



STANDARDS *and* TRADE
DEVELOPMENT FACILITY



**Food and Agriculture Organization
of the United Nations**

**PILOTING AN IMPROVED ANIMAL IDENTIFICATION
AND REGISTRATION SYSTEM (AIRS)
MTF/MON/018/STF (STDF/PG/534)**

FINAL ASSESSMENT REPORT

Ulaanbaatar, 2022

This report was prepared by Dugerdorj Davaadorj, an external consultant, who performed the project assessment. Mr. Dugerdorj worked under the overall guidance of Dr Vinod Ahuja, Food and Agriculture Organization (FAO) Representative of Mongolia, Dr Sonevilay Nampanya, FAO Livestock Development Officer and the project lead technical officer and Nyamkuu Tsoodol, Consultant of AIRS project, who provided strategic and technical guidance, coordination, and overall support. Assistance was also provided by the Ministry of Food, Agriculture, and Light Industry (MOFALI) and the Uvurkhangai province Agriculture Department.

The author would like to express gratitude towards all AIRS project implementing partners and stakeholders for the cooperation and support throughout the assessment process and their assistance in the review of the report.

The views expressed in this report are those of the author and do not necessarily reflect the views of the Food and Agriculture Organization of the United Nations and the Mongolian Ministry of Food, Agriculture, and Light Industry.

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LIST OF ACRYONOMS

AIRS	Animal Identification and Registration System
EU-TRAM	Trade-related Assistance in Mongolia (EU Project)
GASI	General Agency for Specialized Investigation (Mongolia)
GAVS	General Agency for Veterinary Services
IDELE	Institut de l'Élevage (French Livestock Institute)
FAO	The Food and Agriculture of the United Nations
MOFALI	Ministry of Food, Agriculture, and Light Industry (Mongolia)
NSO	National Statistics Office
SDC	Swiss Agency for Development and Cooperation
SOC	Standard Operating Procedures
STDF	Standard and Trade Development Facility
WTO	World Trade Organization

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EXECUTIVE SUMMARY

This report presents the final assessment of the “Piloting and Improved Animal Identification and Registration System” (AIRS) project (MTF/MON/108STF) which was implemented by the Food and Agriculture Organization of the United Nations and the Mongolian Ministry of Food, Agriculture, and Light Industry. The project officially started on June 8th, 2019 and was finalized on March 31st, 2022.

The livestock subsector has played a crucial role in food supply, employment, economic activity throughout Mongolia’s history. The livestock subsector is based on an extensive and intensive livestock system; most of the country’s livestock production is based on a tradition semi-nomadic pastoral system, while intensive livestock systems have been rapidly growing over the recent years. Although the country has a large number of livestock, the key challenges that Mongolia faces are related to animal health, identification, health certification, and export of livestock related products.

The AIRS project was aimed at developing and deploying a modified animal identification and registration scheme and information system; piloting/testing a new Standard of Procedure (SOP), information system and mobile application to register animals in four target soums of Uvurkhangai province; to address the aforementioned challenges and facilitate animal disease control and support livestock related product exports through identifying and registering animals through ear-tagging and a combination of hardware and software. The previous Animal Registration Information System that was deployed by the MOFALI was discontinued due to the gap between the registration process and the features/modules of the system (i.e. the deregistration of livestock was unavailable).

The assessment was carried out drawing on the OECD-DAC Principles for the Evaluation of Development Assistance according to the guidelines for the evaluation of projects funded by STDF. The purpose of the assessment was to carry out a comprehensive overview of the AIRS project effectiveness, efficiency, relevance, sustainability, internal coherence, and impact using a qualitative method of study. The assessment process included efforts to source information from project key stakeholders such as the AIRS project team of FAO, MOFALI, Uvurkhangai Agriculture Department, and Interactive LLC and use different methods of inquiry (document reviews, interviews, and field visit) to ensure information collected and findings obtained are credible and comprehensive.

The assessment findings show that the AIRS project was relevant in terms of its alignment to government priorities and FAO Mongolia objectives, effective in terms of delivery and accomplishment of outputs and activities stated in the project master document, efficient in terms of timely delivery of activities and resource management, sustainable and internally coherent in terms of its alignment to long-term FAO, government, and other donor organization goals and objectives. The project also delivered short and long-term positive impacts that benefited all stakeholders and has significant synergies with relevant legal reforms and other ICT solutions that aim to solve challenges related to animal health, pastureland management, sustainable livestock management and support the access of livestock related products to export markets.

CHAPTER 1: INTRODUCTION

1.1 PROJECT OVERVIEW

FAO Mongolia works with the vision "to be a leading, credible and responsive partner in ensuring food and nutrition security of the population". The FAO Mongolia office has been coordinating projects and programs in research, capacity building, natural resources management, technology transfer, food and agriculture policy, livestock production systems management, emergency and post crisis management, forestry information, statistics, food security and nutrition, emergency response operations, crop production system management, and food quality and safety.

The project entitled "MTF/MON/108STF - Piloting the improved the Animal Identification and Registration System (AIRS)" is a project financed by the Standards and Trade Development Facility (STDF) and implemented by FAO. The project was designed to pilot and demonstrate the technical feasibility, cost-effectiveness and sustainability of an amended animal identification and registration scheme (AIRS) with the end goal to develop and support the Mongolian livestock product export and improve the control of the animal infectious disease.

The project aimed at updating the relevant rules and regulations for animal identification and registration in Mongolia, re-developing the software system, and ear-tagging 190,000 animals in four soums (Bat-Ulzii, Uyanga, Guchin-Uus, Bayangol) of Uvurkhangai Aimag to test the Standard Operating Procedure (SOP) for ear tagging, and software and hardware in the field conditions.

The project commenced on May 15th, 2019 and was finalized on March 31st, 2022 with a total budget of USD 384,783.

1.2 PROBLEM STATEMENT

The livestock subsector is considered as a key economic sector that has potential to diversify the overall economy and contribute to long-term economic growth. Since Mongolia's transition from a centrally planned to a market economy the livestock sector has faced challenges in animal health care, infectious diseases, pastureland management due to lack of both human and technical capacities.

During the centrally planned economic period, metallic tags were used to for animal recording and was discontinued in 1990s. In 2009, the National Livestock Program was launched and served as a starting point for an animal identification system (AIS). However, due to various challenges such as better practices in restraining animals (semi-wild and adult animals), insufficient provision of ear tags, lack of procedures and resource constraints the AIS was not deployed successfully.

Triggered by the Bovine Spongiform Encephalopathy (BSE) crisis, many OIE member countries have deployed animal identification and registration schemes. These systems have become increasingly important in demonstrating animal health and access export markets. EC has established approaches for identification, registration, and traceability of livestock and livestock related products.

Therefore, without a functional AIRS it is becoming increasingly challenging for Mongolia to access export markets. Without primary information that identifies specific animals, Animal Health Certificates issued are only partially reliable in proving the animals originate from a disease-free area.

Thus, the AIRS will be crucial in improving the reliability of animal health records and facilitating access to exports markets.

