 2020), Mercy Corps hired State Central Veterinary Laboratory (SCVL) through a competitive procurement process to conduct comprehensive on-hands training to three veterinarians of Sats Manal LLC, a one-stop veterinary laboratory established in Khentii Aimag. For laboratory training of Sats Manal LLC, Mercy Corps and SCVL developed a special curriculum to meet the needs of soum-level veterinary laboratory.

With adaptation of a new Animal Health Law, the requirements and standards that PVUs must meet have also been updated and revised. Most importantly, PVUs are now required to diagnose animal diseases and conduct animal health surveillance and verification of food safety. For these purposes, PVUs must be able to conduct basic meat, milk, residue testing, as well as parasitic disease testing.

In 2018, Mercy Corps has commissioned technical and feasibility assessment for the establishment of a one-stop laboratory which detailed the tests to be done by one-stop laboratory (based on PVU standard and local livestock disease data) and equipment required for these tests. Based on these, Mercy Corps has developed curriculum for One-stop laboratory training. Thus, leveraging our already established partnership with the State Central Veterinary Laboratory (SCVL) and existing curriculum, the RCP team organized the “Intro-level veterinary laboratory” training for 15 local veterinarians interested in operating soum-level veterinary labs from three RCP aimags on October 21-29, 2020 in Ulaanbaatar.

The Curriculum

The State Veterinary Central Laboratory has made tremendous efforts to develop and deliver tailored training curriculum for soum-level veterinary staff. Based on our previous experience with One-stop laboratory training as well as the new PVU standards, Mercy Corps and SCVL selected the most basic tests to be taught for the seven-day “Intro Lab Training”. Therefore, Animal Health specialist of Mercy Corps and experts from SCVL went through all possible test and developed the curriculum based on the following considerations:



- Which test is required under the standards for soum level veterinary laboratory?
- What are the most common tests that herders require to sell their livestock in the market?
- Which test can be conducted using the most basic equipment available at the soum level?

This approach enabled the SCVL to take a practical, hands-on approach to laboratory testing. By building PVU capacity to deliver the services that are most likely to be in demand at the local level, such as testing freshness of milk or added mixture, testing meat to determine whether its slaughtered animal or dead animal, parasitic tests, herders have access to the tests required for them to more effectively sell their products on the market.

The training also included study-tour of two private veterinary laboratory in Ulaanbaatar.

The Training

“Intro Laboratory Training for Soum Level PVUs” training was delivered at the State Central Veterinary Laboratory for 7 days.

1. **Laboratory testing including laboratory regulation, biosafety, meat and milk testing standards** (0.5 day) aimed to refamiliarize the veterinarians with standards that their PVUs and veterinary laboratories should follow.
2. **Actual hand-on training and practices** (6 days) was focused on the most frequently used and minimum standard/level tests such as Bacteriology, meat testing, milk testing and residue testing. Upon Mercy Corps request, SCVL made special effort to teach testing methodology, technique using the most basic and common equipment. As the highest-level vet laboratory in Mongolia, some of the equipment and testing techniques are highly advanced and state-of-art modern equipment. Mercy Corps and SCVL were very aware that these advanced and expensive techniques while extremely accurate and fast, are not adaptable to PVUs and vet laboratories that are just starting up. The tests taught were also test that

are the most commonly in demand in rural communities and PVU will be frequently conducting these tests.

3. **Study tour-to see the actual operations of 2 vet laboratories** (0.5 day) – Participants visited two private veterinary laboratories working beside food market in Ulaanbaatar. This activity has significant importance due to two reasons: a) this was the first time SCVL organized the study tour of different laboratories as a part of the training. And organizer also acknowledged it was very different approach.
- b) **For the most of participants** (10 out of 15), it was their first-time study tour of veterinary laboratories.

According to post-study survey, the difference between two selected laboratories has also left a deep impression on the participants. “Ekas Lab” was meticulous in their documentations and the flow of the workplace, laboratory was highly organized. “Altan Ue Buyant” was very basic and seemed easier to emulate for participant. The basic in this context does not mean bad or do not meet standard. The laboratory has all minimum equipment and standards in place.

Training Results

- Overall, the training helped to improve knowledge of local PVUs about laboratories, promote importance of early detection and prevention of animal diseases, and ensure food safety as well as increasing marketability of livestock and meat products.
- Based on the observation and baseline survey, participants were satisfied with the overall content, delivery, and duration of the training. However, this may be because of the lack of comparable training available to the private veterinary units (PVUs).
- The participants from obtained practical skills in laboratory testing, laboratory sampling techniques, and laboratory processes.
- They also visited two private veterinary laboratories working beside the markets to help them visualize and learn from the actual experience of small veterinary laboratories.
- The SCVL undertook significant efforts to develop a tailored training curriculum specifically for soum-level veterinary staff. The first of its kind, the certification training took a practical, hands-on approach to laboratory testing and services that are most likely to be in demand at the local level.
- Upon completion of the training, participants should be provided USB containing video and photos (testing steps and results etc) the training that they can refer back to afterwards in their daily work.

Next Steps

The training has built participants capacity to operate soum-level laboratory and helped them to learn from actual experience of veterinary laboratories beside food markets. In December 2018, five participants from this training have applied for Mercy Corps' Animal health and breeding in-kind support for Lab kits and three of them have received the support (please refer to "Animal Health and Breeding - In-kind support" document for more detailed information) which shows that participants are serious about improving and continuing their laboratory services. And they are seeking all opportunities to build their capacity to deliver vet laboratory service.

Moreover, The SCVL has now a "ready to go" training curriculum which can be rolled out again for other stakeholders in a rural context as more and more laboratories are established at the soum level in Mongolia. In sense, the partnership with Mercy Corps and delivery of abovementioned two trainings, experts at SCVL also hone their skills in delivering the training for rural participants. The existing curriculum will allow any future training to take place with minimum preparation and lowers the cost of the training as it foregoes curriculum development.





Demonstrating Impact

YOUTH PARTICIPATION IN LIVESTOCK SECTOR

Partner Name: Elite Khuns LLC

Project location: Khentii Aimag, Kherlen soum

Project Duration: August 2019 - August 2020

Background

Elite Khuns LLC (EK) produces and sells livestock handling equipment in Khentii aimag. This is a youth-run business,³ which is striving to sustainably produce livestock equipment – most of which is otherwise unavailable in Mongolia. The equipment consists of livestock crushes, head gates, and portable corrals which are all designed to hold animals safely during veterinary and breeding services. The equipment ensures the safety of the people delivering services while also improving animal welfare. It is designed by the director of the company, Mr. Duurenbileg, who has dreamed for years of running this type of business. The designs were inspired from not only personal experience and understanding of local needs, but also from the experiences of other cattle farmers and animal health service providers.

In partnership with Mercy Corps Mongolia 's Resilient Communities Program, the company launched a project intended to increase access to this innovative livestock handling equipment, contributing to the delivery of high quality animal health and breeding services. Under this goal, three outcomes were determined; (1) Increased production capacity of Elite Khuns; (2) Innovative, efficient livestock handling equipment promoted in Mongolian market; and (3) Increased efficiency of livestock handlers using equipment.

Result 1: Expanded Production Capacities

Elite Khuns, LLC has improved the efficiency and quality of equipment production by establishing a 150m² indoor workshop and equipping it with state-of-the-art welding equipment. Previously, the company's welders would work outside – often in bitter cold temperatures. However, the newly improved working conditions enable the business to operate all year-round, independent of the weather, as the workshop is equipped with electricity and heating. Since the workshop has also been outfitted with modern equipment meant for professional-grade welding, employees are now able to work more efficiently. Production capacity has more than tripled (increased by 3.7 times). Before project implementation, one livestock crush was produced in one month; now the same equipment takes around 10 days' start-to-finish.

With support from Mercy Corps, Elite Khuns has further diversified the products they offer. New products have been designed in order to better meet the needs of customers. The director of Elite Khuns has emphasized that this ability to innovate has helped them increase their competitive edge in the market, and grow their customer base. Newly developed equipment includes head-gates, livestock crushes, portable corrals for small ruminants, surgery tables for operations, and livestock weight scales.

As a result of the business's growth, Elite Khuns increased sales revenue by six times over the project period. In addition, they more than tripled – from 7 to 26 – their production of individual pieces of livestock equipment. In addition, six other pieces of equipment outside of their "normal menu" were also produced based on individual buyer's requests. Mr. Duurenbileg pointed out that "the company would have spent 4-5 years to reach their current level of production and sales if they had not partnered with Mercy Corps Mongolia ." To keep up with production demand, the company hired two full-time staff members as well as 2 temporary staff for times when orders increase. As part of the project, Elite Khuns sent two of their welders to formal training; these staff members are now certified by national standards and the company is now able to implement new safety measures as part of the expansion of the business. In addition, Elite Khuns has also developed employees' soft skills, including communication, managing contract-based relationships, and marketing and accounting skills. For example, as a result of project reporting for Mercy Corps, Elite Khuns improved their process for documentation of progress and record keeping, while also meeting deadlines. As a result, Elite Khuns can now better manage relationships they have with other companies, including one in

Dornod aimag who provided very positive feedback about their experience working with Elite Khuns. The director of Elite Khuns Mr. Duurenbileg said, “Company said they really appreciated our tight management of the project and the thorough contract we drafted. They also liked the transparent documentation we provided.” These aspects of improved management have made Elite Khuns more desirable to work with as a company because they have gained recognition for being well organized and easy to work with.

Result 2: Increased Market Share

As Elite Khuns has entered a new market, with very little product recognition and undeveloped demand, the company sold their products at 20-50% subsidized prices to stimulate market demand. As a result, they have gained 20 new customers including farmers, veterinary units, cooperatives, feedlots, and herders, all but two of which purchased equipment at the subsidized rate.

To be a profitable and sustainable business, Elite Khuns needs a sound business plan, skills and marketing strategy. Therefore, Mercy Corps provided an opportunity for Elite Khuns to work with King Consulting, a business consulting firm hired by Mercy Corps to support RCP private sector partners. King helped Elite Khuns strengthen their market plan, including increasing social media presence and improved direct marketing of the equipment. The business launched two web pages for marketing purposes. Their second marketing technique is to sign private veterinary units (PVU) and breeding units onto short-term contracts to use the equipment free of charge; the business hopes this will be an effective way to stimulate market demand. Elite Khuns also worked with the consultants at King to begin the process to receive a Utility Model Certificate⁴ from the Mongolian Ministry of Justice. This will ensure that other manufacturers cannot produce Elite Khuns’ designs or infringe on their market.

Through this project, the company found that the more effective way to identify customers was through social media. The company released the product catalogue and a promotional video, which were widely disseminated through social media, trade fairs, veterinary units. In addition, the company created two webpages, the first of which is primarily about education and informing people about efficient handling practices using Elite Khuns equipment. The second webpage is named “Nomad-Tech Livestock Handling Equipment” and is focused on advertising the handling equipment and includes the catalogue of products. Through these marketing techniques, the company was contracted by a company in Dornod aimag to produce four pieces of equipment (a head-gate for small ruminants, a crush for cattle, a portable corral, and a scale for sheep). Because this contract was not fulfilled at the subsidized rate for equipment, the order brought in a substantial amount of revenue for the business. Another important success for the company was winning a contract under a competitive solicitation process for MCM’s

⁴ Utility model certificate is a document granted by a government authority certifying the exclusive right of a legitimate person to own the utility model (similar to a patent). “Utility model” refers a new technical solution related to an industrial tool, device or process which is capable of industrial application.

OFDA-funded LTS3 program. The contract was for metal fencing to protect two different natural spring sources in Khentii; the fences were supplied at full fair market value.

Result 3: Increased Efficiency of Livestock Handlers using the Equipment

One of Elite Khuns' customers is the Yumtgegee⁵ PVU, located in Khentii aimag. As shared by one of the PVU's vets, "one important advantage of this equipment is that it increases our efficiency when delivering veterinary services. Before we had this equipment, 4-5 people were needed to work; now 2 people are enough to provide the appropriate amount of medications and deliver other treatments. Another advantage is the company's portable corrals cattle which we installed near herder families. Herders come to get a service and it allows to reduce transportation cost and travel time for our PVU and for the herders." Another customer, who has 40 cattle, bought a cattle crush with a discount of 20%. He shared that the cattle crush is very useful because he can now treat cattle by himself, without help from family or neighbors. He is very happy because it was easier to manage the cows and didn't take as much time to give them the medicine and care they need.

Elite Khuns has consistently elicited feedback from customers in order to identify gaps in the market, and improve the product development. With this aim, they prepared a questionnaire to receive feedback from the six customers who purchased equipment with subsidized prices. Their feedback about the products is expected to help improve the quality and specifications of the equipment.

Business Sustainability and Outlook for Near Future

The company's goal is to receive a Utility Model certificate for their equipment, the process is nearly completed with the help of King Consultancy. For the company, the certificate will be a step towards ensuring the company achieves sustainable growth.

In order to identify and target new markets, Elite Khuns has a plan to establish a 3-year contract with three PVUs to use the company's livestock crushes and head-gates. The PVUs then have to share the practice of using this equipment with potential users such as breeders, herders, farmers, and other PVUs. The company is also planning to diversify products based on local needs. Mr. Duurenbileg is currently working on a design for a mobile home for herders, and table for castration of calves. To increase their customer base in the long run, there is a need for Elite Khuns to identify alternative financing methods for their potential buyers – including herders, farmers, veterinary units, and cooperatives – who often lack cash to purchase their equipment. This challenge led Elite Khuns to pilot a new barter method in which they trade equipment for livestock.



Demonstrating Impact

INCREASING ACCESS TO VETERINARY SERVICES

Partner Name: Yumtgegee PVU

Project location: Khentii Aimag, Umnudelger soum

Project Duration: August 2019 - June 2020

Background

Yumtgegee is a private veterinary unit (PVU), located in Umnudelger soum, which has one of the highest density of livestock in Khentii aimag. The PVU provides veterinary services to 420,000 head of livestock – roughly 80% of all livestock in the soum. Before launching the project with Mercy Corps, the Yumtgegee office had only one laboratory room in a significant state of disrepair, ultimately making it impractical for lab testing. They also had outdated laboratory equipment, and none of the PVU staff had specialized in laboratory qualifications.

Despite these challenges, the PVU was still able to provide basic animal health services with these resources. The lab tests provided relied largely on sensory testing mechanisms and use touch, smell, visuals, and taste to determine the quality of the products. However, sensory tests as stand-alone assessments are no longer considered to be an acceptable

methodology of quality assurance. In December 2017, the Mongolian government adopted an updated set of Animal Health Laws which state that veterinary and hygiene certificates for meat and dairy products will only be issued if accompanied by detailed lab results. However, 98% of local veterinary units do not have on-site facilities to conduct the required laboratory-based tests. Yumtgegee identified their lack of an on-site lab as an issue of compliance but also an opportunity for growth as a business.

In addition to improving their ability to provide laboratory services, Yumtgegee identified an opportunity to increase their capacity to provide anti-parasitic treatments. Anti-parasitic treatment is an important step in preventing parasitic disease in livestock; parasites reduce yield and quality of meat, and can lead to high mortality rates in herds of livestock. An essential function of PVUs in Mongolia is to deliver anti-parasitic treatments to herds of livestock. Before project implementation, Yumtgegee was only reaching 50% of livestock in their service area. This was due to lack of proper equipment and not having enough employees.

In order to address their lack of infrastructure and expand their business's capacity to provide vet services, Yumtgegee partnered with Mercy Corps Mongolia's Resilient Communities Program (RCP) to establish a modern laboratory, expand their anti-parasitic treatments, and conduct outreach to herders to increase awareness about product certifications and animal health. The project intended to increase the herders' use of quality animal health services to adopt animal health practices. Under this goal, three outcomes were determined: (1) Increased capacity of soum veterinary laboratories, (2) Expanded anti-parasitic service/veterinary services, and (3) Increased demand for laboratory and anti-parasitic infection services.

Result 1: Increased Capacity of Veterinary Laboratory

Through their partnership with Mercy Corps, the PVU renovated two laboratory rooms and installed modern equipment, making it the only fully equipped veterinary laboratory in the soum. This has significantly improved the testing environment and quality of services delivered. This new laboratory service has doubled the tests available in the soum. In addition to the five sensory tests, Yumtgegee's laboratory now offers five chemical tests for pH levels, antibiotic residues, protein and carbohydrate levels, impurities and additives, and bacterial contamination. This improved testing methodology has increased their testing rate by 75%, from 360 tonnes of meat to 629 tonnes of meat. Having a laboratory offering 10 tests at the soum level has increased local herders' access to reliable testing for meat and dairy products.

The impact of improved efficacy of the lab, and increased public access to lab tests, ensures herders' meat and dairy products receive valid certificates, in turn directly protecting consumers' health and safety. To extend the benefits of lab testing, Yumtgegee identified a new customer base, which includes schools, hospitals, markets, butchers, slaughterhouses, and restaurants. All of these entities purchase meat and dairy products,

and sell or serve them to the general public. Yumtgegee made agreements with these entities to test the goods purchased to ensure quality and hygiene, and that food safety requirements are met.

Recognizing the need to increase the number of trained employees on their staff to maximize the operationalization of the laboratory, Yumtgegee hired two young veterinarians as lab technicians. These two vets went to Ulaanbaatar to attend a veterinarian laboratory training course, and received certification as professional laboratory technicians. Yumtgegee invested in the business's physical infrastructure and in their human resources, which together lead to sustainable business growth. As a result of these investments, Yumtgegee saw a 56% increase in revenue from lab services alone. A significant increase in revenue indicates that these services are in high-demand and the PVU accurately identified a way to meet the needs of their customers.

The director of the PVU said, "Recently, other PVUs and governmental officials from neighboring soums and Khentii aimag came to our laboratory to see our achievements and learn about our lab protocol and process. Other PVUs have been interested in establishing similar laboratories in their offices, and have requested study tours to observe our lab operations and testing methodology. I'm really confident that our lab can be a model vet lab in Khentii aimag, and for Mongolia as a whole."

Result 2: Increased Capacity of Anti-Parasitic Services

Yumtgegee wanted to improve the PVU's scope of anti-parasitic treatment by procuring updated equipment and materials. As part of the partnership with Mercy Corps, Yumtgegee purchased sprayers, a vehicle, personal protective equipment, portable corrals and livestock handling crush. The new vehicle includes a tank to accommodate anti-parasitic solution and to enable the vets to spray 2,000-3,000 sheep and goats and 200-400 cattle per day. Previously they could only reach 500-1000 small ruminants, and 50-100 cattle per day. The vehicle now makes it possible to reach remote herder communities and to more efficiently move around the soum to deliver these services. The PVU also utilizes portable corrals to keep livestock in one place as they spray them with the anti-parasitic solution, which increases both efficiency and the efficacy of the treatment.

During the course of project implementation, Yumtgegee more than doubled their delivery of anti-parasitic services to livestock, from 420,000 to 891,000 head of livestock in total. As such, 5,332 herders received anti-parasitic services for their herds, a 51% increase from 3,520 herders in previous years. As a result of the improvements and increased efficiency, Yumtgegee has also seen an increase in revenue from the expansion of their anti-parasitic services. Originally expecting to see just 10% increase in revenue, Yumtgegee reported that the anti-parasitic services have actually increased revenue by 50%. This expansion in delivery capacity has required the PVU to increase their staff; in addition to those working in the laboratory, another two young veterinarians were hired

specifically to provide anti-parasitic services. Now, all seven vets working at the PVU have the necessary equipment and resources to effectively and efficiently do their work. The head of the Agricultural Department in Khentii aimag stated that “there are two important benefits from the expansion of Yumtgegee’s services; firstly, because they have sufficient equipment and human resources, it enables the PVU to complete anti-parasitic treatments within the time frame needed. Previously, these treatments were postponed due to lack of resources. Secondly, it is very important and beneficial to have this PVU here they have provided employment opportunity for young vets and offer a higher salary than most PVUs, and some promotional incentives to encourage them to stay.”

Result 3: Increased Demand for Lab and Anti-Parasitic Services

It is clear from the increase in services delivered, and herders reached, that there was an increase in demand for Yumtgegee’s services. However, Yumtgegee identified an opportunity to stimulate further demand among herders for laboratory testing services and anti-parasitic treatment. The PVU printed 2500 brochures about the importance of animal health and anti-parasitic treatment of livestock which they distributed to herders. Yumtgegee organized six outreach campaigns about anti-parasitic treatments, and 220 herders in total attended these events. These were large-scale demonstrations of how anti-parasitic services work, and why it’s important for livestock to receive this treatment. In addition, the PVU developed posters about food safety and laboratory testing, which were distributed to school, hospital, market, butchers, and restaurants and public spaces. These efforts were educational while also promoting the PVUs’ range of services.

Yumtgegee developed a one-day training curriculum and participant materials about anti-parasitic and lab testing which was delivered to 648 herders. The training was originally planned for groups of herders, but COVID-19 restrictions prevented large gatherings. Yumtgegee adapted and the vets visited herder families individually to deliver the training and materials. As noted by the PVU director, “This adaptation turned out to be beneficial because the vets were able to provide more in-depth information, answer questions directly, and provide animal health services at the time of the training.”

Local herders in the soum have reported that they now know more about what testing is and why it is important for them as suppliers. As testing became more regular, trust was established between herders and their customers, and herders are now able to sell livestock and meat for a premium. As a result, herders have been paying Yumtgegee for laboratory testing.

In response to market demand, Yumtgegee is diversifying their services to include a drug store in the PVU office, which offers drugs that meet the needs of the spring and autumn seasons. In addition, the PVU has increased its capacity to deliver services beyond simple surgeries to include more complicated surgery like caesarian, bone fracture repair, tumor and growth removal.

Lastly, one important but unintended impact of this projects was the partnership formed between Yumtgegee and the local government as a response to COVID-19. To meet the government's mandated precautions to prevent the viral disease from spreading, the PVU offered to utilize their anti-parasitic equipment to disinfect public spaces, free of charge.

Business Sustainability and Outlook for Near Future

It is evident that business will be sustainable as results of increased demands of herders and entities, increased revenue, and greater capacity to deliver services. Yumtgegee plans for their laboratory to become a demonstration site for other PVUs and hope it will be replicated as an example of best practice. The PVU plans to build a new clinic for livestock surgery and treatment indoors.



Demonstrating Impact

YOUTH – LED PRIVATE VET LABORATORY

Partner Name: Mandalkhaan Sureg PVU

Project location: Khentii Aimag, Binder soum

Project Duration: April - October 2020

Background

Mandalkhaan Sureg LLC is a Private Veterinary Unit (PVU) located in Binder Soum in Khentii Aimag, where Mandalkhaan Sureg and 6 other PVUs serve 266,861 head of livestock. In previous years, Mandalkhaan Sureg provided general veterinary services including inoculation, deworming, and health checks for 29,000 head of livestock across the 60 herder households that are registered under their PVU.

The PVU is operated by two young veterinarians, which qualified the PVU for additional support in partnership with Mercy Corps Resilient Communities Program. The youth population of Mongolia, aged 15-34, constitute the largest demographic group; youth are nearly 35% of the total population, yet there are very few young people involved in the livestock sector. As such, Mercy Corps Mongolia prioritized support to “youth-led”

businesses during our recent competitive Call for Applications process, providing these businesses with a 70/30 cost share for project implementation.

With MCM's support, Mandalkhaan Sureg expanded their animal health services to include two new activities: animal product hygiene testing and zoonotic disease testing/monitoring. These services were chosen because they are essential to the health and safety of the livestock and people in the community. Prior to project implementation, there were no facilities or equipment at the soum level capable of carrying out the necessary laboratory testing for either of these necessary services. The business expansion project also included outreach and marketing efforts to raise awareness about the need for testing and to promote the PVU's business, specifically the new services they could now offer.

The project's objective was: "Herders use quality animal health services to adopt better animal health practices." To achieve this objective, three outcomes were determined; (1) Increased access for herders and businesses to PVU laboratory services in the local community; (2) Enhanced community engagement and public awareness around zoonotic diseases; (3) Strengthened market linkages and promotion to potential customers.

Result 1: Increased Access to Veterinary Laboratory

In partnership with Mercy Corps, Mandalkhaan Sureg PVU renovated three rooms in their existing building to accommodate a veterinary laboratory for animal product hygiene and zoonotic disease testing; they also installed a pharmacy. The laboratory was outfitted with the necessary equipment and materials needed to accommodate the testing needs of the soum. The PVU also renovated additional rooms to use as a reception area and an office; to do so, the PVU invested an additional 10 million MNT (3,570 USD), which was an "top up" to their original proposed and budgeted cost share. The newly renovated laboratory now meets minimum standards set by GoM for a PVU to offer lab services.

The Director of PVU stated: "It was a great pleasure collaborating with Mercy Corps as they support youth-led rural businesses. Nowadays not many young people are interested in rural business and livestock. After graduating university, we decided to go back to our hometown, and have been providing vet care services continuously to herders for 4 years. With financial and technical support, our PVU's scope of services has increased significantly; this has brought in a new source of income that will gradually increase in the future. Beyond physical facilities, we have deepened our technical knowledge and competences in lab testing services immeasurably. If we used only our own funding, we might have only been able to establish a veterinary laboratory like this three or four year from now".



Having a proper laboratory at the soum level has increased the reach of the PVU's services to local herders and other businesses to offer reliable testing for meat and dairy products.

Moving beyond routine animal healthcare has expanded the PVU’s clientele.

As part of the project implementation, the two veterinarians who own the PVU were trained and certified in lab services by the State Central Veterinary Laboratory (SCVL) in Ulaanbaatar. Following this training and the expansion of their facilities, Mandalkhaan Sureg PVU is now able to offer eight different laboratory testing services, which fall into two categories. The first category of testing is for food safety and hygiene; this includes tests to determine freshness, pH, and antibiotic residue in meat, and impurities, additives, drug residue, caloric content, and bacteria levels in milk. The second category of tests is zoonotic disease testing, which helps with further detection, monitoring, elimination, and prevention of zoonotic disease outbreak in the soum area. The PVU has also focused on improving awareness in the community about the importance of zoonotic disease testing through outreach and distribution of informational materials.

2 Veterinarians attended training to become certified to operate laboratory

INCREASED CAPACITY TO PROVIDE HIGH-QUALITY LAB SERVICES

Previously had no lab testing capacity

8 TYPES OF LABORATORY TESTS OFFERED

DOUBLED NUMBER OF EMPLOYEES
From 2 to 4 people

414 HERDERS ACCESSED LAB SERVICES
Significantly increased access to PVU lab services from 0 to 414

8.2 TONNES OF MEAT AND 10.4 TONNES OF MILK TESTED
Significant increase in animal products tested in the first year of operating the lab

As a result of project implementation, PVU has stable income generation

56% INCREASE IN REVENUE

A total of 414 herders used the new lab services within the six months of project implementation. In total, the PVU tested 8.2 tonnes of meat and 10.4 tonnes of milk - a significant increase in animal products tested in the soum, which previously had no capacity to provide laboratory testing. As a result, the PVU has a new source of income, with an estimated 56% increase in total revenue. As highlighted by the Director of the PVU, Mandalkhaan Sureg did not have a stable monthly income in the past, as they earned an

income from scheduled vaccine injections and disinfection services which are both highly seasonal. Now they report that they are able to earn an additional 500-800 thousand MNT (200-350USD) per month through their laboratory and pharmacy services. As the demand for lab testing services for animal products increases, income is projected to increase as well. Though PVUs in Mongolia are often unable to run profitably as a business, Mandalkhaan Sureg PVU identified an opportunity to not only provide new services for the community but also use those services to run more sustainably as a business.

Improved testing capacity means that Mandalkhaan Sureg is able to provide herders and farmers with valid animal health certificates. Certificates clearly indicate the safety and hygiene of animal products; they also help herders sell their livestock and animal products at local markets and larger national markets. From the end-users’ perspective, public organizations such as schools, kindergartens, and hospitals are provided with

safe, traceable products from the local market. Ultimately, the whole community benefits from these laboratory services directly and indirectly.

The Director of the PVU has also reported that: “Many of the food products sold on the market had not been tested before. Now it is required by the law. We are contributing to the health and safety of our citizens through our work by strengthening livestock and product traceability systems.”

Through project implementation the PVU also improved documentation of tests, service delivery, electronic certificates, and disinfection activities; their records are now better organized and follow record keeping procedures in line with government standards. In fact, the improved record keeping system helps the soum government and General Authority for Veterinary Services (GAVS) inform the public about increased availability of testing to monitor animal health, and epidemiologic test results.

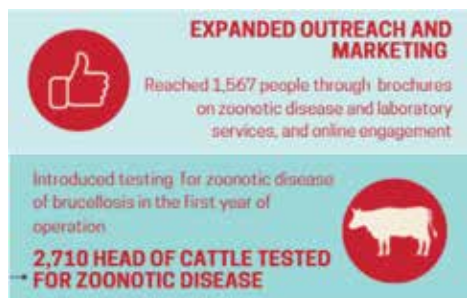
The State Veterinarian Inspector said “the new Animal Health law requires herders and other market actors to use laboratory testing and certification to ensure livestock and animal products meet food safety and hygiene standards, if they want to sell on the market. But in reality, it has not been adopted everywhere because most private vet units have no laboratory. We really appreciated the fact that a PVU in a rural soum is able to conduct laboratory testing services.” The PVU also prioritized improvements to their internal business documentation and management as well. Mandalkhaan Sureg participated in Mercy Corps Mongolia’s project: Local Business Clinic Project, which partnered with King Consulting LLC to provide business consulting services to sub-award partners. This enabled the PVU to refine record keeping for accounting and human resources and develop marketing and business plans.

In terms of HR, they have developed and operationalized procedures for hiring temporary staff, setting salaries, providing social insurance, and taxes. The PVU has also developed improved employment contracts, and procedures for hiring permanent staff. Each HR document has been developed according to official requirements and are in line with Mongolian labor law. For marketing, Mandalkhaan Sureg has developed a social media page with a new logo for the PVU, and learned how to effectively connect with herders, how to increase their customer base, and how to expand the PVU business moving forward. In terms of accounting and financial management, the PVU received consulting services related to basic accounting, tax exemption, reporting, and overall financial reporting and documentation.

Result 2: Enhanced Engagement and Awareness around Zoonotic Diseases

To encourage market demand for their laboratory services, the PVU has conducted a range of activities such as developing and printing brochures to distribute to herders, citizens, and other public and private sector actors. The leaflets aimed at promoting PVU laboratory and increasing awareness about zoonotic diseases. The PVU has also

attended events such as Autumn Festival, Herder Conferences/ Meetings, and Business-to-Business events. Furthermore, the PVU has employed a different marketing outreach method such as creating a social media page to reach wider audience and as a result, the PVU has reached 1,567 people through online engagement and brochures.



On the other hand, it is known that a general lack of information around zoonotic disease and disease surveillance make it difficult for herders to ensure the safety and health of their animals. Not every herder needs to be an epidemiological expert, but they still need to be aware of what actions to take if their animals get sick, how to prevent illness, and how to track the condition of their livestock in order to have

healthy and productive animals. To address this gap, the PVU has conducted brucellosis testing for 2,710 heads of cattle, from 74 herder households in the soum. There were no cases of brucellosis identified. Herders were extremely happy with results as they now know that their cattle are healthy and brucellosis-free. This has inspired the herders to ask after other tests for blood-borne diseases such as hemorrhagic septicemia and enterotoxaemia, which are commonly in the soum. As one herder said, "all of my cattle were tested for brucellosis by the PVU and they reported the test results back to me quickly. Previously only some of the cattle would be tested. Now I am able to ensure all my cattle are brucellosis-free. It creates an advantage for me when I sell meat to the market."

In addition, the State Veterinarian Inspector of Binder soum highlighted:

"Mandalkhaan Sureg PVU now has the ability to detect, prevent and control zoonotic disease, and can improve the quality and coverage of the services provided to herders. Previously, it was impossible to test all of the livestock. Only blood samples from breeding animals were taken for zoonotic disease testing and submitted to the aimag Laboratory. It took 7-14 days to receive test results from the aimag laboratory. Now it is possible to test all livestock, quickly, and without the extra cost of transportation. We, as the local government vet agency, support this initiative, and are working towards sharing this information about testing. There are opportunities for the herders in neighboring northern soums, such as Bat-Shireet and Dadal, to use the laboratory services to test their dairy cows, meat cattle, and animal products as well."

Although Mandalkhaan Sureg administered the brucellosis test for free in the first year of their operation, the PVU is now working closely with soum and Aimag Veterinary Department to establish ways to conduct these disease surveillance tests on behalf of the government and work out ways to get reimbursed for their services. Overall, through the brucellosis testing, herders were able to get their test results immediately whilst also receiving advice and information on how to prevent and what steps to take if

brucellosis was detected in their herd. Additionally, this type of testing with its rapid test result mechanism created a new demand from herders to test for other types of zoonotic diseases such as blood-borne diseases.

Result 3: Strengthened Market Linkages with Customers

Mandalkhaan Sureg started to collaborate with others by exchanging ideas, learning from others' experiences in delivery of veterinary services, inviting vets from other PVUs in their laboratory to demonstrate lab testing services



and generating results. Within this context, Mandalkhaan Sureg PVU signed one-year agreements with three different PVUs in Binder soum to integrate and share some financial and human resources, and maximize impact on animal health. For example, one of the biggest challenges PVUs face in soums are the lack of office space. Through this agreement, other local PVUs are able to use Mandalkhaan Sureg's office and laboratory.

They have also agreed to substitute for one another if needed during on-call services to remote herder households in the countryside. Mandalkhaan Sureg is able to benefit through reaching out to herder households that are registered under the other PVUs and expand their customer base- and all of the participating PVUs save money through these arrangements. One collaborating partner called "Bat Tun" PVU said: "Our collaboration seems to be very beneficial for both entities because we all learn from each other. Among us, some PVUs have no proper buildings to store medicines or don't have the capacity to do laboratory testing services. For instance, our contracted herders can use Mandalkhaan Sureg's lab testing, so they are able to request an animal health certificate from them. Additionally, we can stand-in for one another for on-call services if the other PVU is unable to respond. I hope our joint efforts could expand the scope of zoonotic disease testing and develop an evidence-based prevention and control plan".

The PVU also signed business agreements to provide laboratory testing for six local entities: the school, kindergarten, hospital, and three meat and dairy shops of Binder soum. Through these agreements, the PVU will test all meat and dairy products that are supplied to these entities to ensure the hygienic qualities of the products. In return, the local entities can supply safe meat and dairy products to kindergarten and school children along with soum residents. Furthermore, herders and farmers who supply to these entities will benefit through the laboratory testing. The herders who supply meat to the public entities such as schools, hospitals and kindergarten are able to provide certification that is required from the government. One herder said that, "starting from this year, I have started to supply beef (500 kg to 1 tonne per month) to the soum kindergarten. According to safety requirements, all meat should be tested to determine its safety; now it is getting easier and faster to meet this requirement. I bring the meat to the PVU who then takes a sample and provides the results after 20-30 minutes, along with the health certificate".

One local meat shop owner shared: “Last August we made an agreement with the PVU. Since then, I am very happy selling meat that is tested and certified as a safe product. It is important for my customers as they feel more confident when buying meat from my shop. Furthermore, our reputation and profit will increase as well. In the past, I had trouble selling meat that was not tested. Now there is no need to worry about where to go for tests. The price of laboratory service does not burden me. As far as I know, other butcher shops have also made business contracts with the PVU, this shows the service is in demand and useful.”

Business Sustainability and Outlook for Near Future

There is no doubt that the PVU has contributed to filling a gap in the animal health and food safety issues. Mandalkhaan Sureg’s service delivery experience in the first year of operation demonstrated that their service added value to local herders, other businesses, and helped them expand their market base. The PVU reports that customers are starting to ask for additional tests and clinical surgery services. Mandalkhaan Sureg PVU has clear plans to build on the success they found during their project implemented in partnership with Mercy Corps.

The Soum Veterinary Inspector has stated that, “according to the Law on Animal Health, the soum government has the right to allocate resources to facilitate veterinary services. There is a growing need for zoonotic and any infectious disease monitoring and prevention. For this purpose, we will continue to work with the PVU. The Director of the PVU has just proposed a surveillance study to detect the brucellosis disease for all animals in neighboring soums (Binder and Dadal) coming May and June 2021.”

The Director of the PVU shared his priorities to sustain laboratory operation, firstly connecting the PVU to the soum’s central heating system which will ensure stable operations throughout the year. In Binder soum, where the PVU operates, a slaughterhouse building is being constructed. This poses another opportunity to expand the supply chain capacity by partnering with the slaughterhouse. The PVU Director said, “we plan to test live animals and meat that are processed by the slaughterhouse. Their products will be supplied to other cities and aimags, not just limited to Binder soum. We will do our best to be a part of the expanded supply chain system”.



Demonstrating Impact

BUILDING CAPACITY OF A PRIVATE VETERINARY UNIT

Partner Name: Devjikh Dul PVU

Project location: Selenge Aimag, Tsagaannuur soum

Project Duration: April - October 2020

Background

Devjikh Dul is a Private Veterinary Unit (PVU) which provides veterinary services to 41,000 head of livestock for 73 households across three baghs of Tsagannuur soum of Selenge aimag. Of these, 10,000 are cattle – accounting for 50% of the total cattle in Tsagaannuur soum.

This PVU has recently faced significant challenges; in January 2019 their office and clinic burned down, destroying their facilities and equipment and severely impacting their ability to properly deliver veterinary services. Without a proper building, they were unable to sell veterinary drugs, provide examinations, or surgeries, all of which had been their primary revenue streams prior to the accident. The PVU director shared: “It was a really hard time. Basically, we lost everything, we couldn’t do office-based services or

sales. To keep the PVU operational we were doing relatively simple and safe surgeries based on herders' requests and calls, but we couldn't accommodate clinical surgeries which required more time and transportation cost. There was a tremendous decrease in the number of surgeries performed. To compensate I started to sell veterinary drugs from my home, but with unstable sales, cash flow and transactions slowed down significantly. Finally, I had severe shortage of necessary medicines and lacked to maintain its reserve."

To overcome these challenges and grow their business, the PVU designed a plan to create a permanent space for the PVU, expand their delivery of anti-parasitic treatment, and conduct outreach to herders to increase awareness about product certification and animal health. The intended impact of this expansion was the improvement of PVU operations and delivery of services, a better understanding among herders of animal health needs, and improved quality of livestock in the area as a result. Mercy Corps Mongolia through the Resilient Communities Program, partnered with Devjikh Dul LLC to support the business to achieve their project goal: "Herders use quality animal health services to adopt better animal health practices". To achieve this objective, three outcomes were determined: (1) Increased capacity of PVU to deliver high quality services to herders; (2) Expanded delivery of anti-parasitic services; (3) Improved herder understanding of PVU services and animal health.

Result 1: Increased Capacity of PVU to Deliver High Quality Services

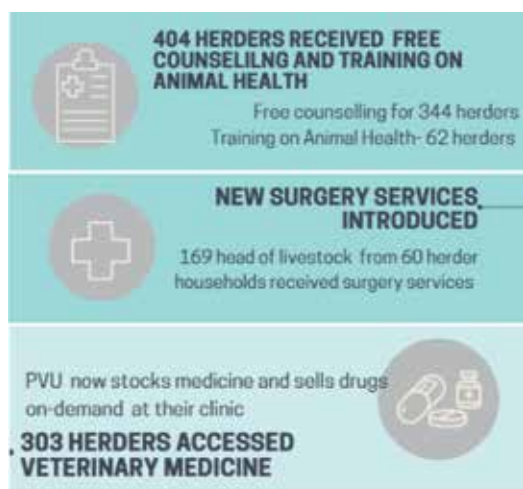
In partnership with Mercy Corps, Devjikh Dul LLC purchased and refurbished a building to replace the PVU; they also established a veterinary laboratory within their new premises for the first time. Acquiring a new building has allowed the PVU to customize the space to better fit the services they provide and the needs of their clients; it is a better and more suitable environment for staff and customers than the previous office. The PVU is now able to run a pharmacy, provide livestock examination and clinical surgeries, deliver on-demand consultations, and provide new services like laboratory tests. There has been an increase in the number of customers that use their services, contributing to an increase in the PVU's income since the start of the project.

During the project period, the PVU took the initiative to extend the scope of their business, and improve the quality of services they provide. The PVU is the first to make laboratory testing available at the soum level. The new laboratory facility allows the PVU to conduct hygiene and safety tests for livestock, meat and dairy products and the PVU can provide animal health certificates to herders demonstrating that their products meet local safety and hygiene standards. With the new access to a laboratory, Devjikh Dul veterinarians are now able to test meat freshness, detect pH and bacterial contamination, and test for impurities and additives in milk and dairy products.

The soum veterinary specialist highlighted that, while animal hygiene testing is mandated under the Animal Health Law, it is often difficult to implement at soum level without a

laboratory facility. “Tsaganuur soum has four PVUs, and Devjikh Dul LLC is the first to offer testing. Access to laboratory services is essential for local residents because the majority of them are highly dependent on income from their livestock. Most importantly, testing can ensure the quality and safety of meat and dairy products for consumption at the soum level; kindergartens, hospitals, schools, and restaurants can be sure to buy tested and safe products. It is also helpful for people to consider the importance of safety and hygiene requirements for food products and to pay attention to certifications and safety measures.”

