



USAID | MONGOLIA
FROM THE AMERICAN PEOPLE



**Leveraging Tradition and Science in Disaster Risk Reduction in
Mongolia-2 (LTS2-Mongolia)**

ANNUAL PROGRESS REPORT

Agreement # AID-OFDA-G-15-00101

Submitted To: USAID

Submitted By: Mercy Corps

August 30, 2016

COUNTRY CONTACT	HEADQUARTERS CONTACT
Ramesh Singh Country Director Mercy Corps PO Box 761 Ulaanbaatar 79, Mongolia Phone: +976 9911 4204 rsingh@mercycorps.org	Denise Ledgerwood Program Officer Mercy Corps 45 SW Ankeny Street Portland, OR 97204 Phone: +1.503.896.5000 dledgerwood@mercycorps.org

ACRONYMS AND TRANSLATIONS

<i>Aimag</i>	An administrative unit similar to a province or state
<i>APF</i>	Aimag Partnership Facilitator
<i>bagh</i>	An administrative unit similar to a sub-county (sub-soum)
<i>dzud</i>	An environmental hazard that unfolds over several seasons and includes drought conditions in the summer leading to poor forage availability and low temperatures, heavy snows and/or ice in winter which combine to exhaust animals, leading to death from starvation or exposure.
ES	engageSPARK
EMA	Emergency Management Agency
FAO	Food and Agriculture Organization of the United Nations
<i>Hural</i>	An elected decision-making body at the district, province and national level
ICT	Information and Communication Technology
KEIO	Keio University of Japan
LEWS	Livestock Early Warning System
LEGS	Livestock Emergency Guidelines and Standards
LEMA	Local Emergency Management Agency
LTS	Leveraging Tradition and Science in Disaster Risk Reduction in Mongolia
MEGD	Ministry of Environment and Green Development
MNO	Mobile Network Operator
MNDI	Mongolian National Development Institute
MoFA	Ministry of Food and Agriculture
NAMEM	National Agency of Meteorology and Environmental Monitoring
NEMA	National Emergency Management Agency
RIMES	Regional Integrated Multi-Hazard Emergency Warning System
NUM	National University of Mongolia
SMS	Short Message Service
SDC	Swiss Agency for Development and Cooperation
<i>soum</i>	An administrative unit similar to a county
ToT	Training of Trainers
UNDP	United Nations Development Programme
WB	World Bank

GENERAL INFORMATION

Project name:	Leveraging Tradition and Science in Disaster Risk Reduction in Mongolia 2
Duration:	May 1, 2015 to June 30, 2016
Funding:	Total funding: 278,207.00 USAID: 278,207.00
Direct Beneficiaries:	Government representatives and local authorities; community representatives, herder organizations and herders (total 9,168)
Indirect:	Rural residents in 10 aimags (total 151,481)
Reporting period:	May 1, 2015 to June 30, 2016
Target area:	

Region	Aimags	Highly dzud affected soums (counties)
West	Hovd (HO)	Altai, Bulgan Uench.
	Uvs (Uv)	Baruunturuun, Davst, Zuungobi, Zuunkhangai, Malchin, Naranbulag, Undurkhangai, Sagil, Tes, Turgen, Khyargas, Tsagaankhairkhan
	Bayan-Ulgii (BU)	Altai, Bulgan, Sagsai, Ulaankhus, Tsengel
Altai	Zavhan (ZA)	Aldarkhaan, Asgat, Bayantes, Bayankhairkhan, Ider, Numrug, Songino, Tosontsengel, Tudevtei, Telmen, Tes, Tsagaankhairkhan, Tsagaanchuluut, Tsetsen-Uul, Erdenekhairkhan
	Gobi Altai (GA)	Bugat Bayan-Uul Delger Tonkhil Tugrug Khaliun
Hangai	Uvurhangai (UH)	Bat-Ulzii, Bayan-Undur, Burd, Kharkhorin, Khujirt, Ulziit, Yesunzuil, Zuunbayan-Ulaan
	Arkhangai (AR)	Bulgan, Ugiinuur, Tuvshruulekh, Khashaat, Khotont, Tsenkher
	Bayankhongor (BH)	Bayanbulag, Bayan-Ovoo, Gurvanbulag, Jargalant, Jinst, Zag, Ulziit, Khureemarl, Erdenetsogt
Gobi	Dundgobi (DG)	Adaatsag, Erdenedalai
East	Sukhbaatar (SU)	Asgat, Dariganga, Erdenetsagaan

EXECUTIVE SUMMARY

Mercy Corps began supporting the use of weather and pasture data in production planning through the Gobi Forage project resulting in the introduction of the Livestock Early Warning System (LEWS) in 2007. The LEWS system continues to receive international development support from the World Bank. A number of government agencies¹ in Mongolia are now tasked with creating and distributing information on weather risk and weather forecasts, but with little coordination and no clearly defined goals on reaching end-users. In this context, information and knowledge products are being produced, but they are not reaching local communities, herder households, local administrators and first responders who can utilize such necessary information.