The target beneficiaries include:

- Meat industry (slaughterhouses and export companies): Reliable animal identification and registration is the key to improve the food safety for domestic markets and accessing export markets. The industry recognizes that this pilot and the information output provided by AIRS will add value to their products.
- Public veterinary services: The AIRS will improve the reliability of the health certification and improve the effectiveness of veterinary laboratory analysis by creating a clear linkage between blood sample, test result, and animal.
- Ministry of Food, Agriculture and Light Industry: The AIRS will provide the ministry with key information for better decision making in livestock and pastureland management and reduce overgrazing.

1.3 OPERATING CONTEXT

The project was developed through a highly collaborative process, involving different STDF partners (FAO, World Bank), donors (France), the Mongolian Government and private sector. The AIRS project implementation took forward this collaborative approach, and played an important role in strengthening coordination between the government, donors and development partners, in addition to public-private sector collaboration.

This collaborative approach application is the result of considerable work and extensive collaboration across a number of international development partners, donors and the Mongolian government. In particular, the pilot project is a result of work carried out by IDELE in collaboration with the World Bank and Mongolian Government to carry out a review and GAP analysis of the existing AIRS; and STDF PPG in Mongolia (STDF/PPG/534), which studied how to apply AIRS in context of an export corridor.

In December 2016, the Government endorsed the recommendation of a joint mission (IDELE, World Bank, FAO and STDF) to develop one pilot project focused on AIRS. In follow-up, representatives of several international organizations and bilateral donors (ADB, French Embassy, Swiss Cooperation, Czech Embassy, European Commission, FAO, Asian Foundation, the World Bank, United States, etc.) with an interest in AIT related initiatives were consulted to ensure that the pilot is coherent and complementary to their activities. Therefore, the pilot project had gathered the interest and commitment of actors across the whole meat sector in Mongolia, as well as international organizations and donors working in Mongolia.

Although animal identification is not new in Mongolia, it has not well adopted in the country. For more than ten years, different international partners have provided various types of support to design and implement various aspects of animal identification and registration, together with the MoFALI. For instance, EU-AHLM project (2008-2012) focused on establishing a reliable animal disease control and surveillance system in order to build a market-oriented livestock sector. At the same period, the Czech Embassy supported the Gene Bank to develop an animal identification system in central Mongolia and an ear tagging factory.

The FAO in Mongolia implemented the project in close cooperation and collaboration with MOFALI. MOFALI facilitated collaboration with local authorities and other partners. Moreover, MOFALI led the process related to the amendments to required legislation and regulations.

Local authorities of pilot zones (aimag and soum level), as well as local veterinary services also were consulted and engaged during the implementation of the pilot project in order to facilitate the linkage local policies linked to animal health, exports or livestock at a general level.

1.4 CHALLENGES

There were distinct challenges that the implementation of this project has faced: (1) during the implementation of the new project, there was a change in the government of Mongolia. In June of 2020, the parliamentary elections resulted in a change in the cabinet structure and members; thus, resulting in the appointment of a new Minister of Food, Agriculture and change in staff of MOFALI. However, the project implementation team has managed the transition well and the implementation did not experience any significant changes or delays. (2) the coronavirus pandemic has had the most significant impact on the project implementation. The COVID-19 pandemic and travel restriction in Mongolia has caused the government to implement preventive measure such as several nationwide lockdowns and travel restrictions within the country; which caused the delay in the ear-tagging of 15,000 animals and delayed certain aspects of the activities.

1.5 PROJECT ACTIVITIES

The project aims to pilot an amended animal identification and registration scheme and the pilot focuses on a single product (meat) and it includes the identification of the main animal species (cattle, small ruminants, and horses). The project document clearly identified six outputs along with numerous corresponding activities respectively.

ACTIVITIES 1: These activities were performed in order to modify the existing SOP and numbering scheme for animals and determine the tag specifications (OUTPUT1).

1. Existing and prevailing legislation were reviewed and analyzed to formulate proposals of the temporary amendments for the pilot phase.
2. The numbering scheme for the animal identification codes were updated with consideration of the code for the transponders used for the electronic identification and the code for the origin of small ruminants.
3. The Standard Operating Procedures were amended to simplify the procedures required by the field officers in the soum and by the abattoir veterinarians and to include new procedures for small ruminants and equine tagging, as well as for the registration of animals tagged by inserts and by transport tags;
4. The tag specifications for the electronic insert were updated and a procurement tender was announced.

Animal identification database installation and other relevant specifications have been consulted with relevant government organization such as National Database management and Information, Communication Department. Also, the FAO Mongolia office organized several consultation meetings in order to evaluate the performance of the MOFALI database and connection between GAVS and NSO databases and the utilization of new technologies.

The project implementation team reviewed the law on “Animal genetic resources” and “Animal health” and as part of the technical working group in developing “Regulation on animal registration” Ministerial decree No. A/501 dated 25th Dec 2019 and “Regulation to establish a national database on animal genetic resource” No. A/254/A/114, dated 13th August 2019. These two regulations have clearly outlined the structure and operation of the database, the animal registration and identification, ear tagging process, the size and shape of the ear tags and chips, and the coding on it.

ACTIVITIES 2: These activities were performed to modify and improve the existing animal registration system deployed in 2012 (Output 2).

1. Business Requirement Specification adaptations of the existing IT system were identified in context of connecting the system with mobile devices and other hardware required.
2. A mobile application was developed for the system by the Interactive LLC that has developed the initial animal identification system.
3. The animal identification system and database has been modified and improved.
4. The developed mobile application has been tested.
5. The modified database and system was implemented by MOFALI.

The consultants Erik Rehben and Bleriot Gilles from IDELE designed a TOR for data developer and modification on current national identification and registration system that was cleared by LTO and submitted to tender the bid team of FAO Mongolia. These technical specifications and TOR were reviewed by project implementation partners and a tender process was initiated by the FAO Mongolia office and the service provider (Interactive LLC) was selected.

The project worked in close collaboration with the SDC “Green Gold” Project which implemented the Animal Health Information System (MAHIS) in Bat-Ulzii and Uyanga Sums of Uvurkhangai aimag to synchronize two projects to avoid overlaps in animal registration and e-animal health certificate.

ACTIVITIES 3: These activities were performed to distribute the software and equipment among key actors (Output 3).

1. The tags, electronic inserts, and applicators were procured.
2. The required mobile devices were procured.
3. The equipment was distributed and the mobile application was installed along with the required user access.

The project steering committee handed over the ear tags, applicators and bar code readers to the AIRS project, which was previously purchased by the Mongolian government. MOFALI and GAVS handed over 190,000 ear tags with barcodes, 280 pieces of ear tag applicators, 38 pieces of bar code readers, 38 pieces of printers for the project implementation. The code is a 12-digit number. In the animal identification tool, the country abbreviated name "MN" in the upper row and six digits of aimag, capital city, sum, district, bag and khoroo and six identification numbers of animals of the given species and their individual numbers so in total 12 numbers. The numbers are laser printed and entered to the coding system.

A survey was conducted in the pilot areas and identified the number of households, the number of animals that will have ear tagging, the required number of ear tags, applicators, and barcode readers. A total of 190,000 thousand ear tags, 5,000 horse chips, 280 ear tag applicators, 10 RFID readers, 38 bar code readers and 38 mobile printers were delivered to the pilot soums, slaughterhouses and police departments.

ACTIVITIES 4: These activities were performed in order to train the actors involved in the animal identification and registration process (OUTPUT 4).

