



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

THIRD QUARTERLY REPORT

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ACRONYMS AND TRANSLATIONS

<i>Aimag</i>	An administrative unit similar to a province or state
<i>APF</i>	Aimag Partnership Facilitator
<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
ICT	Information and Communication Technology
LEWS	Livestock Early Warning System
LEGS	Livestock Emergency Guidelines and Standards
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
NAMEM	National Agency of Meteorology and Environmental Management
NEMA	National Emergency Management Agency
RIMES	Regional Integrated Multi-Hazard Emergency Warning System
NUM	National University of Mongolia
SMS	Short Message Service
SDC	Swiss Development 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 April 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:	October 1, 2015 to December 31, 2015
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, Yesunzul, Zuunbayan-Ulaan
	Arkhangai (AR)	Bulgan, Ugiinuur, Tuvshruulekh, Khashaat, Khotont, Tsenkher
	Bayankhongor (BH)	Bayanbulag, Bayan-Ovoo, Gurvanbulag, Jargalant, Jinst, Zag, Ulziit, Khureemara, Erdenetsogt
Gobi	Dundgobi (DG)	Adaatsag, Erdenedalai
East	Sukhbaatar (SU)	Asgat, Dariganga, Erdenetsaagan

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

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

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 outcome 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).

PROJECT IMPLEMENTATION AND OUTCOMES

This third quarterly report covers the period of October 1 to December 31, 2015 which focused on conducting soum-level trainings, building the SMS messaging system and testing delivery of SMS messages to local community members.

Summary

Period	Activities	Outcomes
Q3	<ul style="list-style-type: none"> • Conducted soum-level direct trainings by local trainers in 67 soums of 10 aimags • Representatives of OFDA, USAID and US Embassy visited Ugiinuur soum, Arkhangai aimag, to observe soum-level training • Built SMS message system in 9 soums • Tested SMS message delivery and receipt by local training participants • Collected best practices from 115 herders from 10 aimags • Started testing skills and knowledge retention of training participants two months after completion of trainings 	<ul style="list-style-type: none"> • Soum emergency plans have been improved in 35 of target 69 soums • Selected 45 out of 115 best practices for the 2nd edition of Dzud Lessons book • Training participant donated 500 animal blankets to the emergency management unit in Davst soum, Uvs aimag

Program Set Up

The project launched on May 1, 2015 with the formation of the project team from within existing Mercy Corps staff. During the third quarter, the program team continued to work with MNDI and Keio University to build and test the SMS system in all target aimags and launched training activities.

Partner Coordination

In December 2015, MNDI was absorbed into another national planning institute as a result of budget shortfalls within the Mongolian Government. The LTS2 team has agreed with the National University of Mongolia (NUM) to build out the SMS system under their umbrella working with Dr. Suvdantsetseg in her capacity as the lead researcher in NUM's remote sensing laboratory. With NUM and KEIO, the LTS2 project team will continue to build the SMS system as planned. The project team continues to work closely with NEMA under sub-sector Capacity Building and Training.

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 as discussed in the previous quarterly report. The systems will deliver weather and pasture updates on-demand in response to a text prompt from the user. The weekly forecasts will be updated automatically and delivered via eS.

With the demise of MNDI, Mercy Corps will host the messaging system as the building of the SMS system is carried forward. A final Mongolian home for the messaging system will be identified once the system is up and running and resources needed to maintain it can be clearly elaborated.

Activity 1.2 SMS Message System Implementation

During the reporting period, KEIO developed automated messaging for ten soums as a test. 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 The test identified some issues with the weather data sources for two of the soums, indicating that the Norway weather service might not provide sufficient data for a nation-wide localized forecast system. In addition, LEWS did not generate forage data for one soum site. The source of that problem has not yet been identified due to LEWS only recently resuming work under the World Bank's LAMP project. During the eight successful tests, each Monday the system produced an accurate, automated message with complete information for eight soums that are stored on the Keio server and can be accessed by any interested user.

The LTS2 team is currently working to resolve the local information issues and expand this system to the remaining 60 target soums by training local Mongolian programmers to build out the system architecture for each of the targets. Mercy Corps and KEIO will train at least four programmers from NUM, LEWS and Mercy Corps to create and provide documentation on the protocol for coding SMS-based weather information, and to provide oversight and maintenance of message creation for all 69 target soums.