From June 2013 to September 2014, OFDA supported Mercy Corps' efforts to solve this communication breakdown through training and information delivery systems. The *Leveraging Tradition and Science in Disaster Risk Reduction in Mongolia* (LTS) project evaluated existing DRR and disaster management systems, connected local communities to weather information, trained local administrations on emergency management planning, and tested an SMS information platform that would enable herding communities to access, interpret and apply weather forecast information in their management practices. The LTS project theorized that there was strong demand for information and for management tools that could improve planning, mitigation and management of winter weather risks and this was validated through effective program implementation. Working closely with local partners and key national emergency management actors, LTS introduced planning tools that are simple to implement; provided increased understanding of available weather information and how to utilize it; and identified opportunities for significant improvement in dzud outcomes through simple management tools and improved information flow. LTS demonstrated that herders are eager for more information and better tools to support dzud preparation and risk mitigation.

Expanding upon our initial work, the LTS2 project is accomplishing two critical goals: 1) A national SMS platform for weather and pasture information and 2) Increased aimag (province) and soum-level capacity to provide training on emergency planning, preparation and mitigation to segmented audiences within the local community. Mercy Corps is implementing LTS2 in collaboration with the National Emergency Management Agency (NEMA), the Livestock Early Warning System (LEWS), the Mongolian National Development Institute (MNDI) and their partner Keio University (KEIO).

Under LTS2 project (May 2015 – Jun 2016):

- Total Number of People Reached (Individuals): 2,287 trainees and 7,847 utilizing the mobile service
- Early Warning Systems Established: 345 bagh of 69 soums, reaching an average of 151,800 people

PROJECT IMPLEMENTATION AND OUTCOMES

This annual report covers the period between from May 2015 to June 2016 in which the program focused on building the automated SMS messaging system at soum and bagh levels (which includes creating and testing the system, developing content for the SMS messages, conducting SMS trainings, and distributing SMS introduction leaflets), increasing aimag and soum level capacity to provide training on emergency planning (i.e. developing training curriculum, organizing Training of Trainers (ToT) and soum - level trainings, and conducting skills and knowledge retention tests), and printing the second and third edition of the "Dzud Lessons" book.

Summary

Period	Activities	Outcomes
May 1, 2015 – 30 Jun, 2016	<ul style="list-style-type: none"> • Translation of key project documents into Mongolian • Developed training curriculum • Translated key Livestock Emergency Guidelines and Standards (LEGS) tools into Mongolian • Conducted ToT in five regions • Conducted soum-level direct trainings by local trainers in 69 soums of 10 aimags • Collected best practices from 115 herders from 10 aimags and printed the second edition of the Dzud Lessons book. Distributed 25,000 copies of the 	<ul style="list-style-type: none"> • Technical design of the SMS system and sustainability planning was improved. • 164 soum level trainers from 69 target soums completed ToT • Selected 45 out of 115 best practices for the 2nd edition of Dzud Lessons book • Soum emergency plans have been improved, approved and available in 57 of target 69 soums <p>The feedback received during the retention tests</p>

¹ The National Emergency Management Agency (NEMA); NAMEM; the Ministry of Environment and Green Development (MEDG); aimag Governors' Offices; aimag agriculture and veterinary extension workers, and soum governments.

	<p>book to the target communities</p> <ul style="list-style-type: none"> • Tested skills and knowledge retention of training participants two months after completion of the trainings • Interviewed the target soum leadership regarding the impact of the trainings • Coordinated with the Food and Agriculture Organization of the United Nations (FAO) to jointly finance the translation of the LEGS book and organization of Training of Trainers. • Identified regional codes of all 345 baghs in target 69 soums; • Built SMS automated system in 69 soums; • Conducted “SMS System Introduction” training and tested the system in all target soums • Conducted the “Introduction and use of LEGS tools” training in Hovd, Uvs and Gobi-Altai aimags • Printed the third edition of the “Dzud Lessons” book 	<p>revealed that:</p> <ul style="list-style-type: none"> • 1,550 (77.7%) of the training participants were actively involved in improving the plans • 1,179 (59.1%) of the participants shared their knowledge gained at LTS2 training with other people • 793 (39.7%) of the participants increased their hay and fodder supply • 770 (38.6%) insulated and warmed their animal shelters • 458 (23%) of the participants improved their dzud preparation <p>Related to the SMS system</p> <ul style="list-style-type: none"> • All citizens of 69 soums can now receive the 6 days weather forecast on their cellphones • 5,633 people tested the system and 4421 of them have received the weather information via cell phone. • Herders are reading and using practices described in the “Dzud Lessons” book to overcome harsh winter/dzud with no loss.
--	--	---

Program Set Up

The project launched on May 1, 2015 with the formation of the project team from within existing Mercy Corps staff. Since the launch of the project, Mercy Corps started working with the Keio University of Japan (KEIO) to build the SMS system.

Partner Coordination

The LTS2 project team worked with the National University of Mongolia (NUM), KEIO and Alpha Labs LLC on building the SMS system and with the National Emergency Management Agency (NEMA) and Local Emergency Management Agencies (LEMA) under the sub-sector “Capacity Building and Training.” The LTS2 team is also working with FAO to partner on the translation of the LEGS book and organization of a Training of Trainers.

Risk Management Policy and Practice

Sub-sector: Building Community Awareness/Mobilization

Activity 1.1 SMS System Design

Based on the analysis and recommendations of Mercy Corps’ Senior Director for Program Technology, the LTS2 team initiated work on the SMS delivery system based on the engageSPARK (eS)² platform. Over the last twelve months, the system was completed and it delivers on-demand weather and pasture updates in response to text prompts from the user. The weekly forecasts are updated automatically and delivered via engageSpark.

