



©FAO Mongolia

EMERGENCY ASSISTANCE FOR THE CONTROL OF FOOT AND MOUTH DISEASE IN CENTRAL AND WESTERN REGIONS OF MONGOLIA

September 2020

SDGs:



Countries:

Mongolia

Project Codes:

TCP/MON/3701

FAO Contribution:

USD 300 000

Duration:

1 October 2018 – 31 August 2020

Contact Info:

FAO Office in Mongolia

FAO-MN@fao.org



Implementing Partners

Ministry of Food, Agriculture and Light Industry (MoFALI), General Authority for Veterinary Services (GAVS), *aimag* veterinary departments and field veterinarians.

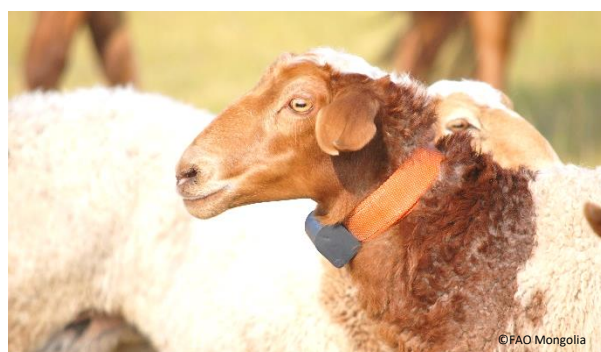
Beneficiaries

Animal health authorities (from national level to individual officials) responsible for the prevention, control and monitoring of Foot and Mouth Disease (FMD), herders and national and local veterinary services.

Country Programming Framework

Priority Area 1: Promotion of sustainable livestock development through improved quality, health, and productivity of livestock and increased pasture, feed, fodder and water supply.

CPF Outcome 1.3: Enhanced qualities and availability of veterinary services.



BACKGROUND

Foot and Mouth Disease (FMD) is a highly contagious transboundary animal disease (TAD), which affects not only animals, but also livelihoods and markets through severe economic impacts. Mongolia has a nomadic livestock production system with a large FMD-susceptible population, consisting of around 30 million sheep, 27 million goats, 4 million head of cattle, 0.4 million camel and a few pigs. In recent years, the country has made great efforts to control FMD. However, the introduction and spread of the virus has remained a constant threat for livestock in Mongolia, as both neighbouring countries, Russia and China, have regularly reported outbreaks over the last years.

Between 2000 and 2017, a total of 14 FMD outbreaks occurred in Mongolia, mainly in the eastern part of the country, but the disease was not as yet endemic. In 2017, an emerging FMD epidemic was first reported near the southeastern international border with China. The virus was confirmed by the State Central Veterinary Laboratory (SCVL) as serotype O. By March 2018, the disease had spread widely and deeply in the country, including the capital city and 13 *aimags* and about 44 *soums*, and became endemic in eastern Mongolia. In view of this, the Ministry of Food, Agriculture and Light Industry (MoFALI) requested that FAO provide technical assistance to improve livestock health through the effective control, containment and prevention of outbreak of new cases of FMD in the eastern region, and avoidance of the spread in the central and western parts of the country.

IMPACT

The project contributed to reducing the risk of FMD virus transmission in infected animals in the eastern region of Mongolia, by strengthening capacities for early detection and rapid response to FMD outbreaks. This will also help decrease the spread of FMD in susceptible livestock populations in other parts of the country.

ACHIEVEMENT OF RESULTS

The project successfully filled a gap, in terms of knowledge and expertise concerning the best approaches for the prevention and control of FMD. In particular, the preparation of a draft national FMD control strategy, and public awareness and training activities on outbreak investigation and the importance of biosecurity will assist in strengthening the control of FMD in Mongolia.