1. A training plan was developed along with the training materials.
2. A number of training sessions were organized at pilot area soums.

A workshop on the improved AIRS software was organized from May 15th to June 2nd 2020 in Uvurkhangaï province and a total 130 participants from 4 soums were trained to use the software and applying the ear-tags. The training on horse chip injection, and on RFID tag was organized on 6th of July, 2020. Furthermore, a follow-up workshop was organized to train admin level users.

ACTIVITIES 5: These activities were performed in order to deploy the AIRS system.

1. The Uvurkhangaï Agriculture Department field officers ear tagged and registered the using the mobile application connected to the database in accordance to the amended Standard Operating Procedures.
2. The abattoir veterinarians used the mobile application to connect to the database and registered the aggregation of the carcass identification code with the herder code in accordance to the amended Standard Operating Procedures.

The pilot implementation of new improved AIRS software is under trial in four soums of Uvurkhangaï Province and a total of 190,000 animals were registered in the system using the new mobile application and the database and web-application were tested and recommendations were provided to the service provider.

ACTIVITIES 6: These activities were performed to evaluate the pilot of AIRS and provide recommendations for scaling-up on a national level (Output 6).

1. The assessment reviewed the relevance, coherence, efficiency, effectiveness, impact, sustainability, and gender aspects of the project's implementation and specifically to review the project's activities and outcomes in relation to its overall objectives and results.
2. The project final report and recommendation will provide recommendation for scale-up and further work.

In the project document EU-TRAM initially was planned to perform an external evaluation to assess the project implementation (technical feasibility of the AIRS, financial evaluation and the legal assessment and develop recommendations for the planned next stage, i.e. to scale-up the AIRS). However, due to both external and internal factors the Project Steering Committee (PSC) decided to contract an individual external contractor to perform the project assessment. Furthermore, the PSC decided to contract IDELE to prepare the final report and project recommendations.

1.6: OBJECTIVE AND SCOPE OF FINAL ASSESSMENT

The objective of the assessment is to review the relevance, coherence, efficiency, effectiveness, impact, sustainability, and gender aspects of the project's implementation and specifically to review the project's activities and outcomes in relation to its overall objectives and results. The assessment covers a time-frame of the commencement of the project from May 15, 2019) to its completion of its final activities in 2022. The project final assessment commenced on December 1st, 2021; during the assessment the AIRS project received a no-cost extension for three months to March 31st, 2022. However, considering that the project activities had been fully completed by the time of the assessment this report can be considered final.

The assessment is retrospective and summative in nature and takes into consideration expected and unexpected outcomes. The assessment reviewed all project related activities outlined in the project application document and aimed to assess and analyze the following:

- The actual progress made towards project objectives
- The extent to which the project has contributed to outcomes, whether intended or unintended
- The efficiency of outputs delivered
- The relevance of the project activities and outputs to the needs of the country
- Lessons learned from this project
- Sustainability and scale up opportunities

CHAPTER 2: STUDY DESIGN

2.1 METHODOLOGY

The assessment was carried out drawing on the OECD-DAC Principles for the Evaluation of Development Assistance according to the guidelines for the evaluation of projects funded by STDF¹. The assessment of this project is qualitative in nature and utilized a document study, observation, and semi-structured interviews as a data gathering method; the assessment was initiated in December of 2021 and was completed in March 2022.

The purpose of the assessment was to provide a comprehensive overview of the AIRS project the relevance, coherence, efficiency, effectiveness, impact, sustainability, and gender aspects. The assessment process included efforts to source information and involve an optimal number of key stakeholders and use different methods of inquiry (document reviews, interviews, and field visit) to ensure information collected and findings obtained are credible and comprehensive.

The assessment collected information from key project implementing partners and stakeholders' such as the Department of Animal Genetics Resources Division of MOFALI, Uvurkhangai Province Agriculture Department, IDELE, Interactive LLC, and herders. As part of the assessment report a number of interviews and a field visit to Uvurkhangai province was completed.

- Review of project related documents such as project master document, project interim reports
- Review of AIRS system
- Interview and discussion with key stakeholders
- Field visit to Uvurkhangai
- Gender assessment

The assessment focused on addressing the questions below presented in the terms of reference that were structured around the criteria established by the OECD/DAC².

¹https://www.standardsfacility.org/sites/default/files/STDF_214_Evaluation_Guidelines_2021_Final.pdf

² <https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

Relevance: The extent to which the intervention objectives and design respond to beneficiaries, global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change.

Coherence (Internal and external): The compatibility of the intervention with other interventions in a country, sector or institution. Internal coherence addresses the synergies and interlinkages between the intervention and other interventions carried out by the same institution/government, as well as the consistency of the intervention with the relevant international norms and standards to which that institution/government adheres. External coherence considers the consistency of the intervention with other actors' interventions in the same context. This includes complementarity, synergy, harmonisation and co-ordination with others, and the extent to which the intervention is adding value while avoiding duplication of effort.

Effectiveness: The extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups (as outlined in the logical framework)?

Efficiency: The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely way. "Economic" is the conversion of inputs (funds, expertise, natural resources, time, etc.) into outputs, outcomes, and impacts, in the most cost-effective way possible, as compared to feasible alternatives in the context. "Timely" delivery is within the intended timeframe, or a timeframe reasonably adjusted to the demands of the evolving context. This may include assessing operational efficiency (how well the intervention was managed).

Impact: The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects. Impact addresses the ultimate significance and potentially transformative effects of the intervention. It seeks to identify social, environmental and economic effects of the intervention that are longer term or broader in scope than those already captured under the effectiveness criterion. Beyond the immediate results, this criterion seeks to capture the indirect, secondary, and potential consequences of the intervention. It does so by examining the holistic and enduring changes in systems or norms, and potential effects on people's well-being, human rights, gender equality, and the environment.

Sustainability: The extent to which the net benefits of the intervention continue or are likely to continue. This includes an examination of the financial, economic, social, environmental, and institutional capacities of the systems needed to sustain net benefits over time. Key question for this criterion includes, Are the results achieved so far sustainable?

Crosscutting issues (gender/environment): The gender and environmental benefits of this project (if applicable) especially projected benefits at the design of the project.

2.2 DATA COLLECTION

The assessment consultant worked independently with administrative and organizational support from FAO Mongolia in setting up interviews and organizing a field trip to Uvurkhangai to monitor the AIRS system functionality. This report is based on six separate semi-structured interviews performed in collaboration with FAO Mongolia consultants, MOFALI staff, Uvurkhangai province Agriculture Department staff, and two herder families and reviews of official documents related to the AIRS project.

The interview subjects were selected with the help of Uvurkhantai province Agriculture Department staff and project implementation staff and were performed during a field visit to pilot areas in December of 2021.

2.3 STUDY LIMITATIONS

Despite there were a number of study limitations and challenges, the primary and secondary data collection allowed for the accurate assessment of the key objectives and activities of the project. Key challenges faced were (1) time and resource constraints, (2) due to the qualitative nature of the assessment a limited number of interviews with key stakeholders were conducted, and (3) the project reports lacked detailed analysis of some of the project results and impact and the final project review and recommendation had not been finalized during the assessment process.