Activity 1.2 SMS Message System Implementation

The program initially worked with KEIO University to develop automated messaging to pilot in ten soums. Mercy Corps identified one soum per target aimag to test the process of programming local messages for the on-demand SMS system. Complete, automated SMS messages were successfully developed for eight of the target soums.³ However, the test identified some issues with the weather data sources for two soums, indicating that the Norway weather service might not provide sufficient data for a nation-wide localized forecast system. Although KEIO was asked to build an automated SMS

³ Erdenetsagaan (SU), Adaatsag (DG), Ugiinuur (AR), Zuunbayan-Ulaan (UH), Songino (ZA), Tonhil (GA), Tsengel (BU) and Davst (Uvs).

system, weather forecasts were not updated automatically. Mercy Corps and KEIO worked hard to find an acceptable solution, but unfortunately the parties were not able to achieve any progress.

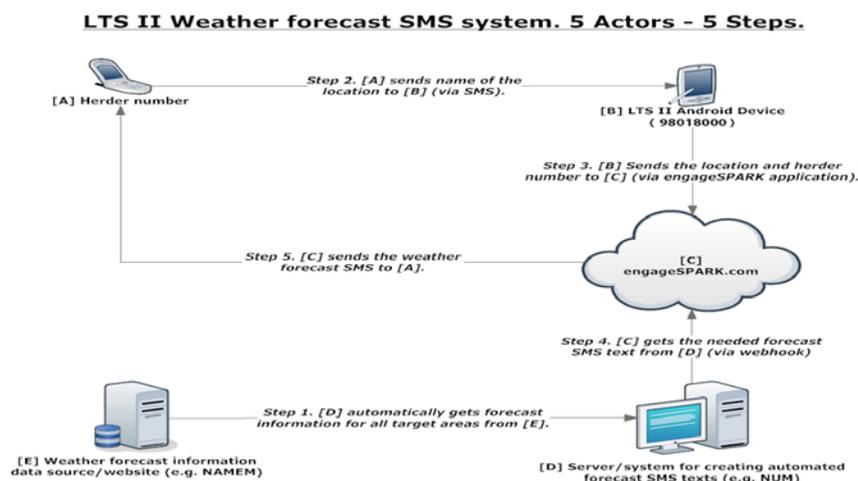
While the program piloted KEIO's system, Mercy Corps worked separately with the National University of Mongolia (NUM) and the Mongolian company, Alpha Labs LLC, to create their own automated SMS system. NUM was unable to create a system that met all of the requirements; however, Alpha Labs was successful. Using the system created by Alpha Labs LLC, by the end of May 2016, the LTS2 project team had a functioning automated SMS messaging system in 345 baghs in the target 69 soums.

While developing the SMS system, the program was challenged to answer the following questions:

- Which sources should be used for weather forecast and forage information?
- Where should system server and database be located?
- What the syntax/content of SMS messages for herders should be like?

Mercy Corps analyzed two weather information sources: the Norwegian weather forecast website (www.yr.no) and NAMEM (www.tsag-agaar.mn). The Norwegian website did not contain information for all target soums and NAMEM rejected our request to use their source, citing technical issues. Eventually, LTS2 identified forecast.io, a different source for weather forecasts that was recommended by Mercy Corp Senior Program Director. This website automatically updates their information on a daily basis. To get forage information, the program worked closely with the LEWS team. They agreed to share their forage information which is updated twice a month.

The SMS system team decided to locate the system on a cloud-based server instead of purchasing hardware.



It was then determined that the weather forecast SMS should contain the following information: daily weather condition, temperature, wind speed, and precipitation. Forage forecast contains current and 60-day forecasted forage conditions in kg/ha. The forecasts information comes in the form of a text message on users' cell phones. The text messages are written in Mongolian using Latin script.

In order to get weather information, a cell phone user must first type the Bagh code, and then type "1" or "2" and send the SMS to the number 9801-8000. If "1" is written after Bagh code, the user receives weather forecast for the first 3 days. If the user types "2", he or she receives weather forecast for the next 3 days.

Forage information consists of current and forecasted forage conditions. Cell phone user must first type the Bagh code, then type "3" and send the SMS to the number 9801-8000.

Moving forward, the team will work to make the following improvements:

- Improve the system based on user feedback
- Continue working with NAMEM to find mutually beneficial solution to use their weather information for the SMS system
- Expand area and number of system users
- Develop and test SMS messages in Kazakh language and Cyrillic script

Activity 1.3 Community Mobilizations

SMS training was organized in the 69 target soums between June 10 and 22, 2016. A total of 2,298 participants, 1,500 of which were herders, attended the trainings. Participants learned to use the SMS system, send and receive SMS messages with weather forecasts, and read and understand message content. The organizers distributed SMS leaflets and cards with soum and bagh codes and instructions on how to receive weather information.

