



Food and Agriculture
Organization of the
United Nations



STDF/PG/477
MTF/ETH/098/STF
Terminal Report

FAO/MULTILATERAL TRUST FUND

IMPROVING SANITARY CAPACITY AND FACILITATING EXPORT OF LIVESTOCK AND LIVESTOCK PRODUCTS FROM ETHIOPIA

ETHIOPIA

PROJECT FINAL REPORT AND RECOMMENDATIONS

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

ROME, 2023

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Report prepared for
the Government of Ethiopia
by
the Food and Agriculture Organization of the United Nations

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 2023

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The Food and Agriculture Organization is greatly indebted to all those who assisted in the implementation of the project by providing information, advice and facilities.

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LIST OF ACRONYMS AND ABBREVIATIONS

| | | |
|--------|---|---|
| ADNIS | - | Animal Disease Notification and Investigation System |
| AHA | - | Animal Health Institute |
| AMR | - | Antimicrobial Resistance |
| CIRAD | - | Centre de coopération internationale en recherche agronomique pour le développement |
| CPF | - | Country Programme Framework |
| CVO | - | Chief Veterinary Officer |
| DOVAR | - | Disease Outbreak and Vaccination Reporting |
| EFDA | - | Ethiopian Feed and Dairy Authority |
| EIAR | - | Ethiopian Institute of Agricultural Research |
| ELTPA | - | Ethiopian Live Animal Traders Professional Association |
| EMDIDI | - | Ethiopian Meat and Dairy Industry Development Institute |
| EMPEA | - | Ethiopian Meat Products Exporters Association |
| ENBS | - | Ethiopian National Bureau for Standards |
| ESA | - | Ethiopian Standards Agency |
| FMD | - | Foot-and-Mouth Disease |
| GAP | - | Good Agricultural Practices |
| GHP | - | Good Hygienic Practices |
| GHSA | - | Global Health Security Agenda |
| GMP | - | Good Manufacturing Practices |
| GTP | - | Growth and Transformation Plan |
| HACCP | - | Hazard Analysis and Critical Control Point |

| | |
|-----------------|---|
| HRBA | - Human-Rights Based Approach |
| ICPALD | - IGAD Centre for Pastoral Areas and Livestock Development |
| IGAD | - Intergovernmental Authority on Development |
| ISO | - International Organization for Standardization |
| IZSAM TERAMO | - Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise |
| LIMS | - Laboratory Information Management System |
| LC-MS | - Liquid Chromatography-Mass Spectrometry |
| LITS | - Livestock Traceability System |
| LoA | - Letter of Agreement |
| LVC PPD | - Livestock value Chain Public Private Dialogue |
| MENA | - Middle East and North Africa |
| MERS-CoV | - Middle East respiratory syndrome coronavirus |
| MoA | - Ministry of Agriculture |
| MoH | - Ministry of Health |
| MoI | - Ministry of Industry |
| MoLF | - Ministry of Livestock and Fisheries |
| MoTRI | - Ministry of Trade and Regional Integration |
| MRL | - Maximum Residue Level |
| NAHDIC | - National Animal Health Diagnostic and Investigation Centre |
| NGO | - Non-governmental Organization |
| NSPSC | - National Sanitary Phytosanitary Standard Committee |
| NVI | - National Veterinary Institute |
| OEA | - Offal Exporters Association |
| OIE | - Office International des Epizooties |
| PMO | - Project Management Office |
| PPA | - Programme Priority Area |

| | |
|---------|---|
| PSC | - Project Steering Committee |
| PVS | - Performance of Veterinary Service |
| QMS | - Quality Management System |
| RVF | - Rift Valley Fever |
| SANAS | - South African National Accreditation System |
| SDG | - Sustainable Development Goal |
| SFE | - Sub-regional Office for Eastern Africa |
| SoPs | - Standard Operating Procedures |
| SPS | - Sanitary Phytosanitary Standards |
| SPS-LMM | - Sanitary Phytosanitary-Livestock Meat Marketing |
| SWR | - Stichting Wageningen Research |
| TADs | - Transboundary Animal Diseases |
| UNDAF | - United Nations Development Assistance Framework |
| VDFACA | - Veterinary Drug and Feed Administration and Control Authority |
| VLSP | - Veterinary Laboratory Support Programme |
| VSb | - Veterinary statutory body |
| WOAH | - World Organization for Animal Health |
| WTO | - World Trade Organization |

A. OVERVIEW

A.1 PROJECT PROFILE

| | | |
|--|---|--------------------------------------|
| Country | Ethiopia | |
| Project symbol | MTF/ETH/098/STF | |
| Project title | Improving sanitary capacity and facilitating export of livestock and livestock products from Ethiopia | |
| Resource partner | World Trade Organization (WTO); Standards and Trade Development Facility (STDF) | |
| Actual EOD | 1 July 2018 | |
| Actual NTE | 31 October 2023 | |
| Participating organizations (e.g. Ministry of Agriculture, etc.) | Ministry of Agriculture (MoA) | |
| Implementing partners (list): | | |
| | Type (non-governmental/civil society/community-based organization/Government, etc.) | Total funds transferred (USD) |
| Ministry of Agriculture (MoA) | Government | 86 762.86 |
| Wageningen University & Research (WUR) | University | 34 558.17 |
| Istituto Zooprofilattico Sperimentale dell’Abruzzo e del Molise “Giuseppe Caporale” (IZSAM TERAMO) | Research Centre | 32 254.66 |
| Veterinary Drug and Feed Administration and Control Authority (VDFACA) | Government | 24 692.40 |
| Animal Health Institute (AHI - formerly National Animal Health Diagnostic and Investigation Centre [NAHDIC]) | Government | 23 627.89 |
| Centre de Coopération internationale en recherche agronomique pour le développement (CIRAD) | Research Centre | 17 313.70 |
| Agricultural Transformation Agency | Government | 14 8989.84 |
| Ethiopian Veterinary Association | National Association | 2 543.58 |
| Contribution to Programmatic Framework | | |
| <i>Indicate the title of each higher-level result to which the project contributes</i> | | |
| Sustainable Development Goals (SDGs) | 1, 2, 3 | |
| SDG Target(s) | 1.1, 1.2, 2.1, 2.3., 3.3 | |
| FAO Programme Priority Area(s) (PPA/s) | BN5 | |
| Regional Priorities/Regional Initiative(s), if applicable | N/A | |

| | |
|--|--|
| UNDAF/UNSDCF Outcome(s) (or those from an equivalent UN common country programme document), if applicable | UNDAF 2016-2020: Country Outcome 1: By 2020 Ethiopia will achieve increasingly robust and inclusive growth in agricultural production and productivity and increased commercialisation of the agricultural sector. |
| CPF Output(s) , if applicable | CPF 2016-2020: Priority 2: Livestock and fisheries production, productivity and commercialization improved. |

A.2 FINANCIAL DATA in USD¹

| | |
|-----------------------------|-------------|
| STDF Approved Budget | USD 795 450 |
| STDF Budget Used | USD 569 827 |

A.3 EXECUTIVE SUMMARY

Ethiopia has the livestock resources required to increase exports. The principal opportunities for increasing exports stem from strong demand for meat and livestock in the Middle East and North Africa (MENA) region. However, Ethiopia also faces constraints, the most notable one being the failure to comply with the growing Sanitary and Phytosanitary (SPS) requirements of importing countries. Stringent standards for livestock and livestock products, with their auditing and certification requirements, present a growing challenge in seeking access to external markets. The Government of Ethiopia has been striving to address some of the issues related with SPS requirements through a number of past and ongoing projects.