Activity 1.3 Community Mobilization

During 67 soum level training sessions, the local trainers demonstrated to participants how to send a text message to the weather information phone number in order to request a weekly forecast. Each new user sends a first text message to be registered into the system and then sends a text prompt to receive the weather and forage forecast for the location they want.

Of the 1,940 training participants, 795 sent the text requesting registration and of those, 604 (80.5%) received messages from eS confirming that they had successfully registered. Therefore, 68% of the training participants reported failing to successfully register. Of those, 197 failed to send the registration email for a variety of reasons including: lack of network availability due to power cuts (24 people), sand and snow storms (37), or the network being down (136); while 247 did not receive a response to a text that appeared to be sent successfully because eS system did not respond (191) or the Mongolian access number was down (56). A number of participants (229) struggled to work their phones or correctly type the text messages. While the remaining 663 did not have working cell phones, were not text enabled, ran out of battery power, ran out of minutes, or did not bring a phone to the training session.

On the eS side, the system received 711 registration requests indicating that there were connection issues for some of the users who believed their registration text was sent and eS confirmed registration for 672 users though a number of the requests were mistyped and rejected as a result. Given that only 604 users reported confirmation of their registration request, there was also a connection issue on the receiving side. In promoting the system to users it will be important to find a way to communicate to end users the connection issues they might face and how to understand when to expect replies and when to resend requests.

The registered users each sent at least one SMS requesting weather data and the eS system sent out 458 weather and forage forecasts. This initial test identified many of the common connectivity and user issues that will be faced rolling out the system, pointing to the promotion and education messaging that will be needed. While not all first time users were

² www.engageSPARK.com

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

successful navigating the system, most participants highlighted three aspects of the SMS system: 1) User can receive on-demand weather forecasts; 2) SMS can be received on any phones and in any cell phone networks; 3) SMS messages can be delivered in Cyrillic characters

Sub-sector: Capacity Building and Training

Activity 2.1 Partner Mobilization and Planning

As reported in the Second Quarterly Report, 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 training of trainers (ToT). NAMEM declined to participate directly so during August 2015, Mercy Corps, MNDI and NEMA jointly finalized the training schedule and developed the content for both ToT and soum-level direct training. During the reporting period, Emergency Management Departments in each target aimag have contributed to developing the training curriculum and helped to conduct trainings and improve disaster plans in a few soums.

Activity 2.2 Curriculum Development

Mercy Corps' Aimag Partnership Facilitators (APFs) and local trainers adapted the training curriculum to fit the needs of each target soum. Soum trainings were hugely successful. Training participants learned about the LEGS methodology; how to develop soum disaster plans and the importance of active engagement of soum citizens in developing plans.

During the training sessions, each participant received the following materials: 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 training. A majority of the training participants reported that the training materials were very useful. Particularly, the Dzud Lessons book was emphasized for its significance for young herders. In Bayanhongor aimag, the governor read the book and requested Mercy Corps send 5,000 more copies to his aimag.

Activity 2.3 Training of Trainers and Direct Training

The local trainers and Mercy Corps aimag staff jointly conducted "Estimate Risks, Plan Early and Overcome Disaster with no Loss" trainings in 67 target soums. The first training started in Bayanhongor in late September and the last training was organized on 26-27 November 2015 in Altai soum, Bayan-Ulgii aimag. Local soum governor's offices offered full support to the training program by providing training rooms and other needed assistance.

Number of trainings, locations and participants by gender (See Annex 2 for more details)

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	7	188	96	92
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		67	1940	880	1060

Each training lasted for two days and were attended by a mix of local government representatives, emergency response personnel, and herders/communities. A total of 1,940 people participated in the trainings including 1,220 (63%) from state organizations (876 representatives from soum and bagh Governor's office and Emergency Units, 153 people from the education sector, 42 specialists from veterinary and breeding units, 53 representatives from local meteorology and environment units and 96 people from the health sector), 47 (2.4%) from NGOs and 673 (34.6%) herders. A total of 45.4% (880) of participants were female and 54.6% (1060) were male.