No	Name of aimag	# soum	# participants		
			# total	# female	# male
1	Suhbaatar	3	90	55	35
2	Dundgobi	2	72	50	22
3	Arhangai	6	191	116	75
4	Uvurhangai	8	262	132	130
5	Bayanhongor	9	310	142	168
6	Zavhan	15	460	218	242
7	Gobi-Altai	6	183	79	104
8	Hovd	3	117	50	67
9	Bayan- Ulgii	5	160	62	98
10	Uvs	12	453	194	259
Total		69	2,298	1,098	1,200

Out of 2,298 participants, 2,150 (93.6%) people sent SMS requesting weather data to the server and 148 (6.4%) people didn't send a text because their mobile phones ran out of battery or units, or they came without phone. A total of 1,152 people (53.6%) of the 2,150 senders received messages with weather information. Of those, 998 (46.4%) participants did not receive a response from the server. The users' feedback on the messages was amazingly positive. Most people reported to be very happy to receive six-day weather data for their specific bagh.

Trainers carefully monitored the test results after the training. According to the monitoring sheet, 1,150 (99.8%) of the 1,152 participants who received weather data indicated that SMS content was clear and they had no trouble understanding it. However, 221 (19.9%) participants requested to receive responses in Cyrillic script and 208 (18%) respondents were interested in receiving current market prices for animal raw materials, emergency information, and definitions of weather terminology.

The SMS system team analyzed why 998 (46.4%) people didn't receive a response from the server. The LTS-2 project team first used Mobicom (a national mobile operator) services to receive and send messages. However, Mobicom had put a limit on the number of outgoing messages to 100 per day. A total of 954 (95.6%) out of 998 failures occurred when Mobicom suddenly blocked the messaging service. This problem was fixed within a day by shifting to a different operator, G-Mobile. This operator does not limit the number of outgoing messages. Of the remaining 44 who did not receive a message, 40 individuals (4%) typed the wrong code and four individuals could not receive messages due to a failed mobile connection.

The participants actively shared their skills and knowledge gained at the training with their soum communities. According to the EngageSPARK SMS report, from June 10 to 30, 5,633 mobile phone users sent text requests to the server and 4,421 (78.5%) users received response. A total of 1,212 (21.5%) people didn't receive any response because they typed their requests wrong.

The LTS2 project team plans to introduce the SMS system to the national level partners: NEMA, NAMEM, MoFA, the Red Cross Society, World Vision and others. The SMS system will be improved based on feedback from herders and other stakeholders during the LTS2 cost modification period.

Sub-sector: Capacity Building and Training

Activity 2.1 Partner Mobilization and Planning

Beginning in July 2015, Mercy Corps reached out to NEMA and NAMEM to identify Master Trainers who would participate in developing the LTS2 dzud risk reduction training content and implement the ToTs. In August 2015, Mercy

Corps, MNDI and NEMA jointly finalized the training schedule and developed the content for both ToT and soum-level direct training. It was agreed that the ToTs would be conducted in September 2015 in Ulaanbaatar (Suhbaatar and Dundgobi aimags), Bayanhongor (Bayanhongor, Arhangai and Uvurhangai aimags), Zavhan (Zavhan and Gobi-Altai aimags), and Uvs (Uvs, Bayan-Ulgii, and Hovd aimags). NEMA, Mercy Corps and local authorities jointly identified the ToT participants.

Mercy Corps, MNDI and NEMA jointly finalized the training schedule and developed the content for both ToT and soum-level direct training.

Activity 2.2 Curriculum Development

In July 2015, the former LTS program officer, Munkhtuya, was recruited as a consultant to support the development of the training curriculum. In support of that process, she reviewed the LTS training tools, knowledge products and trainee feedback and identified the needed improvements in the training content and tools. She also identified potential master trainers, developed an initial work plan and training outline and improved and expanded the translation of Livestock Emergency Guidelines and Standards (LEGS) tools that were used during training.

Working with NEMA, the LTS2 team developed a risk management training entitled “Estimate Risk, Plan Early and Overcome Disaster with No Loss.” The training strengthened the disaster risk reduction capacity of local stakeholders by enhancing their understanding and use of early warning information, emergency management systems, and the LEGS tools and methodology. Dr. Suvdansetseg of MNDI developed content on climate change and forecasting that she introduced at the Ulaanbaatar ToT and this was subsequently taught by the core training team at the other three regional sessions. NEMA appointed a training officer to develop content and teach a component at each of the regional ToT sessions. The training includes both a theoretical overview and implementing disaster mitigation plans and conducting assessments during livestock emergency situations.

During the ToT sessions, participants received a flash drive of the materials covered during the ToT session including a copy of the translated LEGS tools; the LTS Dzud Lessons Book; Disaster Response Leaflets; forecast maps from LEWS and NAMEM; training presentations; and a number of videos demonstrating training techniques covered during the ToT. The trainees were also encouraged to join a Facebook group set up during LTS where they could meet other trainers and share experience and advice on-line.

Mercy Corps staff, together with aimag Emergency Management Agency (EMA), adapted the training curriculum to fit the training needs in Hovd, Gobi-Altai and Uvs. In Hovd and Uvs aimags, the soum Hural staff attended a full two-day workshop to learn disaster management, LEGS methodology, soum disaster plans and how to engage local citizens in developing plans. In Gobi-Altai aimag, a one-day training curriculum was adapted to train veterinarians in LEGS methodology.