Against this background, the Ministry of Agriculture (MoA) developed this project to fill the gaps that had not been addressed by past and ongoing initiatives. The objective of the project was to build capacity to enable the country to comply with SPS requirements of potential importing countries in the MENA region, as well as in Southeast Asia, for exporting sheep, goat and cattle meat, to increase the export revenues of producers and feedlot and export abattoir operators along the meat export value chain in Ethiopia.

The project had two outputs: i) Output 1: Strengthened capacity of the Competent Authority to apply, inspect and monitor SPS measures along the export meat value chain; and ii) Output 2: Increased coordination and linkages among the sector value chain actors including with destination markets. The project activities were implemented by national and international implementing partners, including the MoA, the Veterinary Drug and Feed

¹ Data source: FPMIS/Data Warehouse.

Administration and Control Authority (VDFACA), the Animal Health Institute (AHI) (formerly the National Animal Health Diagnostic and Investigation Center [NAHDIC])/ Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Stichting Wageningen Research (SWR), and Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise “Giuseppe Caporale” (IZSAM TERAMO), through Letters of Agreement (LoA).

The key activities and results supported by the project were as follows:

- the review and finalization of the Animal Health, Welfare and Veterinary Public Health Legislation;
- strengthening of the capacity of the risk analysis unit of the MoA through the provision of training on qualitative and quantitative risk analysis to 18 experts (one woman);
- the development of a National Residue Monitoring Plan by the VDFACA;
- needs-based capacity building training sessions on LMIS and QMS to staff of VDFACA (40 participants, nine women) and three regional veterinary laboratories ([RVL] 48 participants, seven women);
- the installation of an LIMS in VDFACA;
- the introduction of a Quality Management System (QMS) in VDFACA and three regional veterinary laboratories;
- the assessment of the Animal Health and Veterinary Services Policy and Legislative Framework to identify and collect all primary and secondary legislation, as well as draft legislation relevant to animal health services in Ethiopia;
- the revision and updating of fifteen standard operating procedures (SoPs) and guidelines that define the minimum standards that producers, meat processors, traders and transporters must satisfy in order to participate in the export trade; and
- improving coordination and networking between federal and regional veterinary services, and revitalizing the National Sanitary Phytosanitary Standard Committee (NSPSC) with revised terms of reference (ToR).

The implementation of the project was challenged by the delayed launching of the project activities, movement restrictions introduced in response to the COVID-19 pandemic, a poor security situation in some parts of the country, frequent changes in the government structure, and the non-technical concerns of meat-importing countries in MENA countries. This caused significant delays in the implementation of the project activities; thus, three no-cost extensions were requested and granted.

Stable government structure, unrestricted movement, clear line of command between government structures, enhanced capacity of national and regional veterinary laboratories, functional Livestock Traceability System (LITS) and good understanding on the SPS requirements of MENA countries are crucial in expanding the live animal and meat export market. This project is expected to have a sustainable impact as it was designed based on the demands and needs of project stakeholders and addressed government priorities. The capacity-enhancement training sessions provided to different stakeholders are also expected to have a long-term impact on the capacity of the Ministry to address SPS issues.

B. RELEVANCE

The problem

Ethiopia has the livestock resources required to increase exports. The principal opportunities for increasing exports stem from a strong demand for meat and livestock in the MENA region. However, Ethiopia also faces constraints, the most notable one being the failure to comply with the growing SPS requirements of importing countries. These escalating SPS standards for livestock and livestock products, with all their auditing and certification requirements, present a growing challenge for Ethiopia in seeking access to external markets. In order to ensure the future of the export of livestock and livestock products, the country needs to adapt to and keep pace with the newly emerging changes and practices related to SPS standards.

Ethiopia is a country with an agriculture-led economy, which has recognized agricultural export trade as an important means to economic development and poverty alleviation. Greater participation in world trade could provide additional opportunities to address the challenging issues of economic growth and poverty reduction. In this context, non-compliance with SPS standards and inadequate control mechanisms have been identified by the public and private sector as major issues affecting export capacity, market expansion and competitiveness in the sector (Livestock Master Plan [LMP], 2015). It should be noted that in the wake of globalization, many countries, including the traditional trading partners of Ethiopia, are rapidly moving to integrate World Trade Organization (WTO) principles. As a result, countries are reviewing their policies and practices and major changes are under way that will have an important impact on livestock trade. These stringent standards for livestock and livestock products, with their auditing and certification requirements, present a growing challenge for Ethiopia in seeking access to external markets. The international market for live

animals and meat is becoming increasingly stringent. All those involved in the production, processing and marketing of live animals and meat must comply with improved SPS practices to maintain and increase market share (Animal health strategy and vision for Ethiopia [LMP], 2013). The issue of non-compliance with food safety and animal health standards is due to SPS-related challenges that have been identified along the live animal and meat value chain, as explained below.

Pastoralists and farmers level (sources of animals)

- Prevalence of trade limiting diseases: the presence of a number of trade-limiting transboundary livestock diseases can act as absolute barriers to accessing a broader range of markets. Outbreaks will shut down trade in meat even in the absence of science-based reasons. As many regions rid themselves of infectious animal diseases, and as international trade and travel intensify, these health threats are of increasing concern to Ethiopia's trading partners. The repeated bans that Ethiopia experienced from the major importing countries on meat imports due to concerns over transboundary animal diseases (TADs), such as Foot-And-Mouth (FMD) disease, and the occurrence of Rift Valley fever (RVF) in neighbouring countries have had significant impacts on the livelihoods of livestock-dependent communities and business enterprises. For example, a loss of USD 132 million in added value and a 36 percent fall of gross domestic product (GDP) was estimated in the Somali region of Ethiopia due to a trade ban imposed as a result of the outbreak of RVF in Northern Somalia and Kenya in 2000.
- Weak early detection and response systems: disease surveillance and reporting is poor and irregular, with only about 35-40 percent of woredas (districts) in the country submitting disease outbreak reports each month. This figure is far lower for pastoral and agropastoral areas, from where most export animals are sourced. Moreover, the sensitivity, specificity and timeliness of the reports are very low. The reporting is not done in real time and is not using new technologies such as mobile phones to enhance the quality of the reporting system. The lack of confidence expressed by trading partners in animal health certificates stems, in part, from a lack of confidence in the national surveillance systems. National authorities need to reach beyond passive surveillance approaches to more active systems that engage production stakeholders as partners. The final result of a surveillance system should be timely, accurate, and low-cost information that is collected through an auditable system. The system should be documented and regularly assessed for quality of

performance.

- Lack of strategic disease prevention and control interventions: the lack of sound and cost-effective disease-control strategies are mainly due to the lack of reliable epidemiological information and risk assessment. Vaccination campaigns are therefore performed sporadically with no strategic plan to reach the rural farms in an organized way (Animal Health Strategy and Vision for Ethiopia, 2013). The implementation of control programmes is mainly monitored in terms of the number of vaccinations achieved, and not by monitoring the incidence or prevalence of the disease targeted for control or eradication. Moreover, there are no well-developed, adequately funded and coordinated emergency preparedness and contingency plans for exotic, emerging and re-emerging diseases.
- Weak animal health extension services and inadequate vaccine supply: the current delivery of animal health services is inadequate both in terms of coverage and quality. Only 45 percent of the country is served by animal health delivery systems. Field services are constrained by lack of inputs, high operational costs and inadequate transport. Budgets do not allow veterinary drugs purchases to cover part of the annual needs. The ratio of salary expenditures to recurrent costs is high and is increasing. The National Veterinary Institute (NVI) is producing a wide range of vaccines. However, some essential vaccines are not produced or are not produced in sufficient quantity and quality. The quality, safety and efficacy of veterinary drugs and biologicals, whether locally produced, or imported, distributed and used in the country are not properly regulated and controlled (Animal Health strategy and vision for Ethiopia, 2013).