Knowledge and skills of the participants were evaluated by pre and post-tests which show participants improved their knowledge and skills by an average of 41.2%. Before the trainings, most of the participants didn't 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, 1,896 (97.7%) of 1,940 participants believe that the training achieved its goals and a total of 1,725 (88.9 %) of respondents answered that they were very satisfied with the training curriculum and 1,706 (87.9%) of participants agreed that training content was highly relevant to their work. A total of 1,506 (77.6%) of the participants felt the training subjects were very important. Asked to name most important subjects, 335 (17.2%) people mentioned the contingency planning, preparedness and early response, 303 (15.6%) people focused on disaster management, 257 (12.8%) of participants named the Participatory Response Identification Matrix (PRIM) methodology, and 212 (10.9%) people chose the LEGS prevention assessment. A total of 601 (30.9%) participants wished to involve more people to these trainings and 227 (11.7%) 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 criticized 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) never had any 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 winter preparation plan, and 179 (9.2%) of respondents would get regular information from NEMA and NAMEM.

The participants expressed their interest to share and promote skills and knowledge learned at the trainings. Aimag Emergency Management Department officers were especially keen to focus on education and requested more LEGS trainings from Mercy Corps. Since the end of December 2015, local trainers started testing training participants on level of skills and knowledge retained after two months of the soum trainings. This will be reported on in the next quarter.

LTS PROJECT IMPACT

The training participants made changes to 35 soum disaster plans as a result of what they learned from LTS2. They identified the most frequent disasters that occur in their locations and adapted soum disaster plans accordingly. For instance, the Hangai region is frequently hit by dzud; the Eastern aimags are most affected by wildfires; the Western region is prone to outbreaks of infectious animal diseases and floods; and Gobi-Altai and Zavhan aimags have a lot of snow and sand storms. In the target aimags, the following changes we made to local disaster plans:

- Hangai region: improved disaster plans in 14 soums of three aimags
- Gobi region: two plans were changed to include activities such as relocation of households, distribution of hay and fodder reserves and preparing warm shelters during dzud disaster
- Eastern region: one soum disaster plan was improved to include prevention and reduction of negative effects of frequent wildfires
- Western aimags: Six soums improved their plans by including response to animal disease outbreaks, drought and dzud
- Altai region: 12 soums in two aimags improved their plans by engaging citizens for the first time to revise the plans.

The project team collected best practices from 115 herders and selected 45 stories to include in the 2nd edition of the Dzud Lessons book. The new book will have more stories divided into nine categories. These best practices focus on destocking, restocking, emergency feeding, livestock shelter and settlement. The first Dzud Lessons book had 27 best practices and was very popular among herders in rural area. Mercy Corps plans to produce more copies and distribute them to herders in target soums.



Animal Blankets

R. Badamjav, director of the public school in Davst soum, participated in the LTS2 training in Uvs aimag. She learned the LEGS methodology and understood the importance of community participation risk mitigation. Impressed by the training, Badamjav pledged 500 animal blankets to soum emergency management units and with help from soum staff and communities, collected 500 blankets that were delivered on 11 December 2015.

ANNEXES

Annex 1: Performance against indicators

Indicator	Baseline	Target	Q2 Performance	Notes	Q3 Performance	Notes	LOP 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)	1940	(880 female and 1060 male)	2159	(964 female and 1195 male)
1.2 Percentage of people trained who retain skills and knowledge after two months	n/a	100%						
1.3 Percentage of attendees at joint planning meetings who are from the local community	n/a	90%						
1.4 Early warning system in targeted community is in place for all major hazards with appropriate outreach to communities	n/a	Yes						
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%						Note: this is the % of the estimated population of 69 soums
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)	1940	(880 female and 1060 male)	2159	(964 female and 1195 male)
2.2 Number of trainings conducted	n/a	75	6		67		73	
2.3 Number of people passing final exams or receiving certificates, disaggregated by sex	n/a	1,528	219	(84 female and 135 male)	1940	(880 female and 1060 male)	2159	(964 female and 1195 male)
2.4 Percentage of people trained who retain skills and knowledge after two months.	n/a	100%						
TOTAL Beneficiaries			219		1,940		2,159	