The LTS2 project team published the 2nd edition of the “Dzud Lessons” book. This book includes 72 best practices told by 115 herders from 10 aimags. The best practices are divided into six interventions according to the LEGS tools. These interventions include destocking, primary clinical veterinary service, feeding, water supplying, livestock shelter, and restocking. Mercy Corps published 25,000 copies of the book and distributed it to our national and local partners in the target areas. The Green Gold project, funded by the Swiss Agency for Development and Cooperation (SDC), helped to distribute 1,000 copies of the book to their partners: 750 best herders and 250 heads of the Pasture Unit Groups in seven western aimags.

In June 2016, the project team published the 3rd edition of the “Dzud Lessons” book. Besides 72 best practices published in the previous edition, the team added 250 traditional ways of predicting natural disasters such as drought, dzud, storms and extreme cold, proven by thousands of years of tradition. Mercy Corps has published 16,000 copies of the book and half of the copies were distributed it to our national and local partners in the target areas. The remaining books will be distributed to new target soums of the LTS2 project. Mercy Corps continues to receive overwhelming positive feedback from its readers. Many herders successfully tried some of the best practices from the book to combat dzud.

Activity 2.3 Training of Trainers and Direct Training

Under this sub-sector, several activities were conducted.

2.3.1 Training of Trainers

LTS2 implemented four ToT sessions in September 2015 in four regional groupings as noted in the table below. The training was implemented over three days in each location and reached a total of 164 trainers.

Date	Location	Aimags covered	Number of Souns	No of participants		
				Total	Female	Male
September 2-4	Ulaanbaatar	Suhbaatar, Dundgobi	5	17	9	8
September 9-11	Bayanhongor	Arhangai, Bayanhongor, Uvurhangai	23	51	19	32
September 14-16	Zavhan	Zavhan, Gobi-Altai	21	48	17	31
September 21-23	Uvs	Bayan-Ulgii, Hovd, Uvs	20	48	19	29
Total			69	164	64	100

Each of the 69 target soums in the LTS2 program sent two representatives to this training and a total of 178 people in attendance (including trainers and observers from partner agencies). The trainers and visitors included 137 from state organizations (77 representatives from soum and bagh governor's office, 30 specialists from veterinary and breeding units, 18 officers from Emergency Units, 11 representatives from the local Meteorology and Environment Units, and one person came from the health office), 32 participants were representatives from NGOs and 9 were local residents nominated by soum governors. This breakdown includes the trainers, Mercy Corps staff observers and NEMA visitors to the training session.

A total of 164 individuals (100 men, 64 women) successfully completed the trainings and became local trainers. There was an overall increase in knowledge and new skills acquired as a result of the training. The pre- and post-training evaluations show that the knowledge of the participants increased by 88.8%. In addition, the participants learned five to six different types of new skills during the training. Examples include how to conduct disaster risk assessments and assess the situation of livestock in an emergency, develop action plans, select and implement livestock interventions, and learn the guidelines to organize trainings at the soum-level.

The participants' feedback on the training was overwhelmingly positive. According to the post-training evaluation, 95% of participants think that the ToT program met the needs of participants. A total of 89.5% of respondents believe that the training achieved its goals. When asked how to improve training in the future, most trainees requested to improve translation of the LEGS book, use fewer technical terms, make it easier for herders to read and understand content, and conduct capacity building activities more often. Other comments and ideas included the following: disseminate more handbooks, extend duration of LEGS trainings, introduce traditional disaster protection methods that illustrate LEGS techniques, expand training topics, and use local examples and stories during the trainings. When asked what they would do after the training, the participants responded that they will organize training in their soums and disseminate information to their friends, neighbors, and colleagues. In addition, 54 respondents (35.3%) want to revise and modify old disaster response plans for their soums.

2.3.2. Direct training

After completing the ToT, the local trainers and Mercy Corps aimag staff jointly conducted soum-level direct trainings in target 69 soums.

No	Name of Aimag	# Soum	# Participants		
			# total	# female	# male
1	Suhbaatar	3	84	37	47
2	Dundgovi	2	55	25	30
3	Arhangai	6	160	92	68
4	Uvurhangai	8	226	111	115
5	Bayanhongor	9	243	116	127
6	Zavhan	15	445	206	239
7	Gobi-Altai	6	180	82	98
8	Hovd	3	97	41	56
9	Bayan- Ulgii	5	150	49	101
10	Uvs	12	355	141	214
Total		69	1,995	900	1,095

Each training lasted two days and was attended by a mix of local government representatives, emergency response personnel, and herders/communities. A total of 1,995 people participated in the trainings including 1,263 (63.3%) from state organizations (915 representatives from soum and bagh Governor's office and Emergency Units, 153 people from the education sector, 44 specialists from veterinary and breeding units, 55 representatives from local meteorology and environment units and 96 people from the health sector), 47 (2.4%) from NGOs and 685 (34.3%) herders. A total of 45.4% (900) participants were female and 54.6% (1095) were male.

Knowledge and skills of the participants were evaluated by pre and post-tests which show that participants improved their knowledge and skills by an average of 41.2%. Before the trainings, most of the participants did not have a clear understanding of technical concepts related to Disaster Risk Management such as hazard, exposure, vulnerability, and could not distinguish between slow and rapid-onset emergencies. Overall, participants were able to obtain good knowledge of the LEGS tools and learned about livestock-based interventions, emergency steps, and livelihood-based objectives.