CHAPTER 3: FINDINGS

The data collected in this assessment was analyzed using qualitative data analysis method. Findings are presented according to the appropriate OECD/DAC criteria as follows relevance, coherence, effectiveness, efficiency, impact, sustainability. Crosscutting issues such as gender and the environment are also discussed in this section.

3.1 CHARACTERISTICS OF RESPONDENTS

Provide a summary of the socio-demographic characteristics of the respondents for this assessment.

Table 1. Socio-demographic characteristics of respondents.

No	Name	Gender	Title	Organization	Location
1	Nyamkhuu Tsoodol	Male	National Consultant	The Food and Agriculture Organization of the United Nation	Ulaanbaatar, Mongolia
2	Gantumur Galsan	Female	Local focal point	The Food and Agriculture Organization of the United Nation	Arvaikheer, Uvurkhantai
3	Tsedenbaljir Sandui	Male	Director	Uvurkhantai Agriculture Department	Arvaikheer, Uvurkhantai
4	Enkhtuya Jargal	Female	Specialist	Uvurkhantai Agriculture Department	Arvaikheer, Uvurkhantai
5	Mrs. Altantuya Demberel	Female	Officer	Gurvan-us Agriculture Unit	Gurvan-Us, Uvurkhantai
6	Mrs. Tserenbanzragch Maadai	Female	Governor	Gurvan-us soum	Gurvan-Us, Uvurkhantai
7	Mr. Battogtokh Nergui	Male	Herder		Gurvan-Us, Uvurkhantai
8	Mr. Munkhbat Paalai	Male	Herder		Gurvan-Us, Uvurkhantai

3.2 RELEVANCE

This assessment measured the relevance aspects of the AIRS project in terms of its alignment of country needs and government priorities. The STDF, FAO, IDELE, and MOFALI designed the project to align

it with government priorities in the agri-food sector. This is based on the STDF demand-based approach to project design.

The AIRS project fits into two distinct government priorities: (1) The State Policy on the Food and Agriculture (2016-2025) - Output 2.1.1 “to increase productivity and efficiency of livestock production and improve the economic circulation and develop intensified cattle, sheep farming for meat production and increase export resource of meat”; and Output 2.1.6 “to prevent from animal infectious and endemic diseases, to implement regional based strategies to control and recover of diseases, to improve capacity for early warning and early; and certify disease free zones for specific regions”. (2) The Action program of the Government of Mongolia (2016-2020) of which, objective is to “Increase the competitiveness of the food production and create the opportunity to export value added products”, which is expected to be achieved Output 2 “bring the current veterinary structure to the international standards, ensure its expeditious and integrated action, take actions to prevent from contagious and high-risk zoonotic diseases and implement strategy to control and fight these risks along the border points, and enhance the possibility to export raw materials and products originating from livestock”.

The AIRS project not only supported the above-mentioned government priorities but is extremely relevant due to the fact that (1) the previous animal identification and registration system was non-functional and (2) the project fills an important gap in the full traceability of livestock value chain, and (3) it is the basis for addressing and managing animal health.

In December 2016, the Mongolian Government endorsed the recommendation of a joint mission (IDELE, World Bank, FAO and STDF) to develop one pilot project focused on AIRS. In follow-up, representatives of several international organizations and bilateral donors (ADB, French Embassy, Swiss Cooperation, Czech Embassy, European Commission, FAO, Asian Foundation, the World Bank, United States, etc.) with an interest in AIR related initiatives were consulted to ensure that the pilot is coherent and complementary to their activities.

3.3 COHERENCE

This assessment measures internal coherence in terms of the project’s alignment to FAO Mongolia’s goals and objectives. The AIRS project fits well into the FAO Mongolia’s goal to promote sustainability in livestock productivity, strengthen national systems and institutional arrangements for animal health and livestock genetic evaluation and piloted digital agriculture solutions.

The AIRS project also aligns with the E-Agriculture strategy of Mongolia that was developed with the assistance of FAO and ITU. The AIRS system plays an important role as a primary source of data related to livestock related products.

The assessment measures external coherence as synergy. Over the past decade, various international organizations have provided support to improve animal identification and registration in Mongolia; a number of projects funded by donor organizations have focused on deploying ICT solutions related to animal health and animal registration to set the foundations of a traceable livestock value chain. It is important to note that the AIRS project has the capabilities to become the very first source of information in the livestock value chain.

The AIRS project has clear synergies with (1) the Animal Health Law Reform, supported by SDC that aims to clarify the structure of veterinarian services, by stating clearly the function and funding source

of veterinarian entities at each level (department, province and national), and to build integrated veterinary services, by merging current VABA and GASI responsibilities within the MoFALI. This reform is based on OIE recommendations (OIE PVS evaluation report from 2015; OIE Legislative Development Mission from 2012) and (2) the Animal Gene Pool Law reform, supported by the MoFALI, aims, among others, to redefine the objective and means of the national animal identification system. Both the Animal Health Law reform and the Animal Gene Pool Law were adopted by the Mongolian parliament in December 2017.

The project has also synergies with the SDC's the Green Gold – Animal Health Project (GGAHP) that has successfully worked with the VABA, MoFALI and Digital Medic LLC to introduce traceability in the meat sector in 15 selected soums of 5 aimags since early 2017. This initiative was successfully piloted in two soums of Arkhangai aimag in December 2017.

GGHAP has deployed a number of ICT solutions (MAHIS, LIMS) that enable an innovative and efficient traceability system in line with international standards that enables tracing back the origin of animals from herders and serves as assurance of animal health and quality. MAHIS is a system that aims to digitalize veterinary certification and is interconnected with the laboratories in the veterinary system allowing for the verification of animal health. The MAHIS system utilizes the government's "National Livestock registration and information database". The AIRS can be integrated to MAHIS to provide primary data for animal identification and registration.

3.4 EFFECTIVENESS

This assessment measured the extent to which the intervention achieved, or is expected to achieve, its objectives, and its results, including any differential results across groups (as outlined in the logical framework).

The project's key achievements are the following:

- (1) The project performed an in-depth review of "Animal genetic resources" and "Animal health" laws and successfully developed "Regulation on animal registration" Ministerial decree No. A/501 dated 25th Dec 2019 and "Regulation to establish a national database on animal genetic resource" No. A/254/A/114, dated 13th August 2019 that are effective now. These two regulations clearly outlined the structure and operation of the database, the animal registration and identification, ear tagging process, the size and shape of the ear tags and chips, and the coding on it (see ANNEX 2).
- (2) The project successfully developed and deployed a new animal identification and registration system that is ready to scale-up nationwide in terms of technical capabilities and launched a mobile application for field workers to use to scan ear-tags (see ANNEX 3).
- (3) The project successfully registered 195,000 animals in the new and improved system database and provided 190,000 thousand ear tags, 5,000 horse chips, 280 ear tag applicators, 10 RFID readers, 38 bar code readers and 38 mobile printers to the Uvurkhangaig Department of Agriculture. The project trained over 400 beneficiaries through 4 workshops in using the new AIRS system, ear-tagging small ruminants, and equine horse chip injections (see ANNEX 4).