The draft national FMD control strategy was prepared through a collaborative process with a number of stakeholders, which included a review of the existing control strategy by international and national consultants. The four-year control strategy outlines the activities to be undertaken in the period 2020-2023. Draft standard operating procedures (SOPs) for outbreak investigation and biosecurity were also developed. In addition, a study was conducted to identify the risk factors for virus intrusion and the spread of transboundary FMD, using epidemiological approaches.

Capacity-building activities focused on improving the ability of regional and local-level veterinarians to investigate outbreaks of FMD and other infectious diseases, including the identification of transmission and possible routes of infection. A total of 359 veterinary epidemiologists from 295 *soums* of 19 *aimags* were trained during Training-of-Trainers (ToT) sessions on outbreak investigation and response.

Five interactive educational videos were developed and disseminated on proper FMD sampling and sample shipping procedures, to enhance the capacity of sample collection and shipping at *aimag* laboratory level. In addition, to increase awareness on the prevention and control of FMD in herders and the general public, the project produced and disseminated five short animated videos, and conducted a public awareness campaign on promoting safe livestock practices, best practices on biosecurity, and active cooperation between livestock and veterinary sectors for the control of FMD in Mongolia.

A proposal was initiated for the development of a model for an animal health service centre, which would allow veterinarians to easily contain animals for vaccination, sampling, trimming or ear-tagging/identification purposes. It is expected that the establishment of this centre will bring many positive results, including improved quality of vaccination, and facilitating veterinarians' work and saving time.

In order to improve coordination and information sharing on FMD control, including animal movement, the project tested the feasibility of using Global Positioning System (GPS)-tracking technology in the nomadic Mongolian context, to characterize herd movements and the patterns of interaction between herds throughout the year; as well as surveying information regarding key herd management and husbandry practices during seasonal mobility. This activity assisted in better understanding pasture and water usage and sharing mechanisms among neighbouring herds. In addition, a pilot was launched on the use of salt blocks to facilitate FMD testing.

IMPLEMENTATION OF WORK PLAN

All planned activities were completed within the agreed budget, with no over or underexpenditure. Certain savings were made from a number of budget lines, enabling the implementation of additional activities. No major challenges were encountered in terms of timely delivery during the project.

FOLLOW-UP FOR GOVERNMENT ATTENTION

The draft national FMD control strategy is currently awaiting final approval by the MoFALI, and to be converted into actions for its implementation.

In addition, the draft SOPs for outbreak investigation and biosecurity are awaiting approval by the GAVS, in order to be taken up as routine procedures nationwide.

SUSTAINABILITY

1. Capacity development

The project took into account potential follow-up actions and ways of supporting the country beyond the lifetime of the project. As outlined above, a revised FMD control strategy was developed. In addition to addressing key risk factors for FMD, the strategy emphasizes the need for ongoing monitoring and evaluation of implementation, and the engagement of the private and public sectors in the process. In November 2019, the strategy was finalized during a national workshop with GAVS representatives from all *aimags* and relevant national entities.

The project supported more efficient and cost-effective approaches of e-learning, which will specifically include an online learning management system. The system was integrated in the already existing Mongolian Animal Health Information System (MAHIS), which was launched by the General Authority for Veterinary Services (GAVS) in 2018.

2. Gender equality

Male and female stakeholders were actively and equally involved in all consultation and training activities; while the review process took gender issues into consideration.

3. Environmental sustainability

The project did not address environmental issues.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

This was not applicable to this project.

5. Technological sustainability

The project introduced new technological tools and approaches that were not regularly used by the country, such as participatory epidemiology, FMD risk factor analysis, risk communication, temporal movement of small ruminants, and an online training course. These activities will be pursued without further technical assistance, as a result of the capacity development achieved through the project.

6. Economic sustainability

The government has allocated a higher amount of funding to the animal health and veterinary service sector than in previous years. The sector expects to execute a number of follow-up activities in order to establish its functions.