During the project period, a total of 244 herders have tested meat products and received valid health and hygiene certificates from Devjikh Dul. Despite the fact that, previously, no meat was tested in a laboratory setting in the soum, there is already significant demand for DD’s services: almost 140 tonnes have been tested in the laboratory since it became operational in the fall of 2020. The Director of the PVU shared that, “it is clear that there is high demand for hygiene and safety testing, and that herders see the importance of these services for their livelihoods. Other PVUs in the area do not have a laboratory, so herders come to us and get a service. Also, local public entities like the local kindergarten, school and hospital, and private entities like meat retailers and 2 cattle farms, have officially requested to collaborate with our PVU starting from 2021.”



The PVU provided free counseling and animal health training to 406 herders, which in turn helped increase DD’s customer base. From April to October, a total of 344 herders received free animal health consultation and 62 herders received training on animal health. In total, 169 head of livestock from 60 herder households received free surgery services including cesarean, tumor removal, and treatment for injuries; and 303 herders purchased veterinary medicine when it is needed. A herder highlighted that “In the past, it would sometimes happen that herders would

either buy fake or poor quality medicines from unknown sources, with terrible consequences. Now that Devjikh Dul provides a stable and reliable pharmacy service, we are confident about the quality and safety of medicines.

Another advantage of doing business with this PVU is that they are flexible and patient when herders have no money to buy their services, including purchase of medicine. Herders buy medicine on credit, and then pay back which is always very helpful. We are very happy with easy access to a variety of veterinary and laboratory services.” In addition, the soum veterinary specialist emphasized that these free services create a closer relationship between vets and herders. “Herders learned the value of quality, timely

and professional animal health services and started seeking services from professional veterinary units. In the past, because of their unwillingness to pay for health services, herders tried to treat livestock by themselves which is not a good practice and harmful for livestock's overall well-being."



As stated by DD's director, "the PVU has seen an increase in drug sales as a result of free services. The increased income from this source has positively impacted the business because we are now able to reserve necessary medicine and

drugs throughout the year. In addition, a stable source of medicine has led a number of customers to choose our pharmacy because of the variety of drugs and availability, compared with other PVUs in our soum. As a result, we can maintain normal services for our herders and additionally, we can provide medicine supplies to one of the biggest cattle farms which has 10000 cattle. The cattle farm was affected by a bout of diarrhea in their calves in early summer; there was a shortage in medicine, but we provided necessary medicine, and they overcame the situation without any animal loss."

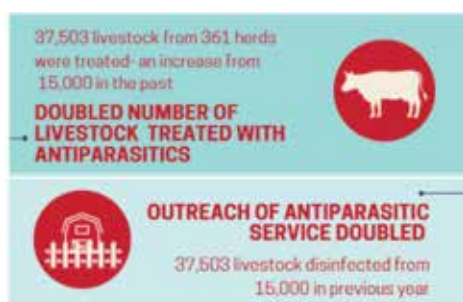
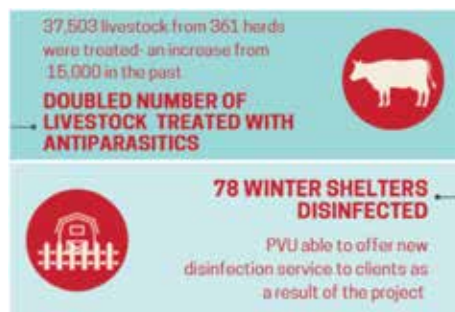
The PVU has also changed its paper-based record keeping to a digital filing system. This enables them to put all their information into one consolidated database, and track occurrences of animal disease outbreaks, which informs the development of evidence-based prevention and treatment plans. Additionally, the database streamlines their veterinarians' workload and improves work efficiency; now it takes only 30 minutes rather than 2-3 days to prepare a report. In addition, DD can now print animal health and hygiene certificates as a result of improved database and availability of a printer at their office; they are now able to provide them directly to herders. In the past, herders needed to go to the soum government Veterinary Department to receive an animal health certificate; travel and wait time could take days.

Devjikh Dul LLC received technical support from a business consulting firm as part of the MCM Local Business Clinic Project, to improve the company's marketing plans, re-work HR documents templates, strengthen operational procedures like documentation and file retention, and create business and marketing plans. All of these operational capacity improvements have helped the PVU run more effectively and efficiently as a business.

The impact of the PVU's improved capacity to deliver high-quality services like laboratory testing, an off-the-shelf pharmacy, animal health consultations, and surgeries has been an increase in customers and revenue for the business. The soum's herders now have access to services that were previously not available at the soum-level, and animal health and animal husbandry practices will continue to improve. This will have long lasting impacts on the area's livestock health and quality, herders' livelihoods, and the sustainability of the PVU as a business.

Result 2: Expanded Delivery of Anti-Parasitic Services

As a result of new equipment and vehicle purchased as part of project implementation, Devjikh Dul has been able to improve their delivery of anti-parasitic services. The vehicles are equipped with a tank to accommodate anti-parasitic solution, significantly boosting the PVU's ability to reach herds of livestock. The number of livestock that DD has treated with anti-parasitics more than doubled during the project period, from 15,000 to 37,503 heads of livestock. The new equipment provides other disinfection services as well, attracting more interest from herders. For example, since the project started, 78 winter shelters were disinfected. Also, this expansion of services has enabled DD to create a new temporary employment position which was filled by a local community member.



The PVU Director said “there is a growing interest among herders to treat their livestock with the more efficient equipment. They observed that the treatment was very effective because livestock and shelters were disinfected together. Before, we focused on treating only livestock because we used a dip-bath for disinfecting. Now the speed of service is faster, and we’re able to cover all animals and their shelters within a short

period of time. This year, our PVU reached families who live far from soum center because we have a vehicle. Also, 3 tonnes of antiparasitic solution (chemicals) can be used for a greater number of animals at one time, so it improves our rate of coverage. We have already received requests from 20 herder households, with 15,000 heads of livestock, to use our PVU's anti-parasitic services next year.” The Director highlighted that herders are satisfied with service quality, so they usually pay on time. Overall, the number of customers is 6 times higher than before- their base grew from 200 to 1,208 customers- and DD's total revenue tripled in comparison to the previous year.

One of their herder-clients said “before we needed to travel far to get animal health services because PVU had no vehicle. The vet would try to call and find herders (at least 2-3 families) whose livestock need vet care and asked us to collect all our animals in one place. Therefore, herders were more likely to choose large ruminants. Small ruminants and their offspring were mostly left



behind because they were hard to carry out and transport. Now the PVU visits each family and sprays all the animals – big and small- in just 2-3 hours. All of our animals are be disinfected now. Furthermore, DD disinfects our winter shelters. Disinfecting livestock and their shelters together is very good for animals because it prevents illness which helps them gain weight and stay healthy. That’s why we are happy with this improved service and will continue to use it.” During the COVID-19 restrictions, the PVU also disinfected public places and the main street in the soum as per request from the Local Public Health Center. It helped to broaden their partnership and promote the PVU’s services in the local community.

Result 3: Improved Awareness of Herders about Animal Health

To improve herders’ knowledge around animal health practices, the PVU implemented several activities. Free animal health counseling and training were the most influential in increasing herders’ awareness and knowledge about animal health. In total, more than 400 herders participated and learned how to detect and prevent diseases as well as care for livestock according to veterinarians’ advice. Herders also received information about the importance of accessing timely professional services, which are critical to ensuring livestock are healthy and productive. The Director of the PVU stated that counseling and training were instrumental in increasing herders’ knowledge and changing behavior around animal husbandry. A herder highlighted, “we took a free consultation and it was very helpful and pushed us to think more about how to keep our livestock healthy. If herders could be more responsible and more knowledgeable about symptoms of disease, I think animal diseases would be less common. Ensuring animal health is a joint responsibility between the PVU and herders.”

The PVU also released a short promotional video about the importance of animal health services and distributed 2,500 brochures highlighting animal health and anti-parasitic services. The video is posted on YouTube and brochures were distributed to herders who attended trainings and community meetings. During project implementation, the PVU conducted two anti-parasitic trainings that were co-facilitated by the aimag vet department. More than sixty herders attended these trainings and received information about anti-parasitic prevention and treatment. Improved awareness about animal health and parasitic disease will help prevent disease and help keep livestock healthy and productive.

Moving Forward

It is already evident that DD’s operations will be more profitable and sustainable as a result of increased demands of herders and local entities. The PVU’s service delivery experience demonstrated that their service added value for local herders and other business entities in accessing the market and also locally-available quality health services. In response to increased demand, PVU has planned to extend the current surgery and laboratory services and to create 2-3 new jobs for young veterinarians starting in 2021.



МАЛ ЭМНЭЛГИЙН ҮЙЛЧИЛГЭЭНИЙ ЗОХИОН БАЙГУУЛАЛТЫН ХЭЛБЭРҮҮД

Энэхүү цахим хичээлээр бизнес, бизнесмен ба энтрепренерийн тухай ойлголт авч, мал эмнэлгийн үйлчилгээний бизнесийг ямар хэлбэрээр эрхлэх боломжтой вэ гэдэг талаар мэдлэгтэй болно.

Сургалтын зорилго:

- Бизнес, бизнесийн төрөл, бизнесмен, энтрепренерийн тухай ойлголт өгөх.
- Мал эмнэлгийн үйлчилгээний бизнесийг хэрхэн зохион байгуулж болох вэ, мал эмнэлгийн эрхлэгчид ямар шаардлагууд тавигддаг вэ гэдэг мэдлэг олгох.



Demonstrating Impact

ONLINE BUSINESS DEVELOPMENT TRAINING FOR PVUS

Partner Name: School of Veterinary Medicine, MULS

Project Duration: November 2020 - April 2021

Background

Since the inception of the RCP the professional development and capacity building of veterinarians and Private Veterinary Units (PVUS) has been one of the focal points of the Animal Health and Breeding component of the program. Throughout implementation of the RCP, this objective has been reached by organizing multiple trainings for veterinarians on transboundary animal disease, laboratory testing, or surgical procedures in target aimags as well as through business expansion projects implemented through cost-shared sub-grants with local PVUs.

In 2018, Mercy Corps has conducted an assessment study to better understand the feasibility and profitability of PVUs. The study, 'Private Veterinary Units as Small Businesses,' analyzed the overall feasibility and profitability of PVUs, barriers to PVU growth, and developed a series of recommendations for increasing PVU profitability. One of key

finding of the assessment was the need for PVUs to improve their business management skills and to run as sustainable business operations. The study confirmed Mercy Corps Mongolia own observations that PVUs are often more focused on and invested in the clinical aspect of their operation than on business management; in general, they lack the knowledge, expertise, or understanding of how to run the unit as a business.

This is compounded by the lack of working capital due to herders' unwillingness to pay for veterinary services and high dependency on state vaccination payments, all of which results in high risk of unsustainable operations. During the socialist era, the costs of all veterinary services were covered by the state; even after independence, all vaccinations were covered by government until the ratification of a new Animal Health Law in 2018. This law made it the responsibility of herders to pay for vaccinations except for highly infectious animal disease such as FMD, Anthrax and influenza which are still paid for by the GoM. An overall reluctance among herders to pay for the veterinary services is also compounded by herders' difficulty to pay for service as their income is highly seasonal.

To help address some of these gaps in business knowledge among PVUs, MCM, in partnership with the School of Veterinary Medicine (SVM), developed an on-line training module for PVUs focused specifically on basic business management skills that will help them to sustain operations throughout the year. Topics include how to sustainably operate additional services like having a drug store or providing food safety laboratory services, as well as on improving their business planning, marketing, and basic accounting.

The Partnership and Long-Term Outlook

For this training, Mercy Corps partnered with the School of Veterinary Medicine under the MULS as a partner based on their existing capacity to develop training content. The School of Veterinary Medicine has a "Livestock Economics" class offered to its undergraduate students who are learning veterinary medicine. However, until the launch of this course, these lessons were not available outside of the classroom.

A critical first step in developing the curriculum was to adapt existing the SVM's existing resources and curriculum to the operational context faced by veterinarians working in rural communities. SVM conducted a survey on business operations of PVU in rural communities to better understand the reality of PVUs. The survey was conducted in December 2020 and 25 PVUs participated. SVM and MCM recognize that this is a small number; however, efforts were made during selection to ensure that surveyed PVUs represented a cross section of PVU operations. Rural and urban PVUs were interviewed, and PVUs came from all regions of the country.

Next, the content was transformed into a series of user-centered on-line learning modules appropriate for the targeted PVU audience. Fortunately, the University had relevant previous experience working with e-learning content development; for example, in the winter of 2020, due to COVID-19 restrictions, MULS started providing online lessons to its students. During the negotiation phase of this project, MULS agreed that

their existing platform (university website: <https://veterinary.muls.edu.mn>) would be used – both during and after the RCP- to host the on-line PVU business training module to ensure its sustainable delivery and extensive outreach out to veterinarians and graduates.

As RCP comes to end, MCM has handed over these materials and resources to School of Veterinary Medicine and greater MULS, who will host these courses on their online platform and have full ‘ownership’ of the materials developed under this activity. In this way, the partnership with SVM also ensures the sustainable delivery of training beyond the lifetime of the RCP. The training is offered free-of-charge and will continue to be free in the future.

It is MCM’s hope and expectation that School of Veterinary Medicine and MULS will continue to provide training to PVUs a long-term and the content to be available to veterinarians or other users free of charge. By hosting the modules on the university platform, the project deliverables can be sustainably used in the future after the end of RCP.

Because SVM was involved in the development of the Online training from the get-go, there is a sense of ownership from SVM over the on-line training. The close involvement of SVM also will help them to improve the training in future, further adapting the operating context of rural PVUs.

Training Module

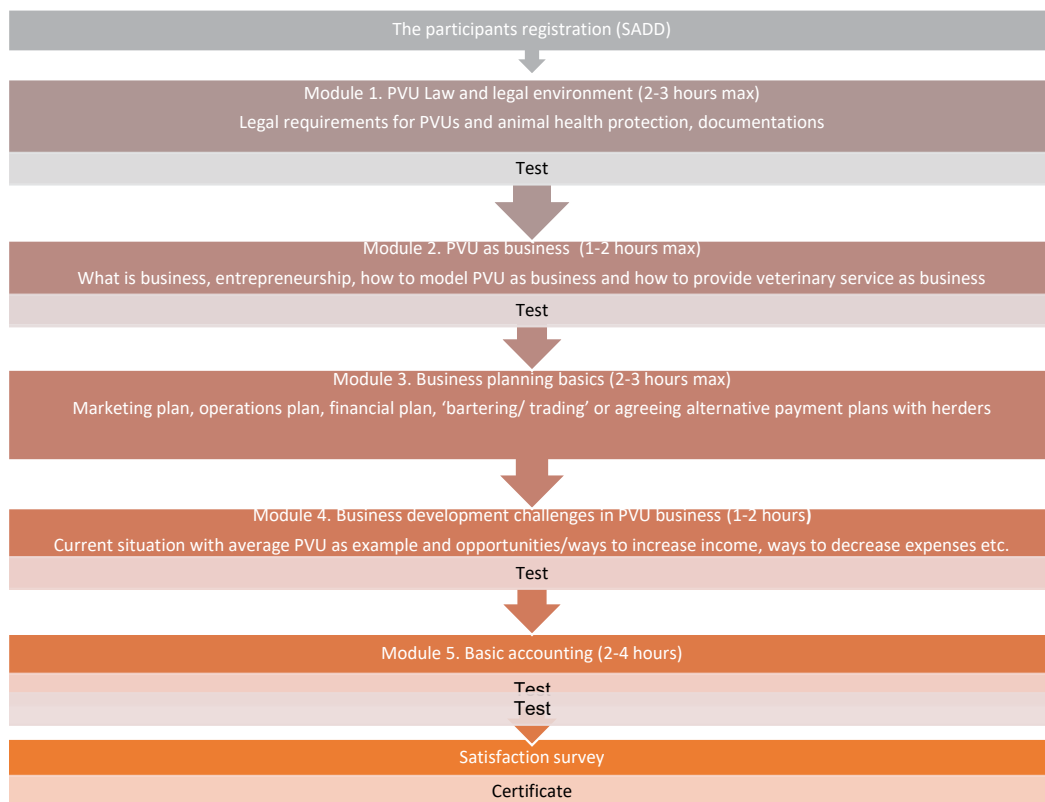
As described in more detail below, the training curriculum itself covers five main topics in five separate modules:

1. PVU Law and Legal Environment
2. PUV as a Business
3. Business Planning Basics
4. Business Development Challenges for PVUs
5. Basic Accounting

After completing a module, participants move on to post-training test with ten selected questions before moving on to the next module. Each module has inventory of 20-30 questions which is randomly selected by the platform automatically for post-training test. Some of the questions as multiple-choice answers which participant can get half point if half of them answered correctly. Participants must get at least 75 points in order to pass.

Without completing the first module and its test, participants cannot move on to the next module. The same restrictions apply for all of the other Modules as well. When participants complete all five modules and test, the platform automatically issues a Certificate of Completion.

The structure of the training as follows:



Each of the five on-line training modules have a combination of:

- Click-through slides which provide information
- Links to resources
- Static pages
- Voice-over explaining concepts or demonstrating a process
- Graphics and pictures
- Interactive tools like question/answers, short comprehension tests, and demonstrations of using the tools and resources that accompany the modules.

Announcement

With technical and financial support from RCP, the SVM developed the content and platform between November 2020 and mid-February 2021. The on-line training was officially launched on February 17, 2021 via Mercy Corps' Facebook page and website. Mercy Corps and SVM also reached out to existing stakeholders and contacts, such as previous training participants or subgrant applicants through emails and sharing the

posts. SVM also posted news on their www.muls.edu.mn website and placed a banner advertising the course on the home page of their website for easy access.



Progress to date

As of March 15, 2021, a total of 200 veterinarians have already registered. However, 59 people did not continue online training after registering or left without completing Module 1. At the time of writing, SVM is focusing on the following up and activating these 59 participants.

As such, to date, the on-line training has 141 active participants from 16 (out of 21) aimags and Ulaanbaatar city, progress their progress during the first month is as follows:

- 132 people – completed the training and received the Certificate of Completion
- 64% of active participants are women (90 women) and 36% were men (51 men).

The information below is related to 141 participants who either completed or are actively participating in the online training course at time of writing

Survey results below*

Moving forward

The target for the training by March 19, 2021 was 70 veterinarians. The fact that 200 people registered for the training in its first month confirms the need and demand amongst rural veterinarians for this kind of content and their interest in improving their business operations.

SVM will continue to deliver the training moving forward. SVM already has ownership of the content. SVM is planning towards to delivery of “Continuous education” for veterinarians and this training very much aligns with their future vision within the school.

On the other hand, SVM is also currently in discussion with GAVS and Veterinary Association to utilize this online training as a part of accreditation of veterinarians. Every

5 years, veterinarians must be accredited in order to work as veterinarians and usually takes course as to refresh their knowledge which includes the section on law and business development. At the moment, nothing is finalized yet.

Due to abovementioned factors, the RCP team has confidence that online business development training will continue in the future.

Close–Out Meeting

On April 08, 2021, Mercy Corps and the School of Veterinary Medicine at MULS organized a meeting to formally ‘close-out’ the project and thank all stakeholders for their collaboration. Due to Covid-19 restrictions and precautions, the meeting was organized through Zoom. Representatives from General Authority of Veterinary Medicine, Mongolian Veterinarian Association and Academic Affairs Department of MULS as well as lecturers who contributed to the development of Online training participated in the meeting. A total of 11 people – including two Mercy Corps Mongolia team members- participated in the meeting.

One of the project’s primary designers at the School of Veterinary Medicine started the meeting with a presentation about the online training, including the content, special features such as registration process, post-training tests and certificate issues, registration statistics for the training to date, and participants’ satisfaction survey.

The introduction was followed a discussion about future development options that SVM is considering based on their experience of this Online training. For example, they are exploring as opening the training for specific period of time throughout year or several times a year so that participants have to complete the sessions within a specific time frame instead of dragging for several weeks. This could also present the opportunity to add in a live module, such as a webinar-based session, to enable interaction with teachers and other students.

During the meeting, the participants of the training (GAVS, MULS, Veterinary Association) stressed again and again the need for capacity building of rural veterinarians, especially in business management for PVU. Stakeholders expressed their appreciation for Mercy Corps and SVM for launching this initiative and for the successful delivery of the training to help address this capacity gap.

During the training, the GAVS representative informed the group that GAVS is very interested in the training and have decided to organize a meeting with SVM about the delivery of “Online Business Development training” as GAVS is focusing on capacity building of veterinarians as well.

During the meeting SVM have stressed that their commitment to continuous delivery and future improvements of the training as a part of “Continuous Training” for veterinarians or integration into accreditation training in partnership with Mongolian Veterinarian Association.

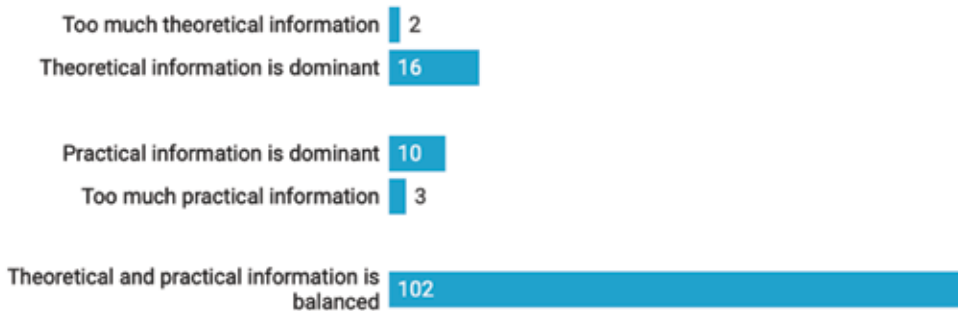
How would you rate the online training?



How relevant was the training in your PVU operation



Balance between theoretical and practical information





Demonstrating Impact

ARTIFICIAL INSEMINATION FOR LIVESTOCK IN TWO RURAL DISTRICTS

Partner Name: Tugs Gene LLC

Project location: Selenge Aimag, Khushaat and Saikhan soums

Project Duration: April - October 2020

Background

With Mongolia's transition from a centralized state economy to a free-market in the early 1990s, livestock breeding programs and state-run hay and feed programs collapsed and veterinary services declined significantly. This has culminated in decreased productivity of livestock and an insufficient number of quality beef cattle, which consequently hinders Mongolia's ability to meet the demands of the growing domestic and international markets for meat.

To help address these challenges in the livestock market system, Mercy Corps Mongolia's Resilient Communities Program partnered with Tugs Gene to expand the company's capacity to deliver Artificial Insemination (AI) services. AI provides herders more control over the genetic makeup of their livestock as it uses semen from high-quality bulls.

This breeding practice is also more time efficient and more effective than traditional breeding, and AI is safer for both cattle and the breeding technician. Utilizing AI is an improved animal husbandry practice that both improves health and yield of cattle, thereby improving the quality of meat offered on the market.

Since its establishment in 2015, Tugs Gene LLC has been one of the only breeding entities in Mongolia that has consistently provided AI services in Mongolia. Thus, Mercy Corps Mongolia partnered with Tugs Gene to contribute to the following goal: “Improving access to quality AI services.” To reach this objective, two outcomes were determined; (1) Improved operational efficacy of Tugs Gene AI services; (2) Increased awareness and knowledge about AI, leading to increased demand amongst herders for AI services.

Result 1: Improved Operational Efficacy of Artificial Insemination Services

In partnership with Mercy Corps, Tugs Gene LLC expanded their operational capacity by purchasing several pieces of equipment, in turn enabling improvements in the quality of breeding services offered. This equipment included new insemination tools, an estrus detection tool, and an ultrasound device used to detect pregnancy.

The company also procured a vehicle and outfitted it with necessary tools and equipment to serve as a mobile breeding unit. Now, TG can more quickly meet service requests, and herders do not need to travel or move their livestock to meet the breeder. In addition, the mobile breeding unit has enabled TG to expand geographically into a neighboring soum and expand the scope of their breeding services to include another type of cattle they breed. As a result of this project, Tugs Gene successfully bred beef cattle in Khushaat soum using Hereford genetics and dairy cattle in Saikhan soum using Simmental genetics.



Another important aspect of this project was to fairly distribute the benefits that come from using improved breeding services to herders in Tugs Gene’s service radius. The company initially

planned to reach at least 20 herder families during the implementation period, but with an unexpected volume of requests from herders, the company surpassed that initial goal. In total, 341 heads of cattle from 45 herder families were artificially inseminated as a result of project implementation. This is a 127% increase in delivery of artificial insemination service compared to last year, when only 150 cattle receiving AI.

To accommodate this growth in scope, the company hired three more team members in addition to the existing one-person staff. This increase in human resources resulted in twice the daily capacity to deliver breeding services, from 15 to 30 head of cattle, and Tugs Gene is now able to respond to requests in two different locations at the same time.

The new vehicle and improved equipment capacity significantly improved the quality and speed of service delivery. The Director highlighted that “Now that we have proper



equipment and tools, we are able to detect the correct time of ovulation which was previously based on visual observation, which tends to be inaccurate. Now we are using estrus detection tools to accurately identify optimal timing for AI, which enables us to increase the conception rate of artificially inseminated cows. We have made progress in the quality of services we provide, we have an electronic thawing device with temperature control to defrost genetic material. We used to use a gas stove to heat up the water to temperature (38°C) to thaw the frozen semen. If the thermometer was inaccurate and the temperature of the thawing water exceeded the limit, the semen could lose its fertility. Now that

risk is completely eliminated. Furthermore, in the past, handling the thawed semen was difficult as it should be protected from direct exposure from sun and wind; we used to tuck it within our clothing for transport to the cow. Now the vials of semen are easily and safely transported using a temperature-controlled bag. Moreover, our company has started to utilize ultrasound equipment for pregnancy detection in beef and dairy cattle rather than manual inspection. This helps to make a more accurate pregnancy diagnosis after 35-45 days. Before herders tended to distrust the success rate of artificial insemination due to manual-inspection. Now they can promptly see the results of artificial insemination via the ultrasound screen”.

The company has achieved high-levels of success increasing the pregnancy rate in cows from 60% to 81.5%. The Director emphasized that the success is directly associated with use of improved technology, specifically the estrus detector, ultrasound equipment, and also deliberate usage of drugs for estrus synchronization. Having access to ultrasound equipment is an advantage, as the breeders are able to make decisions and provide intervention measures quickly if there are any complications. If there is no sign of pregnancy, the cow can be re-inseminated within 72 hours. Prompt pregnancy detection is key to increasing the pregnancy rates among cows.

As a result of the project, the company increased their income from AI services by 44% compared to the previous year. The company has implemented a new strategy in pricing for the first year of implementation. They offered 30% discounts for herders and payment will be transferred in full once the calves are born. It was an attractive strategy for herders and proved to be influential in broadening the market and customer base. A Tugs Gene technician



shared that, “Before, we primarily worked with farms not individual herders. Now we have realized that herders are a larger customer group for our service. I am very confident that the demand for artificial insemination will increase significantly next year, because herders will receive offspring and see the quality improvements of the newly born animals. Year by year, more herders will see the actual value and advantages of having improved and productive breeds, it will help herders to get more income from milk and meat.”

Result 2: Increased Awareness and Knowledge about Artificial Insemination



During project implementation, the company produced a brochure and a promotional video about AI breeding services and benefit to increase herders’ general awareness around AI breeding. The video was broadcasted through local TV and posted on the company’s social media page. Almost 1,700 people engaged with the social media page and received leaflets detailing artificial insemination and its benefits.

Furthermore, the company conducted direct training for 214 herders on the importance of breeding services. Another highlight is that the company has already received breeding requests from several farmers and herders in nearby soums to use AI during the next breeding season. For instance, five farmer households made official requests to use the company’s AI service for 100 head of cattle in Saikhan soum. In Khushaat soum, ten herder households expressed their interest to use artificial insemination for their 30 cattle. Aside from Khushaat and Saikhan soums, TG also provided limited AI services in Altanbulag and Orkhontuul soums of Selenge aimag.

The Director said that “Our project is very unique and innovative in Mongolia, even beyond our aimag and soums. We use scientifically tested and the highest quality semen, so the offspring themselves will be more productive. There is no doubt. Herders are satisfied with our service quality because they were aware that their cows have been successfully inseminated and will produce high-quality calves. Herders will be happy when they receive their first calves next spring 2021. We are proud of our work because we are contributing to the improvement of cattle genetics by applying advanced artificial insemination techniques to our breeding practices. We believe that our project can be an example for other breeding/ artificial insemination companies and cattle farms to improve livestock genetics in order to have more productive livestock.

Moving Forward

As part of Mercy Corps Mongolia 's Local Business Clinic project with King Consulting LLC, Tugs Gene developed a social media page and started marketing through the page. The company refined their marketing and five year-business plans.

According to their strategy, Tugs Gene plans to diversify artificial insemination services into small ruminants such as sheep, in the coming years. As a key step in realizing this goal, they have already purchased a set of artificial insemination tools for small ruminants.

According to the business plan, the company will have the capacity to deliver artificial insemination services to 10,000 livestock per year within the next five years and to open 30 branches. To achieve this, the company is planning to implement a series of activities in collaboration with other breeding units. For instance, the company will take the lead to form a business network within breeding units in Mongolia and closely work with a number of farmers who are willing to establish intensive beef cattle farms.

The company's leadership is optimistic about their future business growth and expansion as they have received hundreds of inquiries from all over Mongolia. There is plenty of space to develop the livestock genetic market since livestock is considered the second major source of Mongolia's economy (after mining). Ultimately, the entire country can benefit from a more productive livestock industry with higher quality breeds.





Demonstrating Impact

KHUTAG – UNDUR BREEDING PROJECT

Partner Name: Xanadu Razorback and Khutag-Undur soum government

Project location: Khutag-Undur soum, Bulgan Aimag

Project Duration: April 2018 - November 2020

Background

The Khutag-Undur Breeding Project in Bulgan aimag aimed to increase the production capacity of Kazakh Whitehead (KWH) cattle. It was implemented as part of the Resilient Communities Program (RCP).

In the 1970's, with technical assistance from the Soviet Union, the highly-productive Kazakh Whitehead (KWH) cattle—a hybrid of the Hereford breed—was imported from Kazakhstan and crossbred with native Mongolian cattle. Today, KHW cattle are largely located in the northern soums of Bulgan aimag, including Khutag-Undur; unfortunately, however, the number of KWH and herd productivity has dwindled since the collapse of Mongolia's planned economy in 1990. At that time, state-run breeding systems were unexpectedly halted and ownership of almost all state-owned livestock was transferred

directly to the herders, leading to severe decrease in the genetics and productivity of the herds.

KWH is generally a high-value and productive breed, especially when compared to the local Mongolian breeds. For example, a mature bull can weigh up to 500 kg compared with a local bull that reaches 380 kg. In addition, the average birth weights for calves are 5-7 kg higher than local calves - essentially giving them a head start. The Government of Mongolia has recognized this potential, as have private sector businesses operating in rural Mongolia. There is widespread consensus that prioritizing KWH in Mongolian herds would increase herder income and improve national export prospects.

To help address the critical need to revive genetic reserves of Kazakh Whitehead, MCM worked with key public and private sector stakeholders to implement a breeding project to improve the productive capacity of beef cattle in Khutag-Undur soum, Bulgan aimag. This project leveraged Mercy Corps' existing partnerships with the Khutag-Undur soum government as well as Xanadu Razorback (XR) Farm, a 300 cattle feedlot that operates in Khutag-Undur soum. Xanadu is a well-known cattle farm that buys young cattle from local herders and feeds them intensely for a period of a few months, helping them gain weight before slaughtering. The high-quality meat is then sold to high-end restaurants and grocery stores in Ulaanbaatar city. XR's increasing demand for cattle for the feedlot has coincided with a decrease in the quality and productivity of local cattle raised by herders in the soum. As such, Xanadu Razorback, the local government, and Mercy Corps saw an opportunity operation, Mercy Corps saw an opportunity to implement a small scale breeding project focused on introducing Kazakh Whitehead Cattle in the local community. The objectives of the breeding project are to a) increase the quality of current beef cattle herds using best cattle b) encourage herders to raise KHW because it fetches a higher market price c) support integrated market linkages between herders who benefit from breeding activity and XR who can purchase their cattle.

To kick off the project, MCM procured ten Kazakh Whitehead breeding bulls from a beef-cattle breeder, Gazar Agro, in neighboring Selenge aimag. As Khutag-Undur soum does not have its own operational breeding unit, Xanadu Razorback has agreed to house and manage these bulls during the winter months; then XR and the soum government identify herder households to "host" the bulls during the breeding season, impregnating the local cows and improving the genetic quality of the local cattle herds.

To formalize the partnership, Mercy Corps signed a Memorandum of Understanding (MoU) with Xanadu Razorback LLC and Khutag-Undur soum government in 2019 to outline roles and responsibilities for planning, implementing, monitoring of results. In addition, the MOU outlined the intended benefits of the breeding project for the parties, clarified and confirmed the mutual accountabilities and principles of partnership and cooperation between the parties. This MOU was renewed in January 2020 to extend the partnership with Mercy Corps until the end of 2020, while also outlining expectations for local cooperation between XR and the local government through 2022. The new

MOU allows the elite bulls to be hosted by local herders for three more years, with XR managing the bulls and working with the local government to identify host herder household during the breeding season. The host herder households are selected amongst herder households a) who made official requests and b) meet the selection criteria set by MCM, XR and soum government.

Overall, a functioning and effective KWH breeding mechanism was established in Khutag-Undur soum, this was achieved through close cooperation between Xanadu Razorback, MCM, and the soum government. The Khutag-Undur Breeding project had a number of impacts including improved capacity of breeding operations, herders learning improved breeding practices, and there were lessons learned from implementation that other breeding projects may also learn from.

Result 1: Improved Capacity of Breeding Operations

The mating capacity of an individual bull is based on the proper ratio between bull and cows. This ratio is typically one bull to 30 females. Thus, each season, the 10 bulls (once full grown) are anticipated to produce at least 300 offspring. Over the past two breeding seasons, eight herders have been selected to host the bulls; collectively there are now over 354 calves with superior genetic lineage (four calves in 2019 and 350 calves in 2020) and are expected to receive at least 350-400 offspring by the end of May 2021. Jeremy Thiessen, director of Xanadu Farm explained “the first breeding year, we received only 4 calves because the bulls were young, which meant that the pregnancy rate was lower than our initial expectations. Then, the breeding rate increased in the second year, with the the number of newborn calves now reaching 300-350 per year.”

It is expected that the number of improved-breed cattle will increase from 0 to more than 700 head within three years (including the 2021 season) of implementing the breeding program and providing KWH bulls to herders. This illustrates that breeding programs like this often need multiple years to show results- especially since most herder households must use the bulls for multiple years (two or three) to truly improve their cattle stock. While it seems to be the input is relatively small, with just ten bulls purchased to be sent out into community level herds, the results are already significant. The project has also revitalized the herders’ interest in cattle productivity as evidenced by a fierce competition amongst herders to host quality bulls for the upcoming season.

A key impact of this project in terms of improving breeding operations was the establishment of a bull rental scheme/ mechanism and herder household identification process. The rental mechanism was developed to select host herder households through a transparent, fair and competitive selection process using the following criteria:

- Having a herd of at least 30 cows for breeding
- Having the ability to take responsibility for vaccinations and health services
- Demonstrating an interest in improving the quality of the breed in the soum (i.e. are part of a herders’ group, and or are already familiar with the practices/

expectations of Xanadu),

- Taking responsibility to protect the animals from risks like wolves or theft, and
- Being able to keep the registration and breeding records

In addition, letters of commitment with selected herders outlined different roles and responsibilities of host herder household, XR, and the soum government during each breeding season. Each “host” is responsible for feeding and caring for the bull during the breeding season, protects them against theft or other damage, and pays MNT 200,000 (76 USD) per bull once per breeding season to contribute to covering the feeding expenses during the winter season. XR covers the other costs, such as medicine and minerals, to ensure the bulls are in good condition. Meanwhile, the soum government is responsible for technical assistance and oversight from the animal husbandry department as well as ensuring the provision of adequate animal health care for the breeding bulls.

As a result of the MoU and development of the rental mechanism, the process for bull rental is clear and transparent, herders are now familiar with the whole process such as: selection, rental, bull care, and payment. Another benefit of this mechanism is that over time it provides equal opportunity for all herders to rent a KWH bull.

The ‘host herder’ interviewed by Mercy Corps shared that the selection criteria helped them improve their dedication and accountability to maintain their livestock and ensure they are healthy. He stated that those criteria have convinced the neighboring herders to take better care of their livestock so that they might be considered to host a bull. In other words, the renting process has been observed that it can influence more positively to herders’ attitude and practices rather than direct trainings.

The project provides a successful example of an innovative partnership between the public and private sector, facilitated by Mercy Corps, to improve the livelihoods of herders in rural Mongolia. Both the soum government and local communities recognized the importance of the breeding initiative in improving cattle genetics within the region. The soum government prioritized the revival of the gene-pool of KWH cattle in the soum. The deputy soum governor highlighted that “MCM’s support has awakened our government to pay more attention to stagnant breeding work. This is the best path to address the issues faced in development of the livestock sector. Now, there is no hesitation or time wasted thinking about finding proper solutions to provide opportunities for herders to improve the herd quality. Without any solutions, it is impossible to implement the Aimag Animal Husbandry policy on the ground. As of today, there is a big gap between law on paper and its implementation. Filling this gap is really urgent but we have insufficient budget to tackle those gaps, MCM’s support was very timely and vital to clearing the path to develop both herders’ practices and their livestock. This aspires local governments to see simple solutions to help the herders increase their income and otherwise to improve economic sustainability for future generations.”

Moreover, building the success of the XR initiative, the local government has launched another breeding initiative with support of the “New Countryside” project supported by

the Mongolian parliament. As part of this project, the Khutag-Undur soum government received a total of 33 KWH bulls between 2018 and 2020. The experience with herder selection and hosting bulls with MC and XR in previous years has helped the soum government tremendously in terms of management and arrangements for hosts for the 33 bulls; especially in establishing clear roles and responsibilities with herders to properly manage the bulls. Moreover, the soum government intended to improve visibility of the soum's improved cattle breeding practices among the other soums and aimags through intentionally placing bulls in herder households who live along the main road. The deputy soum governor shared "we hope our breeding work increases the number of improved beef cattle, completely replacing low productivity cattle in our soum in near coming years."

Another impact of the project, as cited by soum deputy governor, is the benefits that result from partnerships between the public and private sectors. The deputy Governor of the soum summarized, "this project has shown us the best model of effective partnership between a government, private farm, and international organization. Many changes have taken place. The herders are aware of the importance of livestock quality rather than quantity. They understand their responsibility to protect their pasture and recognize the incentive to decrease the number of animals, replacing them with fewer, highly productive livestock."

Result 3: Herders Learn Improved Breeding Practices

The Khutag-Undur Breeding Project enabled XR to work more closely with herders in the soum. The director of XR and soum government representatives visited herders several times together. During those visits, herders received important information about animal husbandry practices, how to structure a herd for higher yield, and how to improve livestock quality. The director of XR, Jeremy Thiessen, provided information about how to improve livestock quality using breeding and selection programs, using not only improved breeds but also local breeds. In addition, both XR and the soum government prioritized communication of the importance of timely and proper registration of calves. In cooperation with the soum government and MCM, the director of XR conducted a one-day training about calf registration. As a result, 60 herders received relevant information on the benefits of improved breeding practices, and information about why cattle registration is important and how to register calves. The cattle registration is an important tool for herders to track and manage the breeding activity and register pedigree of new born calves. As a result, detailed and accurate registration is essential evidence for demonstrating breed purebred/hybrid status which determines the market price of the cattle, especially breeding cattle.

As highlighted by the director of XR, Jeremy Thiessen, "over the past three years, herders have changed a lot in terms of recognizing the benefits of breeding work. They now see noticeable improvements in their newborn calves and heifers. They are able to share the real differences between improved cattle and local calves with others. This encouraged

them to be more enthusiastic about this breeding opportunity.” One host herder who rented bulls during the past two years has shared his experience, stating “this breeding project is very helpful for herders because even when we are interested in improving the quality of our cattle, finding high quality bulls is not easy and there is a severe shortage in local areas, and if we find bulls, the price for those bulls is higher, at least 4-5 million MNT. But now it is possible to pay only MNT 200,000 per bull because XR provides them locally. Therefore, this has been a rare chance to improve our cattle and really beneficial for herders. As a result of this breeding work, I have 20 offspring and expected to receive about 30 new calves in the spring of 2021. The project advised me how to record data of calves and keep routine measurements. Local Mongolian calves are sold for about MNT 300,000, while genetically superior calves are sold for 700,000-1,000,000 MNT. One of our calves, in its second year, is the size of an ordinary Mongolian four-year cattle. It weighs 300 kg. I am really happy to increase my livestock productivity and increase our income. This is very helpful to improve our livelihood.” It is evident that the herders who participate in the breeding program have seen the benefits of the improved breeding practices, as supported by XR and the soum government.

Lessons Learned

During implementation of the Khutag-Undur Breeding Project, several key lessons learned emerged, which should be considered by others who are interested in this work.