At the level of livestock markets

- Lack of health checks of animals entering markets: although there are weekly and daily livestock markets of various sizes in the country, most of them do not have the necessary facilities such as perimeter fencing, water and feed troughs, loading and offloading ramps, needed for transactions to occur in an orderly manner. Most importantly, the health status of animals entering the market is not checked and inspected. Animal health and movement records are not kept and maintained. A new proclamation regulating the conduct and structure of live animal trade in Ethiopia was formulated by the Ministry of Trade and Regional Integration ([MoTRI] formerly the Ministry of Trade) and approved by parliament. The law, Proclamation

no. 819/2014, has provisions to address these issues but has not yet been fully and effectively enforced.

At the level of feedlots/quarantine

- Absence of minimum biosecurity: the absence of minimum biosecurity standards to prevent the spread of disease by minimizing the movement of biologic organisms and their vectors onto and within feedlots results in the introduction and spread of diseases and reduces the efficiency of production. Effective implementation of biosecurity has far-reaching implications in preventing the introduction and spread of potentially catastrophic foreign animal diseases, as well as managing endemic and epidemic domestic diseases, and in enhancing competitiveness both in the domestic and international market. In order to protect emerging commercial feedlots and to secure international markets, Ethiopian livestock producers and exporters need to meet minimum requirements by demonstrating their ability to respond to biosecurity risks.
- Not well-developed live animal transportation facilities: traders often cannot move their trucks to producer areas, while livestock owners complain that traders and their trucks never reach their areas, which forces them to trek (on foot) for long distances. Another trade-related, transport infrastructure issue involves the use of general-purpose trucks to transport livestock. While these trucks are sturdy and carry both imports such as grains and other goods into lowland areas and livestock animal exports out, they are not well-suited for moving livestock. Animals lose condition, are often injured and in some cases die (Animal Health Strategy and Vision for Ethiopia, 2013).

At the level of abattoirs (meat production)

- Lack of quality management systems: good hygienic practice (GHP), Hazard Analysis and Critical Control Point (HACCP) and International Organization for Standardization (ISO) standards are not fully implemented in all export abattoirs (moreover, the SoPs developed for these purposes are not fully complied with and enforced). As a result of poor hygiene and sanitation a number of trade bans was imposed in the past on some of the export abattoirs, causing heavy financial losses to the abattoirs and the country (Animal Health strategy and vision for Ethiopia, 2013).
- Cold chain breakdowns: breakdowns in the cold chain are one of the common problems, which at times result in the total rejection of the meat consignment. There are difficulties in maintaining the temperature within the cold chain along the export

chain, from export abattoirs up to end markets. This has resulted in poor sanitary standards and deterioration of the quality of the product (Animal Health Strategy and Vision for Ethiopia, 2013). The cold chain is a continuum, from the time the carcass is skinned and eviscerated and enters the chilling processes, and is stored, dispatched and transported. This helps to achieve a level at which microorganisms do not grow. If the cold chain is violated at any point, meat safety, quality and hygiene will be compromised.

Across the sector value chain

- Poor coordination between federal and regional veterinary services: the World Organisation for Animal Health (WOAH, formerly the Office International des Epizooties [OIE])-Performance of Veterinary Service (PVS) Evaluation Report acknowledges that efforts have been made to coordinate veterinary services responsibilities across the different levels of government, including the establishment of memoranda of understanding on issues relating to the prevention of transboundary disease and meat hygiene and inspection in slaughter establishments. However, it concludes that further strengthening of the technical chain of command is required. Weakened (decentralized) chains of command have resulted in poor disease reporting, inadequate exchange of disease/animal health information among districts, and lack of harmonized disease-control programmes (PVS, 2011).
- Inadequate legal framework: the need for legal support in implementing animal health and food safety standards cannot be overemphasized. This is only achievable by establishing a sound regulatory framework and strong enforcement mechanisms. Ethiopian laws related to animal health and meat safety are outdated and do not conform to international standards. In light of changing disease risks and occurrences, as well as scientific advances and improving international standards, current government laws fail to address the changing situation and emerging challenges (Animal Health Strategy and Vision for Ethiopia, 2013). There are several new laws awaiting approval in Ethiopia. However, promulgation of legislation in Ethiopia is a very slow process. The delay in enacting these bills suggests a lack of understanding and agreement on the scope and significance of SPS matters among legislators and decision-makers in the public sector, and, further, may be indicative of divergent views between the various parts of government currently charged with SPS issues. If indeed the country is to promote the export of animals and animal products, the endorsement and enforcement of required laws conforming to evolving

international standards need to be a priority.

- Limited capacity to undertake risk analysis: risk analysis plays a significant role in trade relations with importing countries on meat exports, but it should also provide the technical basis for the progressive prevention and control of TADs relevant to vaccine deployment. It is increasingly used in veterinary epidemiology, in food safety and various aspects of trading of livestock and livestock products. However, the country lacks the capacity to undertake risk analysis and there is a need to enhance the technical and scientific knowledge and skills of selected mid-level officers to perform risk assessment, as required for the implementation of SPS measures (Animal Health Strategy and Vision for Ethiopia, 2013).
- Lack of awareness on good practices along the chain (good husbandry practices, GHP, good manufacturing practices [GMP], HACCP): insufficient qualified local expertise, extension officers and inspectors that limit SPS-related knowledge transfer to stakeholders along the value chain, and the implementation of a consistent approach and system to apply and comply with good agricultural practices (GAP), good husbandry practices, GHP, GMP, HACCP across the value chain.
- Poor coordination and collaboration of various institutions: overall, in most SPS areas in Ethiopia, there is: i) only limited integration in functionality between various government agencies; ii) significant competition between agencies to acquire and retain authority to issue licenses, permits, accreditations, and to conduct inspections; and iii) only very limited willingness to share existing capacities (especially in laboratories) between agencies. Most food control functions at central government level are assigned to the Ministry of Health (MoH) and the Ministry of Livestock and Fisheries (MoLF), as well as the Ethiopian National Bureau for Standards (ENBS). Institutional structures and role clarity are necessary for the SPS system to function effectively as a whole (Ethiopia National One Health Strategic Plan, 2018-2022).
- Absence of traceability system: traceability systems are important, effective tools that can be used for many things, including the protection of animal health, public health and food safety. They can help reduce response time, thereby limiting economic, environmental and social impacts of emergency situations such as disease outbreaks. It is increasingly becoming a requirement for market access. However, despite some pilot initiatives, the effective implementation of livestock identification and traceability has not yet been realized in Ethiopia. It is necessary to develop a

cost-effective and sustainable livestock identification system that has the capacity to trace animals from the farm of origin to the retail outlet to control and/or eradicate animal diseases of national importance.