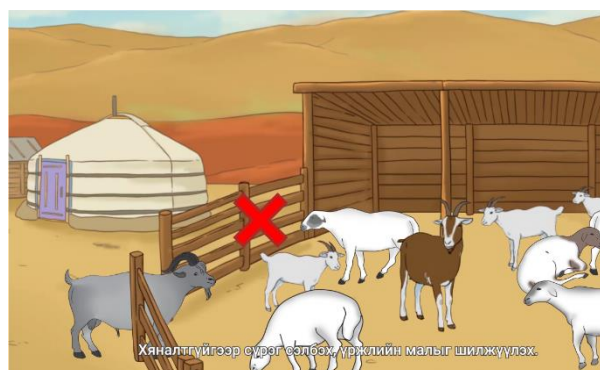
DOCUMENTS AND OUTREACH PRODUCTS

Documents

- ❑ A draft Standard Operating Procedures on Outbreak investigation and Biosecurity. C. Bartels and A. Lkhagvasuren. March 2019. 12 pp.
- ❑ Transboundary animal disease booklet. G. Nyamdavaa. March 2019. 33 pp.
- ❑ A draft FMD control strategy for Mongolia. C. Bartels and A. Lkhagvasuren. June 2019. 84 pp (including attachments).
- ❑ Translation of Technical notes on Disease Outbreak Investigation for FMD. C. Bartels. February 2020. 55 pp.

Outreach Products

- ❑ Interactive educational videos on sampling procedures for different sample types including blood, serum, saliva, faeces, milk, epithelium, tonsils, etc.
https://www.youtube.com/playlist?list=PL6x4KuXS4m_L2QgY4SqSXNDb7m55fHues.
- ❑ Five short animated videos on promoting safe livestock management practices
https://www.youtube.com/playlist?list=PL6x4KuXS4m_Inf88P2J4fiEIVLV81wa8.
- ❑ Short video clips discuss and illustrate relevant issues on preventing animal diseases
https://www.youtube.com/playlist?list=PL6x4KuXS4m_Jp8o_eReWm_B_YLNUR-Gd.



ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	FMD outbreaks effectively investigated and controlled and prevented onwards into the central and western region		
Outcome	Improved livestock health through effective control, containment and prevention of outbreak of new cases of FMD in the eastern regions and avoidance of the spread in the center and western part of the country		
	Indicators	<ul style="list-style-type: none"> – Incidence of FMD in central region (buffer zone) decreases to zero. – Effective outbreak investigation and control SOPs are implemented. – Number of veterinarians trained in outbreak investigation. – System established to disseminate information through one window. 	
	Baseline	<ul style="list-style-type: none"> – 448 confirmed FMD cases in 30 <i>soums</i> in the central region (7 May 2018). – No SOPs in place. – 20 veterinarians trained in outbreak investigation. – No one window channel. 	
	End Targets	<ul style="list-style-type: none"> – Zero outbreaks since May 2018 (through improved FMD control activities and public awareness campaign). – SOPs approved by GAVS. – 120 regional and <i>aimag</i> and <i>soum</i> veterinarians trained in outbreak investigation. – A system is established. 	
	Comments and follow-up action to be taken	<p>Most of the planned project outputs were achieved. The project successfully filled a gap, in terms of knowledge and expertise concerning the best approaches for the prevention and control of FMD. In particular, the preparation of a draft national FMD control strategy, and public awareness and training activities on outbreak investigation and the importance of biosecurity will assist in strengthening the control of FMD in Mongolia.</p> <p>With regard to the indicator “System established to disseminate information through one window”, a ten-minute “Animal health TV news” item was broadcast on Mongolian National Broadcaster (MNB), once every 14 days for one year during the project, in order to provide adequate animal health knowledge to herders, and thus assist them in protecting their livestock from FMD and other infectious diseases, and promote awareness of their responsibilities. GAVS is to continue funding this activity after the completion of the project.</p>	
Output 1	FMD control strategy reviewed and SOPs finalized in the eastern regions, reducing the spread and outbreak of new cases in central and western regions		
	Indicators	Target	Achieved
	Strategic documents for the control of FMD are reviewed and risk-based FMD control strategy is developed.	Draft FMD control strategy and SOPs on outbreak investigation are produced.	Yes
Baseline	No comprehensive strategy for FMD exists.		
Comments	In May 2019, the international consultant reviewed the existing FMD control strategy, and, together with the Mongolian counterpart, identified the risks of FMD virus transmission, based on reports and experiences of FMD outbreaks in previous years. They then drafted a four-year FMD control strategy. The draft FMD control strategy is waiting to be approved by MoFALI and converted into actions for implementation.		
Activity 1.1	Inception meeting of the project		
	Achieved	Yes	
	Comments	The project inception and planning meeting was held at Ulaanbaatar Hotel on 15 November 2018. The meeting focused on: i) developing a common understanding of the project and its objectives; ii) the operational environment and the role of each partner in the successful implementation of the project; and iii) the development of the work plan with roles and responsibilities of each partner. The project inception and planning meeting was undertaken with a range of discussions, which conveyed the successes, opportunities and challenges of implementing such a project. The procedures, guidelines, deliverables and timelines of the project were also discussed.	