According to responses to the training evaluation, 1,941 (97.3%) of 1,995 participants believe that the training achieved its goals and a total of 1,755 (88 %) of respondents answered that they were very satisfied with the training curriculum and 1,756 (88 %) of participants agreed that training content was highly relevant to their work. A total of 1,556 (78 %) of the participants felt the training subjects were very important. Asked to name most important subjects, 380 (19%) people mentioned the contingency planning, preparedness and early response, 353 (17.7%) people focused on disaster management, 307 (15.4%) of participants named the Participatory Response Identification Matrix (PRIM) methodology, and 260 (13%) people chose the LEGS prevention assessment. A total of 641 (32%) participants wished to involve more people to these trainings and 257 (12.8%) requested more training. Other participants requested more activities to strengthen their capacity and expand the number of local trainers, and produce and distribute more training materials.

Furthermore, the training participants learned more about their old soum disaster plans and used LEGS methodology to improve it. The participants noted that most soums did not conduct risk assessment to write their plans. Most disaster plans were very general, did not reflect needs of specific soums, and included only actions to be taken during emergency situations. Most participants (especially herders) did not have access to disaster plans and considered them to be classified documents. Asked how are they going to use skills and knowledge gained at the training, 578 (29.7%) of respondents answered that they would share the knowledge with other people, 485 (25%) of respondents would use the knowledge to improve soum disaster plans, 365 (18.8%) would use it to improve their livelihoods, 234 (12%) would develop a winter preparation plan, and 179 (9.2%) of respondents would get regular information from NEMA and NAMEM.

2.3.3. Retention Test

The local trainers tested skills and knowledge retention of training participants two months after completing the LTS2 trainings. The knowledge retention tests were similar to the pre- and post- training tests the participants took directly before and after the trainings. A total of 1,995 (100%) people, those who attended the capacity building training between September and November of 2015, took the knowledge retention tests. In general, the test results were overwhelmingly positive. The participants managed not only to retain their knowledge but also improved on it. For example, the average knowledge level of Arkhangai participants was 59% at the end of the training. Two months following the soum training, local participants took the retention tests and the average score increased to 70%. There are two factors that contributed to the improvement of local knowledge. First, Mercy Corps distributed training materials: a copy of the translated LEGS tools, the LTS Dzud Lessons Book, Disaster Response Leaflets, forecast maps from LEWS and NAMEM, and training presentations. Second, 1,550, or 77.7%, participants were actively involved in improving the soum disaster plans and 1,179 or 59.1% shared their knowledge gained at LTS2 training with other people.

A total of 1,843 (92.4%) of the attendees correctly answered questions about technical terms related to Disaster Risk Management, such as hazard, exposure, slow and rapid-onset emergencies. However, most participants struggled with the definition of vulnerability as only 1,244 or 62.4% of the attendees correctly answered this question. Overall, participants were able to retain good knowledge of the LEGS tools, including livestock-based interventions, emergency steps, livelihood-based objectives and weather and forage information of LEWS, etc.

Mercy Corps staff conducted phone interviews with 346 soum policy makers from 69 target soums (4-5 persons per soum) who attended the LTS2 trainings. The goal of these interviews was to find out how the respondents are using the skills and knowledge they gained at the training, and how to build capacity of other local citizens. A total of 31.7% (109) of the respondents were women and 68.3% (237) were men.

According to the phone interviews, 340 (98.2%) of 346 respondents read and shared information from the Dzud Lessons book with other people. When asked about activities they implemented after the training, 284 (82%) respondents indicated that they supported the preparation of hay and fodder reserves; 105 (30.4%) respondents helped to improve veterinary

services; 96 (27.7%) worked on destocking; 48 (14%) focused on securing water supply; 54 (15.6%) assisted with rebuilding of animal shelters and fences; and 48 (14%) took care of restocking. In total, 181 (52.3%) of the respondents introduced the new improved disaster plan to the public at bagh meetings and other public events and received comments and feedback and 336 (97%) of the respondents began using weather information regularly. The phone interviewees requested more capacity building trainings for members of the soum emergency committees and local consultants, assistance to conduct disaster risk assessments, and support for the creation of soum hay reserves. The phone interviews also revealed that 54 out of 69 target soums have not conducted risk assessment of their soums.

The participants praised LTS2 trainings and emphasized their value. Mercy Corps received several requests from the following local organizations and partners to organize joint trainings: local agricultural departments, veterinarians, EMA, and chairmen of soum Hurals in Hovd, Uvs, Zavhan and Gobi-Altai

2.3.4. Additional Trainings

On 28-29 March, Mercy Corps aimag staff and the LEMA jointly conducted the “Soum Disaster Plan Methodology and Use of LEGS Tools” training in **Hovd aimag**. The training lasted for 1.5 days and was attended by **21** participants including chairmen of local Hurals, agricultural experts and emergency officers from 15 soums. Seven participants (33.3%) were female and 14 were male (66.7%). The training was facilitated by a local trainer from Bulgan soum assisted by EMA and Mercy Corps aimag staff. The participants learned about the LEGS methodology, how to use the methodology to develop soum disaster plans and the importance of active engagement of soum citizens in developing plans. Knowledge and skills of the participants were evaluated by pre and post- tests which showed that participants improved their knowledge and skills by an average of 31.9%.