- Poor awareness on SPS issues: both the public and private sector lack a clear understanding of SPS and why and how to comply with changing rules and regulations made by importers. Where awareness is lacking, attempts at regulatory enforcement are likely to fail. Awareness is needed among government officials so that SPS considerations are reflected in national policies and strategies, and resources are allocated on the basis of priorities. Producers need to be aware of SPS issues so that they too can allocate resources, whether they are large-scale agribusinesses or smallholder farmers. The foundation of any SPS management system is awareness and recognition, in both the public and private sectors and from the level of decision-makers to implementers, including inspectors, processors, traders, exporters, sector associations, and other stakeholders on the importance of effective SPS controls to export competitiveness and recognition by each party of their own role in this system.
- Lack of residue monitoring capacity: Ethiopia's underdeveloped capacity to address trade constraints related to, for example, pesticide maximum residue levels (MRLs) poses difficulties in the production of safe food of livestock origin for both domestic and international markets (PVS, 2011). Credible controls should be in place in order for exporters to ensure compliance with destination market MRLs. The country should build its capacity to carry out analytical tests to detect residues such as antibiotics, pesticides, heavy metals, and hormones in food of animal origin. This also involves the development of a national residue monitoring plan. Although there are numerous laboratories with some ability to undertake analytical tests, there are generally limitations to perform the tests required for compliance with export market standards.
- Inadequate laboratory diagnostic capacity: diagnostic and testing facilities are necessary to support pest and disease identification, market surveillance, inspection, and risk analysis. The country should strengthen its laboratory systems so that test results coming from these laboratories are credible and accepted by the trading partners. This involves the establishment of quality assurance systems and accreditation of the laboratories for ISO 17025. The AHI (NAHDIC) has made considerable progress over the past years in implementing a quality assurance programme and establishing a suite of WOAHA-recommended laboratory tests to

support disease control and exports. So far, AHI (NAHDIC) has been accredited by the South African National Accreditation System (SANAS) for 14 tests and six diseases (Animal Health Strategy and Vision for Ethiopia, 2013). This should be expanded further for other diseases and the AHI (NAHDIC) should be supported to become a reputable and credible laboratory in supporting export trade. The effectiveness of the 15 state veterinary laboratories in carrying out their duties has been compromised over the years by a combination of factors generally related to staffing, funding, organization, and the shortage of supplies such as kits and consumables.

Addressing all these SPS concerns was beyond the means and capacity of this project. In addition, there were ongoing and upcoming projects handling some of these issues, such as strengthening the extension system, the control and prevention of major TADs and zoonosis, livestock identification and traceability. Therefore, the project aimed to focus on critical gaps and priorities that were not filled by existing and upcoming initiatives.

The response

The objective of the project was to build capacity to enable the country to comply with SPS requirements of potential importing countries in the MENA region, as well as in Southeast Asia, for exporting sheep, goat and cattle meat. The expected impact was to increase export revenues of producers, feedlot operators and export abattoir owners along the meat export value chain in Ethiopia; and the expected outcome was to improve SPS compliance and linkage for market access in the meat export industry.

The project focused on capacity building to enable the country to comply with SPS requirements of potential importing countries in the MENA region, as well as in Southeast Asia, for exporting sheep, goat and cattle meat. The project would contribute to strengthening the regulatory capacity of the country by enhancing the competence of public regulatory institutions to perform official controls. The federal veterinary services would be capacitated in SPS negotiations, risk analysis, reviewing and updating legislations, SoPs and guidelines. Four regional veterinary laboratories in areas where animals were sourced for the export of meat would be supported, trained and coached in laboratory quality management and information management systems. The quality control laboratory of the VDFACA would also be capacitated to perform laboratory analysis for the possible presence of residues in meat. The project would strengthen market linkages and market-oriented approaches among prospective business partners along the value chain through awareness creation, better understanding of markets, and compliance with importing countries' requirements in terms of

animal health, SPS and hygiene and sanitation standards. Further details are outlined below, under the two outputs and their corresponding activities.

Output 1: Strengthened capacity of the Competent Authority to apply and monitor SPS measures along the export meat value chain

In order to access the global market, meat should be accompanied by veterinary health certification attesting to the animal health status of the country, the hygienic handling of the meat, and its freedom from harmful residues. As the responsible authority for this certification, the competent authority is obliged to ensure that a comprehensive and effective official control system is in place. The project supported the competent authorities to comply with SPS requirements of current and potential export markets for Ethiopian meat.

Activity 1.1. Support negotiation on SPS and related issues

The project planned to explore opportunities to penetrate new markets, including exports of fresh (chilled) and processed meat to the MENA region, and Southeast Asian countries. The Ethiopian competent authority would undertake a series of bilateral negotiations during the project, to discuss specific SPS issues related to meat exports from Ethiopia to other potential markets. The bilateral meetings and negotiations with potential importing countries would seek to reach agreement on the use of the principles of equivalence and appropriate level of protection.

Activity 1.2. Support finalization of draft legislation

Based on the outcomes of the WOAHPVS evaluation and subsequent gap analysis reports, as well as recommendations made by the WOAHP Veterinary Laboratory Support Programme (VLSP), the MoLF is working on a new unified policy and regulatory framework for animal health services, which complies with current scientific advances, as well as international standards and requirements of trading partners. So far, two primary bills and seven secondary bills have been developed and have been reviewed by the WOAHP legal expert team. The primary legislation deals with animal health, welfare and veterinary public health and the establishment of a veterinary statutory body (VSB). The proposed secondary legislation deals with disease control and prevention, import/export, control of primary livestock products, animal welfare, livestock identification and traceability, regulation of veterinary laboratories, and regulation of veterinary professionals and paraprofessionals. The project planned to hire a veterinary legislation specialist to review and finalize the legislation, in line with the recommendations of the WOAHP-VLSP mission, and facilitate consultative workshops involving all relevant stakeholders.

Activity 1.3. Build the capacity of the risk analysis unit of MoLF

This would involve the establishment and capacitation of a risk analysis unit at the MoLF. A pool of experts within the Directorate of Epidemiology of the MoA and higher learning institutes would be trained by an international expert on veterinary risk analysis. The purpose of the training was to develop capacity at national level to subsequently undertake qualitative risk analysis for the purpose of supporting export trade, developing risk-based control programmes, including risk communication. The participants in this training course would be trained to undertake their role as national risk analysis trainers. In this role, it was expected that they would cascade the training to a wider group of veterinarians working in the regional agriculture or livestock bureaus or agencies. The project planned to provide risk analysis software and the OIE Handbooks on Import Risk Analysis for Animals and Animal Products to the unit. The risk analysis unit would develop risk analysis documents for priority trade-sensitive diseases.

Activity 1.4. Support the development of national residue monitoring plan

The OIE-PVS Evaluation (2011) and Gap Analysis (2012) reports identified the lack of capacity for residue monitoring at national level. Accordingly, a national residue monitoring plan would be developed in coordination with the VDFACA to ensure that meat and meat products were free of adulterants and a wide range of biological and chemical contaminants. The plan would establish the frequencies and level of sampling and the substances to be controlled in meat. Chemical compounds to be considered in the plan included approved and unapproved veterinary drugs, pesticides and environmental contaminants of concern for trading partners. Applicable guidelines, such as the Codex Alimentarius' MRLs were planned to be used to determine the permitted residue levels.

Activity 1.5. Introduce QMS and support accreditation of the residue testing lab at Kality

The purpose of this activity was to assist the VDFACA's quality control laboratory to complete its preparations to become an operational, official laboratory. Technical capacity building was planned through the training of technical staff at the Kality quality control laboratory. The personnel were expected to conduct high-quality residue analyses that would be accepted by international standard setting bodies, such as Codex, or by other national governments for the establishment of MRLs. The focus of the training included SoPs, quality assurance systems and methodology development, in order to perform high-quality, reliable residue testing. The laboratory was also expected to acquire third-party accreditation for selected and prioritized tests and residues.