Activity 1.2	Assessment of current FMD control measures and surveillance activities	
	Achieved	Yes
	Comments	An assessment was carried out by the international consultant, who indicated that there was currently a lack of understanding of the FMD situation. Outbreaks in 2017 and 2018 were inconsistently investigated and were not fully documented. As a result, it was not possible to better understand the routes of FMD virus transmission, its risk factors, and the impact on livestock production. Therefore, principles and procedures for outbreak investigation were provided and applied in Activity 1.3.
Activity 1.3	Risk factor analysis	
	Achieved	Yes
	Comments	A study was conducted in order to identify the risk factors for virus intrusion and the spread of transboundary FMD, which occurred in Erdenetsagaan <i>soum</i> of Sukhbaatar <i>aimag</i> and Matad <i>soum</i> of Dornod <i>aimag</i> in 2017, using epidemiological approaches. It included data collection from herders, based on advanced outbreak investigation and participatory epidemiology approaches. One of the recommendations of the study was to educate herders regularly on immediate reporting of FMD suspicion, on how the disease is transmitted to other herds, <i>soums</i> and <i>aimags</i> , and the consequences of considerable socio-economic losses.
Activity 1.4	Risk-based strategy development	
	Achieved	Yes
	Comments	A national FMD working group was established to support the national veterinary service in the development of the national FMD strategy, which worked as a team with the international consultant. In November 2019, a national FMD strategy workshop was organized, to which representatives of all <i>aimags</i> and all relevant national organizations and institutions were invited. In a series of presentations and working group sessions, the draft FMD strategy was presented and opened for further discussion and input. The output of this workshop was recorded in group presentations and summaries of the discussions. Finally, the output of the workshop was used to finalize the draft national FMD strategy.
Activity 1.5	Finalize SOPs on outbreak investigation	
	Achieved	Partially
	Comments	Outbreak investigation is a complex procedure that needs to be executed uniformly and completely. Therefore, SOPs for outbreak investigation and biosecurity were developed during the project. These were introduced during the outbreak investigation training sessions, and feedback from participants was used to complement the SOPs. The draft SOPs for outbreak investigation and biosecurity are awaiting GAVS approval, in order to be taken up as routine procedures nationwide.
Activity 1.6	Deliver approved SOPs to veterinarians	
	Achieved	No
	Comments	The SOPs were not distributed to veterinarians, because the document had not yet been officially approved by GAVS.