TABLE 2. EFFECTIVENESS

LOGICAL FRAMEWORK				
Results	Indicators	Means of Verification	Achievement	Completion
Implementation of a pilot AIRS (on a small-scale for a limited period of time) to test its technical and financial feasibility and use, and identify key improvements needed prior to scaling up nationwide.	The original of the herder, the movement and slaughter of all animals coming from the pilot area and slaughtered by the two pilot abattoirs are retrieved from the database in the pilot area through a mobile device	Random field survey Cost assessment AIRS specification	The stakeholders' meetings were organized in three occasions in Uvurkhangai aimag on project implementation from 19 th to 20 ^{set} August 2019, with presence of Mr. Vinod Ahuja FAO Representative, Mr. Sharbendu Banerji FAORAP, Mr. Ashish Narayan Program coordinator in the ITU Regional Office for Asia and Pacific, G. Deeshin National Coordinator of the UN FAO's "Animal Identification and Registration Project", L. Ariunzaya Program Officer, local breeding service officer Enkhtuya, representatives of local slaughterhouses and visited Uyanga sum to familiarize themselves with the activities of SDC Green Gold project on Animal Health.	100%
	The investment and operational costs are assessed.			
	The key stakeholders' attitudes are evaluated.			
	Improvements are specified.			
Project inception	National coordinator is hired	Inception reports Meeting minutes of the kick-off meeting of the steering committee.	In accordance with the rules of FAO, National Coordinator was hired in July, 2019 and a Local Coordinator was hired in October, 2019.	100%
	Kick-off meeting of the steering committee.			

			The PSC's second consultation meeting was held on 28 th October 2019, with members FAO, MOFALI, GAVS, and SDC. The PSC members identified topic priorities on module and manuals to be used during the stakeholder's meeting in Uvurkhangai aimag, coding system and logistic support.	
Output (1): The SOP and the numbering scheme are modified; the tag specifications are made available;	Review of the legislation;	Progress report Minutes of the steering committee. Mission report of the international consultants. Deliverable of the output.	"Procedure on animal registration" and "Procedure to establish a national database on animal genetic resource" and it is approved by Ministerial decree.	100%
	Modified Standard of Procedure (SOP)		The SOP has been updated and tested in project areas and based on IDELE recommendations it will be updated in terms of deleting the dead animals from the previous year;	100%
	Modified numbering scheme		The numbering scheme was successfully updated but it is important to note that some stakeholders do have suggestions for changes in the numbering scheme.	100%
	Tag specifications		MOFALI and GAVS handed over 190,000 ear tags with barcodes, 280 pieces of ear tag applicators, 38 pieces of bar code readers, 38 pieces of printers for the project implementation. The code is a 12-digit number. In the animal identification tool, the country abbreviated name "MN" in the upper row and six digits of aimag, capital city, sum, district, bag and khoroo and six identification numbers of animals of the given species and	100%

			their individual numbers so in total 12 numbers. The numbers are laser printed and entered to the coding system.	
Output (2): The information system (improved AIRS software) is developed and made available;	Contract with an IT company;	Progress report Minutes of the steering committee. Mission report of the international consultants Deliverable of the output.	Technical specifications and requirements for the AIRS software were developed and an IT company was contracted for the development of the system.	100%
	Business requirement specifications			
	Test report			
Output (3): The necessary equipment and the registration software are made available;	Tag and equipment are delivered to the registrar people in the field	Progress report Minutes of the steering committee. Mission report of the international consultants Deliverable of the output.	190,000 ear tags, 280 pieces of ear tag applicators, 38 pieces of bar code readers, 38 pieces of printers were delivered to the Project by the Government of Mongolia; In 2021, a survey for revealing dead animals from the last year registered animals was contracted by the local government.	100%
Output (4): Human resource development and project participants are trained;	Training plan	Progress report Minutes of the steering committee. Mission report of the international consultants Deliverable of the output.	The inception workshop was organized successfully at Arvaikheer sum of Uvurkhangai province on November 4 th - 6 th . The workshop included key stakeholders such as FAO, MOFALI, Animal Genetics Department, Uvurkhangai province Governors Office, Uvurkhangai Agriculture Department, local specialists and the governors of Bat-Ulzi, Uyanga, Bayangol, Guchin-Us sum, veterinarians, zoo technicians and representatives of 3 slaughterhouses, around 70 people attended	100%
	List of trainees participating in the training sessions			

			<p>the workshop. From November 18th -21st, 2019 consultants from IDELE conducted a training workshop in Bayangol, Guchin-Uus and Bat-Ulzi targeted Souns of Uvurkhangai that included Uvurkhangai Agriculture Directors and specialists, regional governors, private veterinarians and the breeding division specialists, herders' associations representatives and herders around 175 people participated in the event.</p> <p>The training on new improved AIRS software was organized from May 25th to June 2nd, 2020 in Uvurkhangai Province. And trained total 130 participants from 4 soums of project site for hands-on practice through using the new software and ear-tagging. The training on horse chip injection, and on RFID tag was organized on 6th of July, 2020. The certification training for horse chip injection is expected to be organized during 20-27 of August, 2020 as per request of the MoFALI;</p>	
Output (5): The ear-tagging campaign work is implemented;	Number of active users of the mobile application; Number of registered data;	Progress report Minutes of the steering committee. Mission report of the international consultants Deliverable of the output.	The ear-tagging campaign was successfully implemented and total 190,000 animals are registered in the system and the system has over 40 active users;	100%
Output (6): Final evaluation of the pilot, and recommendations for scaling-up the project at national level;	Evaluation report	Progress report Minutes of the steering committee. Mission report of the international consultants	Mid-term evaluation was completed and final assessment is in progress.	50%

		Deliverable of the output.		
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3.5 EFFICIENCY

This assessment measured the efficiency of the project in terms of time of implementation and resource management. The assessment revealed that most of the project activities were implemented as planned without any significant delay. However, due to the recent coronavirus pandemic there was a delay in the process of ear tagging 15,000 animals; for the purpose of the assessment force majeure events like this will not be considered a delay.

The final and STDF approved project document was released on May 19th, 2019. The project inception period included a number of extensive consultation meetings with participating government authorities and stakeholders and the AIRS project document was signed by the Minister of Agriculture and Light Industry on June 8th, 2019. A project steering committee (PSC) led by the Deputy Minister of Agriculture and Light Industry was established to coordinate the implementation of the project that included FAO consultants, IDELE consultants, government authorities, and other stakeholders.

The technical specifications and TORs related to the development of the AIRS software were produced by FAO Mongolia and IDELE; a call for procurement was announced and on March 14th, 2020 a Mongolian information technology company “Interactive LLC” was selected to develop the new animal identification and registration system over a period of two months.

Despite unforeseen factors such as the coronavirus pandemic, the project team effectively managed to fulfill all activities without any delays except the ear tagging of 15,000 animals in target areas and effectively transitioned into a remote working environment. The remaining 15,000 thousand animals were ear tagged in May of 2021.

It is important to note that the AIRS project has efficiently cooperated with the Uvurkhangai province Agriculture department, which enabled the ear tagging of 190,000 thousand animals in a relatively short period of time. Additionally, the selection of Interactive LLC for the development of the new animal identification and registration system allowed for the system to be developed over a two months period due to the fact that the company had previously developed an animal identification system in 2011.