- **Breeding Projects Require Significant Time Investment.** Multiple years are needed to see the results and impact on community livestock quality from a breeding project. The implementation period must be at least five years. After almost four years, the first calves will reach breeding age. The actual improved genetic gain and productivity becomes evident when cattle reach mature age and they are sorted as either breeding cattle or cattle for market consumption.
- **Clear Planning and Coordination is Essential.** Because breeding is a time-sensitive and seasonal activity is important to coordinate project activities and work among all stakeholders, to ensure planning and priorities are aligned. Also, coordination of regular registration and monitoring visits with the support of a specialized team is required from the very beginning. For soums, this can be a hindrance as they do not always have professional staff that specialize in breeding.
- **Dedicated Support to Herders’ Adoption of New Practices is Needed.** Herders adoption of the proper cattle registration took tremendous effort from project implementers and local government. MC provided guidelines and provided training, but registration was slow and irregular, and required continuous monitoring and guidance by local stakeholders. Dedicated and targeted support should be provided to herders from soum government and other local leaders to help institutionalize those practices within communities
- **Effective Partnership Between Public and Private Sector Partners is Crucial.** These partnerships are critical in the stimulation of intensive livestock production development. With consideration to these partnerships in the livestock sector,

the soum government started to cooperate with local agricultural companies to support and encourage them to grow fodder plants. A total of 1,034 hectares have been dedicated to the cultivation of fodder crops. It is recommended that GoM develops a policy regarding the need to increase the KWH gene pool in Mongolia, with measures in place to properly protect the KWH cattle gene pool, and to develop and implement guidance for the management of livestock breeding activities, in combination with production systems. Bulls are only genetically viable for a maximum for three years, and so there is always a need to procure new bulls to replace old ones. Thus, there is a need for government coordination and cooperation in supporting breeding activities, to ensure breeding units have the resources needed to continue their operations.

Moving Forward

A fast changing world requires efficient adaptations to protect nature and pastureland, with fewer animals of higher quality, and raising regionally appropriate animals. A future with sustainable livestock sector development can be created with the contribution of quality animal breeding and reproduction activity. That's why the Khutag-Undur soum government intends to raise high-quality bulls in their area in collaboration with XR's breeding operations.

In alignment with this policy, XR plans to continue not only their breeding operations, but also expansion of their business to supply the high quality breeding cattle to local markets. For this reason, the director of XR shared their plan to procure other high quality bulls using their own resources to improve the current cattle herd. The director of XR, Jeremy Thiessen remarked "our company now sees market opportunities to buy or import purebred and high-quality cross-breeds. Breeding stock will be in high demand because now herders and farmers have a lot of interest in buying good quality breeding animals. We already have a plan to expand our breeding service to procure new bulls."

This project helped XR and herders see and understand the market demand for sales of breeding animals. In the future they will sell high quality calves, heifers, bulls and cows for breeding purposes.



Demonstrating Impact

IMPROVE THE QUALITY, PRODUCTIVITY AND SALES OF KAZAKH WHITEHEAD BEEF CATTLE AND BUILD CAPACITY OF BREEDING SERVICES

Partner Name: Khushaatiin Khamtiin Khuch Cooperative

Project location: Khushaat soum, Selenge Aimag

Project Duration: April 2017- August 2020

Background

Mongolians have a long history of animal husbandry and pastoralism. For thousands of years, they have developed breeds well adapted to the harsh environmental conditions. With economic development and industrialization of the twentieth century, Mongolia needed highly productive cattle. In the 1970's, the more productive Kazakh Whitehead (KWH) cattle-the Hereford breed-was imported from Kazakhstan and crossbred with native Mongolian cattle. The resulting Kazakh-Mongol hybrid was a bigger, more productive animal that had the strength to withstand even the coldest winters. The emphasis on improving this breed continued under the planned economy, under which the livestock sector was subsidized by the state and breeding activities were well planned and supported. Between 1954 and 1984, KWH was bred on more than 40 state-owned farms in 10 aimags with the total number of 60,000 heads of second and third generations

of crossbreed between KWH and Mongolian cattle and approximately 20,000 heads of purebred KWH. It was the first beef cattle developed through close cooperation between state-owned farms during the socialist era. When Mongolia's planned economy collapsed in 1990, the beef cattle breeding programs on the state-owned farms collapsed with it. The assets and livestock of these farms, even the prized Kazakh Whitehead cattle developed during three decades of selective breeding, were privatized and livestock were given to herders. The state-run hay and feed program, which ensured livestock received adequate nutrition during the winter shut down, resulting in loss of animals during severe winters. Veterinary services declined as well. Today, the quality and productivity of the KWH cattle has been reduced and the number of purebreds has decreased to 2,500 heads.

Breeding has been identified as a one of core intervention areas of the Resilient Communities Program and on April 25, 2017, Mercy Corps Mongolia (MCM) held a consultative meeting with leading national animal experts to discuss and identify potential solutions to improve animal quality and strengthen capacity of rural breeding and veterinary services. A total of 17 experts including chiefs of Animal Husbandry Departments of Selenge and Bulgan aimags, prominent researchers and academicians from the Mongolian universities and Mercy Corps staff attended the meeting.

As a result of this meeting, MCM and the experts agreed to select and support a breeding service in one of the target aimag and MCM to hire a team of best breeding experts that will work with the local breeding unit. In the summer of 2017, MCM team traveled to Bulgan and Selenge aimags for a scoping and assessing visit to existing breeding entities. As a result of the assessment, Khushaat soum and its Khushaatin Bayalag Cooperative was selected due to its existing breeding experience, experienced breeding specialists, and cooperative cattle resources as a partner in RCP breeding.



Mercy Corps developed a project with the goal to 'Improve the quality, productivity and sales of KWH beef cattle and build capacity of breeding services' and KWH was natural choice for RCP as a) highly productive "beef" cattle, b) highly adopted climate c) able to gain weight both through (suitable for) pasture grazing and intensive farming d) primarily raised in RCP target aimags, c) had critical need to revive the KWH genetic reserves and rebuild nucleus herds of KWH in Mongolia's aimags.

To lead the implementation of this breeding initiative, MCM contracted Khugnu Meej (KM), a small Mongolian consulting company in May 2017. This company was chosen because they have a local team of highly specialized breeding experts, including O. Medekhgui, who is the scientist behind the initial development of KWH cattle. KM had three primary responsibilities during project implementation: 1) to guide the establishment of a model-breeding unit; 2) educate veterinarians, agricultural graduates, and private breeders in animal husbandry, nutrition, and veterinary health and 3) to improve the productive capacity of KWH through the use of proper herd management techniques and practices.

In August 2017, KM conducted a baseline survey to determine the age, weight, and productive capacity of beef cattle in Khushaat soum, the technical capacity of local cooperatives, pasture conditions, feed and water supply, and the demography of the beef cattle herders (disaggregated by age, sex and herd size). Based on these survey results, Livestock Strategy Paper (2017 - 2025) was developed and approved by Khushaat soum Parliament of Selenge aimag in February 2018. The strategy formulated certain objectives to support further beef cattle production;

- Define current and further potential trends in sustainable use and development of livestock resources of the Khushaat soum and the Cooperative;
- Create a legislative environment to support the economic growth of modern beef cattle production for Khushaat Soum by adjusting the number of livestock based on carrying capacity of pastureland under the program of 'Intensified cattle farming' which was approved in 2017 by Selenge aimag;
- Increase the supply of and demand for premium grade beef cattle to the market by implementing timely animal health services to ensure livestock health and safety;
- Create enabling conditions to use KWH cattle for breeding services and increase the numbers (share) of KWH cattle to at least 30% of total cattle herd in the Khushaat soum;
- Develop a sales network of breeding animals, livestock products and raw materials;
- Promote active engagement of all responsible parties such as aimag & soum level authorities, professional entities, and community to implement the strategy in a collective way.

This strategy helped to build a solid foundation of current and future breeding work and accomplishments in the soum- and informed the design of the next phase of the project- partnering with a local cooperative to improve the animal husbandry practices and business capacity of a livestock cooperative. The objectives of this partnership was to a) build their ability to function as a breeding unit and b) provide a model of improved

animal husbandry in the region. Building off the Livestock Strategy for the soum, Mercy Corps and KM planned to facilitate the guided development of a nucleus herd of high-performing KWH cattle, deliver a series of educational training, and provide financial support to the cooperative through cost-share financing.

The partner cooperative selected by KM and MCM was Khushaatin Bayalag, a cattle breeding cooperative. The cooperative was chosen for its considerable human resource capacity (92 members), technical expertise (2 breeding experts), and close proximity to the high-performing livestock market of Darkhan city and Selenge aimag. However, after a one-year of cooperation between MCM, KM and Cooperative, several problems occurred in their day-to-day operations. The vast majority of the cooperative members were not engaged in cooperative activities, specifically cattle breeding which resulted in lag in activities. Also, according to the Mongolian Law on Cooperatives, “amendments and alterations of the charter of the cooperative shall be discussed only at a meeting of the members and shall be made with the consent of the absolute majority of members (with the vote of three fourths) present at the meeting.”

This, and other requirements prevented MCM from implementing the project with the Khushaatin Bayalag, and limited the achievement of expected results. Ultimately, MCM made the decision to cease cooperation with the Khushaatin Bayalag cooperative.

In 2018 Mercy Corps worked closely with the remaining active members of Khushaatin Bayalag, to form a new cooperative focused specifically on cattle breeding activities—Khushaatiin Khamtiin Khuch. The inaugural meeting, held in August 2018, was attended by 17 people — each of whom supported the establishment of a new cooperative and paid 2 million MNT (761 USD) as a member to build the starting equity of the cooperative. The cooperative is unique in the sense that they are the only one specialized breeding cooperative for beef cattle and also their membership includes herders, breeders, and businesses (mainly crop farmers in Khushaat soum) in one union under a common vision and goal. Thus, the Khushaat Khamtiin Khuch Breeding Unit Project was formally launched.

Result 1: Improved Capacity of Breeding Cooperative

The cooperative’s development occurred in multiple phases including a) cooperative formation, b) capacity building in animal husbandry and breeding, c) policy enforcement for beef cattle breeding, d) business capacity as a breeding unit and finally e) becoming the specialized breeding unit.

a) Cooperative formation: The first of the Cooperative’s development phases was mainly focused on the establishment of a nucleus herd of Kazakh Whitehead (KWH) cattle. To build a nucleus herd the cooperative purchased 63 high-quality cows and 10 bulls, locally. In order to build herd genetics and improve hybrid vigor, the cooperative also bought 10 purebred Hereford, 30 pregnant cows and 10 bulls, from Gazar Agro LLC located in neighboring Zuunburen soum. After three years, the cooperative has been able to double the number of KWH in their herd, reaching 210 head of cattle. The head of the cooperative highlighted

MCM's contribution to the protection of genetic resources and improved local access to high-quality livestock, which has supported the cooperative's efforts to effectively rehabilitate herd structures within the community. Reviving a nucleus herd is not easy work without funding and technical advice. Total funding for this effort was 250 million MNT (102,000 USD). Both traditional knowledge in the local community and scientific perspective helped to set solid ground to restore genetic resources through collecting high quality breeding animals from local herder families and from external sources. Another big encouragement given to our cooperative is that ambitious intention to change our Khushaat soum to be the main source of Mongolian beef cattle farming development across Mongolia. This inspiration greatly encourages our cooperative members to walk together to reach our ultimate vision.

b) Capacity building in animal husbandry and breeding: In addition to building resource capacity, achieved through development of a nucleus herd, the Khushaat Khamtiin Khuch Breeding Unit Project cultivated and further strengthened the existing technical capacity within the cooperative. KM facilitated training, workshops, and provided resources for the cooperative to improve their animal husbandry practices. The technical support included cooperative development, body scoring, breeding stock selection, creating supplemental diets for the livestock, and breeding.

Members – including specialized breeders, crops farmers, herders, and business owners—all brought different sets of skills and expertise to the cooperative, in turn strengthening their formation and development. Tugs Gene LLC is a livestock breeding company which specializes in artificial insemination (AI).⁶ AI improves remote communities' access to purebred bull semen as it can be easily transported, and cows can be inseminated without the bull present, improving animal welfare and breeding quality. Tugs Gene's membership in the cooperative supports the technical breeding component of the cooperative's business; leveraging TG's expertise, the cooperative has utilized AI to breed 20% of their cows. The cooperative's members also included six local crop companies. Given the importance of feed supply in high-quality beef cattle production, these companies play an important role in the cooperative's animal husbandry efforts.

This unique combination of skilled individuals from various sectors within the livestock value chain has supported the development of a holistic approach to cattle breeding. A holistic approach can improve the sustainability of the cooperative's operations beyond breeding. As one cooperative member said, "this will sustain our business in the long term. Our resources will also promote abundant feed availability in the local market in the future as well. We hope our members will strengthen our role in supplying feed and fodder, and keep the market prices affordable for other herders and farmers."

c) Policy environment for beef cattle breeding: For the Cooperative members, the most notable support from KM was the development of a positive market and policy ecosystem for the cooperative to function within. To do so KM helped map out Khushaat soum's Mid-Term

⁶ Tugs Gene LLC independently partnered with MCM to implement a business development project, during which the business expanded their capacity to deliver AI services and improve their business operational efficiency.

Livestock Strategy, and develop the soum Pasture Management Plan. This proved helpful in building a political and social environment for cooperative's the breeding program to succeed.

The Mid-Term Livestock Strategy not only aimed to increase the supply of, and demand for, premium grade beef cattle but also to strengthen the capacity of cooperatives by creating a legislative environment conducive to economic growth, and making modern beef cattle production an economically viable practice for herders. As a result of building a policy framework and strategy, the local government allocated 1,000 hectares of land for summer and autumn grazing dedicated to the cooperative's nuclear herd, 150 hectares for hay preparation, and 30 hectares for feed cultivation to ensure the cooperative's herd nutrition in winter and early spring. Allocation of land helps prevent conflict between the cooperative and herders, as there are no pastureland regulations, land use rights are often ambiguous and can result in tension between land users. The culmination of these beneficial policies and actions taken by the soum government to support the cooperative, has been the cooperative's ability to easily function as a breeding unit and improve the overall quality of the soum's cattle, and eventually all of Selenge aimag's cattle.

d) Business capacity as a breeding unit: In the process of becoming a fully functioning breeding unit and business, the cooperative went through many stages of growth. Throughout implementation, the cooperative has built their operational capacity by developing internal processes and procedures to help the business run efficiently and effectively. As highlighted by the head of the cooperative, "thinking back to when the cooperative first began, there were enormous changes in team management and structures within the cooperative. Business and annual operation plans were developed with defined roles and responsibilities, which helped us have clear communication and direction for all members and decision-making procedures. Financial documentation processes have been greatly improved and accounting processes have become digital."

An impact that business development has had within the cooperative has been the adoption of cattle registration processes, a rental scheme and fee structure for bulls, and procedures for selling cattle. Cattle registration was upgraded using a mobile application that allows users to enter identification information for each head of cattle by uploading photos, ear tag numbers, and genetic lineage data. The bull renting mechanism/ scheme was developed to ensure there is a standard procedure for renting bulls out during the breeding season. Now selection criteria of herders and herds, rental agreements, fee transfers are clear, transparent, and consistent for customers and cooperative members alike. Lastly, the cooperative agreed on a procedure they will use to identify cattle (breeding and non-breeding) to sell, and a protocol for the sale of the selected cattle.

The head of the cooperative noted that these developments as a business had an impact on the cooperatives ability to make long term plans, "these procedures and protocols have helped us plan sales in upcoming years, and create a 5-year business plan." As a result, the cooperative worked to articulate a five-year business plan for continued business

development. This plan included business expansion, financial, marketing components, and business operations. The head of cooperative stated “this plan provides a very clear direction for our team to reach our goal to be a model breeding unit in the region. Now we need to move forward according to this plan.”

e) Becoming a breeding unit: A significant impact of this project has been the development of Khushaat Khamtiin Khuch cooperative’s capacity to function as a business and meet the requirements to provide services as a specialized breeding unit. Once the herd was viable, and Khushaat Khamtiin Khuch had the necessary technical capacity and a local-policy framework was developed, the cooperative aimed to receive official certification for business operations. In addition, the cooperative has been able to meet following key requirements such as a) having specialized personnel b) required resources/facilities for quality breeding services; and c) technical capacity in animal husbandry and business for instance, long-term business plan in breeding operations etc.

Even though the law on “Protecting Livestock Gene Pool and Health” was approved by Mongolian Parliament in 2017, the MOFALI required more time to formulate relevant procedural regulations. As such, the Selenge Aimag Agriculture Department was not able to formally issue a Breeding Unit Certificate until 2020. The cooperative began introducing high-quality livestock and genetics into local herds; this was done through artificial insemination using the bulls’ semen, renting bulls to herders during breeding season, and distributing heifers and cows to other herds to breed. There has been significant demand among herders to receive livestock breeding services from the cooperative as herders recognize the importance of improving herd genetics and working with a breeding service to do so.

Result 2: Enhanced partnerships

The cooperative prioritized strengthening their internal operations and members’ capacity to meet the needs of the business. The cooperative members reflected on the progress made during the three years of project implementation. One member stated that, “we have successfully grown into a functioning cooperative, and we are ready to meet internal and external market demands.” The project provided the cooperative with many opportunities to foster relationships with outside entities, including a variety of meetings, conferences, and study tours. Those events were helpful for cooperative members to meet different actors and introduce them to the cooperative and its business activities. One important event was the National Cooperative Conference which was held by MOFALI in March 2019. The cooperative presented their achievements, learning, and best practices used in development of the nucleus herd and breeding practices to more than 300 representatives from national cooperatives, government agencies, and domestic and international NGOs. The head of the cooperative highlighted how important this was for the cooperative, “this participation was very beneficial to extend our partnerships and connections across Mongolia because many participants expressed their interests to work together in the future.”

In addition, a study tour to Kazakhstan (undertaken independently/ without MCM support) helped cooperative members fully understand the advantages of beef cattle farming. The study tour provided a broader context for what intensified cattle farming could look like, the head of the cooperative recognizes the importance of building relationships in the livestock sector, “we came back from the trip with a strong desire to develop a ‘Mongolia brand’ of beef cattle. Now, we will intentionally focus on expanding our business relationships because breeding demands for beef cattle have grown. Specifically, market demand for sale of young breeding males is growing.” Cooperative members also reported increased interest from other aimags, including Arkhangai, Khuvsgul, Bulgan, Tuv, Khentii, Dornod, Uvurkhantai, Bayankhongor, Umnugobi and Bayan-Ulgii to start breeding high-quality cattle.

During the initial phases of establishing the cooperative as a holistic breeding unit, the cooperative focused on building their nuclear herd. As highlighted by cooperative members, “we were concentrating only on increasing the number of quality cattle in the area. It was clear that the cooperative’s nuclear herd was unable to meet the high market demand for high-quality cattle. So, for the first three years, the cooperative prioritized members’ use of the cooperative bulls for breeding their personal cattle to build the local availability of high-quality genetics.”

The cooperative then shifted to a bull renting mechanism to improve access to high-quality cattle genetics for the wider herder community, non-member herders. As a result, nine herder households rented bulls from the cooperative using the cooperative’s rental agreement. All rental processes were well-documented, demonstrating a fair and competitive process was followed. Creating a fair and transparent rental mechanism has improved the relationships between the cooperative and herders, building trust and strong local partnerships for the cooperative to build on in the future as the business grows.

Partnership with local government has been strengthened through cooperative members’ engagement in local development. Five members were elected as Citizens’ Representative Khural from their soum.⁷ This new role enables the members to more effectively align their business plan with soum development priorities to promote brand beef cattle breeding. The cooperative has also strengthened their business capacity and market linkages by partnering with MCM, as two members of the Khushaat cooperative (Ar Sevd Mogoit LLC and Tugs Gene LLC) were selected to implement a project. As a result of this partnership with MCM, Ar Sevd Mogoit LLC doubled their forage cultivation (peas, barley, wheat, oat), produce silage, and the number of potential customers has increased, and no longer limited to only to customers in Khushaat soum; interest in ASM silage has started to come from other soums and other aimags. Tugs Gene LLC expanded their artificial insemination services for other neighboring Saikhan soum. Aside from Khushaat and Saikhan soums, TG also started AI services in Altanbulag and Orkhontuul soums of Selenge aimag. These partnerships will help the cooperative diversify future partnerships in relation to funding new initiatives and being

⁷ This is a local Parliament which has the right to discuss and make a decision on any economic, social and organizational matters in their local area.

able to demonstrate the impact achieved through the funding individual business within the cooperative received.

Result 3: Herders learn improved breeding practices

At the beginning stage of cooperative' formation and development, KM conducted numerous training on breeding practices and pasture management to Khushaat soum's herder households and cooperative members the capacity building support was not limited by community level training; they were able to provide target technical support to improve knowledge and skills of a total of 36 breeders and veterinarians of all soums of Selenge aimag. Mass testing for brucellosis and body scoring activities accompanied the consultancy for individual herders. These activities helped herders look critically at their herd quality and improve their animal husbandry practices by regularly feeding high-quality silage and green feed to their animals.

As noted by the head of cooperative, the cooperative has developed the marketing plan as part of a five-year business plan. According to the plan, they intentionally started to focus on implementing business marketing and capacity building interventions. For this purpose, they have planned to disseminate their business introduction using a variety of ways such as local TV, webpage and newspapers to the community. In addition, they have started to conduct on-site technical advice to herders during their breeding services One herder noted, "Kazakh Whiteheads are well-adapted cattle to the harsh climate and conditions in Mongolian. They gain weight from open pasture grazing. Their meat and milk productivity is much higher than the local Mongolian breeds. Last year we rented two Hereford purebred bulls from the cooperative. Renting the bull was cost effective for us to breed our cattle, because we wanted to improve our livestock but we did not have enough money to buy purebred bulls. But now we can rent those bulls at an affordable price. The return on investment from having better cattle is higher than the cost of the rental." There is higher demand among herders to rent bulls to improve their herds because over the past three years' project implementation and also, higher market price has attracted herders' interests to use improved breeding practices. "Improved genetics will help to increase our income from our cattle and it will help us limit the number of livestock we have, our herds will have fewer, but higher quality animals."

Lessons Learned

The Khushaat breeding project was one of the longest running projects under RCP. There have been several challenges, lessons learned, and success factors which were identified by both the project team and 'Khamtiin Khuch' cooperative, these are described below.

- 1) **Breeding Projects Need a Longer Time-Horizon** – For improved breeding practices to have an impact within the community, long term planning is required. Results take years to materialize, requiring a significant investment of time and resources. It took until the third year of implementation for Khushaat Khamtiin Khuch to begin providing breeding service in their community; new calves born during the project are just now reaching maturity and able to demonstrate the benefits of using the cooperatives breeding services.
- 2) **Unique Challenges Working with a Cooperative** – A cooperative has a different business structure than other businesses, one which requires the active participation of all members. A cooperative which has too many members, like Khushaatin Bayalag with 92 members, is an ineffective organization. It proved to be difficult to gather the majority of members and make resolutions during initial project planning and implementation. The shift from Khushaatin Bayalag Cooperative to Khushaatin Khamtiin Khuch Cooperative also affected implementation of the project. The initial objective of the project was to “strengthen the capacity of an existing Breeding unit - Khushaatin Bayalag Cooperative” but then as partners changed, the objective shifted to “building capacity of a new Breeding unit.” While the project was successfully completed, the shift to supporting a newly established cooperative certainly affected the timeline for implementation, and required flexibility from all parties involved.
- 3) **Diversity and Shared Vision Among Members is Key for Success** – The success of the Khushaatin Khamtiin Khuch Cooperative is linked to its members who have varied backgrounds and expertise, such as herders, breeders, and local businesses who have come together with a shared vision to improve the local access to KWH genetics. Each member contributes to the cooperative in their own way - the livestock breeders help with breeding selection and breeding services; feed businesses supply feed to the nucleus herd. This allows the cooperative to be a holistic breeding unit with a strong nucleus herd.
- 4) **Tailored and Holistic Strategies are important for Livestock Breeding Initiatives** - The professional relationship between Khugnu Meej and Cooperative was very important to support the project implementation successfully. The strategy, which was developed by MCM in collaboration with the breeding consulting firm, Khugnu Meej, illustrates that advanced animal husbandry practices have the potential to increase the supply of and demand for premium grade beef cattle; strengthen the capacity of cooperatives; create a legislative environment conducive to economic growth and make modern beef cattle production an economically viable practice for herders in Khushaat Soum by the year 2025. The strategy today applies only to the 300 herder households residing in Khushaat Soum; the impact, innovation, and influence that follows should inspire neighboring soums

to implement similar livestock development strategies, creating a sustainable designed for Mongolia model for livestock breeding that MCM believes will improve the livelihoods of herder households all across Mongolia.

Business Sustainability and Outlook for Near Future

The Cooperative will implement a five-year business plan, up to 2023. Accordingly, the primary focus will be providing breeding services to herders in the Khushaat community. In the future, the objective is to provide breeding services to herders and farmers who are raising beef cattle in neighboring soums within Selenge aimag, and also others aimags.

The head of the cooperative described their plans moving forward, “now we have a very clear future and in coming years, our cooperative will become the top Kazakh Whitehead (KWH) breed and seed stock producer in Mongolia and will play a very important role in the development of the beef cattle industry in Mongolia. Also, we hope that our bulls will be increasingly in demand by other herders and businessmen interested in raising quality beef cattle.” The cooperative will continue to improve business operations and work together as a breeding unit.





Demonstrating Impact

LIVESTOCK FEED AND FODDER PRODUCTION

Partner Name: Munkh Turuu LLC

Project location: Bulgan Aimag, Teshig soum

Project Duration: August 2019-June 2020

Background

Munkh Turuu (MT) LLC grows wheat on 800 hectares of land in Teshig soum, Bulgan aimag. The crop is then sold to domestic flour mills. Through its partnership with the Mercy Corps Mongolia 's Resilient Communities Program, Munkh Turuu LLC expanded their business activities to include livestock feed production. The company was inspired to expand into feed production because they saw the lack of access to these products in the area. MT understood that if herders feed their livestock nutrient-dense feed throughout the year, their animals would be healthier and heavier; in turn, the herders would have greater profit when selling their animals.

Through this project, MT established a feed processing workshop – which is now the only operating animal feed processing unit in the soum! Having access to locally

available feed lowers transport cost for herders and creates stronger market linkages up and down the local livestock value chain. The business sought technical support from the Mongolian Institute of Animal Husbandry to create recipes for nutritional feed mixture using oat, barley, alfalfa, and peas purchased from other local producers and the wheat by-products and straw that was already available at MT. To stimulate demand among herders for more nutritious feed for their livestock, the company educated herder households on the importance of using processed feed by providing relevant information, piloting a feed program for cattle, and disseminating promotional and educational videos and handbooks on the benefits of proper feeding practices and crop production.

The project's objective was: "Herders provide proper nutrition to livestock throughout the year." To achieve this objective, two project outcomes were determined; (1) Increased volume of feed production; (2) Increased awareness of herder households about proper feed.

Result 1: Animal Feed Production

The primary impact of this project was two-fold: 1) animal feed became readily available for local herders to purchase, and 2) the company's operational expansion resulted in a creation of a new source of income. The company produced 80 tonnes of animal feed during their first season in operation, bringing in 35 million MNT (12,280 USD) of additional sales revenue. As highlighted by the company director, the company saw significant profits because the market price per ton of processed feed is two to three times higher than the price for wheat by-product, and there is reliable market demand locally for the animal feed products. Moreover, this innovative business has created new employment opportunities for local people. Since the start of the project, the company hired seven people as permanent staff. These new staff members will continue working with the company to produce, package, and sell the animal feed.

In accordance with the government's standards on concentrated and mixed feed for cattle (MNS 5928:20088), MT developed and tested six types of feed recipes with support from the Animal Husbandry Institute. Then MT sent samples of their feed products to the General Agency for Specialized Inspection (GASI) to check feed ingredients, quality, nutrients and to seek official approval. Ultimately, MT received official approval from GASI for the six different animal feed products. Approval indicates that the feed contains the quantities and quality of ingredients as required by the state, and are safe to use. In their approval, GASI noted that the quality indicators were higher than competing products, which gives MT a competitive edge in the feed market. The approval allows MT to continue producing feed without further inspection.

Although all six recipes were approved by GASI, MT focused on the production and testing of just three feed products during the project implementation period. The

⁸ According to the Law on Standardization and Conformity Assessment, any proposed new products and services should be compliant with the relevant Mongolian Agency for Standardization and Metrology standards.

company's rationale was that the primary ingredients for those three products (wheat, by-product and straw) were readily available through their primary business – wheat farming. Now, the proven success of the first three products – as demonstrated through sales and increased revenue - has inspired MT to cultivate the other feed crops required themselves. Thus, in the spring of 2020, MT planted alfalfa, corn, peas and oats on 73 hectares of land. The company director notes that “it will be helpful to produce all six recipes using the business's own resources so they will be able to produce the feed at a lower cost.”

Result 2: Increasing Awareness of Herders on Feeding Practice

To reach out to herders, the company partnered with the Institute of Animal Husbandry as well as local NGO, “Bulgan One Generation”. In collaboration, the three entities decided to host a pilot program and conduct research on cattle weight gain vis-à-vis feed practices. The pilot was led by researchers from the Mongolian Animal Husbandry Institute, who did on-site observations of cattle and kept records of feeding times, quantities, and weight gain. The program included providing one of the products free of charge to four herder families to feed their 20 cattle for 45 days. During the pilot, selected cows were given 5 kg of feed per day in addition to the hay they already were being fed to illustrate the difference in weight gain and productivity. Each cow gained an average of 50 kg. One herder selected five cattle which were severely deteriorated in health and weight. After 25 days of using MT feed products he reported, “My cattle are becoming quite joyful. They even play with each other. I think this is a very good sign that their health and overall well-being has improved significantly.”

MT, together with the Institute of Animal Husbandry and Bulgan One Generation, used the results of this pilot to inform the creation of herder-focused, needs-based, training and marketing materials about livestock feed and feeding systems. These materials include one handbook, one brochure, and two videos, all of which are appropriate for rural audiences. The original plan was for the NGO “Bulgan One Generation” to facilitate trainings based on these materials; however, due to COVID-19-related restrictions, these trainings were postponed indefinitely. Nevertheless, the informational materials, which act was both educational resources and marketing material, were distributed to herders across 5 soums in Bulgan, including Teshig soum. A total of 2,500 brochures and 600 handbooks have already been distributed.

Herders cited the educational material to be effective and successful in stimulating interest and demand for livestock feed. The herders highlighted the weight gain reported from using MT feed products, stating that 50 kg of weight gain in pasture-fed cattle usually takes the entire summer season, whereas with this intensive feed system, 50 kg of weight gain only took 45 days – saving time and producing yield much more efficiently for the herders.

Result 3: Developing Local Feed Market

To effectively connect to the regional market, MT established three sales points: one in the Bulgan aimag center, one in Khutag-Undur and one in Teshig soum. A total of 80 tonnes of feed was produced in December, and was sold-out by March. This success can be attributed to not only selling a high-quality product, but also meeting the demand for a locally available and affordable feed product. Teshig soum herders reported being pleased to reduce their feed transportation costs and to buy a locally sourced product. This sentiment is shared by herders from the surrounding 5 soums, and Khuvsgul aimag, who traveled to the sales points to purchase feed, as evident by MT sales records.

In addition, MT worked with a business consulting firm, a service provided and facilitated by Mercy Corps, to develop product promotion and marketing materials. The company also assisted with improving their marketing plan to expand their production capacity and consumer base. At the recommendation of the consulting firm, the company has begun the process of establishing a subsidiary company that focuses on only animal feed production.

Business Sustainability and Outlook for Near Future

Munkh Turuu's project implementation illustrated the benefits of producing animal feed in response to the special needs of different livestock. In the fall of 2020, the company plans to create feed products for the specific dietary needs of bulls, pregnant cows, and calves using the feed crops they harvest from their fields. They will also eventually create feed products for chickens, pigs, and horses. This enables them to expand their sales to respond to market demand.

Participating in a feed production business has encouraged MT to diversify into cattle farming to supply high-quality meat to the markets, which they expect will increase revenue for the business. For the cattle farming, they plan to follow the feedlot methodology of Xanadu LLC to establish their own feedlot. The target for 2021 is to obtain 50-60 cows, and gradually increase to 300-400 cows. The business has received 2 hectares of land from the local government for the purpose of starting a feedlot operation. Munkh Turuu is a motivated and innovative business, and they hope to continue to grow and find success as an agribusiness market actor.



Demonstrating Impact

GREEN FEED PRODUCTION

Partner Name: Art Margad LLC

Project location: Khentii Aimag, Kherlen soum

Project Duration: April - October 2020

Background

Art Margad LLC is an agricultural company that owns 200 ha land in Kherlen soum, Khentii aimag. Since 2017, Art Margad has produced and supplied feed and fodder to local herders and farmers. In Kherlen soum, there are very few farms that produce nutrient-dense livestock feed.⁹ Art Margad partnered with Mercy Corps Mongolia 's Resilient Communities Program to close this gap in the market with three different



⁹ Nutrient dense feed contains a balance of high protein content like alfalfa or legumes, digestible nutrients like grains such as oats and barley, and vitamins which are found in green feed.

types of pressed feed: oats, alfalfa, and mixed feed (combination of oats, wheat, barley, and buckwheat). These types of feed create a complete diet for livestock, leading to weight gain and improvements in the general health of the livestock. Furthermore, the project focused on addressing the knowledge gaps of herders and farmers about the benefits of feed and fodder. Art Margad recognized that by communicating with herders about how and why to use supplemental livestock feed, they could help herders shift their animal husbandry practices to be more productive.



In 2020, Mercy Corps Mongolia prioritized support to “youth-led” businesses in target aimags through a competitive call for applications process. Youth are nearly 35% of the total population, yet there are very few young people involved in the livestock sector. As such, Mercy Corps Mongolia partnered with Art Margad, a company which is led by a young businessman

involved in cultivation of livestock feed, to support the business to achieve their goal: “Herders provide a diverse set of animal feed and forage (nutrition) to livestock throughout the year”. To achieve this objective, three outcomes were determined; (1) Business growth through improved operational capacity, assets, and production; (2) Increased income generation through expanded market base, sales, and business practices; (3) Increased herder and public awareness on the benefits of using green feed for livestock.

Result 1: Business Growth through Improved Assets and Production

In partnership with MCM, Art Margad has successfully expanded their feed business, tripling the cultivation area used for fodder crops from 10 ha to 30 ha of land. As a result, harvest yields increased by almost 4 times - from 35 to 137 tonnes - compared with the previous year. The director of the company stated that “this project provided a great opportunity to increase production capacity at a level they couldn’t achieve on their own. They have been able differentiate the business by using innovative solutions to feed production and utilizing a business model that promotes their position in the feed market.”

As a youth-led business, the company is open to innovation and trying new things. They piloted cultivation of alfalfa, wheat, and barley in addition to the oats and buckwheat they had experience cultivating previously. Alfalfa, in particular, is not usually cultivated in Mongolia as it takes two years to establish, but is a perennial crop and is rich in protein, making it a valuable crop. Cultivation of new crops led to the company to introduce a new mixed green feed in the local market (in addition to oat based green feed they already produced). As the company did not have previous experience planting these types of forage crops to produce green feed, they expected to produce a total of 4,800 bales of oat and mixed feed. However, they were able to exceed this target by producing

5,482 bales of feed with oat-based feed production tripling from 1,000 to 2,986 and producing 2,496 of the new type of mixed feed. This excess production of green feed can be partially explained by abundant summer rain in Khentii aimag which resulted in higher crop yield. Secondly, as the company did not have the necessary equipment before the project, they set the target through their own experience. However, the reality proved that the new machineries increased their productivity and production level much higher than they expected,

Through this project, Art Margad intended to pilot cultivation of new crops and expand their livestock feed production. The company originally planned to use alfalfa in their new mixed green feed, however this was not possible because alfalfa needs two years between planting and harvest. Alfalfa is a perennial forage crop which normally lives up to ten years, yielding multiple harvests, making it a worth-while investment to cultivate despite the delayed return.

The Director of the company reflected on this 'lesson learned,' stating: "When I planted the alfalfa in the spring, I had very limited information about the alfalfa and I expected to harvest the crop in the first year. Later on I realized that I cannot harvest alfalfa in the first year of cultivation because the roots need to be firmly planted in the first year and it is advisable to harvest the crop starting from the second year. It is a lesson learned for me and I realize now that I need to consult with Agricultural Specialists or experienced farmers before planting and harvesting new types of crops.

As a young crop farmer, I need to learn a lot about crops, their benefits and unique features, different approaches to grow, and produce good products. This year, I saw the actual benefits and challenges of growing crops for animal use. Another thing to note is that my company was mostly involved in vegetable production before this project. However, I found out that crop production is more profitable in comparison, it requires fewer financial resources and labor costs, but the market demand and price are higher than vegetables and the feed is much easier to store. I feel that we are on the right direction diversifying our vegetable farming activities. I am happy to get new technical and business experiences from this project".

Through their partnership with Mercy Corps, the company procured new equipment, including: a soil leveling rotor, a seeder, a rake machine, a reaper, and a baler machine. With access to improved machinery, the company was able to increase their own work productivity and even earned extra income by renting their equipment to other neighboring farms. Previously, the company used to have only one tractor and had to rent necessary equipment from others. The rental cost was more than 1 million MNT (350 USD) per growing season and required additional waiting time to rent the equipment which could significantly delay planting or harvest which impacts quality of the crops. Lack of equipment was one of the biggest hindrances for business growth for the company. The director of the company stated "sometimes the rental equipment broke during work. We would usually spend a total of four days harvesting of 10 hectares of land. This year, we

spent the same number of days harvesting 30 hectares of land. The improved equipment saves rent, labor costs, and time. The new equipment is less likely to break down.”



As the company expanded its business operations, their workforce doubled from 5 to 10 people. As people are the driving force behind growth, the business recognized the need for a strategy to

support their human resources. The company worked with King Consulting Firm as part of the MCM Local Business Clinic Project to improve HR policies by refining employee contracting and internal HR policies regarding staff benefits and retention. As a result, the company fully improved its business procedures and documentation. They started to sign contracts with their staff, fostering mutual understanding of roles and responsibilities; they also established agreed-upon working hours and holiday hours to promote staff motivation and trust.

As one employee stated “I have been working for Art Margad since April under an official employment contract. I’m happy because I have a permanent job which improves my life and livelihood. During harvesting time, it was very productive and impressive because the new equipment and machines make our work much easier and safer.”

The company improved not only HR policies but also accounting processes, business planning and marketing during their business consultation. The company developed a business and marketing plan which guides how the company promotes and sell its products. In addition, Art Margad set up a social media page and developed brochures as promotional materials.

Result 2: Increased Income through Expanded Market Base



The company has taken several steps to market their business, to expand its customer base, and increase demand for its products. One of those initiatives was to offer a 10% price discount to

young herders from vulnerable households. A total of 16 young herders received 1,300 bales at an 10% discount. Reduced sales price attracted many herders’ attention and increased general sales within a short period of time.

In addition, AM carried out a market study to investigate the gaps in animal feed availability in their soum and in nearby soums: Kherlen, Murun, Bayankhutag and Bayan-Ovoo. The results of this market research showed there is high demand for nutritious feed in all of these soums. To reach herders in these soums, the company set up a social media page and posted information about the business and feed products they offer. It was a useful and cost- effective strategy to reach herders, and has resulted in a significant interest from herders to purchase the feed products.

Since the project started, the company made excellent market linkages. The number of regular feed buyers increased from 11 to 40. Within two months, all bales of feed were sold, and herders continued to request animal feed. As a result of the project, the company tripled their sales income in comparison to last year's. This can be explained by Art Margad strategy to



keep an affordable and stable pricing strategy to ensure customers can afford their products. Additionally, the company also signed an agreement with two local dairy farms to continuously supply their feed in the coming years. This type of agreement ensures that Art Margad is able to retain their customers who buy in high amount and the farms benefit by buying at a stable price. In addition, the company has strengthened its cooperation with government agencies like the Social Welfare Department and the Agricultural Department. This year, Art Margad helped these agencies and department with their market research on livestock feed availability in the area. This cooperation is highly appreciated by the Director of Art Margad, who hopes for the possibility to supply their livestock feed to the Local Feed Reserve Fund run by the aimag agricultural department. This fund helps vulnerable herders who require emergency livestock feed during harsh winters. By becoming a supplier to this fund, it will boost the company's reputation in the local area, ensure sustainable sales, and provide opportunity for vulnerable herders to access the high-quality green feed.

Result 3: Increased Herder and Public Awareness on Feed Benefits



This year, the company printed 500 leaflets on feed benefits and, developed their social media page that reached 1,459 people. Additionally, the company participated in the local Autumn Festival by showcasing their bale of feed along with distributing their leaflets. The company also conducted a direct training to 56 herders on the importance and benefits of nutrient-dense feed

products. This training was conducted to herders who came to buy the feed from the field as well as local herders who attended the Autumn Festival.

The company staff reported that word-of-mouth marketing among herders is very important. Herders are willing to see and learn the importance of using supplemental feed from their peers. They respond well to the opportunity to see results first to believe in the process. If one of the herders purchases and uses green feed for their animals and if the animals start to gain weight, information about these positive results is easily spread in the local area and many herders are eager to purchase it for their own livestock. In

addition, social media and other online platforms are useful to engage with customers directly and indirectly, and maintaining business relationships.