Output 2	Capacity of veterinary services to control and prevent FMD is improved		
	Indicators	Target	Achieved
	<ul style="list-style-type: none"> – Animal health services have improved knowledge of the control and prevention of FMD. – Number of veterinarians trained in outbreak investigation. 	<ul style="list-style-type: none"> – Animal health services have improved knowledge and practical skill of the control and prevention of FMD. – 120 regional and aimag and soum veterinarians trained in outbreak investigation. 	Yes
Baseline	<ul style="list-style-type: none"> – Insufficient knowledge of veterinarians about FMD. – 20 veterinarians trained in outbreak investigation. 		
Comments	All planned activities were fully achieved.		
Activity 2.1	Development of glossary of technical terms		
	Achieved	No	
	Comments	During the Technical Cooperation Programme (TCP) project TCP/MON/3603, "Emergency assistance for the control of sheep and goat pox", the book "Epidemiology for Field Veterinarians", which contains a glossary on technical terms, was translated into Mongolian. Therefore, this activity was cancelled.	
Activity 2.2	ToT training on outbreak investigation and response		
	Achieved	Yes	
	Comments	Capacity-building activities focused on improving the ability of regional and local-level veterinarians to investigate outbreaks of FMD and other infectious diseases, including the identification of transmission and possible routes of infection, as well as the need to ensure that veterinary epidemiologists washed and disinfected their hands, boots and clothes before moving on to the next herder. A total of 359 veterinary epidemiologists from 295 <i>soums</i> of 19 <i>aimags</i> were trained during ToT sessions on outbreak investigation and response.	
Activity 2.3	Simulation exercise at national level		
	Achieved	Yes	
	Comments	The exercises were good instruments to assist the participating <i>aimags</i> in the development of specific technical operations that were not well defined in the contingency plan and draft SOPs, to better highlight the importance of general aspects, such as communication, coordination, information sharing, as well as to improve the capacity to self-assess the level of preparedness achieved.	
Activity 2.4	Enhance the capacity of sample collection and shipping on the <i>aimag</i> laboratory level		
	Achieved	Yes	
	Comments	Five educational videos were developed and disseminated on proper FMD sampling and sample shipping procedures, to enhance the capacity of sample collection and shipping at <i>aimag</i> laboratory level.	
Activity 2.5	Provision of outbreak investigation materials to veterinarians		
	Achieved	Yes	
	Comments	Local veterinarians were provided with the required items to conduct an outbreak investigation, such as protective equipment and clothes and diagnostic tools.	
Activity 2.6	Provision of material for quarantine		
	Achieved	Yes	
	Comments	To be well prepared for potential new FMD outbreaks, FAO provided disinfectants and reagents to the central and western <i>aimag</i> veterinary departments.	

Output 3	Public awareness on prevention of FMD is improved		
	Indicators	Target	Achieved
	Herders and local veterinarians are aware of the disease and have better knowledge of how to recognize, report and prevent its introduction.	Project trainings and public awareness activities improve the knowledge of local veterinarians and herders about FMD.	Yes
Baseline	Insufficient knowledge of herders, local veterinarians and university students about FMD.		
Comments	All planned activities were fully achieved.		
Activity 3.1	Conduct a Public awareness campaign		
	Achieved	Yes	
	Comments	To increase the awareness of herders and the general public on the prevention and control of FMD, five short five short animated videos were developed on promoting safe livestock practices and cooperation with livestock and veterinary sectors, for the control of FMD in Mongolia. The videos were broadcast over 480 times on Malchin TV, which is the most popular television channel among herders.	
Activity 3.2	Improve the information flow system of the Veterinary services to the public		
	Achieved	Yes	
	Comments	The project collaborated with GAVS and the MNB to produce 24 screenings for Mongolian herders on how best to keep livestock healthy. Each 10-minute screening discusses and illustrates a relevant issue on preventing disease (nutrition, preventive vaccination, health certification, good management practices when migrating, etc.).	
Activity 3.3	Reviewing and revising teaching material for vet students on FMD and other TADs		
	Achieved	Yes	
	Comments	The international consultant, in collaboration with teachers of the School of Veterinary Medicine, reviewed the teaching material on FMD and other TADs, and made the necessary changes.	
Activity 3.4	Conducting outbreak investigation training to last year students		
	Achieved	Yes	
	Comments	The main goal of the training was to improve students' capacities in the prevention, detection and control of FMD and other animal infectious diseases, build a base for risk-assessment and risk-management, and strengthen capacity on outbreak investigation.	
Output 4	Improved control of current epidemic and avoidance of spread to central and western regions		
	Indicators	Target	Achieved
	Improved facilities to examine, sample and vaccinate livestock.	One model facility established for use by local community and demonstration to other <i>aimags</i> .	Yes
Baseline	Insufficient measures to control FMD.		
Comments			
Activity 4.1	Provision of chutes & other vaccination supporting material		
	Achieved	Yes	
	Comments	Given that it is often difficult for veterinarians to administer vaccines effectively in Mongolia, which is one of the few nomadic herding countries, a proposal was initiated for the development of a model for an animal health service centre, to allow veterinarians to easily contain animals for vaccination, sampling, trimming or ear-tagging/identification purposes. The centres can be established at <i>aimag</i> or <i>soum</i> level, which will require herders to attend with their herds, but eliminates the need to travel and field-related challenges.	