In terms of resource management, the AIRS has been efficient in utilizing its budget of USD 384,783. By the end of December 31st, 2021, 94.83percent of the total budget had been utilized. Although there were unexpected costs related to the implementation of the activities the project team had revised the budget to account for those expenditures. Unexpected costs were related to the additional contract with the service provider (Interactive LLC) for additional development of the system that has the required capabilities and modules for a nationwide scale-up, and to a survey commissioned by the MOFALI of deceased animals and de-registration of the deceased animals from the database. These costs were re-allocated by the reduced travel budget due to the COVID-19 pandemic.

3.6 IMPACT

The AIRS project had multiple positive short and long-term impacts. In the short term, the AIRS facilitates animal disease control and supports the export certification procedure by automated data exchange with the users involved. It also contributes 1) to increase food safety for the domestic market; 2) improve breeding programs with lifetime animal marks and a permanent animal identifier and 3) prevent against animal theft.

In the long term, the AIRS project enables performance recording and livestock management that benefit breeding units. The AIRS has the opportunity to become the primary source of data that will directly benefit herders such as a potential increase in price for livestock products that are traceable, insurance and tax benefits, documentation for banking purposes. Furthermore, AIRS supports the government's priority to develop export markets for meat through providing (1) primary animal identification, (2) data to track high quality breeding units, and (3) enhance traceability of livestock related products by providing means to track livestock related products back to the herder.

3.7 SUSTAINABILITY

This report measured the sustainability of the project in terms of its strategic alignment to long-term government priorities and donor organization focus points. The AIRS project plays an important role in reaching the end goal of both the Mongolian government and donor organization's efforts to support the Mongolian livestock product export and improve the control of the animal infectious disease.

The AIRS project also serves as the first milestone for a fully traceable livestock value chain by enabling animal identification and registration through the AIRS system. MAHIS that can utilize the AIRS system as a source of animal identification and registration data. MAHIS is an information system that is designed to issue animal health certificates based on the veterinary services and is interconnected to the veterinary laboratory system. Animal health certificates are issued to animals that obtained veterinary services and is required for the transport of the animals from their place of origin and required by slaughterhouses for inspection.

The PSC and the project implementation team has decided to interconnect the AIRS and MAHIS; IDELE submitted a brief analysis of the connection of the two systems to the IT department of MOFALI and a working group was established to connect the two systems.

The assessment has confirmed that all implementing participants and beneficiaries of the AIRS project believe that the project outcomes have contributed to long-term strategic importance, despite the fact that the AIRS project is only a pilot. Both MOFALI and Uvurkhangai province Agriculture Department specialists and staff involved in the AIRS project have confidence that the project can be scaled up nationwide.

3.8 CROSSCUTTING ISSUES (GENDER/ ENVIRONMENT)

The AIRS project was designed to ensure that gender aspects were integrated into the project to the extent that project activities involved men and women equally. The project (1) ensured that registration of livestock protected women's ownership rights are recognized (2) ensured that an adequate number of women were involved in the training workshops and testing phase of the system, and (3) an adequate number of women are involved in the project implementation.

CHAPTER 4: CONCLUSION

TABLE 4: ASSESSMENT SCORE

Score	Meaning
4	Performance is very good (exceeds expectations)
3	Performance is good
2	Performance is behind schedule and / or presents some deficiencies
1	Performance presents serious deficiencies

MEASURE	INDICATOR	Score
Relevance	Was the project designed in a way that is relevant to reach its goals?	4
Coherence	Were the result indicators and their means of verification adequate? What possible adjustments would the consultants recommend? To which extent were synergies achieved with other activities, as well as with local/international policies and donor policies?	4
Effectiveness	To which degree did the activities meet the objectives and results set out in the project (as outlined in the logical framework)?	4
Efficiency	Was the project run in an efficient way?	4
Impact	To what extent did the project generate, or is expected to generate, significant positive or negative, intended or unintended, higher-level effects? What real difference (expected and/or unexpected) has the project made, or is likely to have, on the final beneficiaries including on people's well-being?	4
Sustainability	Are the results achieved so far sustainable?	3
TOTAL ASSESSMENT SCORE		3.86

CHAPTER 5: RECOMMENDATIONS

5.1 RECOMMENDATIONS

Based on the findings of the assessment report the following recommendations for the long-term success of the AIRS project are deemed necessary:

1. Considering the successful implementation of the project in piloting an improved animal identification and registration system in four soums of Uvurkhangai province, in order to sustain the success, it would be suitable to implement a second-phase of the project in partnership with donor organizations and deploy the AIRS nationwide.
2. Integration of AIRS and MAHIS, in order for the project success to be sustainable in the long-term it is important to enable the exchange of primary animal identification and registration data to MAHIS. Currently, MAHIS is creating a separate animal identification code and identification certificate for animals that have been included in veterinary services.

5.2 LESSONS LEARNED

The assessment identified the following lessons learned through the implementation of the project:

1. Project activities that are aligned with key government priorities and other on-going projects, designed in consultation with local stakeholders in pilot areas are more likely to ensure that investments made as part of the project are sustainable.
2. Province government involvement is crucial in the implementation of the project. The Uvurkhangai Department of Agriculture's active involvement in the implementation enabled the successful ear-tagging and registration of animals without any significant delays (except for COVID-19) and the enabled the training workshops to include key beneficiaries
3. The involvement of a local coordinator is important. The project activities advanced more quickly through the active involvement of a local coordinator that has good working relationships with project key stakeholders.

5.3 RECOMMENDED PROJECT MODEL FOR SCALE UP

The following recommendations for a project model for scale up took into considerations the recommendations provided by IDELE:

The national scale-up of the AIRS should support (1) animal health improvement and meat and skin certification, (2) animal breeding program, prevention of animal theft, product labelling, pastureland management, and herd management. Furthermore, AIRS should provide (1) the herd of origin of any animal covered by a veterinary certificate and the inventory of an identified animals of a herd.

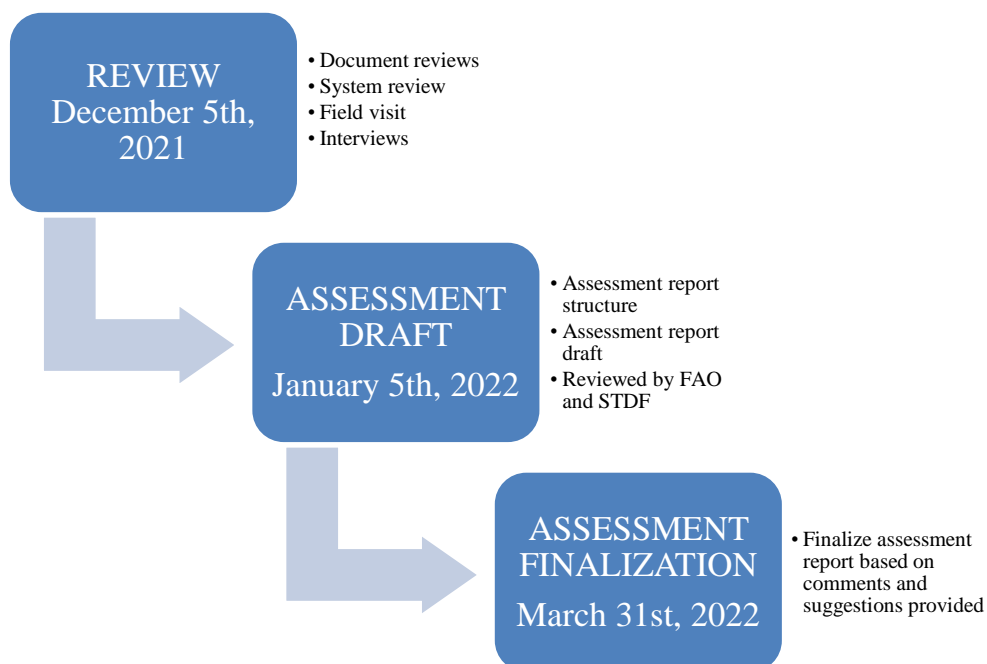
AIRS does not require to be mandatory but should focus on herds participating in a breeding program and/or concerned by the veterinary certificate and intensive farms for dairy and/or beef production; only animals' part of a breeding program or covered by a veterinary certificate should be ear-tagged.