Moving Forward

In the coming year, the company plans to expand their cultivation area by 100 hectares, produce more feed crops, and continue to diversify the crops cultivated. To be a sustainable business, the company also envisions that they will build up a seed reserve fund for their own use and for other local crop producers. To achieve this, the company will buy high quality seeds from trusted and known suppliers in order to start the process of seed preservation. Although it will take multiple years of continued effort to produce quality seeds and extensive consultations with experts, Art Margad is determined to reach their goal.

As a young man who is engaged in agribusiness, the director of the company is enthusiastic about the livestock market and motivated from customer feedback. The ultimate end goal to expand his business is to develop beef cattle farming next 5 years, using the existing feed business as the base. Through the beef cattle farming, the young entrepreneur aims to be innovative in intensive farming in the local area and to provide safe and quality meat products to the market.





Demonstrating Impact

QUALITY SILAGE PRODUCTION

Partner Name: Ar Sevd Mogoit LCC

Project location: Selenge Aimag, Khushaat soum

Project Duration: April - October 2020

Background

Ar Sevd Mogoit LLC is a crop and forage cultivation business in the Khushaat soum of Selenge aimag. With more than 20 years' experience in crop cultivation, specifically wheat, ASM has a wealth of knowledge that has culminated in an interest in diversifying their crops and products. In recent years, the company's leadership identified a gap in the livestock value chain within their soum and aimag, noting that there is very little cultivation of forage or production of nutrient dense livestock feed products to sell to herders and farmers. With 880 ha of cropland in rotation, ASM recognized the opportunity to expand their business to include cultivation of forage and the production of feed and fodder. ASM partnered with Mercy Corps Mongolia's Resilient Communities Program to address this gap in the market.

In 2018, the company received a grant from Mercy Corps as part of a project aimed to increase cultivation of forage crops. Using these funds, the company procured rye and oats seeds, grinding equipment, fertilizer and pesticides and cultivated forage plants for animal use. This was the first time the company produced livestock feed, the director of the company shared “At that time, Mercy Corps incentivized our entrance into the animal feed production. I felt that feed and fodder for animals is important products to offer on the market. There is an emerging demand for animal feed, but I was not still quite sure of it because most herders still rely on free pastureland. Looking back, the support was the right timing for me and helped to drive my business to be further diversified.”

In 2020, the company was selected again through a different competitive grant opportunity with the Resilient Communities Program. This time, their project aimed to produce nutrient-dense silage products and increase supply of locally available animal feed. In addition, the company aimed to expand their seed reserve bank for their next planting season- making seeds available not only for themselves but also for other local crop farmers. ASM also developed communication materials about feeding livestock with silage throughout the winter and early spring to prevent weight loss and herd mortality rates.

Mercy Corps Mongolia partnered with Ar Sevd Mogoit to support the business to achieve their goal: “Herders provide proper nutrition to livestock throughout the year”. To achieve this objective, four outcomes were determined; (1) Improved business capacity to produce nutrient dense silage of oats, peas, barley and wheat; (2) Increased production of seed reserves of feed plant; (3) Increased availability of nutrient dense silage products in the local market system and growth in demand through improved knowledge about the silage product and its benefits; and (4) Improved availability of high quality forage seeds in the local market system for further expansion of feed cultivation in the region.

Result 1: Improved Business Capacity to Produce Silage



Through their partnership with Mercy Corps, Ar Sevd Mogoit LLC has been able to expand feed production capacity to include cultivation of a wide variety of forage crops including peas, oats, barley, and wheat which was harvested and processed into wrapped bale silage. These forage crops provide a high-energy balance of protein and roughage which creates a complete diet for livestock, improving productivity and animal health. The director of ASM stated that, «Mixed silage provides more advantages in terms of accessing multiple types of nutrients and it is

appropriate feed for all types of animals.”To achieve this expansion, the company has more than doubled the area reserved for cultivation of feed crops — from 40 to 100 ha enabling them to produce a higher yield of crop and a greater amount of silage than in

previous years. In fact, the company's production of 300-kg silage rolls more than tripled, from 503 to 1,722 rolls. As part of the expansion of business operations, the business purchased equipment for silage-wrapping and forklift machinery; the new equipment was essential for continued business expansion into the livestock feed market. Work productivity has increased significantly since the company began using new machinery and equipment to harvest and wrap silage. ASM was able to the cost of operations by two million MNT (700 USD) per growing season because they no longer need to rent machinery, and the number of days to produce silage has decreased due to the improved efficiency of more modern equipment. This year, they spent only ten days on silage wrapping for 100 hectares of land. feed. Before it took 14 days to wrap feed production on 40 hectares of land.

The company director explained that this was achieved not only through access to modern equipment but also better working arrangements for employees. In response to business growth, the company hired three staff; one full-time and two temporary members. The company has been implementing some incentives for their staff to improve their work performance and retention rate, by providing winter fuel, hay for their animals, and subsidies for school tuition fees and house renovations.

The director of the company reported that "Skilled and committed staff is a core function of company growth and business profit. As a leader, I try to motivate my employees to work with the company for a longer time and so I introduced some incentives based on their work performance. Currently there are 11 permanent members of staff. During the cultivation and harvest season, we hire additional temporary workforce as well. Investing in staff well-being is the absolutely right thing to do and it impacts business operation stability and development."

ASM sells the silage at an affordable price which contributes to the availability and accessibility to livestock feed for the local community. The company is selling 300 kg rolls of silage for 75,000 MNT (around 26 USD); this price is about half that of hay. The business intentionally set an affordable price to ensure herders' access to silage, the lower prices incentivize the purchase of silage over hay. As of October 2020, more than 60% of the 1,772 silage rolls were sold; as herders buy silage throughout the winter and spring, total revenue from sales is expected to quadruple compared to last year.



The director emphasized that the company's diversification into feed production has resulted in increased profit. The director said that including forage crops in a wheat rotation is highly beneficial because the practice generates secondary income and improve the soil fertility. Moreover, the economic profit of feed production is much higher than production of wheat because forage yield per hectare is 3.8 times higher than wheat yield; forage yield is between 5 and 10 tonnes per hectare.



ASM’s partnership with Mercy Corps resulted in growth in operational capacity as well as in the business’s administrative capacity. This includes improvements in record keeping, accounting, and strengthening business identity through

development of business and marketing plans. These improvements were the result of the timely support from King Consulting Service and the Mercy Corps Mongolia Project: Local Business Clinic. The director of ASM reported that he is now more aware of the importance of clarifying roles and responsibilities of company staff. In the past, he was involved in the minutia of running the business and made most decisions by himself, but this distracted from high-level management responsibilities. To address this, official procedures were set up within the company to delegate responsibilities to others, with a reporting line up to the director. To strengthen brand identity, the company set up a social media page and designed a company logo, an important aspect for expanding the reach of the business and improving their connection with customers.

Result 2: Increased Seed Reserves for Animal Feed



Seed banks are not common practice in Mongolia, especially for livestock forage crops. Accessing high-quality seed locally is a significant obstacle for local crop farmers. Previously they had only two choices: they would either buy more expensive seeds from Russia, or buy seeds from unreliable local suppliers.

Therefore, ASM aimed to establish a seed bank to achieve two outcomes 1) maintain a reserve of seeds for the next planting season, reducing the cost of purchasing new seeds and ensuring the continued quality of their seed supply, and 2) other crop farmers in the area can purchase forage seed and participate in the production of feed for livestock in the coming years, which is particularly important for Selenge aimag as one of the designated cultivation areas in Mongolia. ASM’s establishment of a seed reserve at the soum-level has proved to be innovative and strategically important for the area. Their partnership with Mercy Corps Mongolia has allowed ASM to expand their cultivation area for seed production from 10 ha to 26 ha. As a result, the volume of seed harvested increased by 35%, from 13 to 17.6 tonnes.

Even though yield was lower than expected due to heavy rains throughout the summer, the company was able to make agreements with five local agricultural companies to supply them with seeds. ASM sold 25 tonnes of wheat seed to two companies, and eight tonnes of peas, barley, and oats to three other contracted buyers.

The company feels that there is potential to further expand the seed reserves in the future, while continuing to improve seed quality gradually. Demand has emerged as herders have begun to value improved feeding practices for their animals during the winter and spring. As a result, herders have started buying more livestock feed, encouraging crop farmers expand cultivation of these crops. However, as there are not many entities selling high-quality seeds locally, ASM has very little competition in the market. The company director stated that continued improvements to the seed bank is the next step to be taken in the expansion of the company. The price of feed crop seed is about 20% higher than wheat seed, so this is a profitable area to focus on for continued growth.

Result 3: Increased Availability and Market Demand for Silage Products

A promotional video of the silage products and business was broadcasted on local TV and also posted on the company's social media page. The company director has said that online marketing has been a very effective way to spread the message about the company's business and its products to potential customers. Online engagement has helped increase the number of customers who are interested in ASM silage products. In addition, a total of 5,000 brochures were used as informational and promotional



material to increase the company's reach in the area. This was distributed to herders and Khushaat soum government officials, and to another 17 soums in Selenge aimag. The number of potential customers has increased, and no longer limited to only to customers in Khushaat soum; interest in ASM silage has started to come from other soums and other aimags.

The affordable price of silage products has increased access to silage for herders who may not have been able to purchase it otherwise, thereby bolstering the company's customer base. Another good marketing tool has been the sales point established in their facility in Khushaat soum to facilitate ease of access to ASM silage products. Furthermore, ASM hired one salesperson to promote sales of its silages. Having the sales points has enabled ASM to expand market connections with other soums (Yeruu and Sant) and other aimags (Arkhangai, Uvurkhangai, Tuv) because it brings silage closer to those areas.

During the project period, the director visited more than 80 herder households for individual meetings about the company and its products. These meetings built mutual trust and long-term business relationships. As a result, the company identified 35 new customers who have since made an agreement with ASM to purchase silage. One of the herders highlighted in an interview that: "In the past I used to make verbal agreement

to buy feed from Ar Sevd Mogoit. This year I made an official agreement and signed it; this felt like a very reliable connection with the company. I used to buy less feed, but I have increased the amount this year. We understand the benefits for livestock from using this feed. I have improved the quality of my cattle and sheep. To survive the harsh winter, I need additional feed- having only hay is inadequate. So, when harsh severe weather comes, I start to feed them silage in their shelter. Last year I saw very good results because they did not lose weight. Some of them even gained weight. Another benefit of silage is that it has high energy so animals do not get cold in the winter. Now herders' mindset has changed and they understand the importance of improved feeding practices. In addition, nowadays herders and farmers consider green feed as a better roughage than hay, and are willing to start growing or expand the current scope of growing green feed if they have sufficient crop land, equipment and funds."

Moving forward

First permanent sales point for the business

**NEW SALES POINT
ESTABLISHED**



ASM plans to expand the cultivation area for seed production to 30 hectares, planting 10 hectares each of peas, barley, and oats. In terms of feed production, ASM has decided to work

with agricultural experts to engage them in promoting the business and verifying the nutritional value of the silage.

The business aims to create new planting plans before the next cultivation period, based on customers' needs. The director noted "One of lessons learnt from this project is that to make adjustments in the crops planted to diversify feed products next year. The company will grow a variety of crop products and produce specialized new feed products for racehorses, beef or dairy cattle in response to those specific requests.

The company also plans to strengthen their outreach mechanisms. The director reported that evidence-based outreach about feeding livestock is essential for herders to make significant changes in their animal husbandry practices.

Last spring, ASM fed their own 40 cattle for around 30 days, during which each cow was given 5 kg of additional feed every day. There were noticeable positive results in maintenance of yield and condition of the cattle, with each gaining an average of 40 kg. The director plans to create educational and promotional material that demonstrates the positive effects silage has on animal productivity.



IDENTIFIED 35 NEW BUYERS

Signed agreements with local herders and producers to sell/buy silage and seeds



Demonstrating Impact

GREEN FEED AND SILAGE PRODUCTION

Partner Name: Setebi LLC

Project location: Selenge Aimag, Altanbulag soum

Project Duration: April - October 2020

Background

Setebi LLC is an agricultural company that owns 200 hectares of land in Altanbulag soum, Selenge aimag. In the last two years, the company has focused on providing pasture hay at a low-cost to local herders and farmers. The company first experimented with growing oats, barley, and wheat in 2017 to produce green feed for sale; however, given their lack of experience and their lack of equipment for processing the feed, they shifted back to hay the following season.

Though they have sufficient work experience and the required equipment for hay-making, the business remains highly volatile given that the yield of natural grasses is fully dependent on natural environmental factors. Thus, reflecting on past experiences, the company identified a market for nutrient-dense livestock feed; they noticed that very few farms are producing processed animal feed in Selenge aimag.

Setebi aimed to close this gap in the market by once again producing nutrient dense silage made of a mix of oats, wheat, and barley. This mixture provides a complete diet for livestock, promoting weight gain and general health in livestock. As one of the only farms in the area doing this, Setebi is introducing a new type of product to the local market, increasing herders' and farmers' access to nutrient-dense feed.

In 2020, Mercy Corps Mongolia prioritized support to “youth-led” businesses in target aimags through a competitive Request for Applications process. Youth are nearly 35% of the total population of Mongolia, yet there are very few young people involved in the livestock sector. As such, Mercy Corps Mongolia partnered with Setebi - which is led by a young businessman- to support the business to achieve their goal: “Herders provide a diverse set of animal feed and forage (nutrition) to livestock throughout the year”. To achieve this objective, three outcomes were determined; (1) Business growth through improving operational capacity and producing high-quality feed and fodder in the local market; (2) Increased income through expanded market, sales and business practices; (3) Increased herder and public awareness on the benefits of using green feed and silage for livestock.

Result 1: Improved Business Capacity to Produce High Quality Feed

As a result of project implementation, the company has expanded their livestock feed production. To grow their capacity for feed production, the company cultivated 50 hectares of previously uncultivated land. Setebi intercropped¹⁰ oats, barley, and wheat to eventually produce silage that contained wheat, barley and oat. In addition, the company has acquired necessary equipment such as a silage-wrapping machine and silage-wrapping plastic. The machine enables to wrap silage more efficiently; in addition, one important benefit of wrapping silage is the ability to preserve macronutrients within the crop for a longer period of time, preventing rot.



For the company, the development of a new feed product was an unfamiliar process, so it required a significant amount of effort and commitment from the Setebi staff. The Director cited that the partnership with Mercy Corps during the 2020 growing season was primarily intended to acquire knowledge and skills related to feed and fodder production. “Under this project, we had the opportunity to work with soum agronomist to get on-site guidance, which was a valuable investment in our knowledge and experience for young entrepreneurs.

¹⁰ Intercropping is a method of cultivation of multiple crops simultaneously in the same field. In this instance it was in an effort to utilize the area of land as efficiently as possible

The whole process from soil preparation to harvesting was not easy, but we learned a lot from each challenge and gained practical skills. For instance, tillage of virgin ground was very hard and it took enormous effort from us to prepare and cultivate the land. During project implementation, we identified the importance of advanced equipment and machinery in agricultural practice and we invested a total of 56 million MNT to fully upgrade our fundamental asset to ensure the future of our business.”

The Director also acknowledged that their gains from soil preparation, planting techniques, care of crops during growth and ultimately, making silage were beneficial, empowering them to effectively sustain feed production and their business.

Setebi faced a significant challenge in June due to a heat wave that caused stunting in the crops and negatively impacted the harvest yield per hectare. However, the company was able to harvest 400 tonnes of feed crops within the first harvest season- and a total of 4,000 rolls of silage were produced for sale.

To meet the demands of new production and growth, Setebi hired 3 full-time staff and 7 temporary workers- more than doubling their workforce! This increase in staffing motivated the company to update and further refine their HR policies. As part of the Local Business Clinic project implemented by Mercy Corps, the company worked with a consultant from King Consulting firm. The business worked to improve their HR policies, and revise the content of contractual agreements for permanent and temporary workers. Furthermore, through their work with King, the company has upgraded their marketing and business plans. They developed social media pages and outreach materials such as leaflets, training materials, and pilots for innovative initiatives. Also, the company used to have a paper-based record system which recorded customer information and input/output; they have now moved to a digitized record system which helps track sales performance and conduct better financial accounting.

As cited by the director of Setebi, Mercy Corps’ initiative to promote young entrepreneurs is a very important and well-timed endeavor to support youth-led businesses in the local markets. This allowed the company to build a strong foundation in this new sector. He noted “we are greatly pleased with this project because our business idea has finally become a reality.” The project enabled the company to start its own feed production and grow new business experience.



Result 2: Increased Income through Expanded Market and Sales

Coinciding with the introduction of the new products on the market, Setebi purposefully launched several initiatives to expand their market reach. During the project period, they also conducted market research on potential herder and farmer clientele to explore and better capitalize on existing market opportunities. The director articulated that this intervention was useful in introducing the concept of “pre-order” to the herders and farmers; this service is coupled with their free delivery service which has pulled new customers from not only their targeted soums, but also other neighboring soums within Selenge aimag. This approach has proved to be very successful in attracting herders and farmers, as they can now pre-order the amount of feed they need and receive the product through a delivery service, saving them time and money. As a result of these efforts, the company identified 34 new customers for feed during their first year of production.

In addition, the company piloted a new sales method of barter exchange that consisted of herders exchanging their cattle to Setebi for rolls of nutritious silage feed and Setebi later selling the cattle to local meat shop. This new method was proposed by Setebi as a way to promote and stimulate demand for their new silage product to the local community as well as to establish their presence in the market share by including vulnerable herders who are unable to make cash payments. Using fair and transparent selection criteria, the company selected five pilot herder families to provide silage in exchange for cattle. Overall, 300 rolls of silage were exchanged for 13 heads of cattle. It is common practice that herders sell their livestock to crop farmers or traders as a means to purchase feed for their livestock.



Overall, 300 rolls of silage were exchanged for 13 heads of cattle. It is common practice that herders sell their livestock to crop farmers or traders as a means to purchase feed for their livestock.

The barter arrangement has been observed to be a reasonable approach to expand the company’s customer base to include cash-poor herders. The company made an agreement with a local meat shop to sell the cattle received as part of the barter agreement. The barter arrangement was created as a new business idea to give Setebi experience in beef cattle farming. The director shared, “we have a new plan to establish cattle farming based on our available feed resources because we have abundant opportunities to have more cattle using the bartering system.”

Another advantage for customers is the company’s commitment to maintaining stable and reasonable prices for feed products throughout the year. As Selenge aimag is abundant in agricultural fields and products, local herders and farmers are faced with numerous choices to feed their livestock. This year, after acquiring a new silage-wrapping machine, the cost for producing silage rolls significantly decreased. Now, Setebi is the only company in the local market that sells high-quality, machine wrapped silage products.

Therefore, with the decreased production cost and due to the introduction of new product in the market, Setebi decided to maintain a price that is 20% lower than the market price to encourage more people to buy their new product and test it out on their livestock. This resulted in expansion of customer base, increased access for local herders to high-quality livestock feed, and tripled their company sales income. As of the beginning of November, only 300 rolls of silage remained out of the total 4,000 rolls.

INCREASED ACCESS TO FEED FOR VULNERABLE HERDERS
5 herders accessed animal feed through barter system

Applied an innovative and tailored financial transaction/ tool into business practice
13 CATTLE EXCHANGED FOR 300 ROLLS OF SILAGE

TRIPLED SALES INCOME
Sales income increased as a result of producing new type of feed

Result 3: Increased Herder and Public Awareness of Feed Benefits

Reached 3,580 people through online engagement and distribution of 500 brochures
REACHED 4,080 PEOPLE THROUGH IMPROVED OUTREACH

31 HERDERS LEARNED NEW FEEDING PRACTICES
Through direct training about Setebi's products and importance of feeding livestock with nutrient-dense feed

During the project implementation period, the company developed its social media page and leaflets to promote their business and products, maintaining effective connections with their own customers whilst also conducting outreach to those who haven't yet heard of the products. Through the social media page and leaflet distribution, the company reached 4,080

people. Furthermore, the company conducted a direct training for 31 herders about the importance and benefits of feed products. The company also participated in community meetings and other events to provide information about their business, feed products and delivery service opportunities. The Director of Setebi feels that these awareness-raising events were very successful for business promotion, marketing the feed products, and increasing the demand within the market. Moreover, a promotional video for the company was released, and posted on YouTube and the company's media pages. The video reached 3,580 people between July and November which is a good start for the company's marketing. The director stated that, "this video was very engaging and informative about the business and products to reach potential customers beyond our aim and souls."

Moving Forward

The project demonstrated that herders and crop farmers are more interested in shifting to intensified livestock farming from traditional livestock management practices due to pasture degradation and overgrazing. Local government has also prioritized intensive cattle farming in Selenge aimag and has been pushing herders to prioritize the quality of livestock not quantities.

The company feels that they are now fully equipped with required machineries, equipment and skilled workers to expand their business in coming years. This creates more opportunity for the company to further expand their business and increase their market share in the future.

This year, the company planted on 50 ha land. They plan to increase the cultivation land by 20 ha starting from next year. Additionally, the company plans to install an irrigation system, and then collaborate with agronomists to increase their crop yield even further.

As for the market share, they have successfully piloted the barter exchange sales method this year. Local herders responded to this new method with appreciation and were happy to exchange their cattle for rolls of silage. This method proved to have two benefits. Firstly, Setebi increases their customer base by including cash-strapped herders who were able to enjoy the benefit of feeding high-quality silage to increase their livestock productivity. Secondly, Setebi saw an opportunity to raise a cattle herd from the exchanged cattle and expand their business activity through entering a new market by establishing an intensified beef cattle farm over the next few years. As intensive livestock farming increases, demand for animal feed will grow, Setebi plans to meet that growing demand.



Demonstrating Impact

ENRICHED BARLEY FEED

Partner Name: Gurvanborkhuud LLC

Project location: Bulgan aimag, Khutag-Undur soum

Project Duration: April - October 2020

Background

Located in Khutag-Undur soum of Bulgan aimag, Gurvanborkhuud LLC is one of the largest agricultural companies in the area. With 13 years of experience cultivating barley under their belts, Gurvanborkhuud LLC decided to diversify their business into livestock feed production. The business recognized an opportunity to utilize the barley harvest by-product¹¹, which is usually discarded, as an ingredient in livestock feed. This would not only enable them to expand their business and increase their profits, but also help the nearby community. Access to high quality livestock feed impacts the quality, health, and productivity of livestock; feed benefits cattle in particular, which are a main pillar of local livelihoods.

¹¹ By-products of barley harvest include: broken or shattered seed, seeds that are deemed unfit for human consumption, husk, and barley straw.

In addition to improved animal health and productivity, a shift to feeding livestock mixed feed can have a significant positive impact on the environment. The pastureland in the soum is already overgrazed, with the number of animals exceeding the pasture carrying capacity five times over- unfortunately, a common dilemma across Mongolia.

The director of the company explained the shift in perspective about barley harvest byproducts: “We used to discard barley by-products. This meant that approximately 10% of the total harvest was wasted and discarded each year. We would distribute wasted by-products for free to herders. It was helpful for herders to recognize the benefits of barley by-products for their livestock to gain weight and to be productive. More herders started asking for these by-products to feed their livestock. Then we thought that this could be a new business opportunity to diversify existing business operations.” Thus, the company started to research the possibilities of barley by-products with the intention of developing value-add products. For this purpose, they effectively collaborated with the Plant and Agricultural Institute of Darkhan city to determine the nutritional value of barley feed for livestock, and they explored the feasibility of producing new feed products using barley seeds and by-products.

The Resilient Communities Program RCP partnered with Gurvanborkhuud LLC (GB) to help overcome resource constraints related to increasing their operational capacity and resources needed to expand their business into feed production. Through implementation of a sub-grant project, GB chose to prioritize the production of two types of barley mixed feed – a) mineral enriched barley feed and b) barley-wheat mixed feed- and introduction of these new products to the local market. The goal of the project was: “to provide local herders with nutritional and enriched animal feed”. To achieve this objective, three outcomes were determined: (1) Increased production of nutrient dense feed from harvest by-product (2) Increased sales and income; (3) Enhanced awareness raising and promotion activities among herders.

Result 1: Improved Business Capacity to Produce Livestock Feed

Through implementation of this project, GB has expanded their operational capacity to produce livestock feed, in turn enabling the business to diversify their products and increase overall profit. As a result of the support from the partnership with MCM, the company doubled the cultivation area for barley from 200 to 498 hectares to accommodate their plans to produce a large amount of livestock feed.



To efficiently gather the by-products, the company acquired new sorting machines to help separate the damaged barley seed, husk, and stalk from Grade-A barley (used for their other products). Because the new sorting machine has much a higher sorting capacity and accuracy, it is more labor and time efficient than the older machines they replaced. Gurvanborkhuud also purchased packaging machines to ensure their feed products

were ready to be sold on the market. The manager of the company highlighted the impact these machines have on the business: “Before, sorting speed and accuracy were not good, it took a really long time to separate by-product from the high-grade barley. Also, packaging of by-products for herders was done manually, which was extremely time-consuming and required a lot of intense work from employees. Now automated sorting and packaging machines save time and labor costs.” He also company stated that the automatic production line has been helpful for business expansion while also ensuring employee safety and sustainable business growth.

Increased production capacity has empowered the company to take the initiative to invest more in the expansion of the business than originally planned. For instance, though not originally budgeted for or envisioned under this project, GB purchased a combine and automatic loading truck to increase harvest efficiency. Previously, employees used to harvest and process manually which is time consuming and generally an inefficient use of labor. In addition, the company built a shelter for newly procured machinery and vehicles; protecting them from the elements ensures their functionality and longevity long beyond the end of the project implementation period. Furthermore, the company built a storage unit with the space to store 5 tonnes of feed products. The Director emphasized that these were smart and timely investments “we spent a significant amount of money for these machines, 185 million MNT (65,000 USD). I saw the added value of using advanced machinery this year, and it truly improved processing and production capacity. I am absolutely sure I will see returns on these investments in near future.”



Through this project, GB diversified its activities to include production of two new feed products, each with unique ingredients: the first is mineral enriched barley feed, and the second is barley-wheat mixed feed. In line with local laws, the new feed was accredited by the Government Agency for Specialized Measurement. In addition, Gurvanborkhuud received a formal authorization (like a copyright or patent) to produce and sell these two products on the market because the content and quality of the feed meet the necessary standards.

In the course of project implementation, the company nearly tripled the volume of barley by-products processed for livestock feed, from 26 to 72 tonnes. Almost 24 tonnes of feed was produced and sold during the project period, and the company plans to sell an additional 59 tonnes of feed during the winter and spring, when demand for supplemental livestock feed increases. Compared with last year, the company revenue has doubled as of October 2020, and revenue is projected to be 10 times higher within the first full year of feed production.

The Deputy Governor of Khutag-Under soum highlighted the importance of Gurvanborkhuud’s business expansion for the area, stating that: “local feed production is very important because evidently there is a growing demand for livestock feed at an affordable price. This new market for feed provides plenty of opportunities for herders to access a reliable supply of animal feed products. Local herders no longer need to travel to the aimag center or other areas to buy these products. Pasture yields have been gradually deteriorating year by year, the situation is leading herders not only to rely on natural pasture, which is a traditional herding practice, but also to buy and use supplemental feed for their livestock as well.”

To meet the labor requirements associated with business expansion, the company hired 5 new employees, growing to 31 full time staff. One newly hired employee reported, “I’m happy to be a part of this company because GB is well known and has a good reputation in the community, and they have demonstrated long-term staff retention. Before joining this company, I did a lot of temporary work to maintain my livelihood. At that time, it was very difficult because my husband was unemployed. Now, I have stable income and the company really supports us and our livelihood. For instance, just recently, the company celebrated “Harvest Day,” providing a day off and a cash bonus to all staff.”

The Director of the company demonstrates sensitivity to the needs of employees, and prioritizes staff retention. “We care for our staff and value their technical and vocational capacity. Therefore, we have implemented an incentive mechanism for our staff to motivate them and encourage them to increase their productivity. Based on performance rates, we provide a bonus salary incentive. In addition, we allocate about 15 million MNT (approx. 5,500 USD) each year to sponsor staff to receive training and to support their vocation. Over the past several months, a total of three staff members attended a vocational training and received a driver license for tractor driving. In case of emergency, we also provide cash to our employees.”



In addition, with support provided through the Mercy Corps Mongolia’s Local Business Clinic Project, the company refined record keeping protocol for accounting and HR, and developed marketing and business plans. Each document has been developed according to official government requirements. For marketing, the company has developed a social media page and marketing communication material.

Result 2: Expanded Business and Sales

Since the start of the project, the company dedicated time and effort to increase their presence in the community. The manager of the company highlighted that they now have a better understanding of the significance of having a strong marketing approach. A promotional video introducing the company’s unique products was produced and posted on social media, reaching 3,200 people during the project period. Location-based

marketing was also successful in customer engagement, and increased sales of the feed products. Brick-and-mortar sales points are a customer-centered service which



increases access to feed for herders who live in remote baghs¹² which are usually located 50-90 km from the soum center. Knowing this, the company made agreements with bagh-based shops to sell the feed products out of their store fronts. They now have four sales points for the feed- up from only one before the project launched. The feed, packaged in 25 kg sacks, costs about half the price of commonly-used

bran feed. This is a key factor in attracting more customers. As on sales point manager stated, "there is a great need for animal feed. We have sold around 10-15 tonnes of feed in a month. Sales have been more successful than expected; for instance, Gurvanborkhuud delivered 3,000 kg of feed in mid of October, but within a month, only 525 kg was left. The low prices are attractive for customers, who can purchase two sacks of this nutrient-dense feed instead of one sack of bran. There are 20-30 customers who regularly buy feed."

The marketing of these products has been lucrative, not just in terms of revenue but also increasing their customer base. As the company manager said, "we are expecting to receive more sales requests from Khuvsgul aimag which is a neighboring aimag and from many neighboring soums in our own aimag. We have just made a business agreement with two schools of Khuvsgul aimag and supplied them with four tonnes of feed."

Result 3: Increased Awareness for Herders about Feed Usage and Benefits

During the project period, their marketing strategy- which included both direct and indirect marketing- largely focused on providing information to herders about livestock feed and how to use it. The director of the company visited around 500 herder households in the area to conduct face-to-face meetings in which GB provided information about the advantages and benefits of supplemental livestock feed. In addition, they made a concerted effort to increase the herders' knowledge and promote sales during these meetings.

GB took a creative approach to designing packaging for the feed, using it as an opportunity not only for branding but also to share information about the product and how to use it. To date, 6,000 sacks have been printed with these informational labels, which also promote GB's brand. The company also printed 500 brochures about their livestock feed; the representatives of the sales points have disseminated the brochures to their patrons. To demonstrate the value of using barley feed for their livestock, GB also

¹² The smallest administrative unit in Mongolia, akin to a village

piloted feed products with five beef cattle of different ages belonging to one herder who had a long-term partnership with a company. During the pilot, conducted during the month of October 2020, the cattle showed an average 7-8 kg of weight gain. They fed 150 kg of feed to each cow over the course of the month. This pilot was to demonstrate to other herders what the results of using livestock feed look like. Many herders in the area were keen to know what the results were and would check-in on the progress of the cattle frequently, illustrating the power of a practical demonstration of a product and its uses.

Moving Forward

The business has already grown in operational capacity, revenue, and in market share, and now plans to produce a variety of value-added feed products and various feed ingredients within the next few years. They will start producing specialized new feed products for beef cattle on intensified cattle farms. There is growing interest in running beef cattle farms and feedlots in the soum; it is anticipated that these new production enterprises will create additional demand for animal feed and fodder production, and the livestock feed market will grow.

To continue the expansion of the business, Gurvanborkhuud will expand the cultivation area gradually as they already own 1,100 hectares of land in the soum. The company also plans to use wheat by-product for animal feed to create synergy between existing crop production and the new livestock feed production activities.





Demonstrating Impact

RANGELAND MANAGEMENT DEMONSTRATION SITES

Partner Name: Target soum government

Project location: Selenge soum of Bulgan aimag and
Tsenkhermandal soum of Khentii aimag

Project Duration: June - October 2020

Background

The health and longevity of Mongolia's rangeland is under pressure as changing climate patterns, outdated or inappropriate herding practices, and overgrazing have led to the degradation of approximately 60% of the total available pastureland. The growing livestock population far exceeds the carrying capacity of most rangeland in the country; this contributes to erosion of topsoil resulting in complete degradation and eventual desertification of Mongolia's rangeland. These challenges and environmental threats put the future of Mongolia's livestock sector at risk.

Mercy Corps believes that improved rangeland management plays a critical role in increasing productivity in the livestock sector and in the sustainability of the pastoral livestock system in Mongolia. Further, we see a need for increased awareness about

improved rangeland management and a greater understanding of the resilience capacity of the riparian zones with proper grazing and practices among the users of the pasture, including herders and other local stakeholders. Most importantly, Mercy Corps recognizes the importance of partnerships with local government in driving change in rangeland management practices and policies, as well as in supporting them to raise awareness of improved practices among herders.

Thus, in September 2019, the RCP team traveled to the nine partner soums in Selenge, Bulgan, and Khentii aimags and met with soum officials to discuss challenges related to pastureland management and the current status of the existing Pasture Management Plans (PMPs). Shortly after that trip, the local officials of target soums approached the RCP team and requested to demonstrate different methods of improving rangeland. The assumption was that once the herders see the benefits of improved practices for themselves, they will be more motivated to protect their local rangelands.

After discussions with soum and aimag agricultural departments, Mercy Corps decided to build two demo sites in selected soums in partnership with local soum and aimag governments. The objectives of establishing these sites were to:

- Demonstrate to the public the benefits of fencing, protecting, and fertilizing pastures
- Demonstrate benefits of pasture rotation techniques
- Demonstrate scientific approaches to improve pasture quality

Each demo site would cover an area of one hectare and be divided into four equal sections with a pedestrian walkway running between them. (See Figure 1)

Area A: This section was fenced to protect against animal grazing; nothing will be planted

Area B: Perennial grasses will be grown in this section

Area C: This section will have soil enriched with organic fertilizers (manure);

Area D: Alfalfa will be grown in this section

Implementation

Call for Proposals

In June 2020, Mercy Corps sent invitations to the governments of six soums to submit proposals for demo sites: three soums in Bulgan (Khangal, Khutag-Undur and Selenge), two soums in Selenge aimag (Sant and Zuunburen) and one soum in Khentii aimag (Tsenkhermandal). Mercy Corps approached these six soums because they 1) had a pasture management plan 2) were located close to main roads and water resources.

All six soums submitted their proposals. Each proposal was submitted in Mongolian and a summary of that document was translated into English and presented as a PowerPoint presentation to a review committee composed of representatives from Mercy Corps' finance team, operations team, program team, and senior leadership. The proposals

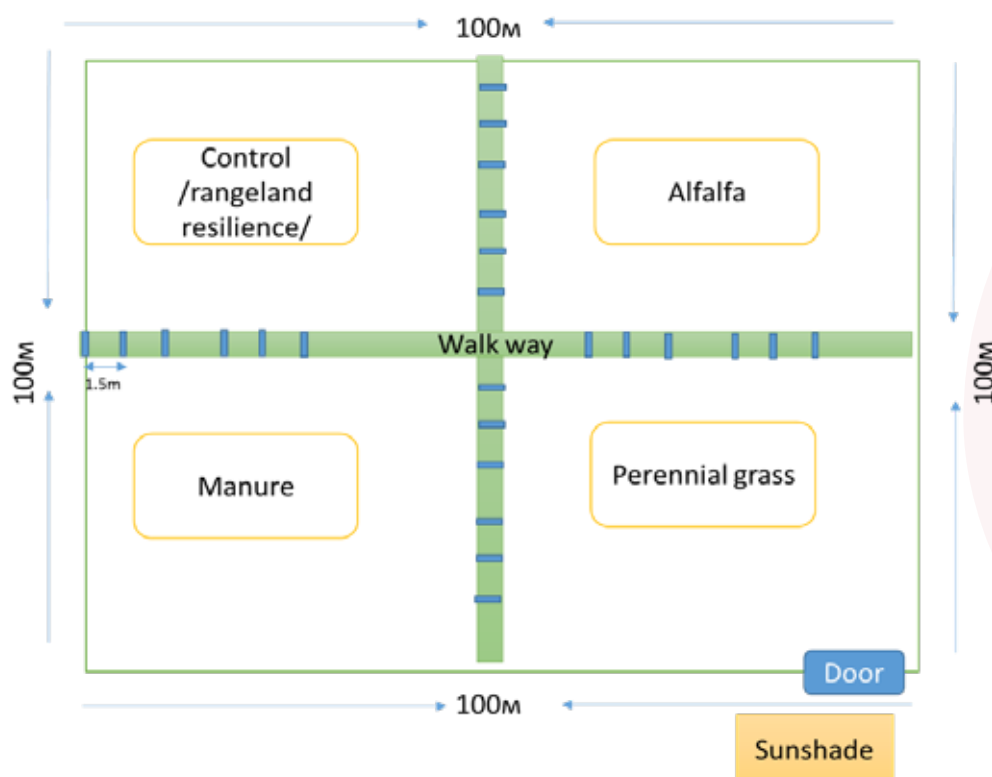
contained the following information:

- Background information (current challenges to rangeland management)
- Detailed information on a demo site (location, treatments, information board info)
- Expected contributions from the government
- Future of the demonstration sites

After a review of all proposals, Mercy Corps shortlisted four soums based on the following criteria:

- Number of potential visitors/ beneficiaries
- Clear plans and justification for the plantation and contents of the 4 areas at the site
- Well thought-through plan for messaging and awareness raising about the site
- Demonstrated commitment to providing leadership/ technical expertise for the establishment of the site
- Community contribution for the establishment of the site
- Clear commitment to the maintenance and upkeep of the site after its establishment
- Clarity and completeness of the technical drawing submitted as part of the proposal package

Picture 1. Treatments for demo site



These shortlisted soums were Selenge soum in Bulgan aimag, Sant and Zuunburen soums in Selenge aimag and Tsenkhermandal soum in Khentii aimag. The RCP team visited the shortlisted soums in June. After a meeting with the governments of all four soums and reviewing the potential demo site, Mercy Corps selected Selenge soum of Bulgan aimag and Tsenkhermandal soum in Khentii aimag. The selection of these two soums was based on the level of commitment from the soum government, location of the demo site and capacity of local specialist who will be responsible for the site.

After the final selection, Mercy Corps signed commitment letters with the governors of both soums in June and July of 2020, respectively. Other soums received rejection letters where Mercy Corps explained why this soum was not selected. The commitment letter described responsibilities of each partner and included a plan for future use of the demonstration site. See the table below:

Table 1: Responsibilities of the partners

The soum government and herder groups	Mercy Corps
<ul style="list-style-type: none"> • Construction of walkways, sunshades, erecting information boards • Planting seeds • Providing vehicles and labor for the construction of the demo site • Irrigating the plot and providing materials for the irrigation system • Work closely with an aimag agricultural consultant to plant seeds, fertilize and irrigate soil • Maintaining the demo site in the future by including maintenance costs in the soum annual budget 	<ul style="list-style-type: none"> • Conducting an open and fair competitive process to identify input suppliers • Procuring construction materials: metal fence, sunshade, walkway bricks, rope, irrigation system, information board • Building fences around the demo sites • Monitoring the project implementation and evaluate its impact upon completion.
<ul style="list-style-type: none"> • Promoting the demo site in partnership with the aimag Agriculture Department by sharing best practices and organizing trainings and study tours 	<ul style="list-style-type: none"> • Providing technical assistance to determine the appropriate crops and rotation for the plot and developing the right messages

Procurement

The next step was procurement of construction materials and seeds, building fences, walkways, sunshades and erecting information boards. Mercy Corps announced a procurement tender to select a supplier of the following works and materials in two aimags:

In total, seven companies participated in the tender: three in Khentii and four in Bulgan aimag. After a careful review of applications, Mercy Corps selected Mon Khashaa LLC to work on demo-sites in both Khentii and Bulgan. We used the following criteria to select the best entity: 1) experience and technical capacity 2) product quality 3) cost 4) due date.

Demo site in Tsenkhermandal soum

Mercy Corps and the governor of Tsenkhermandal soum signed a commitment letter on June 18, 2020. Mon Khashaa LLC began building a fence and it was completed in 14 days. The soum was responsible for building a sunshade, walkways and erecting an information board for each quadrant. The infrastructure was completed on August 30, 2020. Once the infrastructure was complete, we started fertilizing the rangeland. Mercy Corps provided technical assistance related to the application of manure in the pastureland to soum agricultural officers. In addition, the Khentii Aimag Department of Agriculture sent an agricultural expert to the soum to help with spraying of manure.



Picture 2. Over-seeding in Tsenkhermandal soum of Khentii aimag

At the end of October, Mercy Corps specialist, aimag agricultural specialist, herders and soum government employees –21 people in total - worked together to plant alfalfa and perennial grasses. The team dug rows (2-3 cm deep and 20 cm between rows) with a small tractor, planted seeds in those rows and covered the seeds with natural hay to protect against cold temperatures.