Activity 4.2	Post vaccination monitoring and dissemination workshop		
	Achieved	Partially	
	Comments	Given that the post vaccination monitoring was conducted before the project was implemented, only the dissemination workshop was organized during the project. During the workshop, the results of the FMD post vaccination monitoring and FMD detection surveillance conducted in 2018 were introduced and discussed, especially regarding possible improvements to be considered in the future. A total of 65 people attended the workshop, comprising <i>aimag</i> technical staff of GAVS and other relevant stakeholders of the veterinary sector. After each presentation, participants asked the presenters questions to clarify issues.	
Output 5	Coordination and information sharing on FMD control, research on vaccination and control of animal movement is improved		
	Indicators	Target	Achieved
	Research activities to support FMD control measures.	Several innovative research activities implemented to support FMD control measures.	Yes
Baseline	Inadequate science-based FMD control.		
Comments	The project implemented several innovative research activities, such as GPS tracking of small ruminants, salt blocks to facilitate FMD testing, and immunogenicity to examine optimal FMD vaccine schedules. Given that it was not possible to complete this research within the short time span of the project, the results of these studies will be available after the project.		
Activity 5.1	Tripartite (Mongolia, China and Russia) workshop on FMD control strategies and Final workshop		
	Achieved	No	
	Comments	Due to COVID-19 pandemic, this activity was cancelled.	
Activity 5.2	Installing satellite collars to study livestock movements and other additional studies		
	Achieved	Yes	
	Comments	<p>In order to improve coordination and information sharing on FMD control, including animal movement, the project supported the GPS tracking of small ruminants, as a monitoring tool of risk factors for infectious diseases. In August 2019, six lightweight GPS collars were deployed on six different small-ruminant herds at their summer pastures locations, and a preliminary questionnaire-based survey was conducted with the selected herder households. This activity also assisted in better understanding pasture and water usage and sharing mechanisms among neighbouring herds. In addition, 20 families were selected to study livestock interactions with gazelles in Bulgan and Khulunbuir <i>soums</i>, Dornod <i>aimag</i>, and Erdenetsagaan <i>soum</i>, Sukhbaatar <i>aimag</i>.</p> <p>The project also launched a pilot in April 2020 on the use of salt blocks to facilitate FMD testing. The pilot aimed specifically at allowing for early diagnosis of the virus circulating in ruminants, but the salt blocks could potentially also be used for other diseases and in other settings with camelids or wildlife.</p> <p>Given that delivering a two-dose primary course vaccine was logistically challenging, owing to Mongolia's nomadic production system, it was suggested that an alternative schedule be devised, which suited field conditions. Therefore, a study was implemented in Orkhon <i>aimag</i> to generate evidence to test the hypothesis of giving a double-vaccine dose, as a satisfactory alternative to the two-dose primary course in place.</p>	

Partnerships and Outreach

For more information, please contact: Reporting@fao.org

Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla

00153 Rome, Italy