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

FOURTH 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>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
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 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:	January 1, 2016 to March 31, 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-Uundur, 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 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 fourth quarterly report covers the period of January 1 to March 31, 2016 which focused on conducting skills and knowledge retention tests in target soums two months after the trainings, building the SMS messaging system and re-printing and distributing the second edition of the Dzud lessons book.

Summary

Period	Activities	Outcomes
Q4	<ul style="list-style-type: none"> • Printed the second edition of the Dzud Lessons book and distributed 25,000 copies to the target communities • 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 • Conducted a direct LTS training for all soum Hural chairmen with assistance from a local trainer in Hovd aimag • Sent an official request to Food and Agriculture Organization of the United Nations (FAO) to jointly finance the translation of the LEGS book and organization of Training of Trainers • Worked with the National University of Mongolia (NUM) team to gain access to the Norwegian weather information from their website for target soums 	<ul style="list-style-type: none"> • Soum emergency plans have been approved and available in 53 of target 69 soums <p>The feedback received during the retention tests 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

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.

	<ul style="list-style-type: none"> Working with NUM to obtain access to National Agency of Meteorology and Environmental Monitoring (NAMEM) weather data from their website 	
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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 reporting period, the program team continued to work with Keio University of Japan and the National University of Mongolia to build the SMS system in all target aimags. In addition, the team tested the skills and knowledge retention of training participants two months after the completion of trainings.

Partner Coordination

During the fourth quarter, the project team continued to work with Keio University, NUM and NAMEM to build the SMS system. The project continues to work with NEMA under the sub-sector “Capacity Building and Training.” The LTS2 team made a request to FAO to partner on the translation of the LEGS book and organization of 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. The system 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.

Activity 1.2 SMS Message System Implementation

During the previous reporting period, KEIO developed automated messaging for nine soums as a test. However, there was an issue around the automatic updating of weather data; therefore, Mercy Corps is working with KEIO to create codes to automatically update the system.

Additionally, Mercy Corps started working with NUM’s Nano Satellite Laboratory to build an SMS messaging system based on external data sources. The Nano Satellite Laboratory identified that the Norwegian Weather Station contains data for only 13 target soums out of 69 soums. So the Laboratory is now testing new software that would help to automatically access weather information from NAMEM’s website (<http://tsag-agaar.gov.mn>) and use it in the LTS2 SMS system.

Activity 1.3 Community Mobilizations

Mercy Corps continued to work with KEIO University, the University of Mongolia and national consultants on the SMS system. No tests were conducted in target soums during this period.

Sub-sector: Capacity Building and Training

Activity 2.1 Partner Mobilization and Planning

Mercy Corps cooperated with the Emergency Department (EMA) of Hovd aimag to conduct the LTS-2 training on 28-29 March.

Activity 2.2 Curriculum Development

Mercy Corps and Hovd aimag EMA adapted the LTS-2 training curriculum to fit the needs of the training that was conducted on 28-29 March in Hovd. The training focused on disaster management, LEGS methodology, how to use this

methodology to develop soum disaster plans, and the importance of active engagement of soum citizens in developing plans.

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.

Activity 2.3 Training of Trainers and Direct Training

The EMA and Mercy Corps aimag staff jointly conducted the “Soum Disaster Plan Methodology and Use of LEGS Tools” training in Hovd aimag on 28-29 March. 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, training participants learned how to engage citizens in developing soum disaster plans, conduct disaster risk 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 new soum plans are expected to be finished and submitted to EMA by May 2016. The training participants are expected to share the LTS2 trainings with their other team members from the soum emergency committee.

During the reporting period, 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 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% of all participants were actively involved in improving the soum disaster plans and 1,179 (or 59.1%) shared their knowledge from the 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

LTS2 PROJECT IMPACT

During the reporting period, 53 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 is a big achievement.

According to the retention test feedback responses, 1,179 (59.1%) of the participants shared their knowledge with other people, 917 (46%) of the participants started using weather information regularly, 793 (39.7%) of the participants increased their hay and fodder supply, 770 (38.6%) insulated and warmed their animal shelters, 475 (23.8%) of the participants received weather information via SMS, 458 (23%) of the participants improved their dzud preparation, 456 (22.9%) of the participants destocked their herd, and 358 (17.9%) improved veterinary services.

Dzud Lessons help herders prepare for winter

Last October, Mercy Corps conducted LTS-2 trainings in all target soums and distributed the 1st edition of Dzud Lessons book. This book instantly became popular among local herders. When the news of the 2nd edition of book spread, herder P. Ravjir decided to visit the Mercy Corps office in Uvurhangai aimag and get a copy of the book.

“I have read the previous version of the Dzud Lessons book last year. When I heard the news about the 2nd book, I traveled to the aimag center and visited Mercy Corps office for the new book. This book is very interesting and contains many useful tips for young herders. We herders tend to focus only on hay and fodder for winter. We usually don’t pay much attention to insulation of animal shelters or veterinary services for our livestock. I will share this book with my friends” says P. Ravjir. He plans to use the tips to insulate and warm his animal shelter.



ANNEXES

Annex 1: Performance against indicators

Indicator	Baseline	Target	Q2 Performance	Notes	Q3 Performance	Notes	Q4 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)	1,940	(880 female and 1060 male)	21	(7 female and 14 male)	2,180	(971 female and 1,209 male)
1.2 Percentage of people trained who retain skills and knowledge after two months	n/a	100%					100%			
1.3 Percentage of attendees at joint planning meetings who are from the local community	n/a	90%					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								
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)	1,940	(880 female and 1060 male)	21	(7 female and 14 male)	2,180	(971 female and 1,209 male)
2.2 Number of trainings conducted	n/a	75	6		67		1		74	

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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%			
TOTAL Beneficiaries			219		1,940		21		2,180	