Activity 1.6. Introduce LIMS and QMS in regional labs along the meat export value chain (Yabello, Jijiga, Semera, Mekelle)

The project aimed to strengthen four regional laboratories involved in the meat export value chain (Yabello, JiJiga, Semera and Mekelle) by building basic export testing capacity. A laboratory QMS, involving proficiency testing, would be introduced. An effective LIMS, involving both federal and regional veterinary laboratories and functional linkages and collaboration between regional and federal veterinary laboratories, would be established. The AHI (NAHDIC) was expected to play a leading role in achieving these objectives and ensure the provision of training to the four regional laboratories.

Activity 1.7. Revise existing SOPs and guidelines related to livestock and meat and support their implementation (disease control, meat animal handling, quarantine, meat processing, meat handling and transporting)

The project planned to support the revision, updating, printing and implementation of 14 SoPs and guidelines to ensure SPS compliance along the meat value chain. These were guidelines and SoPs developed by the (then) Ministry of Agriculture (MoA), in collaboration with the Ethiopian Sanitary Phytosanitary-Livestock Meat Marketing (SPS-LMM) Programme. The guidelines and SoPs define minimum requirements that livestock producers, meat processors, traders, transporters and others must satisfy in order to participate in the export trade. A total of 300 persons from export abattoirs, feedlots, markets operators, and Addis Ababa Bole International Airport would be trained on the use and implementation of the SoPs.

Output 2: Increased coordination and linkages among the sector value chain actors including with destination markets

The project planned to improve public and private cooperation, networking and market linkages along the meat value chain and with national, regional and international trading partners. This would focus on the linkages between farmers and exporters and on strengthening them.

Activity 2.1. Strengthen information exchange through website development

The project planned to deploy a local expert to develop a fully functional website dedicated to SPS and related issues. The website was expected to provide timely and regular information to exporters related to SPS and a changing regulatory environment. The web-based repository would have publications related to official control procedures and minimum export standards. The system would enable registered users to access up-to-date versions of official control procedures relevant to their duties. Export business operators and

members of the public would be provided with limited access to the repository, enabling them to download information on the minimum requirements for export. The website would be hosted on one of the MoLF servers currently used for various animal health databases. The MoLF had adequate information technology (IT) staff to sustain the website beyond the project.

Activity 2.2. Initiate and support bi-annual joint planning and consultation meetings between federal and regional states in Ethiopia

The project planned to support the establishment of a coordination forum to enhance collaboration between the federal and three regional veterinary services. The coordination forum would convene biannually. It would address the weaknesses of the multilevel structure in relation to internal coordination and the management of operations and resources. This would be achieved through regular formal meetings between chiefs of animal health nationally and regionally, to plan for and monitor key national priorities, formalize and institutionalize national disease control plans, and develop a monitoring tool to evaluate the performance of federal and regional veterinary services in order to improve efficiency and effectiveness.

Activity 2.3. Strengthening of the existing national SPS committee

The project planned to support the strengthening of the national SPS committee. In general, these national SPS coordination mechanisms appeared to be at an early stage of development and the committee members had not started meeting on a regular basis. The national SPS committee should serve as a national forum for dialogue and coherence on SPS matters, to resolve SPS issues affecting regional and/or international trade, enhance a country's implementation of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), discuss and prepare national positions, and improve a country's participation in regional and multilateral SPS fora, monitor the country's capacity to implement SPS measures, and make recommendations for technical cooperation.

Moreover, through support from the project, SPS mandates would be streamlined, roles and responsibilities of partners would be clearly delineated across sector ministries, and synergies with other programmes would be established. The committee would carry out four annual regular meetings and additional extraordinary meetings, based on need. Representatives of all relevant government ministries and departments, as well as other stakeholders (such as the private sector, academia, consumers' associations) that had a particular involvement or interest in SPS issues would be included as members. Members

should include the MoLF, the MoH, the MoA, the Ministry of Industry (MoI), the Ethiopian Standards Agency (ESA), and other appropriate institutions, including the private sector.

Activity 2.4. Developing and implementation of SPS communication strategy for the meat export value chain

The project planned to support the competent authority in developing an effective communications strategy to provide stakeholders with general and specific information related to SPS and build an enhanced partnership between the government, the private sector and trading partners. A local communication consultant would be hired to develop the strategy and craft messages, targeting various audiences based on the type of information that stakeholders required and their preferred communication channels. One validation workshop would be organized, involving at least 30 participants. At least ten different communication messages would be disseminated to actors in the meat value chain.

Activity 2.5. Strengthen linkages between exporters and importers of meat in selected key meat markets in MENA and SE Asia

At least two business networking events would be organized to bring the trained and coached processors/exporters to meet prospective buyers. The networking event would be organized possibly back-to-back with a relevant trade fair. The project, together with the sector association, would contact and mobilize processors/exporters and buyers prior to the event. Advisory support would be provided to the selected participating companies to prepare them before the business networking event and to follow up on the business contacts established after the event. At least ten trade deals would be negotiated and concluded between Ethiopian meat exporters and importers in the MENA region and Southeast Asia through these trade fares and negotiation missions.

Beneficiaries/stakeholders

The project actively engaged both the public and private sector in Ethiopia, based on a value chain approach. On the government side, the project closely involved the MoLF, the MoH, the AHI (NAHDIC), and four other regional laboratories, the VDFACA, and the Ethiopian Meat and Dairy Industry Development Institute (EMDIDI). The project directly involved and benefited the Government of Ethiopia, particularly at the local level. The capacity of zonal and district agriculture development offices was strengthened through participation in training activities on GAP and SPS issues, which will enhance the quality and effectiveness of their extension services.

On the private-sector side, the project involved the complete range of stakeholders involved in the meat value chain, notably small farmers in the project areas, processors, and

traders, cooperatives and their members, the Ethiopian Meat Products Exporters Association (EMPEA), and the Ethiopian Live Animal Traders Professional Association (ELTPA). By strengthening linkages between exporters and importers of meat in selected key meat markets in the MENA region and Southeast Asia, the plan was to conclude at least ten trade deals between Ethiopian meat exporters and importers in these regions. However, it was not possible to achieve this for a number of reasons, which are outlined below.

No particular population group was negatively affected by the project. A key component of the project was to enhance meat export through SPS compliance. In this context, the introduction of good SPS-related practices along the meat export value chain positively impacted all stakeholders and the country at large. The project was prepared in consultation with key project stakeholders and addressed their expectations and demands. During the STDF Project Preparation Grant 2 (PPG2) stage, a consultative workshop involving all relevant stakeholders was held on the Project Document, and comments and suggestions made by participants were used to enrich it.

Synergy with other projects

At the time of writing this report, FAO Ethiopia was implementing the FAO Office for Special Relief Operation (OSRO) project, OSRO/GLO/507/USA, “Supporting the Global Health Security Agenda to Address Zoonotic Disease and Animal Health in Africa. The Global Health Security Agenda (GHSA) is a commitment by nations, international organizations and civil society to fast-track progress towards a world that is safe and secure from infectious disease threats. FAO Ethiopia primarily supported the MoLF, and, to a lesser extent, other partner ministries, to move from current capacity levels towards target capacity levels in relation to achieving milestones and goals associated with the Zoonotic Disease, National Laboratory Systems, Biosafety and Biosecurity Systems and Workforce Development GHSA Action Packages.