Annex 2: Soum based training was conducted in 67 soums of 10 aimags

No	Date	Location	Aimag	No of participants		
				Total	Female	Male
1	October 5-6	Asgat	Suhbaatar	30	12	18
2	October 10 -11	Erdenetsagaan	Suhbaatar	32	12	20
3	October 17-18	Dariganga	Suhbaatar	22	13	9
4	October 7-8	Adaatsag	Dundgobi	27	12	15
5	October 5-6	Erdenedalai	Dundgobi	28	13	15
6	October 7-8	Tsenher	Arhangai	27	15	12
7	October 5-6	Tuvshruuleh	Arhangai	26	23	3
8	October 9-10	Hotont	Arhangai	26	10	16
9	November 9-10	Bulgan	Arhangai	30	14	16
10	October 27-28	Ugiinuur	Arhangai	30	20	10
11	November 5-6	Hashaat	Arhangai	21	10	11
12	October 17-18	Burd	Uvurhangai	25	15	10
13	October 14-15	Yusen-Zuil	Uvurhangai	32	18	14
14	October 9-10	Ulziit	Uvurhangai	31	13	18
15	October 11-12	Bayan-Undur	Uvurhangai	25	9	16
16	October 22-23	Bat-Ulzii	Uvurhangai	33	13	20
17	October 28-29	Hujirt	Uvurhangai	28	22	6
18	October 19-20	Khanhorin	Uvurhangai	28	17	11
19	October 25-26	Zuunbayan-Ulaan	Uvurhangai	24	4	20
20	October 6-7	Hureemarl	Bayanhongor	30	12	18
21	October 8-9	Bayanbulag	Bayanhongor	30	14	16
22	October 11-12	Gurvanbulag	Bayanhongor	25	17	8
23	October 13-14	Zag	Bayanhongor	24	9	15
24	October 17-18	Jargalant	Bayanhongor	27	17	10
25	November 10-11	Bayan-Ovoo	Bayanhongor	29	20	9
26	November 12-13	Erdenetsogt	Bayanhongor	23	7	16
27	October 8-9	Tsagaanchuluut	Zavhan	30	14	16
28	October 25-26	Ider	Zavhan	31	17	14
29	October 27-28	Telmen	Zavhan	26	10	16
30	October 29-30	Toson	Zavhan	34	18	16
31	October 19-20	Aldarkhaan	Zavhan	30	13	17
32	October 21-22	Erdenehairhan	Zavhan	30	12	18
33	November 5-6	Numrug	Zavhan	36	16	20
34	November 7-8	Tudevtei	Zavhan	30	15	15
35	November 9-10	Tsetsen-uul	Zavhan	31	12	19
36	November 11-12	Songino	Zavhan	29	9	20
37	November 13-14	Bayanhairhan	Zavhan	26	14	12
38	November 15-16	Asgat	Zavhan	33	21	12
39	November 17-18	Tes	Zavhan	29	12	17
40	November 19-20	Bayantes	Zavhan	24	9	15
41	October 2-3	Tsagaanhairhan	Zavhan	26	14	12

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No	Date	Location	Aimag	No of participants		
				Total	Female	Male
42	October 4-5	Haliun	Gobi-Altai	30	12	18
43	October 6-7	Delger + Biger	Gobi-Altai	30	13	17
44	October 10-11	Bugat	Gobi-Altai	30	21	9
45	October 12-13	Tugrug + Sharga	Gobi-Altai	30	12	18
46	October 14-15	Tonhil	Gobi-Altai	30	11	19
47	October 18-19	Bayan-Uul	Gobi-Altai	30	13	17
48	October 15-16	Bulgan	Hovd	32	13	19
49	October 17-18	Uench	Hovd	23	10	13
50	October 19-20	Altai	Hovd	42	18	24
51	October 7-8	Bulgan	Bayan- Ulgii	30	5	25
52	November 26-27	Altai	Bayan- Ulgii	28	10	18
53	October 14-15	Sagsai	Bayan- Ulgii	30	8	22
54	October 12-13	Tsengel	Bayan- Ulgii	30	11	19
55	October 20-21	Ulaanhus	Bayan- Ulgii	32	15	17
56	October 5-6	Turgen	Uvs	27	13	14
57	October 7-8	Sagil	Uvs	27	10	17
58	October 9-10	Davst	Uvs	34	16	18
59	October 12-13	Malchin	Uvs	24	9	15
60	October 14-15	Zuungovi	Uvs	27	12	15
61	October 16-17	Tes	Uvs	34	11	23
62	October 19-20	Naranbulag	Uvs	34	5	29
63	October 21-22	Hyargas	Uvs	34	12	22
64	October 23-24	Baruunturuun	Uvs	29	14	15
65	October 26-27	Zuunkangai	Uvs	30	11	19
66	October 28-29	Undurhangai	Uvs	29	12	17
67	Oct 30 - Nov 01	Tsagaanhairhan	Uvs	26	16	10
	Total			1940	880	1060