Cost share

Mercy Corps contributed 26.8 million MNT (9,580 USD) to support this activity. The money was used to build the fence, sunshade, walkways, and information board and purchase perennial plant seeds and irrigation system. The Tsenkhermandal soum government contributed a total of 2.4 million MNT (850 USD) for the purchase of natural hay to cover the seeds, manual labor, and tractor rental for seeding.

Demo site in Selenge soum, Bulgan aimag

The commitment letter with the governor of Selenge soum was signed on July 28, 2020. The building of the fence was completed on September 15, 2020. Soum government built a walkway with rope and wooden pile. Once the infrastructure was finished, the partners began seeding and spraying manure on the rangeland. Fifty-two employees worked on over-seeding and manuring under the guidance of Mercy Corps.¹³ All seeds were covered with natural hay to protect against winter. The first irrigation will take place in early June 2021.

Cost share

Mercy Corps contributed 22.2 million MNT (7,790 USD) to support this activity. The money was used to build the fence, sunshade, walkways, information board and purchase perennial plant seeds. The soum government contributed a total of 0.5 million MNT (200 USD) by providing manual labor. A total of 52 rural residents worked on the demo site in Selenge soum.

Challenges

- The first proposed location for a demo site in Tsenkhermandal soum was eventually rejected by the RCP team. Even though the site was located close to the road, the soil quality and landscape weren't suitable for planting perennials and alfalfa. Soil and landscape are essential for the success of the demonstration. After discussions with the soum authorities, another location closer to the water source and with better soil was chosen.
- We covered the seeds with natural hay to protect against cold. Tsenkhermandal soum lacked funds to buy hay and Mercy Corps had to share the cost of buying natural hay with the soum.

¹³ Cultivating perennial plants to improve composition and quality of rangeland

Impact

Partnership: These small projects demonstrated the value of partnership with local authorities and local community. The soum governments and local residents contributed funds and manual labor to spread manure, plant seeds and erect information boards on demo sites. Soum governments and local citizen Khurals will be responsible for the long-term maintenance and care for the demo, and the soum governments will provide some financial incentives to the best government employees promoting and working on the demo site.¹⁴

In addition, in the future, Aimag agriculture departments will provide technical support to the soum on the maintenance and promotion of the demo sites. The aimag rangeland management specialists will visit the sites twice a year and offer consultancy to the soum specialist and develop and share a plan for the use and maintenance of the fence with the soum administration. They will also organize study tours and awareness raising sessions to the sites for government employees and leaders of herders' groups from other soums. Awareness raising: The soum governments estimates that at least 15 thousand people each year will have access to the demo sites and become better informed about the negative effects of pasture degradation, the importance of protection and rehabilitation of the rangeland, advantages of pasture rotation and fertilization.

This number includes local herder households, neighboring herders, soum residents and visitors passing through the soums. The demo site will provide an opportunity to all visitors to see the differences between rehabilitation methods. Also, the information boards will contain detailed description and benefits of each treatment. The information will be renewed in two years on each site by soum officials under the technical guidance of the Aimag agriculture departments.

¹⁴ Local parliaments



Demonstrating Impact

RANGELAND MANAGEMENT CAPACITY BUILDING REGIONAL WORKSHOPS

Leveraging Tradition and Science in Disaster in Risk Reduction—3 Project

Background

The growing livestock population far exceeds the carrying capacity of most rangeland in the country; this overgrazing leads to erosion of topsoil resulting in complete degradation and eventual desertification of Mongolia’s rangeland. These challenges and environmental threats put the future of Mongolia’s livestock sector at risk.

Improved rangeland management is necessary to halt and reverse the damage that was done to the country’s rangeland. Each soum has three key specialists responsible for rangeland management activities: rangeland management specialist, animal breeding specialist, and land manager. However, land managers report to the aimag land department, breeding specialists report to the aimag veterinary department, while rangeland management specialists report to soum governors. In addition, most soums lack unified coordination centers or functions that could bring these specialists together to carry out unified rangeland management efforts. In practice, these communication

and coordination challenges means that the three specialists are often unaware of each other's priorities and responsibilities and do not share information and data that could support rangeland management activities.

A rangeland management specialist is an individual who plays a key role in developing, implementing, and monitoring the annual rangeland management plan at a soum level. However, most rangeland specialists come from a variety of backgrounds and do not have a professional degree in rangeland management, which impacts the quality of rangeland services provided. In addition, the law is not very clear about funding streams for rangeland activities. As a result, there is usually no dedicated budget at the soum level for necessary interventions, a serious barrier to managing rangelands.

A **land manager** plays an important role in the land planning, registration (cadaster) and early monitoring of rangeland health at the local level. Based on the photo monitoring results, they determine the current state and carrying capacity of rangelands. Land managers enter rangeland photo monitoring data directly onto the national Land Manager database, often bypassing the soum. The data is reviewed by the aimag land department and then shared with ALAGAC. ALAGAC specialists develop three types of maps using this data: rangeland health map, rangeland recovery map and rangeland carrying capacity map.

Animal breeding specialists are responsible for improving animal quality and herd management in a soum. They conduct herd management analysis which helps herders adjust the number of animals in their herd to the carrying capacity of the rangeland and subsequently reduce grazing pressure. Animal breeding specialists develop short and long-term herd management strategy based on the existing animal numbers and rangeland carrying capacity. If the current animal numbers exceed the carrying capacity of the rangeland they would suggest to herders to improve their animal quality and reduce the animal numbers. The results of analysis help them to determine which herder households should consider reducing their livestock numbers and how many animals should be culled every year. Currently the animal breeding specialists manually calculate herd size and composition using outdated methods, which takes a lot of time and often contains errors.

Brief Summary

The Leveraging LTS3 program aims to reduce the vulnerability of herder households in Mongolia through disaster risk preparedness and improved rangeland management. LTS3 is implemented across five aimags: Khovd, Uvs, Bayan-Ulgii, Khentii, and Sukhbaatar. A total of ten soums within those five aimags were selected for intensive technical support and assistance to operationalize their existing Pasture Management Plans (PMP) and for technical and in-kind support to disaster risk reduction efforts at the local level.

In addition, the LTS3 program works to support the government's efforts to improve rangeland management practices in the targeted aimags more broadly. Towards this end,

Mercy Corps organized a series of “Rangeland Management and Capacity Building” regional workshops in collaboration with the MOFALI, ALAGAC, NFPUG, MULS, and the RIAH in October and November 2020 in LTS3 target aimags. The goal of these workshops was to:

1. Provide up-to-date information about rangeland conditions, management, rangeland use agreement, rangeland regulations, the raw materials traceability system, and best practices;
2. Connect rangeland management specialists, animal breeding specialists, and land managers with technical experts; and
3. Ensure soum level specialists have the information needed to support herders in protecting rangeland from degradation and increase cooperation between specialists.

The workshops were facilitated by Mercy Corps specialists and consultants from MULS, MOFALI, NFPUG, and ALAGAC and took place in three different locations for three different groups of participants. See the table below for more details:

Table 2. Total number of participants

Name of the workshop	Location, aimag	Date	Participants
Workshop for rangeland managers	Khovd and Khentii	19-20 Oct 28-29 Oct	48 participants from Khovd, Bayan-Ulgii and Uvs 32 participants from Khentii and Sukhbaatar
Workshop for breeding specialists	Khovd and Khentii	21-22 Oct 30-31 Oct	49 participants from Khovd, Bayan-Ulgii and Uvs 32 participants from Khentii and Sukhbaatar
Workshop for land managers	Bayan-Ulgii Khentii	23-25 Oct 1-3 Nov	55 participants from Khovd, Bayan-Ulgii and Uvs 32 participants from Khentii and Sukhbaatar
Total			248 participants

Methodology

The overarching agenda of each specialists’ workshop was similar and focused on the following subjects:

1. Government priorities and policies on developing the livestock industry, animal health, and rangeland management;
2. Rangeland management: current conditions and carrying capacity of rangelands, rangeland use agreements and regulations, rangeland risk fund, best practices, and the raw material traceability system;
3. Herd management: intensive livestock farming, quality and productivity of livestock, herd size and composition; and
4. Knowledge checking through a pre- and post-workshop test.

However, there were some differences between workshops for the three groups of specialists based on their roles and responsibilities for rangeland management within the soum. For instance, the animal breeding specialists learned to use new and advanced computer software to accurately calculate the size and composition of a herd to match the carrying capacity of a given area of pastureland for the short and long-term.

The rangeland management specialists focused more on learning and sharing rangeland management best practices, clarifying specialists' roles and responsibilities in rangeland management, and exchanging ideas for the implementation of rangeland management activities in their region. They also drafted rangeland management plans for their soums for the following year.

The land managers discussed Rangeland Use Agreements (RUA) and their role in improving the management of rangeland. The soums began registering RUAs four years ago, but due to outdated software and incomplete agreements, the registration process halted indefinitely. During the workshop, the land managers learned to use the updated software and to register all RUAs into the "Land Manager" national database system.

Mercy Corps co-hosted the workshops with the government partners: MULS, MOFALI, NFPUG, and ALAGAC. The first day of the workshop was facilitated by Mercy Corps with the hired consultants. Mercy Corps spoke mostly about pasture and herd management, rangeland management agreements and regulations, risk fund, best practices and so on. The second day was run by MOFALI and ALAGAC. They provided information about government policies and priorities, winter preparation, tax on animals, and rangeland laws (which they are working now). ALAGAC sent two technical advisors to the workshop for land managers. They trained the participants to register and enter the rangeland use agreements into the national Land Manager database without making mistakes and shared information about ALAGAC's plans and priorities for the next year.

These workshops presented perfect opportunities for the government agencies to establish links with their local counterparts. Due to budget constraints, national level agencies do not have much opportunity to meet with their colleagues in the field. The consultants from MOFALI and ALAGAC were able to share plans and priorities of the national government with rural specialists and discuss with them current challenges affecting their work. MOFALI and ALAGAC plan to address all complaints and issues at the national level.

The consultant from MULS provided information on herd management, animal quality, challenges to livestock breeding and a herd management program. The consultant from NFPUG discussed rangeland conditions, management, rangeland use agreement and regulations, the raw materials traceability system, and best practices of rangeland management.

Cost Share

Mercy Corps paid around 58.3 million MNT (22,193 USD) to cover the transportation, lodging costs and per diem of the trainers. We also paid for lodging and per diem of the participants during the event. The government contributed by covering transportation costs, providing per diems to all participants during travel days and paying salaries to the participants during training days.

Impact

The participants took pre- and post-training tests to assess their comprehension and retention of new information. In advance of the trainings, Mercy Corps and the two consultants from MULS and NFPUG worked on test questions. Each test contained 11 questions but these questions were different for each type of participants.

On average, the workshops improved the level of knowledge and comprehension of the participants by more than 20% as demonstrated by pre- and post-training tests. The level of knowledge of land managers increased from an average pre-test score of 64% to an average on the post-test of 84%, while animal breeding specialists averaged a 14% increase, improving their scores from 65% to 79%. Rangeland management specialists demonstrated the greatest improvement between pre- and post-tests, with average scores increasing from 58% to 80%.

The workshops were a success; this was the first time key soum-based rangeland specialists gathered to learn about rangeland management, pasture use agreements and regulations in all aimags. There were several key results of the workshop:

The participants understood the importance of collaborating to improve rangeland management. As described above, the three key specialists work in different departments, report into different people, and often do not share important data with each other. As a result of the workshop, the participants understood the importance of sharing information, learned more about each other's work, and improved skills that would help them collaborate more effectively across departments. It is anticipated that the improved cooperation will lead to a more effective implementation of the soum PMP and land management plan. During the training, each aimag presented their best rangeland management practices which helped the participants to learn and improve their motivation to work with each other and with their aimag level departments to develop their rangeland management strategies in line with national priorities and policies.

The participants gained new knowledge and skills.

- The **animal breeding specialists** learned to use the herd management software. This is a new and advanced software, which allows the specialists to instantly calculate the herd size and composition by entering livestock numbers. This information will help to develop a soum land-management plan every year, and helps to adjust animal numbers to match rangeland carrying capacity. The Government of Mongolia mandated the use of this software, but the soum level land managers have not yet had an opportunity to learn and use it. Therefore, to address this issue, the organizers included a special session in the agenda for land managers to practice using this software at the training, where experts could support them and answer questions in real time.
- The **land managers** learned about best practices of rangeland management in other aimags and understood the importance of collaboration with other specialists. In addition to it, the land managers worked with the trainer to complete registration of all remaining RUAs and entered them into the national Land Manager database. This database is not a new tool for them, but before the training, they made many mistakes when entering agreement details. The trainer taught the land managers how to avoid those mistakes. Finally, the land managers learned about outcomes of photo monitoring carried out by ALAGAC in collaboration with the Green Gold Project (funded by SDC) in all soums and next year plans.
- The **rangeland management specialists** improved their understanding about benefits and best practices of rangeland management. During the workshop, the specialists practiced developing rangeland management plans of their soum. After the workshop, they will improve their plans in collaboration with the other two specialists. Once the plans are ready, they will be submitted to soum Khurals (local Parliament) for approval.

Collaboration between local and national-level agencies was strengthened. The workshops presented a perfect opportunity for the local specialists to build stronger ties with their national-level counterparts. The workshop participants used this opportunity to communicate to MOFALI and other key decision makers about their poor working conditions, lack of professional development opportunities, and funds for more effectively rangeland management. The participants requested the government to address this issue by organizing short courses for experts working in rangeland management sector who do not come from a rangeland management or agricultural background. The MOFALI representatives were open to these suggestions and promised to improve working conditions of the specialists and plan to start short-term courses for non-professionals who work as rangeland management specialists.

Shagdarsuren animal breeding specialist from Darkhan soum of Khentii aimag

I have worked for many years as a breeding expert but still struggle to learn how to use new technology. This workshop taught me to determine herd composition using software. It improved my work by almost 90%. At first, I could not believe how easy it was to calculate the numbers by just clicking on computer buttons.

I used this software to assess the pasture carrying capacity, determine herd numbers and composition suitable for the pasture, and develop a long-term rangeland management strategy. This software was used to determine herd composition of each herder household.

B. Salauat, Land manager in Tolbo soum, Bayan-Ulgii aimag

From this training, I learned about the importance of rangeland use agreements and regulations, establishment of rangeland risk fund. Learning to use the Land Manager software to register individual rangeland use agreements was especially useful for me. With the help from the trainers, I registered all the RUAs of 13 Pasture Users Groups of my soum.

I think the workshop achieved its objectives. We practiced under the supervision of our experienced trainers. I would like to express my gratitude to Mercy Corps, ALAGAC and the trainers for organizing this rangeland management workshop.

Ts. Gantumur, rangeland management specialist in Erdeneburen soum, Khovd aimag

I participated in the Rangeland Assessment training in Bayan-Ulgii aimag last year and this is my second training organized by Mercy Corps. The soum Agricultural Unit has three specialists. Rangeland specialists have very few opportunities to attend capacity building trainings compared to other two specialists. In addition, very few rangeland specialists have professional degrees in this position. I have been working as a rangeland specialist for the last two years and do not have a professional degree either. That is why, these kinds of trainings are very important for me.

At the workshop, I learned about the importance of proper government policies on rangeland, rangeland use agreements and regulations, participation of soum herders in rangeland protection. We shared the best rangeland management practices and I heard many interesting stories that we can implement in our soum. Even without any legal framework, there are still many opportunities to work effectively with other specialists on rangeland management.



Demonstrating Impact

GREEN PASTURE PILOT PROJECT

Partner Name: Xacbank, Center for Policy Research, Bayan-Ovoo soum

Project location: Bayan-Ovoo soum Khentii aimag

Project Duration: Desember 2018 - January 2021

Background

Two of RCP's key objectives focused on a) financial inclusion of herders and rural businesses and b) improving the quality of livestock production in rural Mongolia. To achieve these objectives MCM partnered with XacBank¹⁵ to launch the two-year Green Pasture Pilot (GPP) project.

Accounting for 10% of the country's GDP and 30% of employment, herding livestock is a major economic activity for rural Mongolians. The growth of the livestock sector has been dependent on increasing herd sizes; the number of animals has grown from 32.7 million in 2010 to 67.1 million in 2020. However, this growth has occurred at the expense

¹⁵ XacBank is one of the largest commercial banks in Mongolia. It has pioneered in supporting the finance of environmentally-friendly projects including climate change mitigation and adaptation projects.

of diminishing animal productivity and increasing pasture carrying capacity¹⁶. The lack of government controls on herd size growth and largely open access to pasturelands has led to widespread environmental and social consequences - the rich expanding their grazing rights, the poor herders losing their control of land, and local biodiversity and tourism value declining due to land degradation. It is estimated that 65% of the pastureland has been degraded due to overgrazing out of which 7% is beyond recovery.

Economically, pasture degradation leads to serious malnutrition of livestock leading animals to lose up to half of their body weight, produce less, and become more vulnerable to diseases. It is estimated that the annual income loss from livestock productivity declines accounts for MNT 2.6 million per herder household - around 20% of its annual income. The livestock market value has decreased by 37% in 2017 compared to 2013. The traditional mentality of prioritizing the number of animals – quantity over quality – hinders herders’ ability to see opportunities for productivity improvements. In addition, weaknesses in the meat value chain – specifically the concentration of producers and processors in Mongolia’s urban centers- create serious difficulties for poor herders in accessing better markets.

As of 2015, poor herders with fewer than 200 animals made up almost half of the herder population (45.5%) but owned only 14% of livestock, while rich herders with 1000 and more animals made up only 5.4% of the herder population but owned 22% of livestock. Poor herders with fewer than 200 animals are often pushed out by more powerful and well-connected herders and often lose their control of winter spring camps – around one third have no winter or spring camps.

The Mongolian government is starting to acknowledge the need to shift their focus on and investments in the livestock sector from quantity to quality/ productivity. The 2012 “Mongol Livestock” Program set the objective of developing Mongolia’s livestock sector to be adaptable to changing climatic and social conditions, and to create an environment conducive for making the sector economically viable and competitive on the world market, to provide safe and healthy food supply to the population, to deliver quality raw materials to processing industries, and to increase exports. It also set a target to decrease the number of livestock from 43.3 million to 35.3 million. However, despite these efforts, the number of livestock has increased as mentioned earlier to 67.1 million in 2020.

A more recent policy called the “Action Plan for the Mongolian Agenda for Sustainable Livestock” was approved by the Minister of Food, Agriculture and Light Industry (MOFALI) in June 2018. This document set targets to restore, rehabilitate and utilize pastureland and water resources sustainably and responsibly, to adapt to climate change, to mitigate climate change impacts, and to reduce the livestock number by 5 million sheep units¹⁷

¹⁶ Pasture Carrying Capacity is the amount of forage available to sustain grazing animals. Exceeding carrying capacity means the area will be over grazed, unable to sustain the number of animals grazing that area of land.

¹⁷ Sheep unit is a reference unit which facilitates the aggregation of livestock from various species via a use of coefficients. (Sheep = 1 sheep unit; Goat = 0.9 sheep unit; Horse = 6.6 sheep units; Camel = 5.7 sheep units)

from 2017 to 2020 based on the fact that the pasture's carrying capacity has already been exceeded by 25 million sheep units. However, the achievement of these targets cannot be guaranteed without well-designed incentive mechanisms capable of changing the herders' behavior from the livestock number maximization to more productivity-oriented strategies.

To address the critical problem of pasture degradation and increase the access to finance for herder households, Mercy Corps Mongolia along with XacBank and Center for Policy Research initiated the Green Pasture Pilot (GPP) project in December 2018, implemented in Bayan-Ovoo soum of Khentii aimag. The project's objective was to pilot ways to encourage herders to shift away from the existing non-sustainable behavior of overstocking pastureland, and instead adopt pasture-friendly income-generating strategies capable of making herder's livelihoods more sustainable in the long-term.

The implementing partner organization, Center for Policy Research (CPR), has been promoting environmentally friendly income-generating activities among herders since the early 2000s. In 2017, CPR (i) proved the feasibility of herders reducing the herd size voluntarily under the WWF funded 'Leopard-Friendly Pastureland Management' project, to address the pastureland overgrazing; and (ii) developed herders' soft loan product design to leverage the herd size reduction for the 'Biodiversity and Adaptation to Climate Change' project under the Ministry of Environment and Tourism Development. This past experience ensured that CPR was well aligned with the goals of MCM and XacBank, and CPR joined the project to improve pastureland management and change herders' behavior.

At the time of launch in 2018, Bayan-Ovoo soum of Khentii aimag was selected as the most feasible location for the project using the following criteria:

- Existing pasture protection activities: The "Regulation on Pasture Use" was approved by the Soum Citizens' Representative Meeting in 2018 and each herder groups had leaders that were appointed to monitor the protection of the pastureland.
- High cooperative capacity and herder household organization, including 8 official herder cooperatives 29 Aravt herder groups.
- High capacity of soum veterinarians and Private Veterinarian Units (PVU): There were 3 operational PVUs, 8 veterinarians, and 4 livestock zoo technicians.
- Local government support: The local government was fully supportive of the project activities and plans, and had initiated improved pasture management activities in the past.
- Linkages to existing Mercy Corps activities and programs: Mercy Corps previously conducted a baseline study at the soum as well as project site for LTS3/DRR activities (another MCM project called Leveraging Tradition and Science Disaster Risk Reduction).
- Possibility of declaring the soum as a healthy livestock zone: For the previous 4 years, there had been no outbreaks of highly contagious animal diseases in the soum. Additionally, all livestock vaccinations and veterinary services had been conducted in timely manner.

The philosophy of Aravt system is to promote soum herders to work together based on mutual help arrangements and common agreements for grazing management. There were 29 Aravt herder groups in Bayan-Ovoo soum, each with 10 herder households. Interestingly, most Aravt leaders are women in Bayan-Ovoo soum.

These criteria were used to select the most feasible site out of 4 soums considered for the project activities to be conducted with full cooperation from the local government. However, despite the achievements of the soum's current herder organization system, the livestock number had reached 188,000 heads or 352,000 sheep units in 2017, and the amount of pasture per sheet unit has decreased to only 0.6 hectares, exceeding the grazing capacity of Bayan Ovoo soum by 90%.

Project Approaches

The GPP utilized several innovative approaches to incentivize herder households in Bayan-Ovoo to reduce their herd size and adopt pasture-friendly income generation. These approaches were based on previous CPR experience in providing technical capacity-building and provision of eco soft-loans to incentivize herders to join the project. In order to raise awareness and launch the project, the CPR team first conducted face-to-face training to herders and soum officials on project objectives, the benefits of participating in the project, and mechanisms to apply for the eco soft-loans. To meet the requirement and to apply for the eco soft-loan, the herders were first required to sign two agreements with the soum government: Pastureland use agreements (PUA) and herd size reduction agreements (HSRA). After signing the agreements to reduce their herd size by 6% by the end of the year, the herders were eligible to start applying for the loans. The herder loan applications were then initially screened by CPR team along with the soum officials and sent to XacBank for further review. Not all herders received the loan but all herders who signed the PUAs and HSRA were encouraged to contribute to the Livestock Risk Management Fund (LRMF) and participate in the Livestock Quality Examination and Certification Point (LQCECP) to start the sales of their livestock and livestock products.

As described in more detail below, the pilot project had a series of behavior change mechanisms to help achieve the overall objective:

- Establishment of Pastureland use agreements (PUA) between herder' groups and soum Governor, and herd size reduction agreements (HSRA) between individual herder households and soum Governor as the mechanism to build herders' commitment to reduce the herd size to optimum levels compatible with pasture carrying capacities
- Provision of eco soft-loans to selected herders as mechanism to further drive herders interest to reduce herd size
- Introduction of a LRMF mechanism to finance herders' proposals for pastureland and livestock risk management

- Operation of livestock quality examination and certification points to assist herders in increasing animal sales and fetching better prices through adequate examination and certification
- Capacity building activities to enable both herders and the soum government to implement the pilot project

Pastureland use agreement and herd size reduction agreement

The key reason behind human-induced pastureland degradation in Mongolia is the existing 'common use' regime that allows free grazing of animals with no accountability mechanisms for overstocking. Within this framework, pasture users are encouraged to make efforts in sustainable land use only if their ability to reap benefits is secured and protected by land tenure. This basic incentive is absent in much of rural Mongolia. Private ownership of pastureland is duly prohibited by the Constitution because of the need to keep mobility for rotational use and reciprocal grazing rights in emergencies. Therefore, pastureland use agreements (PUAs) are the only legitimate way to nurture an ownership mentality and to build commitment on the herders' side to reconcile livestock pasture with pasture capacities according to the effective Land Law and Environment Protection Law.

The key objective of pastureland use agreements is to provide a legal basis to stop the existing chaotic and non-sustainable use of pastures and enforce sustainable pasture use by herders through formal agreements. Under the GPP, PUAs were established through the following steps:

- Promoted PUAs to the soum government and herders through face to face training reaching each household in the soum
- Assisted herder groups in agreeing on pastureland use boundaries with neighbor herders through consultations
- Assisted herder groups in applying to bagh and soum governors for establishing PUAs
- Assisted local government in enforcing PUAs focusing on monitoring over the herd size on pastures under PUAs
- Assisted herder groups in enforcing PUAs by developing a 5-year plan to gradually reduce the herd size while keeping livestock income growth at sufficient levels

Herd size reduction agreement

The herd size reduction agreement (HSRAs) were established between individual herder households and the soum Governor specifying the annual herd size reduction target of 6% for each household. The herders were assisted with developing 5-year plan for reducing total number of sheep units which is attached to the agreement.

Eco soft-loans

Because of high seasonality in income generation, most herders borrow from commercial banks to meet their short-term cash needs. Commercial loans from banks such as Khan Bank and State banks have unfavorable conditions – 18 – 24% of annual interest rate and up to 24 months. Thus, given the high-demand for short-term loans, the eco-soft loan products were developed by MCM and XacBank and offered to members of the herder groups who signed the pastureland use agreements and herd size reduction agreements.

XacBank provided a low interest rate loan with an annual interest rate of 12%, ranging from 300,000 to 20 million MNT (approximately 100 to 7,000 USD) with the benefits of:

- Concessional interest rate (lower interest rate than commercial interest rate)
- Semi-annual loan repayment
- Purchase of optional livestock insurance
- Participation in capacity building training on animal health and rangeland quality

The CPR team conducted face-to-face meetings and training with soum government and herders explaining the benefits of improving livestock quality as opposed to increasing herd size and the ways to adopt pasture-friendly income generation through sales of meat and livestock products. CPR also assisted the herders with writing loan applications, screened the initial proposals, and submitted the loan applications to the XacBank branch in the Khentii aimag center.

Livestock Risk Management Fund (LRMF)

The Livestock Risk Management Fund is an innovative approach first introduced by CPR when they implemented the WWF funded ‘Leopard-Friendly Pastureland Management’ project from 2017 – 2018 in Munkh-Khairkhan soum of Khovd aimag. The LRMF aims to provide a cost-share mechanism for herders and soum government to co-finance livestock risk management activities. Herders paid their contributions in the sum of MNT 500 per sheep unit (62.5% of the fund revenue) and the soum budget supported by the project paid matching fund in the sum of MNT 300 per sheet unit (37.5% of the revenue). The LRMF was disbursed as follows:

- MNT 135 went to soum disposal fund to finance soum-level activities such as organizing livestock examination and certification point
- MNT 365 went to finance herders’ proposals related to pasture management, livestock risks and environmental protection activities
- MNT 300 was used as an incentive for herders to bring livestock to the soum Livestock Quality Examination and Certification Point (LQECP) to get a quality premium for each livestock that meets quality requirements to be supplied to the market.

Note that the LQECP was designed to encourage herders to adopt an innovative procurement system in which herders brought animals to the central point for proper examination and certification (veterinary and origin certificates issued based on eye

examination) and certified animals were sold to a participating processor on a contractual basis.

Under the LRFM, herders can submit their proposals to conduct 21 eligible activities. These activities were selected by CPR based on their previous project experience to be most feasible activities to reduce livestock risk during harsh climate, improve pasture use which were consulted and agreed by the soum government and herders.

The list of eligible activities that could be financed by LRMF include:

1. Fertilize hayfield with manure
2. Protect springs, fence its origins
3. Fight against pasture rodents and insects
4. Improve pastures and hay making areas by planting perennials
5. Protect wildlife on pastures under agreement
6. Repair deep well facilities (pump, generator, trough)
7. Build and repair water catchment facilities
8. Plant trees and shrubs for environmental protection purposes
9. Estimate pasture grass yield, carrying capacities
10. Monitor the implementation of the pastureland use agreements and sub-projects funded by LRMF
11. Prepare animal feed for winter preparation
12. Repair and upgrade animal seasonal shelters
13. Repair hay and fodder storage facilities
14. Make small scale snow breaker
15. Dig and drain hand wells, repair hand well facilities
16. Purchase small-scale hay, fodder making equipment
17. Undertake horticulture activities for income diversification purposes
18. Repair and maintain fencing of hay making areas
19. Purchase breeding animals
20. Make improvements in animal health
21. Take steps for livestock product processing, improving its quality and market linkages

Capacity building activities for soum government and herders

The capacity building training was organized and conducted by CPR team for the soum government to set up and operate the Livestock Risk Management Fund and Livestock Quality Examination and Certification Point. Activities and key topics included drafting rules and regulations, appointing appropriate sector specialists to overview the LRMF proposals, coordination with private sector entities to purchase meat/livestock and cashmere from the LQECP site, financial management of the fund, climate change and pastureland management, labor safety training for PVU and veterinarians, and overall implementation of the project activities.

The capacity building training for herders were held either through face-to-face visits to each herder household or by gathering them in the soum government building. The sessions for herders focused on topics related to benefits of adopting pasture-friendly practice of income generation, climate change, loan application process, contributions to LRMF, participating in the LQECP, establishing herd size reduction agreements and pastureland use agreements with the soum government.

Animal census and control group study

Four government-led animal census activities were planned to be conducted in the two years of project implementation- mid-year and end-of-the-year for two years. To measure the results of the GPP, the CPR project team visited Bayan-Ovoo soum to conduct their own animal census among the project herders and compared the results with a control group of herders whose livestock were conducted by the government census. The main objective was to compare whether the project herders were able to reduce their herd size using the project approaches compared with the herders who were not involved in the project.

Project Implementation

The GPP project was initially planned to be conducted in 6 phases over one year; however, XacBank requested the project to be implemented for another year since the eco soft-loans had two-year term. Hence, the project was extended for another year to be implemented in 10 phases to further reinforce project results, build soum capacity, follow-up on loan repayment. Below is the summary for each phase of the project:

Phase 1 (Dec 2018 – Jan 2019)

The first phase focused on launching the project and identifying herder recipients of XacBank eco-loans by conducting outreach to all herder households on project approaches and providing capacity building training to 21 soum officials. The CPR team visited Bayan-Ovoo twice to conduct face-to-face training to 353 herder households, resulting in 141 herder households sending their request to join the project and access the eco soft-loan. The CPR team along with the soum officials screened 88 loan applications and submitted 48 for XacBank review, out of which 45 received eco loans worth 500 million MNT (175,440 USD). One of the key tasks to ensure the sustainable implementation of the pilot program was to build ownership and commitment from the local government, therefore, a MoU was signed between Mercy Corps and Bayan-Ovoo soum during the first phase.

Phase 2 (Jan 2019 – July 2019)

This phase focused on starting the operations of the LRMF and the LQECP with a series of training sessions for soum officials and herders. The LRMF required contributions from

herders with matching funding from the soum government. During this time, Mongolian government was facing a political scandal involving series of misuse of Small and Medium Enterprise Development Fund which was overseen by Ministry of Food, Agriculture, and Light Industry¹⁸. Following this event, Ministry of Finance banned all aimag and soum government to create new accounts. This resulted in Bayan-Ovoo soum not receiving budget to finance LRMF and unable to create a separate account for LRMF.

Additionally, Erdene Khuns LLC was selected as the meat processor who offered to pay 5% premium price for the livestock sold at the LQECF. Erdene Khuns LLC also requested a common account to transfer payment as it was complicated to pay each individual herders. Given these two reasons, CPR consulted with the soum government and herders to either establish an individual/cooperative or NGO to facilitate the LRFM contributions.

As a result, “Eco-Bayan Ovoo” NGO was established with 5 representative herders to facilitate the herder contributions to LRMF and livestock/meat sales. Starting from May 2019, the LRMF became operational with 44 herders (1 non-eco loan herder)¹⁹ contributing MNT 16 million (32,097 sheep units) and Mercy Corps contributing MNT 9.6 million (only in the first year of the project as soum did not have budget) to LRMF (total of 25.6 million MNT). The mid-year animal census was also conducted during this phase, which counted 24,930 animals from 45 project households.

Phase 3 (July 2019 – Aug 2019)

The third phase focused on receiving and assisting with the herder proposals for LRMF. Once approved, the herders received the initial 80% of funding and when they completed the activity, they received the remaining 20%. The soum government established an evaluation group to review herder proposals submitted to LRMF. Additionally, the soum government established a monitoring plan to site-visit each herder households to oversee the proposal implementation.

Phase 4 (Aug 2019 – Oct 2019)

The fourth phase focused on providing capacity building training to soum officials and monitoring the operation of LRMF and LQECF. During this phase, LRMF funding was used by herders to buy hay (56.8% of proposals), repair animal shelters (18.2%), repair wells (6.8%), buy breeding animals (4.5%), buy green feed (4.5%), and buy haymaking equipment (2.2%). Additionally, Erdene Khuns LLC purchased 132 cattle from herders at the LQECF for MNT 3,200 per kg of live weight which generated income of 110 million MNT for 30 herders. However, Erdene Khuns LLC had to stop its operations given the government ban on meat exports that was passed in August 2019.

¹⁸ *The Diplomat* “Small- And Medium-Sized Outrage Building Over Corruption in Mongolia”. thediplomat.com, 2018.

¹⁹ Out of 45 herders who received the eco soft-loans, 2 herders repaid their loans and refused to contribute to LRFM and participate in the project activities. 1 non eco-loan herder who signed the PUA and HSRA agreement wanted to join the LRFM activities, which totals the LRFM herders to 44 herders.

Phase 5 (Oct 2019 – Dec 2019)

The fifth phase focused on continuing to provide awareness building training to soum officials and herders to change the behavior of livestock maximization towards reducing their herd size and improving animal productivity as a sustainable income. All LRMF and LQECP activities were completed with projects worth 11.6 million MNT implemented by herders. The December animal census was conducted during this phase, which showed that, overall, the participating herders decreased their herd size by 13.2% compared to control group (randomly selected 21 herders from the same soum) who increased their livestock by 8.9%. Additionally, the project herders sold more livestock/meat through the LQECP with average household income from meat sales higher by 3.3 million MNT than the non-project control group herders.

Phase 6 (Jan 2020)

The sixth phase focused on CPR submitting the 1st year final report to Mercy Corps.

Phase 7 (Jan 2020 – Mar 2020)

The seventh phase focused on providing capacity building training and discussion with the soum government on preparing for the 2020 LRMF activities. During these discussions, the CPR team and soum government worked with herders to extend their contracts. 40 herders decided to extend their PUAs and HSRAs with the soum Governor for 2020²⁰. Additionally, the soum and herders give a lot of emphasis for cashmere sales in March. Since Erdene Khuns LLC was unable to participate in the project, CPR team adapted by linking the EBRD cashmere project²¹ with GPP project. 13 GPP herders joined the EBRD project and were trained in proper cashmere combing techniques.

Phase 8 (Apr 2020 – June 2020)

The eighth phase focused on providing training on pasture use, livestock management, LRMF funding disbursement, herder contributions, and sustainable cashmere production to soum officials and herders. The 40 project herders paid 13.2 million MNT to LRMF during this period and the rest of the funding of MNT 7.9 million was paid by EBRD project (total of 21.1 million MNT). During this phase, Khanbogd Cashmere joined the project and bought 1,541 kg cashmere from 21 project herders at 1000 MNT higher than the market price per kg. the semi-annual June animal census was conducted, demonstrating that 40 participating households had 27,835 sheep units. There was an increase in the herd size which is understandable since 3,805 new animals were born in the spring.

²⁰ From the original 45 eco-loan herders, 2 repaid their loans in the first year project implementation. In the second year, 4 herders repaid their loans and decided not to participate in the project activities. With the 1 non eco-loan herder from LRMF, 40 herders extended their contracts.

²¹ EBRD “Mongolia: Supporting Sustainable Cashmere Production – Supporting Sustainability Improvements in Pasture, Herd, Fiber Collection” implemented by CPR in Bayan-Ovoo soum since September 2019.

Phase 9 (June 2020 – Aug 2020)

The ninth phase focused on providing assistance to the soum government in reviewing and disbursing LRMF funding for herder proposals. Due to the increase in herd size from new births in spring, CPR calculated the amount of livestock to be sold to reach targeted herd size reduction (as per their PUAs) for each household. Additionally, because there are no private meat processor company to purchase from the herders, the CPR team also increased the incentive from LRMF to offer MNT 750 for every sheep unit sold at the LQECF. As a result, 32 herders sold 3,193 sheep units to the market.

Phase 10 (Aug 2020 – Jan 2021)

The last phase focused on monitoring the 2020 LRMF activities, conducting awareness raising training, December animal census and submitting the 2nd year final report to MCM. The 2020 LRMF activities included buying hay (60.1%), purchasing hay making equipment (23%), animal shelter repair/building (11.9%), transporting salt for livestock (4.4%) and purchasing veterinary drugs (0.6%). The face-to-face awareness raising training resulted in 58 new herder households signed the PUAs with soum Governor. The December animal census results showed that the project herders decreased their herd size by 16.2%, even more than 2019, which is significant compared to 3.6% decrease in the control group. The project herders also benefitted from cashmere and livestock sales with average household income 29.3 million MNT against the 20.4 million MNT of control group. At the end of the project, 98.8% loans were repaid with only one herder underpaying 6 million MNT.

Project Impacts

The GPP had the overarching aim to improve the access to finance for herders, set-up functional mechanisms, strengthen partnership between public and private sector, and improve the capacity of herders and soum officials. At the end of the project implementation, it is clear that this access to finance, partnerships, improved capacity can contribute to changing the mindset and behavior of herders that has not changed for thousands of years. The GPP had a variety of positive outcomes for the participants of the program, the soum government, and for Bayan-Ovoo soum as a whole. Below are descriptions of the impacts that have been seen from the two years of implementation of GPP.

Impact 1: Increased financial access to herders

Herders' income is quite seasonal depending on the harvesting of livestock products from different animal species. Throughout Mongolia, animals are sold for meat when body conditions improve, usually starting from July and peaking in October. Cashmere income comes in March to May when goats are combed. The income from milk and milk products come in June to November peaking in August. Meat/ livestock and cashmere income accounts for 70-80% of the total income for most herder households.

For herders, the highest borrowing seasons are late January to early February for the Lunar New Year celebration which are repaid back in May from cashmere sales and August for the schooling/student preparation repaid back from meat/ livestock incomes. Most herders experience high annual interest rate of 24-30% with 24 months as per commercial bank requirements. Within a month since GPP project launch, 45 herders benefited from eco soft loans with 12% annual rate offered by XacBank worth total of 500 million MNT (175,440 USD). The herders were very responsive to economic incentives- demonstrating that they can change their behavior if greater income growth is guaranteed and if they believe they can benefit directly from herd size reduction. To qualify for the loan requirements, the herders signed Pasture Use Agreements (PUAs) and herd size reduction agreements in addition to developing a 5-year plan that detailed how to reach their herd size targets.

On top of the eco-loans, the project set-up Livestock Risk Management Fund (LRMF) and Livestock Quality Examination and Certification Point (LQCEP) to further incentivize herders to generate pasture-friendly income through selling their livestock, applying for LRMF proposals and receiving cash bonus for every sheep unit sold or kg of cashmere sold at LQCEP. In 2019, project herders generated 110 million MNT in livestock sales until the meat processor had to stop its operation due to government policies negatively impacting their ability to purchase from the herders.

As a result of the government ban on meat exports, the project team had to find other opportunities to incentivize the herders to generate income through the LQCEP. The opportunity came as a cooperation with EBRD whose cashmere project was already being implemented in Bayan-Ovoo soum with a focus on pasture-friendly sustainable cashmere production. In 2020, the project herders made an additional 940,000 MNT through cashmere sales by selling their cashmere at 1000 MNT higher than market price. Additionally, they received 2000 MNT per kg of cashmere sold at LQCEP for bonus incentive from LRMF.

The project herders consistently decreased their herd size with 13.2% in the first year of implementation which increased to 16.2% in the second year. The project herders also consistently generated more income through livestock and cashmere sales than control group of herders in the same soum.

Impact 2: Strengthened Partnerships

The successful implementation of GPP would not have happened without continuous cooperation between soum government, herder households, private partners, and project team. From the very beginning, the pilot required the local government's full support to establish pasture use agreement and herd size reduction agreements with herders. PUAs and HSRAs not only strengthen the partnerships between the government and herder groups, but also among individual herder households. Strong partnerships and social contracts to protect pastureland are important social behavior change mechanism in

which individual actors feel connected to a larger cause and have committed to specific actions to meet the collective goal, to protect pastureland.