FAO was also implementing projects related to Middle East respiratory syndrome coronavirus (MERS-CoV) surveillance, Africa Sustainable Livestock 2050 (ASL2050) and Antimicrobial Resistance (AMR). The MERS-CoV surveillance in dromedary camels and other domestic animals in Ethiopia seeks to understand the MERS-CoV host range, modes of transmission from animal to animal, and from animal to human. The ASL2050 aims to understand how the livestock sector will look in the next 30 to 40 years, and identify potential public health, environmental and socio-economic implications of changing livestock systems based on alternative long-term growth scenarios. The outcomes will be the identification of

policy gaps, and recommendations on priority reforms and investments, to ensure sustainable development of the livestock sector in the next three or four decades.

The AMR project proposes to support the engagement of the food and agriculture sector in selected countries in the development and implementation of national action plans on AMR, with a focus on several of the key factors, including regulatory platforms, legislation, capacity to collect data on antimicrobial use, AMR, and antimicrobial residues, and improving practices to minimize the need for and use of antimicrobials and transmission of AMR along the food chain.

Ongoing livestock interventions in pastoral and agropastoral areas of Ethiopia include emergency vaccination against diseases of both economic and public health importance, as well as TADs. FAO also worked on community empowerment through community-based animal health delivery systems, feeding and feed improvement systems, production of fast growing forage, construction and rehabilitation of livestock water points through community participation, slaughter de-stocking, cash injections, and establishing farmer/pastoral field schools. These have had a significant impact on saving livelihoods and improving livestock production of food insecure households.

C. ACHIEVEMENT OF RESULTS

Results achieved

Some of the key activities and results of the project included the review and finalization of the Animal Health, Welfare and Veterinary Public Health Legislation; strengthening the capacity of the risk analysis unit of the MoA through the provision of training on qualitative and quantitative risk analysis; the development of a National Residue Monitoring Plan by the VDFACA; needs-based capacity-building training sessions on LMIS and QMS to staff of the VDFACA and three regional veterinary laboratories; and the revision and updating of 15 SoPs and guidelines that define the minimum standards that producers, meat processors, traders and transporters must satisfy in order to participate in export trade, among others.

In addition, the project greatly enhanced the capacity of the VDFACA to test and detect residues in foods of animal origin through the development of a national residue monitoring plan, the training of its staff on residue testing, the accreditation of its residue testing laboratory, and the introduction of a quality management system. The VDFACA quality control laboratory is able to detect banned substances in milk and muscle, despite the limited instrumentation in the quantification and confirmation of the identity of substances. In

addition, the laboratory has created a linkage with an international laboratory working on the same, through this project, which would create the opportunity for the laboratory to further upgrade its capacity on testing, quantification and confirmation of the identified substances.

Further details on the activities carried out and results achieved are outlined below, under the respective outputs.

Output 1: Strengthened capacity of the Competent Authority to apply and monitor SPS measures along the export meat value chain

Activity 1.1. Support negotiation on SPS and related issues

The project planned to explore opportunities to penetrate new markets, including exports of fresh (chilled) and processed meat to MENA, and Southeast Asian countries. This activity was not implemented owing to poor interest from the MENA importing countries, for non-technical reasons (geopolitical) prevailing in these countries, as well as reduced meat and livestock demand during the COVID-19 pandemic. In addition, the strict halal requirements from MENA countries hindered efforts to create a link between exporters and importers in these countries, which required hygienic practices related to the halal system in addition to the slaughtering requirements. However, Ethiopia's Chief Veterinary Officer (CVO) participated in the annual Inter-Regional Joint Technical Meeting of IGAD Exporting and MENA Importing Countries Conducted to Strengthen Collaboration for Enhanced Livestock and Meat Trade, organized by FAO Subregional Office for Eastern Africa (FAO SFE), in collaboration with the Intergovernmental Authority on Development (IGAD), which also presented some opportunities for bilateral coordination. The meeting took place in Addis Ababa, Ethiopia from 15 to 16 March 2022.

Activity 1.2. Support finalization of draft legislation

A veterinary legislation specialist was hired to review and finalize the legislation, in line with the recommendations of the WOAHL VLSP mission, and facilitate consultative workshops involving all relevant stakeholders. The project supported the review and finalization of the Animal Health, Welfare and Veterinary Public Health Legislation. The legislation was initially reviewed during a three-day write-shop organized by FAO from 20 to 21 March 2019, in Adama. It was attended by staff from the MoA (legal and veterinary departments) and FAO (SFE and FAO Ethiopia). The project supported the finalization of the draft legislation "Animal Health, Welfare and Veterinary Public Health Proclamation" to be SPS compliant. After a follow-up meeting, which took place from 22 to 23 April 2019, the English version of the Animal Health, Welfare and Veterinary Public Health Legislation was finalized, and the final agreed English version of the legislation was translated into Amharic

and reviewed, in collaboration with the MoA legal and veterinary department staff, on 2 May 2019.

The Amharic version of the proclamation was accepted by the MoA and the Attorney General, and sent to the Council of Ministers, who returned it with their comments. After addressing the response to the comments, the Council of Ministers submitted the proclamation to the parliament. The next step of the procedure was to submit the document for public debate through the legal standing committee before promulgation by the new parliament. Following the establishment of the new parliament, which convened in September 2021, and the subsequent establishment of a new government, several government ministries and institutions underwent structural adjustments (division or merger). Accordingly, all the laws, including the advanced draft proclamation of the Animal Health, Welfare and Veterinary Public Health Legislation, were reverted to address or consider the revised changes in institutional structure and mandates. The revised draft proclamation was submitted for the wider stakeholders' validation again, and its English version has yet to be produced to proceed to the next step. The ratification process will depend on government priority, as, at the time of writing this report a number of laws (including several regulations) were awaiting approval at different levels of the government. Thus, the Ethiopian Agricultural Authority (EAA), which is the mandated government institution, will follow up the ratification of the legislation by the parliament.

Following the agreement reached during the project steering committee meeting on 3 March 2021, a local legal consultant was recruited to expedite the process of reviewing and updating the subsidiary regulations. Consequently, based on the recommendation of the State Minister for Livestock Sector Development, the two categories of subsidiary regulations were drafted by the local consultant. The first draft addressed animal health and welfare and the second draft dealt with the establishment of a VSB (the veterinary board of Ethiopia). The drafting of the two categories is pending the review and approval process of the revised proclamation.

Activity 1.3. Build the capacity of the risk analysis unit of MoLF

The project provided risk analysis software and the OIE Handbooks on Risk Analysis to the risk analysis unit. However, the risk analysis unit did not complete the development of risk analysis documents for priority trade-sensitive diseases during the project, as planned. This was mainly due to the restructuring of the MoA, which disrupted the regular activities of the different units of the Ministry until the restructuring was completed. The capacity of the risk analysis unit of the MoA was improved by conducting a qualitative and quantitative risk

analysis training-of-trainers (ToT) session for eighteen staff members (one woman), 11 from different MoA directorates, three from the VDFACA, two from the AHI (NAHDIC), and one from Addis Ababa University. The training was provided by two experts from CIRAD, from 4 to 16 March 2019 in Bishoftu.

Activity 1.4. Support the development of national residue monitoring plan

The project developed a national residue monitoring plan in coordination with the VDFACA, to ensure that meat and meat products were free of adulterants and a wide range of biological and chemical contaminants, and to respond to the persistent request of meat-importing MENA countries to guide the testing of meat residues. The VDFACA developed the draft National animal source food and feed chemical residue and biological hazard monitoring plan, which was validated at a workshop involving all stakeholders. The plan is now operational, and the VDFACA is expected to continue residue monitoring as part of its laboratory routine and surveillance activity, as deemed necessary. It also developed a study document entitled “*Preliminary assessment of chemical residues and biological hazards in food of animal origin and feeds in Ethiopia*”, which estimated the level of occurrence of antimicrobial residues in raw beef and milk.