According to responses to the training evaluation, 16 (76.2%) out of 21 participants believe that the training achieved its goals; 19 (90.4%) respondents answered that they were very satisfied with the training curriculum, and 19 (90.4%) participants agreed that training content was highly relevant to their work. Also, the training participants learned how to engage citizens in developing soum disaster plans, conduct risk disaster assessments and develop soum disaster plans using LEGS tools. According to the post-feedback responses, participants plan to improve their soum disaster plans according to the newly learned six LEGS interventions (destocking, primary clinical veterinary service, feeding, water supply, livestock shelter, and restocking). The training participants are expected to share the LTS2 trainings with their other team members from the soum emergency committee. By the end of June 2016, 12 soums of 15 had improved and approved their Soum emergency plans with support by EMA staff and training participants.

On 7-8 June, Mercy Corps and local EMA jointly conducted the “Soum Disaster Plan Methodology and Use of LEGS Tools” training in **Uvs aimag**. The training lasted two days and was attended by 46 participants including chairmen of Hural, heads of Veterinary and Animal Breeding Unit, agricultural experts and emergency officers from 19 soums. Out of 46 participants, 16 (34.8 %) were women. The participants learned about disaster management, LEGS methodology, use of this methodology to develop soum disaster plans and the importance of citizens’ participation in disaster plans. Pre and post- tests indicated that participants improved their knowledge and skills by an average of 20.2%.

According to the training feedback, participants plan to improve their soum disaster plans by applying six LEGS interventions (destocking, primary clinical veterinary service, feeding, water supply, livestock shelter, and restocking). The new soum disaster plans are expected to be finished and submitted to EMA by August 2016. The training participants will share knowledge and skills gained at the training with other team members from the soum emergency committee.

On 15 April, 2016, Mercy Corps and aimag Department of Agriculture have jointly organized a one-day training in the **Gobi-Altai aimag**. The participants learned about the LEGS methodology, use of this methodology to developing soum disaster plans and importance of citizens’ participation in developing plans. Pre and post- tests showed that participants improved their knowledge and skills by an average of 24.1%.

According to responses to the training evaluation, 54 (81.5%) of 61 participants believe that the training achieved its goals, 46 (75.4%) of respondents were very satisfied with the training curriculum and 61 (100%) participants agreed that training content was highly relevant to their work. A total of 47 participants were soum private veterinarians and they work with 7,655 herder households by providing vet services to 2.9 million animals. All veterinarians expressed their satisfaction with the training content and found it very useful for their work.

Asked how are they going to use skills and knowledge gained at the training, 25 (41%) respondents answered that they would share the knowledge with herders and bagh governors, 29 (47.5%) respondents would provide their ideas to

improve soum disaster plans, 17 (25.4%) would use it to strengthen their own business and 18 (29.5%) would learn more and improve their winter preparation plan.

No	TR date	Location of TR	# Participants		
			# total	# female	# male
1	March 28- 29	Hovd aimag center	21	7	14
2	April 15	Gobi-Altai aimag center	61	28	33
3	June 7 - 8	Uvs aimag center	46	16	30
Total			128	51	77

LTS2 PROJECT IMPACT

LTS2 successfully completed ToTs and prepared 164 aimag- and soum-level trainers to carry out direct training sessions in the 69 soums targeted by LTS2.

After completing the ToT, the local trainers and Mercy Corps aimag staff jointly conducted soum-level direct trainings in target 69 soums. The training was implemented over two days in each location and reached a total of 1995 participants.

The training participants made changes to soum disaster plans as a result of what they learned from LTS2. In total, 57 soum disaster plans in LTS2 soums were improved and adopted and 1,550 (77.7%) of the training participants were actively involved in improving the plans. Compared to 51% of the participants who had never heard about disaster plans before the training, this was a big achievement.

The local trainers tested skills and knowledge retention of training participants two months after completing the LTS2 trainings. According to the retention test feedback responses, 1,179 (59.1%) participants shared their knowledge with other people, 793 (39.7%) participants increased their hay and fodder supply, 770 (38.6%) insulated and warmed their animal shelters, 475 (23.8%) participants received weather information via SMS, 458 (23%) participants improved their dzud preparation, 456 (22.9%) participants destocked their herd, and 358 (17.9%) improved veterinary services.