Throughout implementation, the entire operation of LRMF and LQCEP depended on soum government's monitoring, evaluation, operational assistance. Furthermore, to establish the most feasible path to disburse the LRMF funds, the soum officials and herder groups decided to establish the Eco Bayan-Ovoo NGO, proving that partnerships were essential to move along the project activities. To operate the LRFM and LQCEP, soum officials needed working partnerships between themselves, for example, between animal health unit and agricultural unit to establish a review committee to evaluate herder proposals and conduct monitoring visits to herder households.

While the most important partnerships were between soum government and herders, local private sector partners also played a key role in advancing the LQCEP activities as well. The LQCEP also strengthened market linkages between buyers/ processors and producers/ herders by initiating and strengthening partnerships through formal arrangements, which decreased the uncertainty and volatility of the market for all parties involved. For example, Erdene Khuns LLC was the only company willing agree with the request to pay 5% higher market price for the herders' livestock. However, on the other hand, Erdene Khuns was able to save time, effort, and cost by purchasing healthy, certified animals in bulk; they did not have to travel to remote locations to purchase live animals and they were guaranteed healthy livestock through soum veterinarian examinations. Herders benefited by selling their animals at a higher price without having to go through middlemen and by receiving cash bonus from LRMF.

Same goes for Khanbogd Cashmere who participated in the EBRD project; GPP project herders learned how to properly comb and gather cashmere and produced quality raw cashmere for sale. This demonstrated that formal arrangements between a processor and herders' organization for the sale/purchase of cashmere is feasible if parties agree in advance on purchase conditions - the cashmere quality requirements and price bonuses, and if those conditions are enforced through product quality examination.

Impact 3: Improved capacity for sustainable pasture use

The combined effects of the capacity building training for herders and soum government officials, access to LRMF, LQEC, and eco-loans incentivized the project herders to reduce the herd size while the control group of herders with no access to the GPP specific components did not reduce the herd size and lost opportunities to generate more cash income through livestock sales.

LRMF provided an important source of finance to undertake routine pastureland management, livestock risk management, animal feeding, breeding and health, and value chain activities. LQCEP provided a promising path for herders how they can increase their meat incomes from organized and collective actions. More importantly, herders realize that reducing herd size means improved availability and quality of pastures for

their animals leading to increased animal productivity and incomes in the longer term.

All phases of the GPP project provided capacity building training starting from explaining the project objectives and approaches to climate change mitigation efforts, cashmere production, pasture use best practices, animal census organization, measuring progress against performance, whilst ensuring all parties know what their responsibilities are in terms of project standpoint. For example, herders were often trained in face-to-face training on how their livestock productivity can improve if pastureland capacity is improved by reducing herd size. They were assisted with developing 5-year plans, loan applications, establishing PUAs, HSRAs, and reminded that if they are unable to reach their 6% herd size reduction target, their interest rate will go up to 24% annual rate.

On the other hand, the soum officials including Governors from 4 baghs (sub-units of soum), representatives of the agricultural and veterinarian units in Bayan Ovoo soum, and the Governor's office were trained on how to implement the project, operate the LRMF and LQECP, accumulating valuable knowledge and capacity to implement the project once CPR and Mercy Corps leave the scene. The capacity of local officials and herders are one of the most important impacts of the pilot project.

Challenges and Considerations

GPP was successful in achieving its aim of improving herders' access to financial services that encourage ecologically sustainable practices. Lessons learned and challenges faced during this pilot project are summarized below; from these, a list of considerations for future programming are also presented.

Challenges

- Herd size reduction agreements need to be further improved to avoid earlier repayment of eco loans by some herders. For example, during the project, two herders repaid the loan before August - much earlier than the December animal census. This jeopardized the enforcement of herd size reduction agreements they had signed with the soum governor, as they were no longer incentivized through the reduced rate loan. Although these participating herders continued their efforts to reduce the herd size even after repaying the loan, this behavior should be avoided if possible. Not only does it "steal" other herders' opportunity to participate in the project, there is no guarantee that other herders will comply with the herd size reduction agreements after repaying the loan.
- The pilot has proved that an enabling market environment - especially formal regulations for export - are crucial for designing and implementing any procurement system of livestock raw materials. MOFALI's decision to ban meat export to China in the middle of the peak animal sales season was a key reason that the LRMF was not able to fully function as planned, negatively affecting the potential benefits of herders selling more animals at better prices on the one hand and processors purchasing high quality, certified animals on the other.

- Herders were unwilling to join or establish a cooperative amongst themselves due to tax and financial reporting burdens. Before the LRMF became operational, herders were given a choice to form a cooperative or establish a NGO to facilitate and oversee the LRMF funding. However, the current legal and financial environment imposes high tax burden of deducting 10% for each livestock sales for cooperatives. Therefore, a herders' NGO was proved to be a short-term feasible solution to the longstanding program that hinders herders' cooperation in the value chain; however, during the GPP, this NGO required significant capacity development support from CPR- particularly around structure and governance. However, a new Law on Livestock was passed by the Mongolian Parliament and came into force from January 2021. According to the law, herders will pay taxes of up to MNT 2,000 per animal dependent upon location. It is estimated that there will be between 70-140 MNT billion from the livestock taxes. Thus, in the future, it is anticipated that the LRMF will be funded through this livestock tax.
- For the GPP, face-to-face training proved to be crucial in delivering sufficient information to all soum herders; this outreach contributed to high number of herders interested in joining at first. However, due to COVID-19 restrictions, the CPR team was unable to conduct follow up training sessions due to inter-aimag travel bans. Additionally, face-to-face training is relatively expensive and time consuming- especially since neither CPR nor XacBank had offices in Bayan Ovoo soum. To adapt to the new situation, CPR worked in close cooperation with the soum agricultural and veterinarian departments as well as the Eco Bayan-Ovoo NGO to continue to conduct training to herders by providing them with remote consultations. The same people were also mobilized for the December 2020 animal census activity.
- There was no budget allocated in the soum budget to contribute to the LRMF fund for two years. International organizations had to step in and provide the funding with Mercy Corps contributing in the first year and EBRD contributing in the second year instead of the soum government. This tied in with the legal environment that disallowed the soum government to create a separate account to hold the LRMF fund; thus, to successfully implement the GPP, an entirely new organization (Eco Bayan-Ovoo NGO) was established for this purpose. Although the NGO provided the means to facilitate the funding, it was still a short-term solution that required significant support from CPR. As mentioned above, the newly approved livestock tax will be the future for LRMF activities. The new tax may provide a better solution than establishing NGOs each time.
- The initial plan was to enroll 88 herder households for the eco loan; however, given the limit of 500 million MNT (175,440 USD) offered by the bank, only half of the targeted herder households were able to receive loans. At the beginning of the project, 141 herders signed the PUAs and HSRAs, a clear indication that there is a high demand among herders to apply for the eco loan. At the end of the project, all herders with the exception of one herder repaid their loans with a loan repayment of 98.8%. This is a high indicator of herders' ability to repay their loans, which proves that such loans are less risky and more banks should look into providing soft loans to herders.

Lessons Learned

- The GPP demonstrated that herders are very responsive to economic incentives and project-promoted incentive packages can contribute to changing herders' behavior. Herders can change their behavior if interventions:
 - Ensure greater income growth through reductions in herd size by offering mechanisms such as LQCEP to sell livestock at a higher market price; this will demonstrate the benefits of 'quality over quantity' and discourage increases in herd size
 - Ensure voluntary herders' participation based on their belief that they will win (i.e. gain income) from the herd size reduction
 - Have support from soum administrations and align with local policy
- Intensive capacity building was crucial for herders and local governments to adopt innovative strategies and incentive mechanisms. For the GPP, topics included benefits of herd size reduction to improve pasture carrying capacity through providing information on tragedy of the commons and climate change, how to write loan proposals, LRMF and LQCEP operations, and ways to generate greater income through best practices such as cashmere combing and reducing livestock weight loss during harsh winter.
- LRMF can be a great tool to mobilize financial resources and spend them back on local pastureland land and livestock risk management using public-private partnership /PPP/ principles proves to be generally feasible with further refinements. The LRMF served two main purposes: (1) Establish LQCEP point to check livestock quality and provide direct connection between private sector partners with herders without middlemen which contributes to herders' ability to sell their livestock and products at a higher market price with additional cash bonus from the fund, and (2) Fund activities related to reducing livestock risks by improving animal quality such as herders receiving funding to procure feed for winter preparation. These activities enabled herders to improve their livestock health and maximize their productivity. Given the incentives to sell their livestock at certified point and receive additional income from quality livestock, herders' mindset and behavior was altered towards reducing herd size - which can ultimately contribute to decreasing the pressure on pasture capacity.
- Herders are willing to pay their LRMF contributions as long as they have a clear understanding of benefits and ways to participate and are assured that they will benefit from LRMF as designed.
- Financial management issues around the collection and expenditure of LRMF revenues need further refinement and more efforts are needed to fully institutionalize LRMF to make it sustainable in the long-term. The collection for the LRMF required significant effort from CPR team and soum officials to chase down herders. Given the new livestock tax, this issue can be resolved since all herders are now required to pay their taxes.
- Attracting a processor willing to cooperate with herders' organization in animal sales is feasible if benefits from such cooperation are clear and assured to the processor. In case of the Erdene Khuns, it voluntarily cooperated with the project

in expectation of cost savings from purchasing animals from one point instead of collecting them from individual herders and potential price premiums it can get from end buyers for selling properly examined and certified animals. In this expectation it has paid higher prices for animals collected at the point.

Considerations for Future Programming

Eco soft-loans as incentive mechanism: Traditionally, the Mongolian government policies for the livestock sector and herders' behaviors were focused towards increasing herd size as a way to generate income for the individual herder households as well as for the country's GDP. Given the significant increase in livestock population, the pasture carrying capacity reached its maximum limit and as a result, pastureland has been degraded due to overgrazing. By offering eco soft-loans, herders were incentivized to sign pastureland use agreements and herd size reduction agreements with the local government to formally pledge their commitment to reduce their herd size and focus less on animal quantity maximization and more on productivity-oriented strategies.

The eco loans not only increased the access to financial services for herders but also lessened the burden on vulnerable herders by offering concessional interest rates of 12% that are much lower than the commercial interest rates of 24%. The repayment rate was also quite high with 98.8% repayment, proving that banks can consider this as less risky loans. However, the pilot still faced its fair share of challenges by not taking into consideration the early repayment of loans by some herders who did not fulfill their herd size reduction targets. In the future, programs should consider this risk and include a penalty clause either in the loan disbursement or pastureland use agreements that reverses the soft loan interest rate to commercial interest rate to prevent potential profit-seeking behavior from certain groups.

Local government as crucial pillar of support: Throughout the project design, launch, implementation and closure, the government support and willingness to participate in the project was integral for successful project implementation. Bayan-Ovoo soum was selected as a project site due to its unique Aravt system set in place for herder groups as well as for their local government's enthusiasm to participate and implement the project. The PUAs and HSRAs were established between the herder and the soum Governor, who was highly involved in all aspects of organizing the project activities. The LRMF and LQCEP required full participation from local officials such as specialists from agriculture department and veterinarians to screen loan applications, review proposals, monitor the project progress, disburse funds, inspect livestock and conduct animal census. The local officials were also highly involved in the capacity-building activities conducted by the CPR team, increasing their knowledge in operating LRMF, LQCEP, and gaining capacity to conduct these activities on their own in the future. In order to achieve this, duties associated with monitoring, evaluation, and implementation of LRMF-funded projects and LQCEP activities may need to be incorporated into formal job descriptions of involved local government staff.

Although the local government was unable to secure funding from the central government to fund the LRMF, the newly approved Law on Livestock is expected to provide means to continue the operations of LRMF. That said, the newly approved law and implementation is still in its initial stage, therefore, there is a need to continue to push for policy discussions to promote the design of GPP LRMF, especially the LQECF and funding activities to get wider support from central government bodies such as Ministry of Food, Agriculture, and Light Industry and the Ministry of Finance.

Public-Private-Partnerships as way forward: The key mechanism to promote pasture-friendly income generation was to involve private sector partners who can offer premium prices for herders. Nationally, the most challenging issue for meat-value chain in Mongolia is the involvement of meat changers or middlemen who procure meat and livestock from herders at a low price and later sell it at a much higher price to end consumers. Through this process, the herders are unable to generate sufficient income and consumers pay much higher price after the meat changes hand several times. By involving private partners such as Erdene Khuns LLC (meat processor) and Khanbogd Cashmere (cashmere manufacturer), the project provided a direct link between herders and producers.

Additionally, through the LQECF, the project offered potential solutions to many long standing problems – lack of herders’ cooperation in the value chain, inadequately certified livestock/meat damaging herders’ income and posing food safety risks for consumers. Although external ‘force majeure’ factors such as the government’s ban on meat exports impacted the project’s ability to achieve higher results, the pilot team still managed to find other opportunities through pulling in cashmere project which provided another means to generate more income for herders but also increased their knowledge in proper cashmere production techniques. Thus, the partnership provided the herders with additional income but also benefited the producers by reducing the costs associated with procuring raw materials and meat by collecting them at one spot. With these benefits in mind, future programming should strive to improve partnerships between the local government, private sector partners, and herders to achieve the maximum project impact.

Next steps

On March 10, 2021, the GPP held a closeout meeting which included 4 people from CPR, 4 people from Mercy Corps, 4 people from XacBank, 3 officials from Bayan-Ovoo soum and 5 officials from Khentii aimag. Participants at the closeout meeting discussed two years of project implementation and results and what next steps should be taken after the project ended.

During the meeting, all partners were interested in finding out whether the project goal to reduce herd size affected the pasture carrying capacity. The answer is yes - pasture carrying capacity that was exceeded by 90% has now decreased by 29% in Bayan-Ovoo soum.

Another question is whether XacBank is planning on disbursing eco loans to herders in the future. For now, XacBank is exploring their options but they are willing to continue providing benefits to Bayan-Ovoo soum to ensure the project results do not disseminate away.

The next steps include project stakeholder discussion between Bayan-Ovoo soum, Khentii aimag MOFALI department, CPR, and XacBank to continue exploring ways to scale up the pilot project and research whether the project can be implemented in other soums of other aimags.



ЗАЛУУЧУУДЫН ХӨДӨЛМӨР ЭРХЛЭЛТИЙГ ДЭМЖИХ УР ЧАДВАР

Гарын авлага



Demonstrating Impact

YOUTH EMPLOYABILITY SKILLS PROJECT

Partner Name: Mongolian University of Life Sciences

Project Duration: October 2020 – March 2021

Background

Youth in rural Mongolia face numerous challenges in successfully transitioning into work, especially in the livestock sector. The rural youth who comprise 36% of the overall youth population, have less access to education and are thus more concentrated in insecure, unskilled jobs in the informal economy that offer low pay and less social security and benefits. To secure that first job as well as successfully navigate the labor market, young women and men need hard technical skills to perform specific work-related tasks as well as soft work skills such as communication, problem-solving, teamwork, career planning, financial management and entrepreneurial skills - building blocks for lifelong learning and improve capacity to adapt to changes. Developing these life skills in the work force are in turn essential for increasing productivity and sustainability of private enterprises and improving the working conditions and employability of workers.

In the fall of 2020, Mercy Corps launched the Youth Employability Skills Project, aimed at addressing these challenges by developing a comprehensive Youth Employability Skills Handbook, complete with an online course that focuses on developing the necessary skills needed for youth to compete in the labor market. To develop the Handbook and the online course modules, Mercy Corps announced two separate (but interconnected) calls for proposals, one to select the consultant who would focus on the content and another one to select the consultant team to develop the interactive online course based on the Handbook. In October 2020, a national consultant was selected to develop the content for handbook and the online course; then in January 2021, Loop LLC was selected as the online content developer.

Due to its relevant experience working with e-learning content and targeting community of youth who are interested in working in the livestock sector, Mercy Corps identified the Mongolian University of Life Sciences (MULS) as a partner organization to host the online course and Handbook. With sustainability of the project in mind, Mercy Corps and MULS signed a letter of commitment in January 2021 that ensures the course materials will continue to be live on the platform beyond the lifetime of RCP program; meanwhile, Mercy Corps will provide MULS with the rights to promote and enrich the developed content and make adaptations based on ser feedback or as the context in Mongolia changes.

Project Implementation

The project was formally launched on October 15, 2020 with the signing of a contract with the selected YESP consultant. The project was implemented in three phases, with each phase contributing to the next one.

The three phases were:

- Phase 1: Youth Employment Challenges KII interviews (Oct 2020 – Nov 2020)
- Phase 2: Youth Employability Skills handbook development (Dec 2020 – Mar 2021)
- Phase 3: Youth Employability Skill online course development (Jan 2021 – Mar 2021)

Phase 1: KII interviews

To fully grasp the key employment issues that youth face in the livestock sector, especially in the rural areas, it was essential to first consult with the sector specialists who have wide range of experiences and knowledge about the sector. Therefore, Phase 1 focused on conducting online KII interviews with livestock sector specialists such as directors of local veterinary departments, Technical Vocational Education and Training (TVET) institutions, government officials from local agricultural and livestock departments, and livestock business owners from three target RCP aimags of Khentii, Selenge and Bulgan.

The interviews were facilitated by the YESP consultant, who developed eight targeted questions that aimed to uncover the exact challenges youth face in today's labor market from their perspective and what key skills needed to be developed to address these challenges. The eight questions are as follows:

1. What are the key challenges that youth face today?
2. Does your organization currently implement policies or programs that are aimed at increasing youth employability or enhancing their capacity? If yes, what type of needs are these programs/policies based on? Can you tell us about your success story?
3. What employment challenges did you face as a youth?
4. How did you overcome these challenges? What were the lessons learned?
5. What are some of the rural-specific challenges?
6. What are the most important skills that youth need to get employed successfully?
7. What steps should be taken to implement this and what are some of the resources?
8. Would your organization be willing to implement youth employability programs in the future and what is your overall strategy in the next few years regarding this issue?

Ranging in experience from people who worked as educators for years, older business owners to younger business owners, and officials who implemented programs to promote youth employment within the livestock sector, a total of 12 people participated in the interviews. After each interview, all participants were asked to complete an online survey, ranking skills that are most needed to least needed from a menu of pre-made list of skills prepared by the YESP consultant. The results from the interviews and online surveys helped develop the foundation for the Youth Employability Skills Handbook, with the qualitative part of the interview forming the introductory sections covering the national and local youth employment issues and the most important skills identified by the survey results.

Phase 2: YESP handbook development

Based on an analysis of information gleaned during the KII interviews, Phase II of the project focused on the actual development of the Youth Employability Skills Handbook. The development of the Handbook started in earnest from December 2020 with the first draft developed in January and the final version approved in late February 2021. The perspectives and information gained from the interviews were important, as Mongolia currently lacks comprehensive studies conducted specifically around youth employment skills, especially in the rural aimags.

The Handbook consisted of the following content sections:

1. Background
 - a. Current need for employability skills in the labor market
 - b. What are employability skills?
2. How to use the Handbook?
 - a. Target users of the Handbook
 - b. How to take training sessions using the Handbook
 - c. Handbook content organization and integration with the online course
3. Youth employability skills
 - a. Transferable skills
 - i. Self-confidence
 - ii. Communication
 - iii. Goal setting
 - iv. Problem-solving
 - v. Leadership
 - vi. Team-working
 - b. Workplace skills
 - i. Choosing career path
 - ii. Researching jobs
 - iii. CV application
 - iv. Job interview
 - v. Workplace ethics
 - c. Financial management skills
 - i. Recording income and expense
 - ii. Savings
 - iii. Savings plan
 - iv. Loan application
 - v. Financial management
 - d. Entrepreneurship skills
 - i. Who are small and startup business entrepreneurs?
 - ii. Advantages and challenges of starting your own business
 - iii. How to develop your business idea
 - iv. How to write a business plan
4. Resources and citations

The first section of the Handbook focuses on providing information regarding the current labor market trends and challenges that youth face in Mongolia when looking for employment opportunities and what are the most needed skills in the job market. This sets the stage for the reader to understand why the employability skills were categorized into four types, with 20 sub-skills within the four types.

The second section focuses on providing information on how the Handbook was organized, how it is integrated with the online course with e-certificate, and how to use the Handbook for training purposes in the future. This section also identifies the target users of the Handbook which includes:

- Youth who are currently job searching;
- Youth who are employed but looking to improve their skills;
- University students including those who are studying under TVET programs;
- High school students;
- Youth entrepreneurs who are starting their own business;
- NGOs and training organizations who promote youth employment and provide consultations;
- Local organizations in the rural aimags who work towards promoting youth employment; and
- Anyone who is interested in improving their knowledge and skills.

The third section focuses on the four different types of skills: Transferable, Workplace, Financial, and Entrepreneurial skills - each with their own subset of skills. Each skill section is organized in the following manner: General definition, personality case study, criteria/characteristics, self-assessment, and self-improvement corner.

The general definition provides the information on what the skills are and how it is useful in workplace setting. The reader then follows three imaginary people in case studies tailored for each skill section.

- Transferable skills – Nomin (female): A recent university graduate from MULS who is currently job searching
- Workplace skills – Maral (female): A recent hired employee for a Private Veterinarian Unit who has been employed for six months
- Financial management/Entrepreneurial skills – Tergel (male): A young entrepreneur who has a livestock feed and fodder business

For each skill, the imaginary characters face different challenges that is based on real-life scenarios for which the Handbook provides recommendations on what steps to take to overcome these challenges. This gives the readers insight to relatable examples and connection to the characters. The reader then takes a self-assessment quiz to see where they stand in terms of their skills development. This will help the readers to understand what skills they need to improve and what skills are their strengths. In the self-improvement corner section, the readers are provided with key resources, tools, and tips. For example,

in the transferable skills section, the Handbook provides goal setting table which the readers can fill-in themselves, while within the Workplace skills, there are sample CVs. In the Financial management skills section, there are income/ expense statement pages sample plans for loan applications, and within the Entrepreneurial skills, sample pages of business plans are included. Once the final version of the Handbook was approved by Mercy Corps, Selenge Press LLC was contracted to print the handbooks. Selenge Press LLC has a long withstanding Master Agreement with MCM. A total of 1,450 copies of the Handbook was printed and delivered to MCM in March 2021. An editable soft copy version Handbook has been provided to MULS and uploaded on their website.

Although only a small number of Handbooks have been printed, the soft copy is (and will continue to be) available for free on MULS website. Therefore, those who did obtain the physical copy can access the materials online. Hence, the physical distribution of the Handbook is aimed more towards those who do not have easy internet access as well as a promotional material to different aimags to get the word out about the learning opportunity.

Table 3. A distribution plan for the Handbooks is below:

Location	Handbook number	Description
RCP aimags: Khentii, Selenge, Bulgan	750 (250 each)	In each aimag: MOFALI – 50 Veterinary Dept – 50 TVET – 50 Welfare Dept – 50 Schools, Businesses – 50
LTS3 aimags: Bayan-Ulgii, Khovd, Uvs, Sukhbaatar	400 (100 each)	In each aimag: MOFALI – 20 Veterinary Dept – 20 TVET – 20 Welfare Dept – 20 Schools, Businesses – 20
MULS	150	150 physical copies along with soft master copy that will be uploaded on the MULS website
MCM Partners	150	Startup Mongolia, Educated Enterprise, City Welfare and Social services dept, training, etc.
Total	1450	

Phase III: YESP online course development

To make the content more appealing to the youth population while also reaching greater number of potential learners, Mercy Corps designed the project to include online course to compliment the Handbook. The YESP online course is based on the Handbook content with 4 modules and 20 sub-modules of skills. Each module is up to 30 minutes, for a total of 120 minutes, designed to be carried out through series of interactive activities – including presentation slides, clickable questions and answers, case studies, downloadable exercises and resources, etc – delivered in a self-paced format.

Each module also includes post-training questionnaires that examines the learner’s knowledge after the course. The participant must pass the post-test before being allowed to move on to the next module. After successfully completing the 4th module, participant receives an e-certificate that certifies the participant has learned all 4 modules and passed the questions.

To develop the online course, Mercy Corps signed a service agreement with Loop LLC from January to March 2021, who provided technical consultation and development for the course modules. The online content developer completed the work in close coordination with the YESP consultant and MULS specialists. The YESP consultant provided the content that can be used for the online course, and the MULS specialists provided assistance in integrating the final content onto the MULS website platform.

The online course can be accessed at: <https://elearn.muls.edu.mn/> and the course is available for free to anyone who wants to access the content.

Partnership with MULS

The YESP project was designed with long-term sustainability in mind; Mercy Corps envisioned – and strove for - a product that can be continued beyond the lifetime of RCP. To achieve this, Mercy Corps identified the MULS as a partner organization to host the Handbook and the online training modules. MULS is a state-owned leading livestock, agricultural, and life sciences university in Mongolia, with the main campus in the capital city of Ulaanbaatar, with has branch universities in Orkhon, Dornod and Khovd. The university offers Bachelors, Masters, and PhD degrees in veterinary sciences, livestock biotechnology, engineering, agro-ecology, economics to more than 9,000 students. The university has also been moving toward towards e-learning in recent years, and worked with Mercy Corps in another project that developed the online Private Veterinarian Unit (PVU) business training.

On January 25, 2021, Mercy Corps signed a Letter of Commitment with MULS. Under this Letter of Commitment, Mercy Corps was responsible for developing and handing over the YESP Handbook and online course materials to MULS upon completion. In return, MULS assigned a Training Management System (TMS) specialist who worked with the YESP consultant and online content developer to integrate the modules onto

the platform. Additionally, MULS will conduct promotional and outreach activities to their current student community and provide the content for free to anyone and any organizations who are interested in improving their skills and using the content materials. MULS has also agreed to enrich the content in the future.

The online course questionnaires taken upon completion were developed with this intention in mind; hence, it includes open-ended questions that asks the participant what recommendations they have to improve the training content. On March 15, 2021, the soft copy of the handbook along with the course content was fully uploaded onto MULS website and is now available for use.

Conclusion and Next Steps

To ensure that the livestock sector can be a future pillar of Mongolian economy, it must attract young people. The YESP project drives this outcome by providing key employability development training that youth require in order to successfully transition to the labor market or retain and improve their current employment status. Through a focus on the the inclusion of new market systems actors in various livestock sectors (meat market, veterinary services, feed and fodder, etc), the YESP project aimed to strengthen the resilience of youth to adapt to labor market changes, increase income generation, improve productivity, and knowledge of local business markets.

The next steps of the project include distributing the handbooks to different aimags and organizations, continued partnership with MULS with official meeting to handover the project training content, enrolling 60 youth in the online course, promoting the training to wider audience and monitoring the results from the project implementation.



Demonstrating Impact

LOCAL BUSINESS CLINIC PROJECT

Project Name: King Consulting

Project location: Selenge soum of Bulgan aimag

Project Duration: March – November 2020

Background

One of the objectives of RCP is to strengthen the capacity of rural businesses operating in the livestock sector. To achieve this objective, RCP assessed the current state of RCP private sector partners, identified their needs and priorities based on this assessment, and provided tailored and targeted technical advice, individual needs-based consulting, and mentoring to improve their business, financial, and operational management practices.

Mercy Corps Mongolia (MCM) addressed this through the Local Business Clinic Project, a partnership with a local consulting firm to deliver bespoke services to MCM's current and former sub-grantees. In March 2020, as the result of a competitive procurement process, King Consulting Firm LLC was selected to implement the Local Business Clinic Project. The project aimed to strengthen the capacity of 16 small and medium-sized

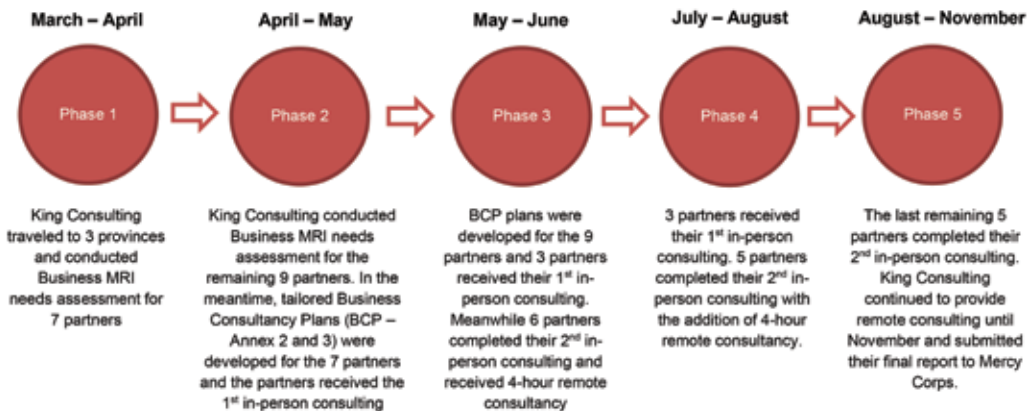
businesses – ranging in size from two to 30 employees - operating in the livestock sector in Bulgan, Khentii, and Selenge aimags. These were pre-existing RCP partners previously selected during competitive calls for applications process and which were receiving sub-grants for business expansion projects at the time of the LBCP launch.

During the pre-contracting phase, the RCP team worked closely with King Consulting Firm to finalize the design of the project. Ultimately, it was determined that the project would be implemented in five phases. The first two phases focused on assessing the current needs (utilizing the Business MRI approach described in detail below) of the differently sized and types of businesses and developing tailored business consulting based on these various needs.

The last three phases of the project, implemented over five months, consisted of King Consulting Firm traveling to different aimags to conduct the in-person consulting sessions. Over the duration of the project period, each business received two in-person consulting days in addition to four hours of remote consulting services, all tailored to help them address priorities in the individual consulting plans and allow time for businesses to operationalize new policies and practice skills learned between consulting sessions.

Project approaches

The Local Business Clinic Project was formally launched on March 19, 2020 and implemented until November 12, 2020 with the following five phases. Details of the phases are described below.



Picture 12.

Needs Assessment and Business Consultancy Plans (Phase 1 – 2)

King Consulting has a unique approach to helping businesses identify needs and priorities using a “Business MRI” framework that consisted of MRI-1 and MRI-2 interview-style methods as well as MVV and BMC. This framework is used to determine the following:

- Whether the company and its management know the direction of its business growth and understand its importance;
- If the company’s goals and objectives meet the basic conditions for developing required business plan; and
- What the current operational state the business is in, and plans for next steps.

King Consulting split into two teams to travel to different aimags where the businesses are located. There, they conducted one-day needs assessment that consisted of interviews with the directors and managers. The MRI-1 focused on interview questions assessing all aspects of the business while MRI-2 focused on open-ended questions to determine the areas of focus for the consulting service. The diagnostics process continues with the integration of the findings from both MRI assessments to develop tailored BCP – Annex 2 for template for each individual business. BCPs included two to three priorities in the following areas:

- Business governance and HR management
- Accounting systems and practices
- Basics of financial statement analysis
- Developing and operationalizing Business and/or Strategic Plans
- Marketing/Product development/Outreach strategies to attract new clients
- Applying for specific licenses, permits and other relevant regulatory documentations

The needs assessment resulted in the following discoveries:

- Most business owners had an understanding of their company’s mission and short-term goals but did not have a clear business strategy. They were mostly concerned with day-to-day business operations and were not able to clearly define future market opportunities.
- The partners had a vague understanding of current business trends and their competitive capacity.
- Smaller businesses used notebooks for accounting and did not have a clear financial system set in place. In addition, most partners did not have an HR documentation system, including standard employment contracts.
- Medium-sized businesses wanted to improve their business governance and establish clear segregation of duties among owners and managers.
- All businesses needed assistance on marketing, business plans, product development, and outreach strategies to attract and retain customers.

After the business diagnostics process, King Consulting along with the businesses chose to two four priorities from a menu of business development and management categories: accounting, financial management, innovative marketing and branding strategies,

business governance and development, and HR management for the in-person and remote consultancy service. Each partner worked with King Consultancy to develop clear indicators of success as well as 'milestones' that would help them measure progress against these self-identified goals. These priorities would then serve to guide, steer, and focus the tailored, targeted consultancy services delivered to each partner during the LBCP.

In-person and remote consultancy services (Phase 2 – 5)

Each business received two sessions of two-day in-person consulting (four days total) and four-hour remote consulting service that spanned out in five months to help the businesses retain the information and operationalize the new policies and practices.

Out of the 16 businesses:

- 11 businesses focused on HR management
- 13 businesses focused on Finance/Accounting
- 3 businesses focused on Business Governance structuring/mapping
- 1 business focused on Legal advice on applying for permits
- 13 businesses focused on Marketing strategies.
 - o 3 businesses focused more on Business development/sales plan
 - o 6 businesses focused more on Outreach strategies
 - o 4 businesses focused more Product development

Of the 16 MCM partners that participated in the LBCP, nine companies that employ two to five workers, five companies employ six to ten, one company that employs 25 people, and one company that employs 50 workers (see Annex 1 for more details). The chart below highlights the two highest consulting priorities compared to the number of employees for the differently sized companies.

The smaller businesses that employ two to five workers focused more on HR policies/documentation and finance/ accounting practices. Companies such as Mandalkhaan Sureg (PVU laboratory) and Art Margad (feed and fodder farmer) planned to employ workers during their project implementation and needed immediate consulting on drafting employee contracts and developing internal labor policies. Additionally, companies such as Devjikh Dul (PVU) and Yumt Gegee (PVU) lacked proper accounting system and recorded their finances using old-fashioned black books instead of computerized accounting programs. These companies received extensive consulting on digital accounting systems. They also received advice and consulting on taxation and tax filing process.

The next level of small companies that employ six to ten workers focused primarily on Marketing and HR/ Governance. Companies such as Gurvan Borkhuud (feed and fodder farm) and Ar Sevd Mogoit (feed and fodder farm) focused more on product development while companies such as Setebi (feed and fodder farm) focused on outreach products

and Xanadu Razorback (meat processor) and Deedsiin Sureg (meat processor) focused on business development and business plans. The next two categories of middle-sized businesses are Khushaat Cooperative (breeding unit) and Mon Meat Trade (meat processor). Khushaat Cooperative is a special case among the 16 companies targeted in the LBCP as it is the only cooperative-type entity comprised of different members such as businesses, citizens, and herders. While its 25 members are registered with the cooperative, the business needed extensive consulting on HR/Governance to properly structure the organization and develop much needed internal policies. On the other hand, Mon Meat Trade is a family-owned business that employs 50 workers. They also prioritized HR/Governance in their BCPs, as there have been issues such as overlap of duties and responsibilities between the husband and wife who are in charge of all company decisions. The consulting services focused on the company governance structure, reducing information overflow and providing a system that segregates the different responsibilities of the owners.

Overall, the types, sizes, years of operation as well as the variety of products/services offered by the businesses affected the choice of prioritization. However, the current state of the business and the business owners' priorities most directly affected the consulting priorities. Please see Annex 1 - Table for information on all companies and their consulting priorities.

Project Results

Over the course of nine months, the Local Business Clinic Project aimed to develop the businesses by improving their core business management skills, consolidating their policies and practices and developing their products and services. After the needs assessment, in-person consulting and remote consulting sessions, the following key results have been achieved through the project; all of these are explained in more detail below.

Result 1: Mission, Vision, Goals – *Governance and Business development consulting* focuses. These consulting priorities are grouped into one key result that improved the businesses' overall mission, vision, and long-term goals. During the needs assessment, the consultant and companies identified the overall business mission, vision, and goals that were unclear and needed consulting on restructuring their company governance and acquire business development skills that are key ingredients for solidifying the main business purpose, objectives and future plans.

Result 2: Improved businesses management through better policies/practices – *HR management and Finance/Accounting practices*. Most livestock businesses employ workers without employee contracts and conduct financial reporting using dated methods such as black book. Establishing effective internal HR policies and developing appropriate legal documents such as contracts will enable the companies to comply with legal requirements and protect employees and employers. Additionally, updating dated accounting systems will contribute to the companies' ability to make financially sound

decisions in the future. Through the project, almost all of the RCP partner businesses were able to reach these goals.

Result 3: Improved products and services through innovative marketing initiatives

– *Marketing consulting focused on product development, outreach products and overall strategic marketing plans. For most partners, marketing consulting was needed to improve their products, services, and provide innovative ways to reach new audience.*

Overall, all three results were able to bolster the businesses’ ability to communicate their vision and mission, strategize for long term planning, develop a meaningful marketing plan, and create governance structures within the organization ultimately impacts the businesses’ long term success and profitability. The consultation and coaching approach of the Local Business Clinic project allowed businesses the freedom to tailor their consultations to best meet the needs of the business.

Result 1: Mission, Vision, Goals

Livestock businesses in Mongolia tend to focus primarily on their day-to-day activities and short-term goals. This is partly due to the factors such as seasonal nature of their business, customer base, and lack of structured management skills. Although focusing on short-term goals is important, defining mission, vision, governance structure can help define the business purpose, objective, and future aspirations in a way that is clear to the business owners, employees and to people outside the business. The needs assessments proved that these gaps exist within the 16 partner businesses, confirming the need to work with the partners to develop their mission, vision, and long-term goals through consulting services such as Governance and Business Development.

King Consulting improved company governance is in their work with Mon Meat LLC. In the course of Mon Meat’s Business MRI, “Company Governance” was an area where Mon Meat identified a need for support. With branches in both Khentii and Ulaanbaatar, it was difficult for the business to communicate efficiently internally between branches, often resulting in overburdening company leadership with unnecessary information. The roles, responsibilities, and functions of the CEO were muddled, as the CEO was often forced to be involved in low-level decision-making processes. In response, King Consulting led the business through an organizational mapping exercise and reframing the organizational structure to include communication pathways. This clarified roles and responsibilities throughout the company, and created expectations about what information should be shared to which individuals within the company.

King’s work with Khushaat Cooperative, a breeding cooperative based in Selenge, comprised of members of the community including feed companies, veterinarians, breeders, and herders. Khushaat Cooperative has been working with Mercy Corps since 2017 and have received consulting service previously for their breeding business. Although equipped with a 5-year business plan, Khushaat Cooperative needed re-organization in terms of their governance that enabled a clear view for the members on

the cooperative structure, roles and responsibilities, voting systems, and policies. This re-organization helped clear the foggy areas of the cooperative's structure, in turn positively impacting the business operations and member participation.

King Consulting also worked with Tugs Gene, an artificial insemination breeding company to improve their business mission, vision, and goals. Before working with King, the company had strong technical experience and clear vision of their business objective; however, they faced challenges in trying to communicate their services to herders. Herders did not understand the differences between traditional insemination and artificial insemination and the benefits of the latter. Thus, the consultants worked with the company to improve the organization's profile, developed outreach materials, and categorized different services. As a result of the consulting services, Tugs Gene was able to improve and diversify their existing services and identify previously unseen strengths and opportunities of the company, and produce outreach materials that are easily understandable by herders.

Result 2: Improved business management through better practices/policies

Many of the RCP partners' project implementation plans included strengthening outreach to customers, increasing the number of staff hired, and improving financial management. They worked with the Local Business Clinic consultants to tailor specific tools and guidelines to use as they strove towards business growth and development; these tools were primarily related to Human Resources (HR) and finance/accounting practices. These two areas of business management are essential for sustainable business development and continued growth.

As RCP partners grew their businesses, they faced new challenges in terms of managing people and formalizing HR processes and procedures. For many businesses, HR processes had previously been managed verbally or through other casual communication channels, leaving both employer and employee vulnerable to instability, high-attrition rates, and legal issues. As per their BCPs, the consultant teams worked with 13 of the RCP partners to develop HR policies, internal labor regulations that meet labor laws, and documents like employment contracts and agreements. In addition, four businesses developed occupational safety and health policy documents.

As one of the consultants from King Consulting described, "when an organization has a set of basic documents, such as internal labor regulation procedure guidelines and contracts, it forms the basis for well-directed and sustainable operations within the general legal framework and in labor relations." As a result of HR consultation and coaching, Deedsiin Sureg LLC successfully established valid employment contracts with their new employees, confidentiality agreements, and full property liability agreements. These measures protect Deedsiin Sureg from legal liability and it ensures employees are aware of their rights and responsibilities. The businesses that received HR consultation

will be able to use the tools tailored to their business even as they grow. Improved HR management helps build a strong foundation for business expansion, continuity, and sustainability.

Businesses also prioritized formalizing their accounting policies and procedures; 13 partners received consultations that involved accounting, documentation of transactions and sales records, creating standard operating procedures for bookkeeping, registration tools, and meeting current legal requirements. King Consulting provided a number of tools for partners to use including: accounting software, operation-based cost estimation methodologies, scoring to determine risk level, and basic financial training. The consultancy has improved the businesses' access to necessary financial tools, which in turn affects their ability to deliver high quality services and products.

As the director of Mandalkhaan Sureg, a Private Veterinary Unit, described “we have improved our business document templates and record keeping process, in turn they have been our greatest tools. The new herder registry has the advantage of connecting us with herders and it is very helpful in improving the services we provide them.” Supporting businesses in adopting financial and accounting tools is essential to build a strong foundation for their future profitability and longevity.

Result 3: Improved products and services through innovative marketing initiatives

Customer engagement, product development, and strategic marketing tools are essential to the success of any business. It allows the companies to convey their messages, attract potential customers, and when used right, helps create new needs for the products and services within the community. Many marketing strategies are based on creating awareness of a product or service and these days, social media is one of the best platform to showcase products and attract potential customers.