In addition, the project supported the provision of training for VDFACA staff on residue testing. Three training sessions aimed to address the needs of meat-importing MENA countries were conducted by SWR, which is based in the Netherlands. The training sessions followed flexible teaching methodologies, combining theoretical and practical sessions and discussions on the results obtained and the follow-up experiments were designed accordingly. The first training session, on the analysis of antibiotics on food products, was conducted virtually (because of the restrictions in place in response to the COVID-19 pandemic), from 11 to 27 August 2020. The second phase of the training, which dealt with the validation of Liquid Chromatography-Mass Spectrometry (LC-MS/MS) methods for residue analysis, was conducted from 22 February to 7 April 2021. The third training session, focusing on the analysis of banned substances in muscle and milk, was conducted from 6 August to 22 October 2022. Five VDFACA staff members (one woman) benefited from the three training sessions, which were conducted virtually due to movement restrictions, as mentioned above. Currently, the VDFACA quality control laboratory and SWR have regular contact on the transfer and implementation of the methods.

The VDFACA quality control laboratory is now able to detect banned substances in milk and muscle, despite the limitation of instrumentation in the quantification and confirmation of the identity of substances. However, it will take some time to obtain

reproducible results in the absence of, mainly, internal standards. Further optimization of instruments and the use of labelled internal standards (not currently available in the VDFACA quality control laboratory) are required to allow successful implementation of the method and subsequent implementation. In addition, the consumables required for the tests are expensive and difficult to obtain in Ethiopia. This limits the possibilities of the VDFACA quality control laboratory currently to undertake such analysis on a continuous basis.

Activity 1.5. Introduce QMS and support accreditation of the residue testing lab at Kality

The purpose of this activity was to assist the VDFACA's quality control laboratory to complete its preparations to become an operational, official laboratory. Technical capacity building was carried out through the training of technical staff at the Kality quality control laboratory. The Animal Health Institute (AHI), formerly the National Animal Health Diagnostic and Investigation Centre (NAHDIC), as mentioned above, was tasked through an LoA to support the VDFACA quality control laboratory in introducing QMS. The support included capacity-building training sessions and the preparation of QMS documents, mainly in the relevant training needs identified by the VDFACA quality control laboratory management team. Basic refresher training on ISO/IEC 17025:2017 requirements and accreditation and the proficiency testing participation process was provided. The table on the following page shows the QMS training sessions provided to VDFACA staff by the AHI (NAHDIC) to support the introduction of QMS in VDFACA.

Table 1: List of training sessions for VDFACA staff

| Training topic | Number of participants | Training location | Training dates |
|---|-------------------------------|--------------------------|-----------------------|
| Refresher training on ISO/IEC 17025:2017 requirements, accreditation test and proficiency test | 40 (7 female) | AHI (NAHDIC) | 18-20 Nov. 2021 |
| Internal auditing, lead auditing and reporting of findings | 21 (3 female) | AHI (NAHDIC) | 16-20 Dec. 2021 |
| Techniques of root cause analysis, development of an effective corrective action and preventive actions for handling of non-conformance | 40 (9 female) | AHI (NAHDIC) | 8-9 June 2022 |
| Determination of test method measurement uncertainties, equipment calibration and traceability management system | 40 (9 female) | AHI (NAHDIC) | 16-18 June 2022 |
| Test method selection, verification and validation | 29 (6 female) | AHI (NAHDIC) | 20-22 Sep. 2022 |
| Mentoring guideline preparation as part of QMS support | 10 (all male) | AHI (NAHDIC) | 17-21 Oct. 2022 |
| Pathogen bacteria isolation, characterization from food of animal origin by means of conventional or classical techniques application | 15 (4 female) | AHI (NAHDIC) | 3-12 Oct. 2022 |

Source: Table elaborated by the Project Team

Activity 1.6. Introduce LIMS and QMS in regional labs along the meat export value chain
(Yabello, Jijiga, Semera, Mekelle)

The project aimed to strengthen four regional laboratories involved in the meat export value chain (Yabello, JiJiga, Semera and Mekelle) by building basic export testing capacity. A laboratory QMS involving proficiency testing was initiated, but was not completed during the project. The project supported the installation of a Laboratory Information Management System (LIMS) in the VDFACA. This was done by IZSAM TERAMO, an Italian-based laboratory, through an LoA. The LIMS allows the tracking of samples from submission to testing and reporting, and can facilitate the link between diagnostic results and response in the field, through a shift from paperwork to computerized systems. Training on LIMS was provided by IZSAM TERAMO to 25 VDFACA staff members (twenty male and five female), from 2 to 9 February 2020, in the VDFACA quality control laboratory. These interventions enabled the VDFACA to track samples from submission to testing and reporting, as the system is networked. The IZSAM TERAMO laboratory (in Teramo, Italy) also assisted the VDFACA in troubleshooting, as the initial design at the sample reception stage was not adequately customized to VDFACA's quality control laboratory. This is believed to create a conducive environment for the subsequent introduction of QMS in VDFACA quality inspection laboratories.

In addition, to extend LIMS to the RVL and facilitate the introduction of QMS, the AHI (NAHDIC) was tasked with undertaking infrastructure assessment in selected laboratories and facilitating networking to connect them with the AHI (NAHDIC) server. Accordingly, three RVLs (Yabello, Jijiga and Semera) were assessed in terms of IT infrastructure and on-the-job training was provided in each laboratory to build the capacity of their staff in using LIMS (SILAB - a web-based information management application). It was not possible to undertake this work in the laboratory in Mekelle, owing to the critical situation in that region. A total of 48 laboratory staff members ([seven women] eight in Jijiga, 20 in Yabello and 18 in Semera) was trained on the use and application of SILAB for data entry. The support included the installation of SILB system on the personal computers (PC) of RVL, live demonstration on the use of the system, and testing of the functionality of the installed system.

Activity 1.7. Revise existing SOPs and guidelines related to livestock and meat and support their implementation (disease control, meat animal handling, quarantine, meat processing, meat handling and transporting)

The project supported the assessment of the Animal Health and Veterinary Services Policy and Legislative Framework to identify and collect all primary and secondary legislation, as well as draft legislation relevant to animal health services in Ethiopia. The project supported the revision, updating, printing and implementation of 15 SoPs and guidelines that define the minimum standards that producers, meat processors, traders and transporters must satisfy in order to participate in the export trade, and to ensure SPS compliance along the meat value chain.

The reviewed and updated SoPs were as follows:

- Meat quality guidelines for export abattoirs.
- Meat inspectors guidelines for regulating export abattoir operations.
- Meat handlers personal hygiene guidelines for export abattoirs.
- Export abattoirs construction guidelines.
- Livestock handling and transport guidelines.
- Meat cold chain guidelines for export abattoirs.
- Meat transport and storage guidelines for export abattoirs.
- Meat inspection guidelines for export abattoirs.
- Meat inspection guidelines for domestic abattoirs.
- Operational guidelines for domestic abattoirs.
- Construction guidelines for live animal export and post-entry quarantine facilities.
- Feedlot construction guidelines.
- Feedlot health management and biosecurity guidelines.
- Operational guidelines for livestock export and post-entry quarantine facilities.
- Ante-mortem inspection guidelines for export abattoirs.