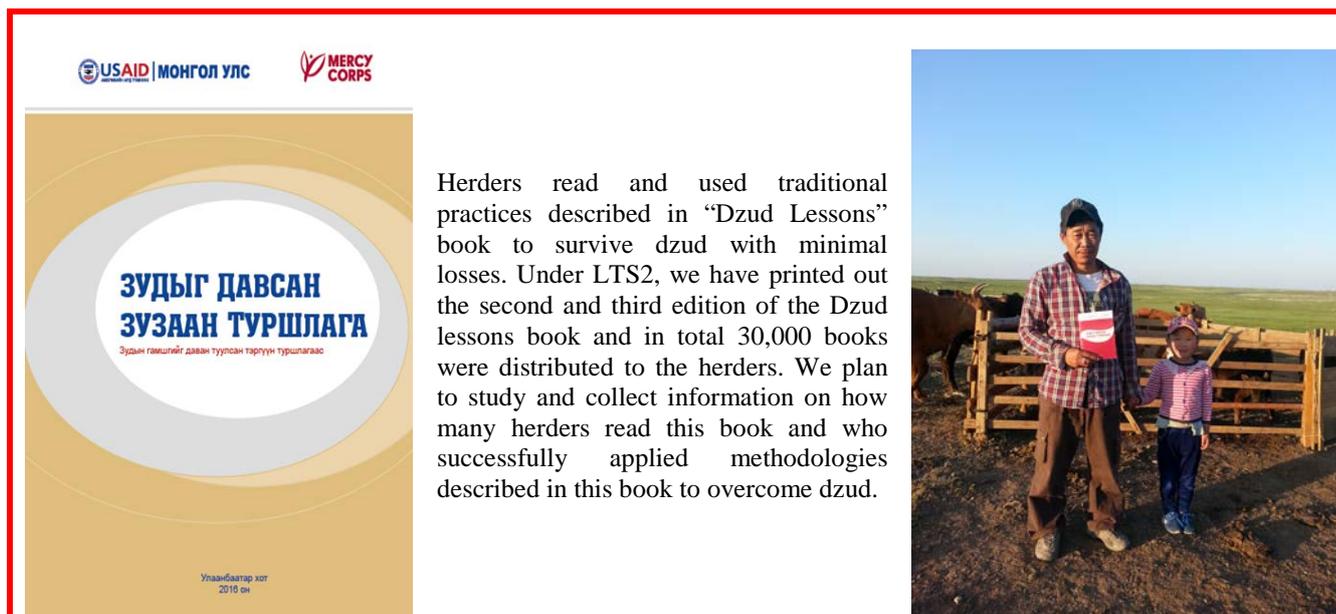
The SMS messaging system was built in 345 bagh of 69 soums. After the SMS system was introduced in all target 69 soums, 5,633 people sent text requests to the server and 4,421 of them received weather information between June 10 and 20, 2016.



Mercy Corps' SMS system has drastically improved herders' livelihood. They are now able to plan ahead their activities such as setting up their camps, moving to new pastures, shearing their sheep, cutting hay, herding their animals near or far from their camps depending on weather.

Herders from the target provinces express their satisfaction with the new system. TV weather forecasts are too general and do not provide specific bagh level information. Herder S. Batmunkh from Ider soum, Zavhan aimag, received weather forecasts 21 times on his phone during the last two months. This information

helped him to select sunny days for sheep shearing. If sheep shearing occurs during rainy days, animals might get sick or even freeze to death.



Way Forward:

As a result of the LTS2, Mercy Corps successfully piloted the SMS system, created new stakeholder networks, introduced planning tools and increased access to information. The project showed a number of critical gaps in skills and information at the soum level that can easily be addressed by institutionalized training capacity within key administrative functions throughout local governments.

During the LTS2 cost extension period, Mercy Corps will focus on increasing information resources and institutionalizing local training programs, developing the SMS system’s sustainability and implementing sustainable mitigation activities based on Livestock Emergency Guidelines and Standards. As a result, the local communities will have increased resources to proactively respond to risks and communicate their needs and experiences to others.

ANNEXES

Annex 1: Performance against indicators

Indicator	Base line	Target	Q2 Performance	Notes	Q3 Performance	Notes	Q4 Performance	Notes	Q5 Performance	Notes	ANNUAL Performance	Notes
SECTOR: RISK MANAGEMENT POLICY AND PRACTICE												
1 Sub-sector Name: Building Community Awareness/Mobilization												
1.1 Number of people participating in training, disaggregated by sex	n/a	1,528	219	(84 female and 135 male)	1,940	(880 female and 1060 male)	21	(7 female and 14 male)	2,298	(1,098 female and 1,200 male)	4,478	(2,069 female and 2,409 male)
1.2 Percentage of people trained who retain skills and knowledge after two months	n/a	100%					100%				100%	
1.3 Percentage of attendees at joint planning meetings who are from the local community	n/a	90%					97.7%				97.7%	
1.4 Early warning system in targeted community is in place for all major hazards with appropriate outreach to communities	n/a	Yes							Yes		Yes	SMS system has built in 345 bagh of 69 soums of 10 aimags
1.5 Percentage of community members who received at least one early warning message from at least one source prior to a disaster occurring	0	6%									0	

2 Sub-sector Name: Capacity Building and Training												
2.1 Number of people trained in disaster preparedness, mitigation, and management, disaggregated by sex;	n/a	1,528	219	(84 female and 135 male)	1,940	(880 female and 1060 male)	21	(7 female and 14 male)	107	(44 female and 63 male)	2,287	(1,015 female and 1,272 male)
2.2 Number of trainings conducted	n/a	75	6		67		1	71			145	
2.3 Number of people passing final exams or receiving certificates, disaggregated by sex	n/a	1,528	219	(84 female and 135 male)	1,940	(880 female and 1060 male)	21	(7 female and 14 male)			2,180	(971 female and 1,209 male)
2.4 Percentage of people trained who retain skills and knowledge after two months.	n/a	100%					100%				100%	
TOTAL Beneficiaries												
		3,056	219		1,940		21		2,405		6,765	(3,084 female and 3,681 male)