Nearly all of the RCP partners developed a new product or service as part of their project, but had very little experience in creating marketing plans, product development, or outreach strategies. For 14 of the businesses King Consulting played an important role in prioritizing and strategizing the products' entry into the market. This included designing a branding strategy, promotional materials, and cultivating a social media presence; 8 businesses created a business logo for the first time, and 4 businesses received consultation around the development of company brochures. The development of marketing plans was closely tied to other aspects of business development;

King Consulting reported that some partners, such as the livestock feed production company Gurvan Borkhuud LLC, needed some help in terms of identifying business goals in order to build a strategy and maximize market potential. Prior to receiving consulting services, the company did not have a clear mission or vision, lacked information needed to market their products and faced coordination challenges between different parts of the business. Their products were known under different names and the packaging lacked

unified branding, so the consulting services focused on the company's marketing and branding strategies, and creation of a sales plan. The management and staff of Gurvan Borkhuud worked together to redesign their company's logo and branding in three key areas: barley cultivation, barley production and barley feed processing. The company developed marketing materials (posters) to promote their product to herders and created a social media page informing the public about their services and products. They created a business efficiency plan and a sales plan, later used to launch their new products.

Another example of businesses identifying goals and structuring their business model and marketing plan to meet those goals came from MCM partner Elite Khuns, a livestock equipment fabrication business. With guidance from the business consultant, Elite Khuns leadership recognized the need for a new name for the business and a new strategy for reaching more customers and said "A new business model for the company's livestock equipment was developed as part of the consulting service, the model combines the sale of small livestock-related equipment with large-animal equipment sales, and could have a positive impact on long-term business revenue. 'NomadTech' was chosen as the new name for the company and they said the new name better communicated their vision and would help expand their business in the future."

While the aforementioned companies focused on product development, two key examples of new initiatives that are developed from the consulting services are the two PVUs: Mandalkhaan Sureg PVU and Devjikh Dul PVU. By opening a new social media page, Mandalkhaan Sureg PVU was able to promote their laboratory services and pharmacy to wider range of customers, including those living in neighboring soums. But one unintended benefit from the social media page was the improved client engagement. Herders who are not registered under the PVU can now reach the soum's only young veterinarians and ask them for advice through their page and get necessary information on laboratory services, pharmaceutical information and overall veterinary advice.

In addition, King Consulting was able to help Devjikh Dul PVU's business by a simple reorganization of veterinary pharmacy. The reorganization helped the PVU to easily plan medical purchases, conduct inventory, provide quick service and information on medicines to herders. Additionally, the consultants and the partner worked together to develop a new initiative called Contract Herders, that offers pre-contracted herders certain incentives such as discounted services and products. This gives the PVU the advantages of protecting and retaining their target customers as well as keeping the income stable.

Conclusion and Lessons Learned

The Local Business Clinic Project, implemented by King Consulting, tailored consultation and support for the priorities identified by RCP partner businesses. As a result, the businesses have strengthened their business mission, vision, goals, adopted advanced management practices and developed new initiatives. Ultimately, the work done as part of the LBCP supported businesses is creating a strong foundation in operational

processes and procedures, which will stay with the business long into the future.

All 16 RCP business partners successfully completed their business expansion projects²² providing a great 'action learning' opportunity to work with King Consulting to identify lessons learned and keys for success. These key lessons learnt come from King Consulting final report, Mercy Corps monitoring trips, and KII interviews with partner businesses:

Establish Business Baseline Prior to Consultation - A key to success in the LBCP was King Consulting's "Business MRI" needs assessment process. Establishing a baseline for the business's operational and management capacities, what the businesses goals and objectives are, and what their business growth plans are, allows the consultants to meet the businesses where they are in terms of development. Garnering a clear understanding of the business's starting point helps paint a realistic picture of their needs, which results in effective and impactful consultation support.

Tailor Support to the Client's needs - Effective and impactful support comes from tailoring it to the business's needs and priorities. Developing targeted and relevant tools and guidance for businesses ensures the products of the consultancy will continue to be used well after the consultation is over. The objective of the LBCP was to provide businesses with the essential tools needed to continue their growth trajectory, even after RCP support is finished. Tailored support also includes adaptations to the consultation services and accommodations should be made as necessary to meet the businesses capacity levels.

This speaks to working with older and more experienced business owners, meanwhile may need hands-on guidance when adopting new technologies or methodologies; for younger business owners who are quick on uptake and adoption of new ideas and tools, but may need support in more routine areas, like accounting. As the consultation met the specific needs of the partner businesses, the businesses derived greater benefit from the support, and have used it as a foundation for improved business development and expansion.

Phase Consultation Services - Providing consultations in phases, and enabling progressive support over time, ensured that businesses were not overwhelmed by too much information or change at one time. As described above, during the first phase, needs and priorities were identified, while during phase two a tailored business consultancy plan (Annex 2) was developed. Phase three involved individual consultations for each of the 16 businesses, and the fourth phase was a remote consultation session. The phased engagement allowed businesses time to prepare for the meetings and digest the new information that came from the consultation; more importantly, it provided space for them to apply new knowledge and skills into their business with the support of King Consultants. The final phase of support, remote consultation, allowed partners to follow up on specific needs or concerns that they identified between the remote session and the in-person consultation meeting.

Annex 1: Table of Consulting Priorities

	Company name	Number of permanent employees	Type of business	Location	Consulting Priorities
1	Munkh-Turuu LLC	5	Livestock feed producer	Bulgan	1. HR/Governance 2. Finance/Accounting
2	Xanadu Razorback LLC	9	Meat processor/feedlot	Bulgan	1. HR Management 2. Finance/Accounting 3. Marketing/Business Plan
3	Yumt Gegee PVU	3	Veterinary services	Khentii	1. Finance/Accounting 2. Marketing/Outreach
4	Elite Khuns LLC	2	Livestock equipment	Khentii	1. Finance/Accounting 2. Marketing/Product 3. Legal permits
5	Minjiin Bor Utug LLC	5	Meat processor	Selenge	1. HR Management 2. Finance/Accounting
6	Mon Meat Trade LLC	50	Meat processor	Khentii	1. HR/Governance 2. Marketing/Product 3. Finance/Accounting
7	Ar Sevd Mogoit LLC	9	Livestock feed producer	Selenge	1. Finance/Accounting 2. Marketing/Product
8	Tugs Gene LLC	2	Livestock breeding (AI)	Selenge	1. HR Management 2. Finance/Accounting 3. Marketing/Business Development
9	Setebi LLC	7	Livestock feed producer	Selenge	1. HR Management 2. Marketing/Outreach
10	Devjikh Dul LLC	3	Veterinary services	Selenge	1. HR Management 2. Finance/Accounting 3. Marketing/Outreach
11	Art Margad LLC	4	Livestock feed producer	Khentii	1. HR Management 2. Finance/Accounting 3. Marketing/Outreach
12	Deedsiin Sureg LLC	13	Meat processor	Khentii	1. HR Management 2. Marketing/Business Development
13	Gurvan Borkhuud LLC	9	Livestock feed producer	Bulgan	1. Marketing plan 2. Product development
14	Mandalkhaan Sureg PVU	2	Veterinary laboratory	Khentii	1. Finance/Accounting 2. Marketing/Outreach 3. HR Management
15	Khushaat Cooperative	25	Breeding unit	Selenge	1. HR Management 2. Finance/Accounting 3. Governance
16	Sats Manal PVU	2	Veterinary laboratory	Khentii	1. Finance/Accounting 2. Marketing/Outreach

Annex 2: Business Consultancy Plan template

Sample Business Consultancy Plan

The table below provides an illustrative example of a BCP with specific, clear, and targeted indicators and actions.

Partner Overview				
Company Name				
Project Location				
Duration of the Project				
Priority 1				
Business Priority 1				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Progress Against Priorities	Timeframe
Clearly describe each step that must be taken to move from the baseline status to the end goal. Steps needs to be clear and easily understood by all parties.	Partners: Identify the specific deliverables that will be created/ developed by the partners Consultants: Identify the specific deliverables that will be provided to the partner to successfully complete the steps	Partner: What will the partner do for these steps? How will they take lead? Who should be involved? Mercy Corps: What will Mercy Corps do to help facilitate this step? How can we support? Consultant: Which consultant will be responsible for this key priority? What will the consultants do to support the implementation?	What does the successful completion of these steps look like? How will we measure the performance of the partner? What does success look like?	How many hours /days will be needed to accomplish these steps? This should include both consultancy time (partner + King) as well as the time in between consultancy sessions when the business parnter is working independently to move things forward.
Step 1:				
Step 2:				
Step 3:				
Priority 2				
Business Priority 2				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Performance Indicators	Timeframe

Partner Overview				
Company Name				
Project Location				
Duration of the Project				
Priority 1				
Business Priority 1				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Progress Against Priorities	Timeframe
Clearly describe each step that must be taken to move from the baseline status to the end goal. Steps needs to be clear and easily understood by all parties. Step 1: Step 2: Step 3:	Partners: Identify the specific deliverables that will be created/ developed by the partners Consultants: Identify the specific deliverables that will be provided to the partner to successfully complete the steps	Partner: What will the partner do for these steps? How will they take lead? Who should be involved? Mercy Corps: What will Mercy Corps do to help facilitate this step? How can we support? Consultant: Which consultant will be responsible for this key priority? What will the consultants do to support the implementation?	What does the successful completion of these steps look like? How will we measure the performance of the partner? What does success look like?	How many hours /days will be needed to accomplish these steps? This should include both consultancy time (partner + King) as well as the time in between consultancy sessions when the business parnter is working independently to move things forward.
Priority 2				
Business Priority 2				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Performance Indicators	Timeframe
Priority 3				
Business Priority 3				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Performance Indicators	Timeframe

Partner Overview				
Company Name				
Project Location				
Duration of the Project				
Priority 1				
Business Priority 1				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Progress Against Priorities	Timeframe
<p>Clearly describe each step that must be taken to move from the baseline status to the end goal. Steps needs to be clear and easily understood by all parties.</p> <p>Step 1:</p> <p>Step 2:</p> <p>Step 3:</p>	<p>Partners: Identify the specific deliverables that will be created/ developed by the partners</p> <p>Consultants: Identify the specific deliverables that will be provided to the partner to successfully complete the steps</p>	<p>Partner: What will the partner do for these steps? How will they take lead? Who should be involved?</p> <p>Mercy Corps: What will Mercy Corps do to help facilitate this step? How can we support?</p> <p>Consultant: Which consultant will be responsible for this key priority? What will the consultants do to support the implementation?</p>	<p>What does the successful completion of these steps look like? How will we measure the performance of the partner? What does success look like?</p>	<p>How many hours /days will be needed to accomplish these steps?</p> <p>This should include both consultancy time (partner + King) as well as the time in between consultancy sessions when the business parnter is working independently to move things forward.</p>
Priority 2				
Business Priority 2				
Baseline/Current Status				
End Goal				
Key Steps	Deliverables	Roles and Responsibilities	Performance Indicators	Timeframe

Annex 3: Consulting sheet template

Consultant Sheet				
Consultant Name and Intervention				
Company Name				
Participants				
Date of consultancy (1st or 2nd)				
BCP priority				
Baseline/Current Status				
End Goal				
Key steps	Actions	Progress	Explanation	Timeframe
Analysis/Consultant comments/Plans for remote consultancy				



Demonstrating Impact

SMALL SCALE INFRASTRUCTURE REHABILITATION PROJECTS

Leveraging Tradition and Science in Disaster Risk Reduction – 3 Project

Background

The Leveraging Tradition and Science 3 (LTS3) program aims to reduce the vulnerability of herder households in Mongolia through disaster risk preparedness and improved rangeland management. LTS3 is implemented across five aimags: Khovd, Uvs, Bayan-Ulgii, Khentii, and Sukhbaatar. A total of ten soums within those five aimags were selected for intensive technical support and assistance to operationalize their existing Pasture Management Plans (PMP).

Starting in November 2019, Mercy Corps supported soum level authorities to identify key priorities and activities that will contribute to improving rangeland management at the local level. In order to address these priorities Mercy Corps launched a call for proposals for small-scale infrastructure rehabilitation on February 13, 2020. Using template designed by Mercy Corps, the soum governments submitted proposal packages that included: a narrative, a budget including cost share, and technical specifications for the

proposed project. A total of ten proposals from ten soums across the five aimags were received. The proposals were for one of three interventions: well rehabilitation, natural spring fence rehabilitation, or feed and fodder storage rehabilitation. If the proposal was delivered on time, in the proposal format provided to them, including a budget and a technical photograph or drawing, the proposal then went on to the review phase.

Implementation

Call for Proposals

All ten proposals were screened and passed onto the review phase. Each proposal was submitted in Mongolian and a summary of that document was translated into English and presented as a PowerPoint presentation to the review committee, which reviewed the proposal packages against the following criteria to ensure that proposed projects:

- Were actionable by the soum officials, with some support from Mercy Corps
- Contained a reasonable community contribution
- Were feasible within the timeframe of the LTS3 program
- Were in line with programmatic objectives
- Were compliant with donor rules and regulations – must be rehabilitation project, no new construction

Using that criteria, the review committee judged the following aspects of the proposals:

- Clear project description that includes the number of people, livestock, and hectares of pastureland that are affected by the issue
- A description of the proposed solution or intervention
- The expected results from the intervention, including how many people, livestock, and hectares of pastureland that will benefit from this intervention
- Description of community engagement and contribution
- The technical specifications of the proposed rehabilitation
- Budget for the rehabilitation

A review committee composed of representatives from Mercy Corps' finance team, operations team, program team, and senior leadership met on April 3, 2020 to review the proposal packages submitted by soum government partners. There were five voting members of the committee, and three program team members to provide technical guidance and clarification. Eight projects were green-lighted, two projects were yellow-lighted; those soum governments were asked to provide more information and clarification. Following some clarification with the soum, those two projects were later greenlighted on April 14.

Activities

As per donor guidelines, the LTS3 program does not transfer funds to government agencies for rehabilitation work. Instead, Mercy Corps conducts an open and transparent procurement process to identify qualified contractors with the technical skill sets to implement the projects. These contractors were expected to work closely with soum level stakeholders, as they were responsible for key elements of the projects such as transportation and/ or the provision of unskilled labor.

However, before procurement could begin, Mercy Corps required soum governments to provide the relevant approvals from the aimag government departments for small-scale infrastructure projects. Well rehabilitation projects are particularly complicated under Mongolian law and, as such, soum governments were required to:

- Demonstrate ownership of the well and a declaration that there are no outstanding disputes related to that ownership
- Certify that the rehabilitation of the well is included in the local Pasture Management Plan and has been endorsed by the herders
- Outline a protocol for a water users' fee or budgeting plan for operational costs
- Explain the plan for care and maintenance of the well after completion of the rehabilitation project, including plans for establishing an agreement with local herders

Once documentation was received, Mercy Corps launched the procurement process for natural spring fencing material, hay shelter rehabilitation material, and bids for well rehabilitation contracts. Unfortunately, during the bid review process, it became clear that Mercy Corps was unable to move forward with the proposed well rehabilitation projects in Erdenetsagaan soum and Bayandelger soum of Sukhbaatar aimag. This decision was made based on a few indelible facts. The two bids that were received were two and four times higher than the estimates the soum provided and Mercy Corps budgeted for, in part because the estimates provided by the soum government did not consider the specialized tools needed to safely dig and rehabilitate the well. Given the old age and deteriorated condition of the well, neither company was willing to take on the risk of digging it out by hand; similarly, Mercy Corps will not support such a dangerous project. In addition, both potential contractors expressed concern about the feasibility of the projects, even with specialized equipment and technical expertise, as there is no guarantee of water quality. As such, only eight projects were ultimately able to move forward through procurement and implementation.

After evaluating and selecting the best proposals, Mercy Corps signed a tripartite letter of commitment with the soum governor and the leader of herders' group who are responsible for the future maintenance of the infrastructure. This commitment letter states the financial contribution, roles and responsibilities of the respective parties.

There was some hesitancy from contractors to work with soum governments and herders' groups because there had been some issues with follow-through in the past. However,

Mercy Corps aimag coordinators deftly managed the relationships between the two parties, and the signed letter of commitment helped ensure each entity knew exactly what they were responsible for. The combination of these two factors led to a transparent and smooth implementation of the rehabilitation projects.

All projects were completed by the end of July 2020; a total of four natural springs in two soums were fenced, one hay storage shelter was expanded, and five wells were fully rehabilitated. All the wells were tested for water quality and potability by the State Inspection Agency, and then handed over to the soum government along with the well passport by the contractor. No such process is required for handover of fences and hay storage facilities under Mongolian law.

Methodology

Sheep head units

- 1 camel = 5 head of sheep
- 1 horse = 7 head of sheep
- 1 cow = 6 head of sheep
- 1 goat = 0.9 head of sheep

Example: A herder has 10 cows, 5 horses, 20 goats and 30 sheep. Using the conversion above, this herder has 143 sheep head units.

Rangeland Protection Methodology

Example from Erdeneburen soum of Khovd aimag. This area is in a steppe eco zone, where a well was rehabilitated. Well rehabilitation is allotted a standard radius of 5.2 kilometers around the well that is considered to have improved utilization of pastureland. This area is then converted into hectares ($\text{area}/\text{km} = P \cdot r^2$) in this case the area of improved utilization is 8,382 ha.

Impact

Mercy Corps employed different methodologies to measure impact of the rehabilitated wells, protected natural springs, and hay storage. Impact was measured at the household, individual, livestock, and pasture level.

The **number of households and herders** who receive benefits from this project were easily calculated as these are the number of herder households which are directly dependent on and benefit from rehabilitated wells, springs, and hay storage.

The **number of livestock** impacted was calculated using the Sheep Head Unit method. This methodology converts different types of livestock into a standardized unit of measurement called "Sheep Head Units." The number of livestock to be translated into

Sheep Head Units comes from the number of livestock herder households own, which depend on the well, spring, and/or hay storage. This calculation, commonly used by the Government of Mongolia, was used for each soum and for each type of rehabilitation project.

The **total area of protected rangeland** was calculated using the methodology approved by the Mongolian Administration of Land Affairs, Geodesy and Cartography (Region development plan, 2015) which shows how much rangeland can be protected, or better utilized, as a result of the well rehabilitation and springs depending on the different eco-regions. The methodology is founded on the understanding that if a new source of water is available, then livestock will be moved from overstocked pasture areas to the newly available area, thereby relieving the pressure on the previously overstocked pasture by evenly distributing livestock over a larger area of land. The rehabilitation of the wells and fencing of springs has made a valuable contribution to rangeland recovery, and has decreased rangeland degradation by decreasing stocking rate around the wells which were previously the only source of water in the area. This will facilitate seasonal rotation of pastureland and more evenly distribute the livestock grazing pressure on the pastureland.

Results

The small-scale infrastructure rehabilitation projects were successfully completed in eight soums of four target aimags. Five wells were rehabilitated, fencing for four natural springs was repaired, and one hay storage shed was expanded. In total, Mercy Corps contributed 78% (68.9 million MNT/24,494 USD) while soum government offices and herders themselves cost-shared 22% (19.8 million MNT/7,500 USD) of the total cost. In addition, across the 8 rehabilitation projects, 47 herders worked for approximately 20 days providing unskilled labor for their successful realization.

The following aggregated results were achieved and are an important contribution towards better rangeland management practices in Mongolia. These include:

- **Herder households:** 980 herders from 348 herder households directly benefit from the project
- **Pastureland:** Improved utilization of 85,970 ha of pastureland and reduced the grazing pressure on a similar area of pastureland
- **Livestock:** A total of 157,964 livestock (measured in sheep head units) benefit from improved animal welfare and access to water, hay, etc.

Each of the soum governors and many of the herders who were involved have said that, without the help of Mercy Corps and USAID/OFDA, these projects would not have been possible. Some soums even had local television stations attend the “opening” of the infrastructure projects. For example, in Bayan-Ulgii, in a television interview one herder expressed his gratitude because the well that was rehabilitated was very old,

and no one felt motivated to repair it. But with support from Mercy Corps and USAID/OFDA, they can now access water and they can keep their livestock in the area instead of overstocking other areas. The soum governor and the deputy governor both said that Mercy Corps really helped them, this was a priority in their Pasture Management Plan, but they lacked the resources necessary to make it a reality.

I am very happy that our well has been repaired and we have water. Kazakhs say that “the worst suffering is the lack of water.” There are more than 30 herders here. Herders in Buyant soum can also benefit from this, as it borders AltAi Soum. We are 8-9 km away from the river. The companies that were previously called to repair the wells have not been able to do so. On behalf of our herders, I would like to wish all the best to MErCy Corps and Narmarjan (Well company), who provided us with clean water

- Herder S. Aitugan, AltAi soum, bayan-ulgii AIMAG

The following table details the rehabilitation projects, the contributions made, and impact.

“Before and After” Photos



Picture 3. Erdeneburen soum, Khovd aimag -- the well before rehabilitation



Picture 4. Erdeneburen soum, Khovd aimag - the well after rehabilitation



Picture 5. Khovd soum, Khovd aimag - the well before rehabilitation



Picture 6. Khovd soum, Khovd aimag - the well after rehabilitation

Table 4 Well Rehabilitation

Soum / Aimag	Results	Mercy Corps Contribution	Soum Contribution	Impact
Naranbulag, Uvs aimag	<p>Background: The well, 60 meters deep and located in Gunburd bagh, is called "Farmers' Well." The well was built during the socialist era at a state farm, which has since dissolved; the land is now owned by the soum. Prior to rehabilitation, the generator, pump, pipes and tubes, well house and trough had fallen to disrepair. In addition, the borehole was obstructed by mud.</p> <p>Rehabilitation: As part of rehabilitation the well company cleared the borehole of obstruction, and installed a new pump and generator. The soum and herders helped to construct the well house and trough.</p> <p>Challenges: There was some doubt that this well would have any water; the bore hole was completely obscured, and it was difficult to know if water would still flow. However, after clearing the mud and debris, after two days water was flowing very easily.</p> <p>Well Specifications: 1 L/sec yield, 19m statistical level, 25m dynamic level was rehabilitated into electric generator well and handed over to the soum:</p>	<p>10,029,816 MNT/ 3,565 USD Well contractor, QJ1.5 kWatt pump and 6.5 kWatt electric generator</p>	<p>4,080,000 MNT/ 1,617 USD Well house construction material, transportation cost, and unskilled labor</p>	<p>Reduced grazing pressure and improved land use for 16,886 ha of pastureland 171 herders from 55 herder households and more than 13,750 livestock (sheep head units) have access to water</p>
Davst, Uvs aimag	<p>Background: The well is called Khar del's well, and it is located in Khandgait bagh in Davst soum. The well, built in 2013, is 50 meters deep. Prior to rehabilitation, the generator, pump and well house had fallen to disrepair.</p> <p>Rehabilitation: The rehabilitation of this well included cleaning and repair of the borehole, procurement of new and appropriate solar powered smart inverter with control board, solar panel which controls the water flow/pumping, solar pump²³.</p> <p>Challenges: During rehabilitation the well company confirmed that the well was in fact 50m deep, in the original proposal the soum stated that it was 70m deep. This is a good illustration of why it was important for the soums to have certified contractors come and survey the well before they began rehabilitation.</p> <p>Well Specifications: 50m depth, 0.18 L/sec yield, was rehabilitated into fully automatic solar powered well and handed over to the soum.</p>	<p>10,205,000 MNT/ 3,628 USD Installation of new solar panels, solar inverters, solar pump, control panel, and environmentally friendly long-term cost-effective solar powered generator</p>	<p>2,100,000 MNT / 826 USD Fence netting, transportation cost, unskilled labor</p>	<p>Reduced grazing pressure and improved land use for 16,800 ha of pastureland 65 herders from 18 herder households and 12,000 livestock (sheep head unit) have access to potable water</p>

²³ Most wells in Mongolia are connected to generators, and herders have to carry their own gasoline to run the generator. But, with solar power that's not necessary.

Soum / Aimag	Results	Mercy Corps Contribution	Soum Contribution	Impact
Khovd, Khovd aimag	<p>Background: The well is called Shar Hargana, and it is located in Namarzan bagh. The well was built during the socialist era, and was deepened to 95 meters in 2004. Prior to rehabilitation the generator, pump, and well house have fallen to disrepair.</p> <p>Rehabilitation: To repair these issues the well company cleared the borehole, installed a new pump and a new generator. The soum repaired the well house and a trough for animals to drink out of.</p> <p>Well Specifications: 110m depth, 1.1 L/sec yield, 25m statistical level, 85m dynamic level was rehabilitated</p>	<p>10,325,208 MNT/ 3,671 USD</p> <p>Contractor for well rehabilitation, pump, generator</p>	<p>MNT 1,705,000 / 793 USD</p> <p>Transportation cost, unskilled labor, well house construction material</p>	<p>Reduced grazing pressure and improved land use for 8,382 ha of pastureland</p> <p>60 herders from 15 households and more than 14,900 livestock (sheep head units) have access to potable water</p>
Erdeneburen, Khovd aimag	<p>Background: The well is called Ulaanii Ar, and is located in Bayanbulag bagh, 25 kilometers away from Khovd soum center. The well was built during the socialist era. Although the pump was fixed once in 2018, it was broken again because pump is not capable of pumping water from the depth of 110m bore hole.</p> <p>Rehabilitation: To address these issues the well contractor cleared the bore hole, installed a new pump and a new generator that are both appropriate for the depth of the well. The well house was rehabilitated by the soum and community members.</p> <p>Well Specifications: 95m depth, 2.6 L/sec yield, 70m statistical level, 25m dynamic level was rehabilitated</p>	<p>10,333,566 MNT/ 3,674 USD</p> <p>Well rehabilitation contractor, pump, and generator</p>	<p>3,080,000 MNT/ 1,130 USD</p> <p>Transportation cost, unskilled labor, well house construction material</p>	<p>Reduced grazing pressure and improved land use for 8,380 ha of pastureland</p> <p>21 herder households and 15,660 livestock (sheep head unit) access to potable water</p>
Altai, Bayan-Ulgii aimag	<p>Background: The well is called Tunkheet, and it is located in Kharnuur bagh. The well was built during the socialist era in 1988, and is 30 meters deep. Previously, the generator, pump, and well house had fallen to disrepair.</p> <p>Rehabilitation: To repair these issues the well contractor cleared the borehole, installed a new pump and a new generator, as well as install a pipe for water flow.</p> <p>Well Specifications: Installation of 159 mm pipe, QJ-0.5-50 model pump, LEROBS - 3500 model generator</p>	<p>9,126,000 MNT/ 3,245 USD</p> <p>For well rehabilitation contractor, pump, and generator</p>	<p>1,300,000 MNT/ 467 USD</p> <p>For well house construction material, unskilled labor</p>	<p>Improved water flow and yield from the well, reduced grazing pressure and improved land use for 5,451 ha of pastureland.</p> <p>50 herders of 8 herder households and 12,000 livestock (sheep head unit) have been provided with access to potable water.</p>

Soum / Aimag	Results	Mercy Corps Contribution	Soum Contribution	Impact
<p>Bayanmunkh, Khentii aimag</p>	<p>Background: In Bayanmunkh soum, Khentii aimag, the soum wanted to fence two spring sources. The springs were often obstructed by livestock, and the water quality was poor because of the erosion and the litter that came into the spring. Rehabilitation: Two natural springs were fenced with steel fences to protect natural spring sources. This improved the water quality and clarity, and the water now flows faster and there is more water coming from the source, which is no longer obstructed by cattle. Technical Specifications: The metal fences were procured, in a fair and transparent process, from a company that is a Mercy Corps partner under the Resilient Communities' Program. The fence was installed by two herders' groups with help from the company. The company, on their own volition, provided a bench and a trash can for the area, too.</p>	<p>4,680,000 MNT / 1,672 USD Procurement of steel fencing and cement</p>	<p>1,970,880 MNT / 708 USD Workers to help install the fence, meals, and transportation for the fence including truck rental and fuel costs</p>	<p>Protected 14,000 ha of pastureland from degradation by improving land use, 72 herders from 19 herder households and 24,000 livestock (sheep head units) have access to clear water</p>
<p>Darkhan, Khentii aimag</p>	<p>Background: The purpose of the fence is to protect the spring origin so that it is not degraded and remains a reliable source of clean water. A wooden fence was chosen because the soum government determined that using timber would be the longest lasting, most environmentally friendly, and most practical way to fence this area. Rehabilitation: Almost 160 meters of fencing was built around each spring. The fences were built out of timber, and because the bedrock is near the surface in this area making it difficult to anchor posts in the ground, the fence is anchored by trestle poles. The fence used Mortise and Tenon joints, so there was no need for nails or screws. Challenges: There were some challenges when it came time to deliver the timber to the job site. The contractor that was hired could no longer supply the timber, so they took it upon themselves to locate another timber supplier. The contractor then paid for the increased transportation cost, and the cost of three extra segments of fencing.</p>	<p>8,030,000 MNT / 2,835 USD Procurement of fencing material</p>	<p>2,570,160 MNT / 923 USD Labor to establish the fence</p>	<p>Protected 7,600 ha of pastureland from degradation by improving land use 125 herders from 25 herder households, and 14,650 livestock (sheep head units) with access to clear water</p>

Soum / Aimag	Results	Mercy Corps Contribution	Soum Contribution	Impact
<p>Tolbo, Bayan-Ulgii aimag</p>	<p>Background: The feed that is kept in this shelter acts as an emergency feed fund for herders and livestock during harsh winters. Previously there was only storage for 40 tonnes of feed and fodder in the hay shelter.</p> <p>Rehabilitation: The project supported the extension of the existing hay storage structure by 16 meters' length x 6 meters' width, a sloping roof with highest point being 5 meters from the ground in the front and 4.5 meters at the back. The expansion created space to store an additional 40 tonnes, now a total of 80 tonnes of livestock feed and fodder can be stored.</p> <p>Regulations: As part of project implementation and operationalization the soum government agreed to develop regulations for utilization of hay storage by herders and farmers. These regulations will include rent price for using the hay storage, maintenance plan, and plan for how to spend the income from rent collected, it will be deposited in the soum development fund. The rental of the space will be approved by Soum Citizen's Khural (local parliament). The soum government will also develop a maintenance plan for the hay shelter.</p>	<p>6,174,727 MNT/ 2,206 USD Procurement of wood and materials to build the extension to the existing structure</p>	<p>MNT 3,000,000 / 1,077 USD Labor costs for the renovations to the storage</p>	<p>The new building allows an accommodation of 80 tonnes of hay per year and increases herders' resilience to overcome harsh winter situations. As a result, 187 herder households will have direct access to emergency hay reserves in the winter.</p>



Demonstrating Impact

“IMPROVING SOUM DISASTER PROTECTION PLAN USING LEGS TOOLS” WORKSHOP – SUMMARY REPORT

Leveraging Tradition and Science in Disaster Risk Reduction – 3 Project

Background

Soum Emergency Committees are responsible for developing and implementing soum Disaster Preparedness Plans (DPP) within the soum. Each DPP must be developed using certain methodology and based on approved templates (originally developed by MCM) provided by the National Emergency Management Agency (NEMA) and Deputy Prime Minister. However, members of local Emergency Committees often have different levels of skills and knowledge which affects the quality of the resulting DPP. There is a substantial need to regularly improve and update the plans to ensure they are meeting the criteria of the methodology and are changing as disaster risks shift. Therefore, in order to ensure local participation, MCM worked with aimag level LEMA to support soum Emergency Committee members to conduct and analyze soum risk assessments and improve their own Soum DPP based on the results.

DPP workshop

In June and August of 2020, Mercy Corps successfully organized a two-day DPP workshop in ten soums of the five LTS3 target aimags in collaboration with the Local LEMA. In total, 16 experienced trainers from LEMA and Mercy Corps conducted the workshop.

The purpose of this workshop was to improve and update the soum DPP for different types of natural hazards, other than dzud, using the Livestock Emergency Guidance and Standards (LEGS) tools and approach. The LEGS methodology was chosen for this workshop is because MCM had previously trained LEMA and soum governments in this methodology, so there were already certified trainers that could lead the DPP workshops. The LEGS methodology is also highly relevant in the Mongolian context as many people are herders and their livelihoods rely on the health and safety of their livestock.

During the workshop the facilitators trained Emergency Committee members in disaster risk assessment and disaster preparedness planning, and provided information about relevant Mongolian laws and policies on disaster management. The workshop covered the following topics:

1. Disaster protection law
2. Aimag-level disaster risk assessment results
3. Soum disaster risk assessment methodology
4. DPP development strategies
5. General soum-level disaster risk assessment methodology
6. Updating soum DPP based on the result of the risk assessment

Mercy Corps had originally planned to train around 100 people: ten people in each soum. However, local governments saw a lot of potential in the workshop and requested a higher number of Emergency Committee members attend. As such, the actual number of participants was higher than expected. A total of 146 emergency committee members (74 males and 72 females) participated in the workshop including soum governors, government officials, veterinarians, environmental inspectors, school and kindergarten directors, bagh governors, teachers, police officers, treasury officers and doctors.

The participants were divided into teams and completed the following tasks:

- 1) Conduct a general disaster risk assessment of their soum using participatory response identification matrix method and
- 2) Update the soum DPPs on the riskiest two to three hazards using the LEGS tools, DPP guidelines approved by the Deputy PM, and DPP template approved by the NEMA

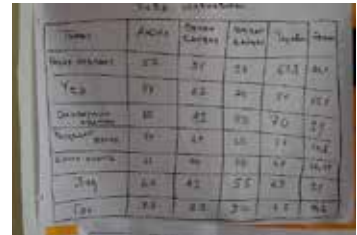
At the end of each workshop, LEMA and Mercy Corps reviewed the soum DPP and provided recommendations. The Committees will finalize them and submit to the soum governor and, eventually, LEMA, for approval.



Picture 7. Risk assessment in Erdeneburen soum, Khovd aimag



Picture 8. Introducing LEGS tools/ approaches in Darkhan soum, Khentii aimag



Picture 9. Risk assessment matrix in Erdeneburen soum, Khovd aimag



Picture 10. DRR plan Erdenet-sagaan soum, Sukhbaatar aimag



Picture 11. Workshop introduction in Tolbo soum, Bayan-Ulgii aimag



Picture 12. DPP in Naranbulag soum, Uvs aimag

Risk assessment

The following table presents results of the general risk assessment which identified natural hazards that pose the highest risk. The assessment was conducted by the participants using two methodologies adopted by the National Emergency Management Agency (NEMA): indicator tracking (which looks at the likelihood of each risk) and community-based disaster risk assessments.

Table 5.

	Soum	Participants		Highest risks by likelihood/ impact of risk	Proposed action plan to reduce the identified risk
		Male	Female		
1	Naranbulag	6	4	Flood: high risk Household fire: medium risk	-Build dam to prevent flooding -Place fire extinguisher at public places/ government offices
2	Davst	5	4	Flood: high risk Household fire: medium risk	-Build dam to prevent flooding -Place fire extinguisher at public places/ government offices
3	Altai	8	2	Flood: high risk Animal infectious disease: high risk	-Build or repair dam to prevent flooding -People will be warned/alarmed
4	Tolbo	8	2	Flood: high risk Animal infectious disease: medium risk	-Build or repair dam to prevent flooding -People will be warned/alarmed

DISASTER RISK REDUCTION

5	Erdeneburen	10	7	Flood: high risk Animal infectious disease: medium risk	-Repair Ulaan Uzuur bridge in Khongio bagh -Repair livestock dipping bath in Shurag bagh -Purchase water pump, automax to spray and disinfect livestock manure
6	Khovd	4	7	Windstorm: medium risk Animal infectious disease: medium risk	-Repair livestock dipping bath -Purchase water pump, automax to spray livestock and disinfect livestock manure
7	Bayanmunkh	4	6	Flood accident: high risk Steppe fire: high risk	- Place warning signs in whirlpools, deep shores and places where people get into drowning accidents - Conduct horse patrols and schedule patrol for members of disaster protection volunteer groups
8	Darkhan	9	3	Animal infectious disease: High risk Steppe fire: High risk	-Disinfection protective clothing, automax, water pump required - Placing warning boards on busy roads as there is a high risk of unidentified fires due to passers-by throwing lit cigarettes and matches
9	Erdenetsagaan	12	22	Animal infectious disease: medium risk Flood: high risk	- Necessary to improve and build the "Chono Gol" crossing. - Place warning boards (size 2x3) in soums to prevent disasters (floods and wildfires) -Disinfecting automax and animal washing water pumps are required for highly infectious animal diseases.
10	Bayandelger	8	15	Animal infectious disease: 71% In 2010, 2014, and 2016, there were outbreaks of FMD, and in 2015, there was an outbreak of sheep pox, causing an economic loss of 200-300 million MNT.	Disinfection automax and animal washing water pumps are required for highly infectious animal diseases. Install 2x3 warning boards to prevent and be alarmed of floods and wildfires In order to prevent steppe and household fires, 25 fire extinguishers and 50 handheld blowers are needed.
Total		74	72		

As a result of this workshop, soum emergency committee members have started updating their DPPs using LEGS tools and approaches. Also, the risk reduction section of the DPP has become clearer, presenting a systematic action plan to be implemented by the soum in times of disaster.



*Decree of the Bayandelger soum governor on updating the disaster protection plan



Demonstrating Impact

"BE READY" TOT TRAINING SUMMARY REPORT

Leveraging Tradition and Science in Disaster Risk Reduction – 3 Project

Background

The "Be Ready" module is a training kit developed by NEMA with the support of several governmental and non-governmental as international organizations such as World Vision, Red Cross Society, NAMEM, JICA, Zoonotic Disease Research Center and Institute of Teacher's Professional Development. The module is designed to educate the public about NEMA's disaster protection training program. Developed in accordance with order #A130 of Director of NEMA in 2016, this ten hour module/curriculum includes trainer's manual and training materials, as well as sign language video lessons, introductory lessons, and quizzes.

Training of Trainers

Using the “Be Ready” module, Mercy Corps Mongolia and the LEMA of five aimags jointly organized a Disaster Risk Reduction (DRR) Training of Trainers (ToT) in ten soums of five LTS3 target aimags in June and August of 2020. A total of 121 government officials (71 males and 50 females) participated in the training and received certificates to become local trainers.

At the ToT session, soum-level government officials become certified trainers, able to provide the “Be Ready” training to local herder households, institutions like schools or other government offices, and community groups, thus strengthening soum DRR capacity at all levels.

During the ToT, participants learned planning, prevention, and mitigation strategies for the following subjects: earthquakes, fire, climate change, forest and steppe fires, human and animal infectious diseases, floods, lightning, windstorms, use of household chemicals. The “Be Ready” methodology includes a focus on the development of household preparedness plans, for household level prevention and response to emergency situations enabling participants/ trainers to assess household risks and work with community participants to mitigate and plan to responses to those risks in the future. The ToT participants also received a “Be Ready” training manual and training package with interactive training software to support these community or household level post ToT sessions.

At the end of the training, the ToT participants selected one topic and practiced training on their own using the training materials. Upon the completion of the training, 121 participants and 29 LEMA officers (150 people total) received trainers’ certificates. Then, in order to effectively and efficiently provide these trainings in their communities and to herder households, in collaboration with the soum governors the ToT participants formed community training teams. The training teams then travelled to baghs around the soum to provide trainings.



Picture 13. “Be Ready” training in Erdeneburen soum, Khovd aimag



Picture 14. “Be Ready” training in Naranbulag soum, Uvs aimag



Picture 15. “Be Ready” training in Erdeneburen soum, Khovd aimag



Picture 16. “Be Ready” training in Davst soum, Uvs aimag



Picture 17. SMS test at the “Be Ready” training in Tolbo soum, Bayan-Ulgii aimag



Picture 18. “Be Ready” training in Bayandelger soum, Sukhbaatar aimag

“Be Ready” community training

150 certified trainers, in their community training teams, conducted trainings for bagh-level communities: herder households, high school students, and other soum residents. Between July 5 and 20 September, the local trainers conducted sessions 3,849 citizens (1,979 households) from 52 baghs in ten soums. The community-level training differed from the ToT because they were conducted in more informal settings, like inside schools and herders’ homes. The training topics for these community trainings were selected depending on the potential risks around the household, which was identified by the trainers and informed by the community members together.

The most frequent topics selected by community members for trainings were Dzud, Flood, Household Fire, Forest and Steppe Fire, and the use of household chemicals. Once topics were selected by participants, trainers provided information about common household hazards which are easily mitigated but can be devastating should they occur.

These hazards include: uncontained fires, improper chimney structure, failing to use designated ash pots, not having a lid on the ash pots, residing near high risk flood areas, crossing damaged bridges and roads, and delayed harvest which impacts winter preparedness. The trainers also provided advice on winter preparations and prevention of wildfires. In addition to the informative sessions from the “Be Ready” modules, trainers provided recommendations on how community members could do their own household risk assessment and reduce the risk on their own. Increasing a household’s capacity to mitigate and respond to disaster is critical to their safety and larger disaster risk reduction capacity of the soum.

A household risk assessment was also conducted by the trainers for each herder household. The households received around 25-45 points which indicates a high risk and a need to continue trainings. This household risk assessment methodology is one of the “Be Ready” module tools and is created to assess household participants. There are three categories which are herder household, ger district and apartments depending on the location and has a total of 20 questions. The level of risk is determined by scoring how the question is answered. The results are shared with local government officials, who are expected (as per LEMA guidelines) to incorporate the findings into their planning

and mitigation strategies.