For successful national scale up private public partnerships should be established; (1) a support body for the development and deployment of AIRS, (2) private veterinary and breeding service units to carry out field operations.

In order to facilitate the synergies of AIRS and MAHIS high-level coordination between veterinary services and animal registration department of MOFALI is required and changes in legislation and for the implementation to meet the needs of MAHIS in coordinated manner with an appropriate allocation of financial resources.

ANNEX

ANNEX 1. ASSESSMENT FRAMEWORK



ANNEX 2. MINISTER DECREE

“Regulation on animal registration” No. A/501.



ХҮНС, ХӨДӨӨ АЖ АХУЙ, ХӨНГӨН ҮЙЛДВЭРИЙН САЙДЫН ТУШААЛ

2019 оны 12 дугаар сарын 25-ны өдөр

Дугаар А/501

Улаанбаатар хот

ЖУРАМ БАТЛАХ ТУХАЙ

- Малын генетик нөөцийн тухай хуулийн 5 дугаар зүйлийн 5.9 дэх хэсэг, Мал хулгайлах гэмт хэрэгтэй тэмцэх, урьдчилан сэргийлэх тухай хуулийн 11 дүгээр зүйлийн 11.5 дахь заалтыг тус тус үндэслэн ТУШААХ нь:
 1. "Малын бүртгэлийн журам"-ыг 1 дүгээр, Монгол улсад үржүүлж байгаа мал сүрэг, үүлдэр омог тэдгээрийн эрлийз болон сайжирсан малын кодыг 2 дугаар, Малд ялган тэмдэглэгээ хийсэн тухай бүртгэлийн маягтыг 3 дугаар, Хуучин дугаарын бүртгэлийн маягтыг 4 дүгээр, Малын бүртгэлийн гэрчилгээг 5 дугаар, малын шилжилт, хөдөлгөөний тодорхойлолтыг 6 дугаар хавсралтаар тус тус баталсуугай.
 2. Журмын хэрэгжилтийг зохион байгуулж, мэргэжил арга зүйгээр хангаж, хяналт тавьж ажиллахыг Мал аж ахуйн хөгжлийн бодлого, зохицуулалтын газар /Д.Батмөнх /-д даалгасугай.
 3. Малыг бүртгэх ажлыг эрчимжүүлж, үр дүнг тухай бүрт тайлагнаж ажиллахыг аймаг, нийслэлийн Хүнс, хөдөө аж ахуйн газар, сум, дүүргийн Хөдөө аж ахуйн тасагт тус тус үүрэг болгосугай.
 4. Энэ журам батлагдсантай холбогдуулан "Журам батлах тухай" Хүнс, хөдөө аж ахуй, хөнгөн үйлдвэрийн сайдын 2011 оны А/74 дүгээр тушаалыг хүчингүй болсонд тооцсугай.

САЙД Ч.УЛААН

“Regulation to establish a national database on animal genetic resources” No. A/254/A114



ХҮНС, ХӨДӨӨ АЖ АХУЙ, ХӨНГӨН ҮЙЛДВЭРИЙН САЙД, ҮНДЭСНИЙ СТАТИСТИКИЙН ХОРООНЫ ДАРГЫН ХАМТАРСАН

ТУШААЛ

2019 оны 08 дугаар сарын 13-ны өдөр

Дугаар А-254,А/114

Улаанбаатар хот

ЖУРАМ БАТЛАХ ТУХАЙ

Малын генетик нөөцийн тухай хуулийн 5 дугаар зүйлийн 5.8 дэх хэсгийг үндэслэн ТУШААХ нь:

1. "Малын генетик нөөцийн үндэсний бүртгэл, мэдээллийн нэгдсэн санг бүрдүүлэх, тайлагнах журам"-ыг 1 дүгээр хавсралтаар, бүтцийг 2 дугаар хавсралтаар баталсугай.
2. Журмын хэрэгжилтийг зохион байгуулж, мэргэжил арга зүйгээр хангаж ажиллахыг Мал аж ахуйн хөгжлийн бодлого, зохицуулалтын газарт үүрэг болгосугай.

ХҮНС, ХӨДӨӨ АЖ АХУЙ, ХӨНГӨН ҮЙЛДВЭРИЙН САЙД Ч.УЛААН
ҮНДЭСНИЙ СТАТИСТИКИЙН ХОРООНЫ ДАРГА А.АРИУНЗАЯА

ANNEX 3. ANIMAL IDENTIFICATION AND REGISTRATION SYSTEM

www.aris.mofa.gov.mn

Homepage

МАЛЫГ ЯЛГАН ТЭМДЭГЛЭХ, БҮРТГЭХ СИСТЕМ
Нэгдсэн үндэсний байгууллага

QR код уншуулан Мобайл
аппликейшн татаж авна уу

Нэвтрэх хэсэг

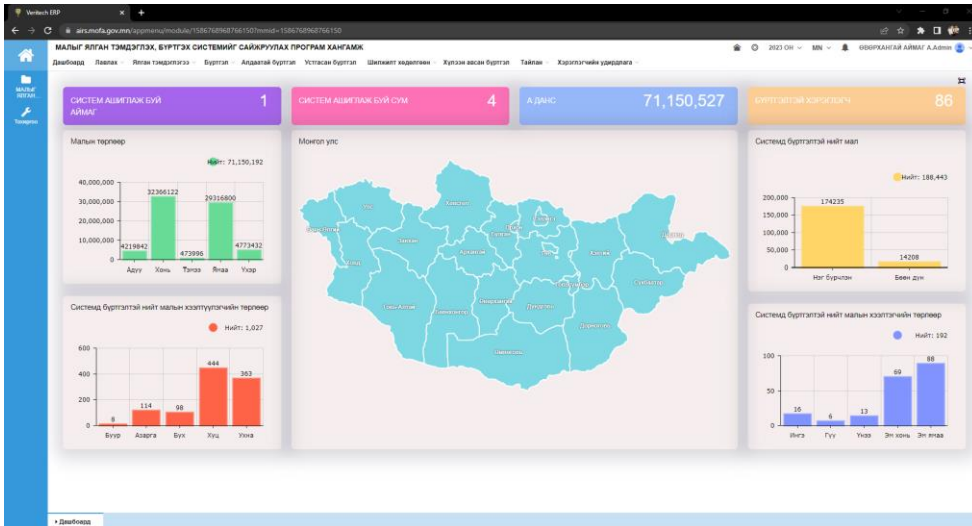
Харгаллагчийн нэр

Нууц үг

Нууц үгээ мартсан?