The community level training participants shared their suggestions and feedback about what they learned during this training:

- Every household should have fire-fighting equipment for their own needs, such as a fire extinguisher
- The training was informative and they would like to have more such sessions at the household level
- Herders reported that they learned to prepare for and protect against disasters
- Herders learned to receive SMS alerts on their mobile phones. These alerts include 12 different topics: information on weather, pasture carrying capacity, pasture vegetation, summer, drought and snow, dzud, and dzud risk
- Participants reported that the lessons were simple and easy to understand
- This training was conducted at a good time as winter is approaching and risk of disaster increases

Conclusion

The ToT and the community trainings on the “Be Ready” curriculum is vitally important for the safety of soums and households alike. Ensuring soum level government officials and LEMA have the information and tools to train community members on DRR in a meaningful and productive ways helps households prevent and respond to emergencies. This training series has aided the institutionalization of DRR protocols and has strengthened the response mechanisms to disaster.



Demonstrating Impact

HAND-OVER OF DRR EQUIPMENT AND SUPPLIES TO TARGET SOUMS

Leveraging Tradition and Science in Disaster Risk Reduction – 3 Project

Background

In partnership with the LEMA under the Leveraging Tradition and Science in Disaster Risk Reduction-3 (LTS3) project, Mercy Corp’s five target aimags (Bayan-Ulgii, Khovd, Uvs, Sukhbaatar and Khentii) organized a workshop on “Improving Soum Disaster Protection Plan Using LEGS Tools” between June and August 2020 in ten target soums. A total of 146 emergency committee members participated in the workshop including soum governors, government officials, veterinarians, environmental inspectors, school and kindergarten directors, bagh governors, teachers, police officers, treasury officers and doctors. During the workshop, the participants conducted a disaster risk assessment and updated disaster preparedness plans (DPP) of their soums on the riskiest two to three hazards using LEGS tools.

Each updated DPP identified actions necessary to address these hazards and included a list of urgent supplies and equipment necessary to operationalize their plans. Based on the DPPs, target soum governors and aimag LEMAs submitted a formal request to Mercy Corps for DRR equipment.

The formal requests for equipment and supplies were based on an application form developed and shared with soum government officials by Mercy Corps. This form contained several questions related to the purpose, ownership and use of this equipment and alignment with the soum DPP. All applications were reviewed an internal selection committee consisting of LTS3 project staff. Since all ten soum-level proposals and five reuests from aimag-level LEMAs included clear linkages to the priorities identified in previous DRR trainings, the decision was made to fund all requests. Note that no funds were transferred to local governments or emergency committees; instead, Mercy Corps procured all materials on behalf of partners and distributed the equipment and supplies during the final months of the project.

Donation of the equipment and supplies

Mercy Corps procured and handed over DRR equipment worth 20,530,400 million MNT to ten soums of five aimags and 18,719,900 million MNT of equipment and supplies to five target aimag LEMAs. Reflecting local priorities identified through the DPP process, equipment includes fire extinguishers, warning sign boards, sprayers, civil defense sirens, water pumps, first aid training manikins, training table and chair. See the table below for detailed information.

Table 6: Type and number of equipment donated to each soum

Aimag	Recipient	Equipment donated
Uvs	Naranbulag	35 fire extinguishers, 2 sets of firefighting equipment
	Davst	35 fire extinguishers, 2 sets of firefighting equipment
	LEMA	20 training tables, 40 training chairs
Khentii	Bayanmunkh	10 warning sign boards
	Darkhan	4 warning sign boards, 1 water pump set (pump, pipe, hose, nozzle) and 2 sprayers
	LEMA	1 projector for training
Bayan-Ulgii	Tolbo	1 civil defense siren
	Altai	1 civil defense siren
	LEMA	2 civil defense siren
Khovd	Erdeneburen	2 water pump sets and 4 sprayers
	Khovd	2 water pump sets and 4 sprayers
	LEMA	4 first aid training manikins
Sukhbaatar	Erdenetsagaan	4 warning sign boards, 1 water pump set and 2 sprayers
	Bayandelger	2 water pump sets and 4 sprayers
	LEMA	10,000 copies of the "Be ready" training brochure

Uvs Aimag

Naranbulag and Davst soums identified floods and house/ wildfires as hazards that pose the highest risk during the risk assessment conducted at the DPP workshop. These two soums did not have any firefighting units and the nearest unit is located 100 km from the soums.

Mercy Corps and the soum administrations selected five most frequently visited public organizations for donation of fire extinguishers: soum governor's office, health center, kindergarten, public school and the cultural center. According to the governments' fire protection standards approved by the government, there must be at least one fire extinguisher per 20 m² of building area- meaning that these five organizations needed on average 70 of extinguishers. Mercy Corps procured and handed over 50% of the total requirements – a total of 35 extinguishers or 7 per organization. The soum government in Naranbulag expressed their commitment to follow these fire protection standards and include procurement of the remaining 35 fire extinguishers in the soum budget for the next year. "We are happy to have introduced the fire protection standards with the help from Mercy Corps. We will definitely allocate some funds in the budget to buy fire extinguishers next year. And we will work with other organizations in the soum to encourage them to these requirements," says the governor of Naranbulag soum.

In addition, Mercy Corps donated two sets of firefighting equipment per soum. Each set contains the following items: fire blanket, first aid kit, ventilator mask, crowbar, and a fire extinguisher. In Naranbulag soum, the hospital and school received firefighting sets, whereas in Davst soum the governor's office and school received firefighting sets. During the hand-over ceremonies, which took place in early November 2020, Mercy Corps provided instructions on how to use and maintain this equipment.

On November 7, Mercy Corps donated 40 chairs and 20 desks to the Uvs LEMA. The chairs and desks will be used to organize DRR trainings for soum officials, local citizens, tourists at the Training and Monitoring Center near Khyargas Lake run by LEMA. It is anticipated that 2,000-3,000 people will attend the DRR trainings annually at this center.

Khentii aimag

According to the disaster risk assessment, the highest risk hazard for Bayanmunkh soum was flood and steppe fire. Every year three or four people drown in the Kherlen River flowing through the soum. This year a wildfire caused by irresponsible activities of people was barely extinguished before it ran out of control. As a result, the soum leaders updated the DPP to including erecting ten boards along the river and



main road to warn people about the dangers of fire and deep rivers. Mercy Corps traveled to Bayanmunkh soum on November 9, 2020 to hand-over ten warning sign boards with light reflectors to the governor's office and environmental inspectors that work there. Four of the signs warn of dangers of steppe fire and six of them remind people about the risks of drowning. The soum emergency commission erected the boards on the road to the aimag center and Darkhan soum.

Darkhan soum is located at the cross-roads between Khentii aimag and central and the western aimags of Tuv, Gobi-Sumber, Dundgobi, Uvurkhangai. Herders from these aimags and soums frequently travel through Darkhan soum for "otor." "Otor" is moving beyond traditional areas to other soums or aimags in search of better pasture for the winter. Herders do "otor" only during extreme situations, when there is no grass available locally for animals due to drought, heavy snow, etc. Frequent travels and "otors" raise the risk of spreading infectious animal diseases and wildfires. The soum administration requested Mercy Corps to purchase four warning sign boards to raise awareness of local communities- as well as those passing through on "otor" about the dangers of steppe fire and infectious diseases. In addition, Mercy Corps donated one set of water pump and two sprayers for deworming and disinfection to the soum administration.

Khovd Aimag

According to the disaster risk assessment, floods and infectious diseases came up top in Khovd and Erdeneburen soums as the riskiest hazards. The soums have funds to repair bridges and dams, but requested Mercy Corps to provide disinfection tools and equipment to prevent outbreaks of infectious animal diseases.

On November 11, 2020, Mercy Corps donated two water pump sets and four sprayers to Khovd soum administration. Khovd soum is the center of Khovd aimag. Because it has the largest population, all key government organizations, private businesses and factories operate here. As such, local leaders recognize that an outbreak of infectious disease would have serious impact on health and economy of the aimag.

Thus, as part of their efforts to prevent the spread of TADS, very year, the soum veterinary unit conducts three major disinfection campaigns. Every spring and autumn, animal shelters and barns get disinfected, and every summer, all livestock receive disinfection services. It is estimated that around 180 thousand heads of livestock of 411 herder households would receive disinfection services. The equipment distributed under the LTS3 program will support these annual disinfection efforts, and will also be available for emergency veterinary teams to use when dispatched to the site of potential outbreaks.

Erdeneburen soum has over 175 thousand heads of livestock owned by 405 herder households and is prone to animal infectious diseases. For instance, the soum was affected by an outbreak of anthrax in 2010, PPR and goat pox in 2016 and rabies for the last three years in a row. It caused up to 18.5 million MNT (7,042 USD) in damages.

The newly procured equipment will be used by the state vets for emergency services and seasonal disinfection activities: disinfection of animal shelters and barns in spring and autumn, and disinfection of livestock in July-August.



In addition, on November 18, 2020, Mercy Corps donated four first aid training mannequins to the Khovd LEMA. LEMA currently has a simple classroom where they show videos and hold meetings. They plan to refurbish and turn this room into a practice room. These trainings will be attended by LEMA staff, professional rescue teams, ordinary citizens, and students to

practice rescue and emergency life support simulations. The LEMA anticipates that the mannequins will make their first aid trainings more effective and closer to real life.

Bayan–Ulgii Aimag

The disaster risk assessment conducted in July 2020 identified floods, wildfires and dzuds as hazards that pose the highest risk in Tolbo and Altai soums of Bayan-Ulgii aimag. At the workshops, training participants worked on a plan to reduce risks of flood in those soums. Altai and Tolbo soums are surrounded by high mountains and the likelihood of all types of flood due to melting snows or rains is very high. The participants agreed that the priority for the soums was to acquire a means to warn soum citizens, emergency commission members and rescue teams about floods.

The soums already have small manual sirens. However, since these sirens are not powerful enough to reach all citizens, the soums requested Mercy Corps to donate more powerful electric sirens. These were handed over to the soum administrations in early November.

In addition, the Bayan-Ulgii LEMA requested and received two sirens. The aimag center was struck by flood twice: in 2016 and 2018. These floods destroyed houses and affected lives of 2,512 people from 530 households causing over ten billion MNT (3.8 million USD) in damages. The LEMA has a siren at the aimag center, but it could reach only ten% of the population. The new sirens donated by Mercy Corps are much more powerful and able to reach over 14,000 citizens residing on two banks of the river most likely to suffer from sudden floods. The sirens were installed on the roof of the public school located in the area that regularly gets flooded in summer.

Sukhbaatar aimag



According to the risk assessment, floods, infectious diseases and steppe fires pose the highest threat to Erdenetsagaan soum. The soum disaster preparedness plan included measures to prevent people from drowning and to control spread of animal diseases. The soum has a river flowing through the soum center and, since 1996, there have been ten big floods that have

killed local residents. In addition, infectious animal diseases are quite frequent in this area: outbreaks of foot-and-mouth disease (2014, 2015, 2017, and 2018) and goat pox (2012) affected herders' livelihoods and caused damages worth up to 20 million MNT. On November 24, 2020, Mercy Corps donated four warning sign boards, one set of water pump and two sprayers to the soum administration. The boards will be erected along the Chono River and will warn residents of the dangers of flood and drowning. The pump and the sprayers are expected to disinfect 200 thousand heads of livestock in the soum. The equipment will be used in case of emergency or during seasonal disinfection activities that take place throughout the year: disinfection of shelters and barns in spring and autumn and disinfection of animals in summer.

Bayandelger soum lies in the desert region and is prone to infectious animal diseases and fires in buildings. The soum prepared firefighting tools and equipment but lacks the means to control infectious diseases. On November 25, Mercy Corps traveled to the soum to donate two water pump sets and four sprayers to the soum administration. This equipment will be used for disinfection services of all animals. Animal diseases like rabies, FMD and goat pox are rampant in the soum and negatively impact livelihoods of local herders. For instance, the losses incurred by herder households in 2015 are estimated at 300 million MNT (114,199 USD).

Meanwhile, the aimag LEMA requested that Mercy Corps provide 10,000 copies of the "Be Ready" training brochure. This will enable the Sukhbaatar LEMA to organize "Be Ready" DRR trainings for soum citizens, rescue teams, students. Due to budget constraints, LEMA has unable to print out and distribute promotional materials to past training participants. These copies of "Be Ready" training brochure provide a perfect opportunity for the LEMA to improve effectiveness of DRR activities in the aimag.

Impact

The donation of various DRR equipment and supplies had a significant impact on building DRR capacities of target ten soums and five aimag LEMAs.

The donated equipment and supplies will allow LEMA to organize DRR trainings for local citizens and rescue teams, warn people about the dangers of fire and floods, and disinfect livestock to reduce risks of infectious diseases. Moreover, this donation will strengthen the commitment of local leaders to partner with local communities to mitigate disasters, encourage local initiatives aimed at reducing risks of disasters and build local capacities to protect against and prevent natural and human-made disasters which will eventually lead to establishment of safer and healthier rural communities.

Eight types of supply and equipment were donated by Mercy Corps. The total value of donation was 39.25 million MNT (14,941 USD). The estimated number of all beneficiaries is more than 54,000 people. See the table two for more details. The beneficiaries include herders who benefit from disinfection of animals and shelters, school kids and hospital staff and patients who feel much safer due to availability of fire extinguishers in the building, LEMA staff who can now improve effectiveness of their trainings with new mannequins, chairs, desks, projector, local residents living in flood or fire high-risk areas who can instantly receive warnings about upcoming flood or fire, and visitors from other soums and aimags informed about the dangers of steppe fire and fast river streams.

Table 7: Value of donations and estimated number of beneficiaries

Aimag	Value of donation, MNT	Estimated No of beneficiaries
Bayan-Ulgii	5,280,000	17,100
Khovd	10,269,200	4,500
Uvs	10,732,000	9,800
Khentii	6,267,200	7,400
Sukhbaatar	6,701,900	16,000
Total	39,250,300	54,800

Aimag and soum government, LEMA, school and hospital staff expressed their gratitude to Mercy Corps and USAID for timely donation of DRR supplies and equipment and reiterated their commitment to use the donated equipment and supplies to reduce and prevent risk of disasters. The number and severity of disasters such as infectious diseases, fire and flood is constantly growing and the donation of this important supplies and equipment will undoubtedly help build capacity of the local government and citizens to prevent from and protect against disasters.

B. Toilat, epidemiologist and head of veterinary unit of Khovd soum:

We identified flood and infectious diseases as hazards posing the highest risk in our soum. We are happy to have received disinfection equipment from Mercy Corps. We plan to disinfect over 166 thousand animals of 406 herder households using this equipment.

A. Ozat, chief of governor's office, Altai soum, Bayan-Ulgii aimag:

There was a fire in the school dormitory in 2014. We didn't have any equipment to warn the students. The building was completely destroyed by fire. In 2015, flood caused by incessant rains damaged two buildings. Again, we didn't have any means to warn people. Mercy Corps donated to us an electric siren that is loud enough to be heard by all people.

Sh. Otgonjargal, Chief of Darkhan soum Governor's Office, Khentii aimag

Our soum has more than 255 thousand animals and 346 herder households. In 2018 and 2019, we had an outbreak of rabies. The governor's office, herders and private veterinarians will use the disinfection equipment to remove dead animals and prevent infectious diseases.



Demonstrating Impact

PDS INSTITUTIONALIZATION WORKSHOPS

Leveraging Tradition and Science in Disaster Risk Reduction – 3 Project

Background

In 2019 Mercy Corps partnered with the United States Agency for International Development's Office of U.S. Foreign Disaster Assistance (USAID/OFDA) to design and launch the Leveraging Tradition and Science in Disaster Risk Reduction, Phase 3 (LTS3). LTS3 is a one-year project that builds upon six years of investment by OFDA in DRR and Livestock through Mercy Corps in Mongolia. LTS3 is implemented across 5 aimags: Khovd, Uvs, Bayan-Ulgii, Khentii, and Sukhbaatar, but PDS is not implemented Uvs.

The LTS3 project aims to reduce vulnerability of herder households in Mongolia through increased disaster risk preparedness, more effective rangeland management, and improved capacities to mitigate the risks of transboundary animal diseases (TAD). One of the main activities of this project is to integrate Participatory Disease Surveillance (PDS)

approaches and tools into on-going veterinary initiatives to improve local capacity to prevent, control, and respond to TAD outbreaks.

Since 2001, new and re-emerging diseases and transboundary animal diseases (TAD) have been an increasingly serious problem in Mongolia that threatens the food security of herding families and their dependents. Currently control measures are applied only during outbreaks and there is no continuous or early surveillance system in Mongolia. Against this backdrop, PDS has emerged as one of the most successful ways to identify early, mitigate, and manage TADs.

PDS is the application of participatory methods to epidemiological research and disease surveillance. It is a proven technique that overcomes many of the limitations of conventional epidemiological methods while also directly involving local stakeholders such as veterinarians and herders in conducting health surveillance and research. The approach was originally developed for small-scale community animal health programs, then applied to large-scale international disease control efforts by PENAPH, the Participatory Epidemiology Network for Animal and People Health. Starting with the previous phase of the LTS project, Mercy Corps and the GAVS have been collaborating to incorporate PDS approaches into the government policy of animal disease surveillance systems in Mongolia. As the LTS3 project commenced in September 2019, the two parties signed an MoU to continue their partnership for further institutionalization of PDS approaches at national and local level.

As part of the institutionalization efforts, the partners agreed to conduct a series of national and aimag-level workshops and meetings with national and local stakeholders. In 2019 and 2020, Mercy Corps and GAVS organized three national-level workshops in UB and six aimag-level workshops. A total of 257 state and private veterinarians, academic stakeholders, and government partners at national and local levels attended the workshops. The workshops focused on introducing our stakeholders in the veterinary sector to PDS approaches and tools, PDS certification process, and achievements and results of the PDS component of the LTS3 project.

National Level Meetings and Workshops

National Level Meetings

All LTS3 PDS activities were planned, designed, and delivered in close partnership with GAVS. Mercy Corps staff were in constant communication with relevant decision makers as well as the PDS Trainers. In addition, throughout implementation, the two partners met frequently to ensure alignment of project activities with government policies and strategies. A few of the critical meetings between GAVS, Mercy Corps, and other key PDS stakeholders are summarized below.

Meeting with GAVS, PENAPH and WCS

At the request of the GAVS, Jeff Mariner, the general coordinator of PENAPH, visited Mongolia on August 5 - 21, 2019, as a part of the SNAPP project (of WCS) to support the surveillance efforts to eradicate PPR and Pox animal diseases in Mongolia. During his visit, he completed the following activities:

- Delivered certificates to the four PDS trainers;
- Provided recommendations on the field study, reports and PDS findings
- Discussed current surveillance practice and the institutionalization of PDS in Mongolia with the GAVS, shared ideas on the opportunity to apply PDS tools in different projects.

On August 12, 2019, a meeting was held at the GAVS office to discuss the use of PDS in veterinary surveillance systems, and participation of stakeholders in TAD surveillance and integration of the on-going capacity building effort in participatory surveillance with specific national disease control initiatives for FMD and PPR. The meeting was attended by 10 people: Mercy Corps Country Director and a Program Manager, PENAPH coordinator, Country Director of Wildlife Conservation Society (WCS), Deputy Director of GAVS, Head of Animal Health Division of GAVS, Specialist on TAD, Animal Health Division of GAVS, specialist of new and re-emerging diseases, Animal Health Division of GAVS; Executive Director of Mongolian Veterinary Epidemiologist' Association, Director and Researchers of State Central Veterinary Laboratory.

During the meeting the participants discussed:

- The importance of capacity building trainings for epidemiologists and veterinarians;
- Effective collaboration between key stakeholders on PDS certification process;
- The importance of further institutionalization of PDS approaches; and
- Importance of implementation of sero-surveillance and outbreak studies in Mongolia

As the Director of PENAPH, Dr. Mariner provided his insights and recommendations on improving the current surveillance practice in Mongolia, collaboration between the national and local stakeholders on the institutionalization of PDS, and use of PDS approach in the eradication and control of TADs. He also shared conclusions from a recent joint field trip to Khovd, where experts from Mercy Corps, Wildlife Conversation Society, and the aimag veterinary department conducted focus group discussions with local herders to profile the animal health situation in communities, identify outbreaks of PPR and FMD, and build participatory risk maps at the soum and aimag level. The mission group then developed a recommendation document which provides a framework for the integration of the on-going capacity-building effort in participatory surveillance with specific national disease control initiatives for FMD and PPR.

In addition, at the meeting Dr Jeff Mariner presented certificates to the four newly-certified PDS trainers, including Mercy Corps' project manager Enkhtuya. The Certificates confirmed completion of a 6-8 months' long processes that included training, field work,

research, writing a research paper, Training of Trainers session, conducting training, and overseeing field research conducted by other practitioners. Lastly, as a result of this meeting, GAVS and Mercy Corps agreed to sign an MoU to confirm their partnership in the institutionalization of PDS and expressed their commitment to collaborate on the implementation of “Saiga Health Interventions” pilot project of WCS.

Signing of MOU with GAVS

In December 2019, Mercy Corps and the GAVS signed a Memorandum of Understanding (MoU) to incorporate the PDS approach into the government policy and practice for detection, prevention and control of TADs, build capacity of local veterinarians in PDS methodology, inform decision makers at all levels of government on PDS methodology, and support local veterinarians to become PENAPH certified practitioners. Under this MoU, the GAVS appointed a national focal point of PDS and agreed to promote PDS tools among local communities, herders, veterinary services, and governments throughout the project period.

Meeting with PDS Master Trainer and GAVS

On February 13, 2020, Mercy Corps and the PDS Master Trainer (who was observing and guiding PDS training in Mongolia) met with senior level GAVS officials. The objective of the visit was to discuss GAVS plans regarding the PDS methodology, and future steps to institutionalize PDS approaches into GAVS strategies and priorities for 2020. During the meeting, the partners agreed on the plan for further institutionalization activities including PDS training, field studies, workshops, and meetings. The GAVS experts demonstrated to Mercy Corps the advantages of the information management system/database operated by the GAVS.

This information system contains all data related to veterinary sector in Mongolia: plans and activities of the national and local GAVS branches; requests for veterinary help and service provided, number and types of veterinary certificates issued, import and export of meat, animal diseases, number of livestock and herder households, information on private veterinary units, supply, sales and availability of veterinary drugs and medicine. The soum veterinarian is responsible for entering relevant data into the system. For instance, the date of request for veterinary help made by a herder, type of service provided by a local veterinarian, drugs and medicine prescribed and procured, diagnosis results and so on are tracked in this database.

And finally, the partners discussed how PDS approaches can be integrated with the government’s on-going surveillance activities.

National level workshops

In addition to the small, high-level meetings described above Mercy Corps and GAVS jointly organized three national level workshops during 2019 and 2020, in Ulaanbaatar city. The goal of all these workshops was to introduce the PDS tools and approaches to key national government decision makers, explore ways in which PDS can link with on-going surveillance efforts, and contribute to the institutionalization of the approach within GAVS.

1. PDS Introductory Workshop

The first PDS workshop was organized on 17 December 2019. Twenty-five representatives of key national government decision makers attended the workshop including: GAVS, Ministry of Food, Agriculture and Light Industry (MOFALI), State Central Veterinary Laboratory (SCVL), Mongolian University of Life Sciences (MULS), Veterinary Department of Ulaanbaatar, General Agency for Specialized Investigation (GASI), General Authority for Border Protection, National Emergency Management Agency (NEMA) and Epidemiology Association. The participants discussed the importance of PDS methodology, learned about LTS3 project activities and the partnership between GAVS and MCM, shared initial thoughts and ideas on how to incorporate PDS tools into the national surveillance system, and how to train local veterinary units to use that methodology. In addition, PDS trainers presented their field study reports, sparking active debate and discussion amongst the participants- some of whom were initially skeptical of a participatory approach to epidemiology. By the end of the workshop, most participants agreed that PDS is a very effective and cost-saving method that can involve a large number of people in the surveillance process. Therefore, GAVS has been supporting all PDS activities at national and local levels despite delays and challenges caused by the global COVID19 pandemic during the project period.

2. Animal disease handbook discussion and review workshop

The second workshop was held on June 18, 2020. Mercy Corps invited experts from GAVS to comment and provide feedback on a draft of the handbook, titled the Common Animal Diseases. This handbook describes the symptoms, prevention, and protection tips for the 25 most common animal diseases. The handbook was written in simple language for herders, with color pictures, and included some parts of the Animal Health Law directly relevant for herders.

This handbook was developed by experts from the Research Institute of Veterinary Medicine who used the findings from the PDS field study. Total of 20 people, including 12 experts from GAVS, two PDS trainers, three members of the animal health consultant team and three Mercy Corps experts reviewed and discussed the handbook. By discussing the handbook, Mercy Corps introduced main activities implemented under the PDS component and shared the results of the PDS field studies. The workshop provided a

great opportunity to demonstrate to the workshop participants the value of information provided by herders in on-going prevention and detection efforts. The experts reviewed each of five categories of the handbook and discussed what kind of information about the certain animal diseases should be provided to herders. At the end of the workshop, the handbook content was finally confirmed and 17,500 copies of the Common Animal Diseases handbook were printed in September 2020 and distributed during October-November 2020 to herders in five target aimags.

3. PDS Institutionalization Workshop

As part of the close out of the LTS3 program, Mercy Corps and GAVS organized the third national level workshop in Ulaanbaatar on 14 October 2020. The objective of the workshop was to share PDS project accomplishments and results, and discuss further plans for institutionalization of the PDS approach with key national decision makers in the veterinary sector.

The event was attended by 30 veterinary experts including the representatives from government and non-government organizations such as the GAVS, SCVL, MULS, Research Institute of Veterinary Medicine, PDS Consulting firm and Association of Mongolian Epidemiologists.



Picture 19. PDS institutionalization workshop with national GAVS authorities, October 2020

The agenda for the workshop consisted of the following sessions:

1. Presentation of the PDS system, PDS tools and approaches
2. Presentation of field study reports
3. Discussion on the importance of the PDS/PE methodology in early detection and surveillance of animal diseases
4. Introduction of the Common Animal Diseases handbook for herders

The GAVS experts expressed their satisfaction about the progress towards institutionalization of the PDS approaches in Mongolia. Also, the GAVS committed to continue PDS training and institutionalization efforts after the project close-out in the remaining 17 aimags of Mongolia. The agency has plans to conduct PDS trainings in five aimags under new projects implemented by the World Vision and funded by the World Bank in 2021.

Aimags Level Workshops

In addition, in collaboration with GAVS and aimag veterinary departments, Mercy Corps successfully organized LTS3 close-out workshops focused on PDS in Khovd, Bayan-Ulgii and Khentii aimags in October and November 2020. The close-out workshop with Sukhbaatar aimag veterinarians was postponed due to COVID19 nationwide lockdown and took place on December 17, 2020 in online format. The four workshops were attended by a total of 221 private and state veterinarians – including newly certified PDS practitioners - and epidemiologists from each soum and aimag-level veterinary department.

The main objectives of aimag-level PDS workshops were to:

- Introduce the PDS methodology and PENAPH certification process to the veterinarians;
- Share the results of PDS activities completed under LTS2 and LTS3 projects;
- Present the findings of the field studies conducted in target aimags and discuss how to use the findings for planning of veterinary activities;
- PDS practitioners develop one-year plan to further institutionalization of PDS methodology in their own aimags; and
- Present “PDS Practitioner Certificates” to the 28 out of 37 veterinarians who have successfully completed their PDS training and field studies

During the workshops, the participants were introduced to the new “Common Animal Diseases” handbook. This handbook helps herders better understand and identify animal disease symptoms and 17,500 copies of the handbook were distributed to herders in all of the soums in target aimags by the soum vets who attended the workshop.

PDS workshop in Khentii aimag

A PDS workshop was organized in Khentii aimag by Mercy Corps in collaboration with the Aimag Veterinary Department on November 10, 2020. The event was attended by 42 state and private veterinarians, aimag and soum epidemiologists, and the head of the aimag Veterinary Department.

Ten soum veterinarians and epidemiologists from Khentii aimag, who were selected by Mercy Corps and GAVS, successfully completed the PDS training sessions and were certified as PDS practitioners. During the workshop, these PDS practitioners presented their findings from the PDS field study conducted in three soums of Khentii aimag (Bayan-Adarga, Norovlin and Binder) and discussed how to use the findings for planning

veterinary service activities with fellow veterinarians

Some of the key findings of PDS field study in Khentii aimag include:

- Foot and Mouth Disease (FMD), hypodermosis and anthrax are the leading causes of livestock death in Bayan-Adarga and Norovlin soums;
- Livestock movement, lack of access to quality veterinary services, and proximity of infection area are the key factors that contribute to the occurrence of cattle diseases in Bayan-Adarga and Norovlin soums;
- Poor quality and accessibility of veterinary services affects animal health in Binder soum;
- Parasitic and other diseases caused by severe weather conditions such as ceonurosis, mange, necrobacteriosis, white muscle and eye disease were the most dominant
- Currently, there are no veterinarians at the soum level in Mongolia who can treat ceonurosis, so animals diagnosed with ceonurosis are most likely to die;
- Only 61% of participating herders obtain a certificate of traceability (veterinary certificate) when moving to different locations; and
- 84% of participating herders want to have their livestock tested for brucellosis and are also willing to pay for such veterinary service

In addition, a representative from GAVS – who is also a PDS trainer- introduced the new online data system from GAVS, and shared the latest updates and plans from GAVS on animal disease surveillance in Mongolia. Guided by the PDS practitioners, non-PDS veterinarians practiced PDS approaches and tools to identify the most prevalent and harmful animal diseases in their soums, and calculated animal morbidity and mortality rates as well as the negative impact of animal diseases on the livelihoods of herders.

At the end of the workshop, the PDS practitioners developed an Action Plan for the Khentii aimag Veterinary Department for 2021 to improve animal health in the aimag. Proposed activities will be fully funded and supported by the Veterinary Department of Khentii aimag. See the table below:

Table 8: Action Plan of the Khentii aimag Veterinary department for 2021

#	Activities	Location	Date
1	Share the latest updates about veterinary services with local residents	All soums	2020-2021
2	Conduct trainings to improve reporting, communication and epidemiological research skills of state and private veterinarians	Aimag and soum centers	2021
3	Carry out cattle brucellosis surveillance	Dadal and Binder soums	May-Jun 2021
4	Conduct PDS field study	Umnudelger and Delgerkhaan soums	2021

5	Study symptoms of rare animal diseases: excessive hair loss, diarrhea and lung inflammation	Aimag Veterinary Lab	1st and 2nd quarter of 2021
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PDS Workshop in Bayan-Ulgii aimag

In collaboration with Bayan-Ulgii aimag veterinary department, Mercy Corps conducted a PDS workshop in Bayan-Ulgii aimag on October 20, 2020. A total of 36 private and state veterinarians from 13 soums and aimag veterinary department participated in the meeting including 4 local veterinarians who received certification from PENAPH and became PDS practitioners. During the workshop the participants practiced PDS focus group discussions facilitated by a PDS practitioner. The PDS practitioners also presented the results of their field work performed in four soums of Bayan-Ulgii aimag: Altai, Sagsai, Tsengel and Bulgan and Ulaankhus.

Key findings of the field studies include:

- The most prevalent parasitic diseases affecting livestock are helminthiasis, lice and mange;
- White muscle disease was also mentioned frequently by the herders as the most common endemic disease in Bayan-Ulgii aimag; and
- The main cause of these diseases are a lack of dipping baths, irregular disinfecting activities, and short supply of mobile disinfecting sprayers, vaccines and low quality of veterinary drugs and medicines. White muscle disease is mainly caused by nutrient and vitamin deficiency.

At the end of the workshop, PDS practitioners developed an action plan to improve animal health in Bayan-Ulgii aimag for 2021. The aimag Veterinary Department officials pledged full support for the implementation of this plan.

Table 9: Action Plan of the Bayan-Ulgii aimag Veterinary department for 2021:

#	Activities	Location	Date
1	Conduct PDS focus group discussion with herders on the most common animal diseases	Bugat, Ulgii, Bayannuur, Altantsugts, Nogoonnuur soums	Nov-Dec 2020
2	Introduce the PDS methodology and findings of the field study to local state and private veterinarians	All soums of Bayan-Ulgii aimag	Dec 2020
3	Train local epidemiologists to use PDS tools: focus group discussion, data integration and analysis	Aimag center	Feb 2021
4	Conduct PDS field study	Ulaankhus, Deluun, Altai and Tolbo soums	Mar-Apr 2021
5	Conduct study on infectious, non-infectious and endemic diseases using PDS approaches	Aimag Vet Department	June 2021

PDS Workshop in Khovd aimag

The workshop was organized jointly by Mercy Corps and the aimag Veterinary Department on October 23, 2020, at Khovd aimag center. A total of 96 individuals participated in the workshop including private and state veterinarians from 17 soums, aimag government officials, representatives from the aimag Veterinary Department participated in the meeting. The list of attendees included 14 PENAPH-certified PDS practitioners from Khovd aimag, Director of Animal Health Department of GAVS, Khovd aimag governor and a Member of Parliament representing Khovd aimag.

During the event, GAVS provided information about their current activities, progress, and results achieved in the animal health sector and the participants discussed challenges faced by local veterinarians. The PDS practitioners presented findings and results of 6 field work studies conducted in 13 soums of Khovd aimag.

Some of the key findings from the field studies include:

- The most prevalent livestock diseases in Khovd aimag are strangles, lice and mange. Cases of coenurosis increased in recent years, with young animals becoming more ill and highly contagious;
- The herders reported that the number of animals suffering from plant poisoning increased in recent years which resulted in high mortality rates;
- Quality of anti-parasitic services (dipping and deworming) in all target soums is low;
- Uncontrollable growth of livestock numbers and poor pasture management leads to overgrazing and rangeland degradation. Animals suffering from lack of nutrition are prone to all sorts of animal diseases; and
- The occurrence of contagious agalactia remains high due to the lack of disinfection activities and short and irregular supply of vaccine



Picture 20. Certified PDS practitioners during PDS workshop in Khovd aimag, October 2020

At the end of the workshop, PDS practitioners developed a one-year action plan to improve animal health service in Khovd aimag.

Table 10: Action Plan of the Khovd aimag Veterinary department for 2021

#	Activities	Location	Date
1	Share the results of field studies conducted in Mankhan, Erdeneburen and Buyant soums with aimag veterinary department	Mankhan, Erdeneburen and Buyant soums	2021
2	Conduct PDS field study	Tsetseg, Darvi, Zereg and Durgun soums	2021
3	Organize awareness raising activities for herders about veterinary laws, regulations, veterinary services and veterinary medicines	All soums	2021
4	Conduct research on rare endemic diseases using PDS approaches	Altai, Uench, Must, Munkhkhairkhan soums	2021
5	Study equine strangles in and differentiate equine strangles from equine influenza.	Altai soum	2021
6	Develop and approve the Action Plan for the Prevention of Parasitic Diseases in Khovd Aimag	Aimag Vet Department	2021
7	Control number of street dogs and provide veterinary services to dogs	Jargalant, Buyant soums	Mar- Apr 2021
8	Develop and share with herders guidelines on the treatment of animals suffering from poisonous plants, such as ranunculus, oxytropis	All soums	3rd quarter of 2021
9	Improve quality of livestock dipping by introducing advanced technologies	Aimag Vet Department	2021
10	Conduct study on local endemic diseases such as white muscle, retained placenta, fluoride poisoning, and young animals mineral deficiency	All soums	2021

PDS workshop in Sukhbaatar aimag

A PDS workshop was organized in Sukhbaatar aimag by Mercy Corps in collaboration with the Aimag Veterinary Department on December 17, 2020. The event was originally scheduled to be held in November, but due to COVID19 restriction, it was postponed and took place in December in online format.

A total of 47 individuals participated in the workshop including private and state veterinarians from 14 soums, the aimag Veterinary Department and representatives from GAVS, FAO, and PDS practitioner from Khovd aimag.

During the event, the organizers provided information about PDS institutionalization in Mongolia and four PDS practitioners presented findings and results of field work studies conducted in four soums of Sukhbaatar aimag.

Key findings of PDS field study in Suhbaatar aimag include

- Cases of venereal disease of horses (Equine Dourine) are low (0.012%) in Khalzan soum. However, the risk of infections is high due to frequent horse trades that are very popular in the aimag. It is necessary to organize meetings and consultations between horse traders, experts, veterinarians on horse diseases and conduct a veterinary assessment of all breeding horses in Khalzan soum.
- Most prevalent infectious animal diseases in Tuvshinshiree soum are FMD and mange. Herders had experience and knowledge about FMD because this disease spread through the aimag in 2010, 2014, 2017 and some soums even experienced full lockdowns for 1-2 months
- Increasing cases of FMD, mineral deficiency and osteodystrophy are worrying herders of Dariganga soum
- There are no vets who could treat Coenurosis, prices of mange and other parasitic diseases are high in Dariganga
- Outbreak of Peste des Petits Ruminants (PPR) took place in Dariganga soum in 2017, but herders didn't receive any information about risks and impact of this disease
- In Sukhbaatar soum, cases of non-infectious diseases are growing and affecting productivity of animals. Animals grazing near mining sites are drinking from polluted water sources. Herders have no knowledge about dangers of pollution from mining sites.

The aimag Veterinary Department summarized the results of the field study:

1. The field study demonstrated how animal diseases affect livelihoods and income of herder households. This gives motivation to herders to cooperate with veterinary units and learn to protect against infectious diseases.
2. With the help from local herders, the practitioners identified most common TADs: equine influenza, strangles, gastric parasitic insects, helminths, dry tongue; equine dourine. In Khalzan soum, venereal horse disease was identified as the high risk disease and herders increased their knowledge and awareness of this problem.
3. There is a need to use PE study results and laboratory test results to plan prevention and vaccination activities

At the end of the workshop, head of the aimag AH department presented one-year action plan developed by PDS practitioners to improve animal health service in Sukhbaatar aimag.

Table 11: Action Plan of the Sukhbaatar aimag Veterinary department for 2021

No	Activities	Location	Date
1	Declare Khalzan soum as an infection free soum	Khalzan soum	2021
2	Determine factors that influence the spread of TAD in the five border soums	Erdenetsagaan, Dariganga, Naran, Ongon, Bayandelger	2021
3	Register Tumentsogt soum as a brucellosis free soum	Tumentsogt soum	2021
4	Determine causes and risk factors of non-infectious diseases	Baruun-Urt, Sukhbaatar, Erdenetsagaan, Asgat soums	2021
5	Conduct epidemiology study to reduce cases of parasitic diseases	All soums	2021

Impact

The national and aimag-level workshops were very successful, as more than 250 state and private veterinarians and local and national government officials attended these events to learn about PDS methodology, practice PDS tools and approaches, discuss steps for further institutionalization of the PDS system, and share the results of the field studies. During the aimag workshops, the PDS practitioners were able to develop a one-year action plan of each target aimag. These plans aim to improve animal health in each aimag with the help of PDS approaches and tools. Aimag Veterinary Departments will be responsible for the implementation of the action plans.

In addition, state and private veterinarians of every soum in the target aimag gained the basic knowledge on the PDS/PE and the PDS practitioners will continue working with local veterinarians to build their capacity to use PDS methodology and conduct field studies.

The LTS3 project ended on November 30, 2020. But the institutionalization of PDS approaches into the GoM's policies and practices will continue in the remaining 17 aimags under the leadership of GAVS and with the financial support of other international donors such as the World Bank and World Vision. The experts from GAVS expressed their gratitude to Mercy Corps and the LTS3 project for taking first steps to institutionalize PDS methodology in Mongolia for the first time.

In fact, PDS approaches and findings from field studies using participatory methods have already started to be integrated into other projects. For example, as part of an FAO-funded initiative, the national epidemiologists' team including two PDS trainers implemented the FMD risk factors analysis in Erdenetsagaan soum of Sukhbaatar aimag and Matad soum of Dornod aimag. The team used a mix of traditional epidemiology and participatory epidemiology approaches to assess the FMD risk in those soums.

In addition, the Wildlife Conservation Society (WCS) has recently launched a pilot project

named “Saiga Health Intervention.” At program start-up, one of the certified PDS trainers co-facilitated (with WCS, World Wildlife Fund and a team of epidemiologists) a capacity building training for local specialists on use of PDS approaches and tools for field study. Also, five PDS practitioners from Khovd aimag took part in the local field surveillance and applied PDS tools and approaches to study the health concerns of saiga and other livestock.

Lastly, without funding from OFDA and at the request of the aimag level Department of Veterinary Services, the PDS practitioner from Must soum of Khovd aimag conducted jointly with local private veterinarians a field study using PDS tools. It was a good example of collaboration between soum veterinarians.

Kh. Bodisaikhan, animal infectious disease expert of the GAVS

Continuous adaptation of PDS approach into the veterinary surveillance system is our key priority in the near future. The PDS approach will improve communication between veterinarians and herders which will result in a better collection and analysis of more accurate data for effective identification of animal diseases in Mongolia.

We plan to train more local veterinarians in PDS approach in each of 331 soums of 21 aimags and the capital city so that more PDS practitioners can be involved in animal disease surveillance and local research. We are going to include capacity building activities in the GAVS’ annual plan and continue supporting the certification of PDS practitioners in partnership with different projects and programs.

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