Нэвтрэх

Information Dashboard



Animal Registration Module

МАЛЫН ҮЙЛЭГ ТЭМДЭГЛЭХ, БҮРТГЭХ СИСТЕМИЙН САЙЖУУЛАХ ПРОГРАМ ХАНГАМЖ

МАЛЫН ҮЙЛЭГ ТЭМДЭГЛЭХ, БҮРТГЭХ СИСТЕМИЙН САЙЖУУЛАХ ПРОГРАМ ХАНГАМЖ

Малын төрөл: Төмдөгдөлгүй Төмдөгдөлсөн

№	Эх үүсвэр	Малын төрөл	Төмдөгдөлсөн огноо	Гэрчлэгтэй дугаар	Төмдөгдөлсөн төрөл	Өрхийн г.д.	Өмчлөгч	Өмчлөгч г.д.	Өрхийн нэр	Адуучин чөл. нэр	Төмдөгдөлсөн дугаар	Өрхийн код
1	Модан	Хонь	2021-12-14	0X163844429	Эгэлхэн эхээр	Ив37061513	6222510007131	Ив37061513	Жигжид		6222510080	6222510007131
2	Модан	Хонь	2021-12-14	0X163844448	Эгэлхэн эхээр	Ив37061513	6222510007131	Ив37061513	Жигжид		6222510080	6222510007131
3	Модан	Хонь	2021-12-14	0X163844437	Эгэлхэн эхээр	Ив58010205	6222510006031	Ив58010205	Дорноговь		6222510080	6222510006031
4	Модан	Хонь	2021-12-14	0X163844432	Эгэлхэн эхээр	Ив58010205	6222510006031	Ив58010205	Дорноговь		6222510080	6222510006031
5	Модан	Ямаа	2021-12-14	0X163844423	Эгэлхэн эхээр	Ив70118115	6222510104231	Ив70118115	Цэцэрлэг		6222510080	6222510104231
6	Модан	Хонь	2021-12-14	0X163844403	Эгэлхэн эхээр	Ив70118115	6222510104231	Ив70118115	Цэцэрлэг		6222510080	6222510104231
7	Модан	Хонь	2021-12-14	0X163844397	Эгэлхэн эхээр	Ив70118115	6222510104231	Ив70118115	Цэцэрлэг		6222510080	6222510104231
8	Модан	Ямаа	2021-12-14	0X163844380	Эгэлхэн эхээр	Ив61071211	6222510004831	Ив61071211	Говь-Алтай		6222510080	6222510004831
9	Модан	Ямаа	2021-12-14	0X163844374	Эгэлхэн эхээр	Ив61071211	6222510004831	Ив61071211	Говь-Алтай		6222510080	6222510004831
10	Модан	Хонь	2021-12-14	0X163844387	Эгэлхэн эхээр	Ив61071211	6222510004831	Ив61071211	Говь-Алтай		6222510080	6222510004831
11	Модан	Хонь	2021-12-14	0X163844385	Эгэлхэн эхээр	Ив61071211	6222510004831	Ив61071211	Говь-Алтай		6222510080	6222510004831
12	Модан	Ямаа	2021-12-14	0X163844383	Эгэлхэн эхээр	Ив63050918	6222510004131	Ив63050918	Баянхонгор		6222510080	6222510004131
13	Модан	Ямаа	2021-12-14	0X163844325	Эгэлхэн эхээр	Ив63050918	6222510004131	Ив63050918	Баянхонгор		6222510080	6222510004131

Animal De-registration Module

МАЛЫН ҮЙЛЭГ ТЭМДЭГЛЭХ, БҮРТГЭХ СИСТЕМИЙН САЙЖУУЛАХ ПРОГРАМ ХАНГАМЖ

МАЛЫН ҮЙЛЭГ ТЭМДЭГЛЭХ, БҮРТГЭХ СИСТЕМИЙН САЙЖУУЛАХ ПРОГРАМ ХАНГАМЖ

№	Огноо	Нэр	Адрес/Малын төрөл	Сүм/Дүүргийн нэр	Дүрс	Эх үүсвэр	Төмдөгдөлсөн огноо	Бүртгэлийн төрөл	Гэрчлэгтэй дугаар	Төмдөгдөлсөн төрөл	Төмдөгдөлсөн дугаар	Малын төрөл
1	2021-11-04	Admin Admin	Өвөрхангай		Модан	2021-11-03	Нэг бүрчлэн	0X1638021511	Эгэлхэн эхээр	620751800001	Хонь	1
2	2021-11-03	Admin Admin	Өвөрхангай		Бөгд	2021-11-03	Нэг бүрчлэн	0X211103054442	Эгэлхэн эхээр	622251000003	Уяар	1
3	2021-11-04	Admin Admin	Өвөрхангай		Модан	2021-11-02	Нэг бүрчлэн	0X16355847270	Эгэлхэн эхээр	622251102500	Хонь	1
4	2020-12-03	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-03	Нэг бүрчлэн	0X1606250906	Эгэлхэн эхээр	62465902847	Уяар	1
5	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606275996	Эгэлхэн эхээр	654651303375	Хонь	1
6	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606273464	Эгэлхэн эхээр	624651022466	Уяар	1
7	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244461	Эгэлхэн эхээр	624651022466	Уяар	1
8	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244369	Эгэлхэн эхээр	624651022467	Уяар	1
9	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244316	Эгэлхэн эхээр	624651022465	Уяар	1
10	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244271	Эгэлхэн эхээр	624651022464	Уяар	1
11	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244234	Эгэлхэн эхээр	624651022463	Уяар	1
12	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244174	Эгэлхэн эхээр	624651022469	Уяар	1
13	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244122	Эгэлхэн эхээр	624651022462	Уяар	1
14	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244046	Эгэлхэн эхээр	624651022476	Уяар	1
15	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606244002	Эгэлхэн эхээр	624651022475	Уяар	1
16	2020-12-02	Жаргал Энхтүлээ	Өвөрхангай		Модан	2020-12-02	Нэг бүрчлэн	0X1606243952	Эгэлхэн эхээр	624651022474	Уяар	1

ANNEX 4. EQUIPMENTS



ANNEX 5. LIST OF PEOPLE CONSULTED FOR THE ASSESSMENT

No	Name	Title	Organization
1	Vinod Ahuja	Representative	Food and Agriculture Organization
2	Nyamkhuu Tsoodol5	National Consultant	Food and Agriculture Organization
3	Erik Rehben	International Consultant	The French Livestock Institute
4	Batsaikhan Jargalsaikhan	Director of Information Technology and Statistics Division	Ministry of Food, Agriculture, and Light Industry
5	Batsuren D.	Director of Animal Genetic Resource Division	Ministry of Food, Agriculture, and Light Industry

ANNEX 6. LIST OF DOCUMENTS REVIEWED

No.	Document
1	Project Document - MTF/MON/018/STF
2	Semi-annual Progress Reports – 2019-2022
3	Mid-term Narrative Report (IDELE) - 2021
4	Final Recommendation Report (IDELE) - 2022
5	Technical Specification Document - 2019