Based on the agreement reached during the project steering committee meeting, a local consultant was recruited to review/update the SoPs and guidelines and facilitate awareness creation among stakeholders on the approved SoPs/guidelines. To this end, 200 stakeholders participated in the awareness-creation workshop and document validation, comprising mainly staff from federal MoA directorates, meat inspectors from different export abattoirs, inspectors from live animal quarantine and border control posts, individuals from private companies involved in live animal and meat export trade, and representatives from different towns of Oromia region and Addis Ababa city administration dealing with meat inspection services. The workshop was conducted from 8 to 20 December 2021 in four rounds.

Comments provided during the workshop were used to further enhance the documents, which are currently in use.

Output 2: Increased coordination and linkages among the sector value chain actors including with destination markets

Activity 2.1. Strengthen information exchange through website development

The project planned to deploy a local expert to develop a fully functional web site dedicated to SPS and related issues. To strengthen the information exchange, ToR for the recruitment of an IT consultant to develop a national SPS dedicated web page were jointly developed, and an agreement was reached to host it on the MoA server. However, this could not be carried out because of the restructuring of the MoA, whereby the regulatory units (both Animal and Plant) were moved to the new Ethiopian Agricultural Authority (EAA).

Activity 2.2. Initiate and support bi-annual joint planning and consultation meetings between federal and regional states in Ethiopia

The project supported the establishment of a coordination forum to enhance collaboration between the federal and three regional veterinary services. The MoA organized two joint biannual review/planning meetings between federal and regional veterinary services from 22 to 23 September 2021 in Adama (35 participants), and from 20 to 22 May 2022 in Adama (20 participants). The participants were representatives of the federal and regional veterinary services. The meetings had the objective of reviewing and harmonizing animal health plans, identifying animal health and SPS issues that required coordinated actions and joint monitoring, and identifying and/or understanding major sanitary constraints of livestock and meat export markets.

Activity 2.3. Strengthening of the existing national SPS committee

In order to support the strengthening of the national SPS committee, the NSPSC was revitalized with revised ToR (the ToR and minutes are available on request) and its membership. The NSPSC held its first meeting on 18 June 2020. It was agreed by the members that the chair of the NSPSC would be the CVO of the MoA, who was also the Permanent Delegate of Ethiopia to WOA. The major objectives of the NSPSC, as described in the ToR, are as follows:

- Protect human, animal or plant life or health in the territories of the Parties while facilitating and expanding trade by utilizing a variety of means to address and seek to resolve sanitary and phytosanitary issues;
- Reinforce and build on the SPS Agreement;

- Strengthen communication, consultation and cooperation between the Parties, and particularly between the Parties' competent authorities and primary representatives;
- Facilitate ensuring that sanitary or phytosanitary measures implemented by a Party do not create unjustified obstacles to trade;
- Enhance transparency in and understanding of the application of each Party's sanitary and phytosanitary measures; and
- Encourage the development and adoption of international standards, guidelines and recommendations, and promote their implementation by the Parties.

The NSPSC is composed of the following public and private institutes, based on their relevance to the issues that will be discussed:

- Public institutes: Animal and plant health unit of the MoA; the Ethiopian Food and Dairy Authority (EFDA) of the MoH; the MoTRI; the Ministry of Customs; the Ministry of Justice; the Ministry of Finance and Economic Development; the ESA; the Environment Forest and Climate Change Commission; laboratories/academia/research institutions, the VDFACA; the Ethiopian Public Health Institute; the Ethiopian Institute of Agricultural Research (EIAR); and universities.
- Private institutes: Meat Producers and Exporters Association; Live Animal Exporters Association; Horticulture Producer Exporters Association; Pulses, Oilseeds and Spices Processors-Exporters Association; Food Manufacturer Association; and Coffee Exporters Association.

The MoA organized a National SPS Sector Stakeholder Coordination Meeting, which was held in Adama from 17 to 19 June 2021. The meeting deliberated on how to enhance coordination among sectors (animal health, plant health and food safety) on SPS issues and related activities. The meeting involved 36 technical directors and experts (three women) from the MoA, the VDFACA and the MoTRI.

Awareness creation on SPS requirements in animal health, plant health and food safety was conducted from 24 to 25 December 2021 in Adama to 40 staff members (five female) of the MoA, the EFDA, the Offal Exporters Association (OEA), the MoTRI, the ESA, and the VDFACA.

Another NSPSC meeting was held on 26 November 2021 in Adama, which deliberated on the need to revise the ToR for the NSPSC and the inclusion/exclusion of institutions from membership in view of the new changes. In addition, sector-specific SPS gap assessments (animal, plant and food safety) were conducted by expert teams from respective sectors and the findings were presented at the same meeting for validation, involving a wider range of stakeholders. A total of 34 people (two females) from the MoA, meat and live animal

exporters/associations, the EFDA, the MoTRI, the ESA, and the VDFACA participated in the meeting.

Activity 2.4. Developing and implementation of SPS communication strategy for the meat export value chain

The project planned to support the competent authority in developing an effective communications strategy to provide stakeholders with general and specific information related to SPS, and to build an enhanced partnership between the government, the private sector and trading partners. Despite some efforts to develop a national SPS communication strategy, the final document was not produced during the project.

Activity 2.5. Strengthen linkages between exporters and importers of meat in selected key meat markets in MENA and SE Asia

The project planned to organize at least two business networking events to bring the trained and coached processors/exporters to meet prospective buyers. This activity was not implemented due to poor interest from the MENA importing countries, owing to non-technical reasons (geopolitical) prevailing in these countries. In addition, the strict halal requirements from MENA countries hindered the efforts to create links of exporters with importers in the MENA countries. These countries required hygienic practices related to the halal system, in addition to the slaughtering requirements. In the case of Southeast Asian countries, the Government of Ethiopia managed to create linkages with meat importers in Cambodia and China through other initiatives.

D. IMPLEMENTATION OF WORK PLAN AND BUDGET

Work plan and budget

The project budget and time frame was not on track for the following reasons:

- delayed start-up of the project activities. The project was scheduled to start in July 2018, but did not start until November 2018. This was due to the delay in the signing of the agreement with the MoA and the Ministry of Finance and Economic Development;
- the poor security situation in most parts of the country and the conflict in northern Ethiopia affected the implementation of the project activities at field level;
- the COVID-19 pandemic and the associated movement/meeting restrictions limited the implementation of the project activities at all levels;

- the restructuring of the government ministries (MoA, MoH and MoTRI) challenged the endorsement process of the Animal Health, Welfare and Public Health Legislation/Proclamation;
- the endorsement and enforcement of the Animal Health, Welfare and Public Health Legislation/Proclamation did not progress as expected due to delays in the establishment of the current government, because of the postponement of the national election due to the COVID-19 pandemic situation, a shift in government priorities, and the restructuring of government ministries. This also affected the implementation of activities such as producing and/or revising supporting regulations, directives and guidelines, and SoPs;
- activities related to supporting negotiation on SPS issues with trade partners (importing countries), which were expected to enhance links between exporters and importers, could not be implemented owing to COVID-19-related movement restrictions; and
- the organization of business networking events between exporters and importers was affected by the absence of or limited trade fairs in MENA countries.

The following corrective measures were taken to ensure the continuity of the implementation of the project activities:

- the reallocation of the 2018 and 2019 budgets to 2020 and 2021 was requested and approved;
- the project was extended three times at no-cost, in consultation with government partners and the Standards and Trade Development Facility (STDF), to allow more time for the implementation of the project activities;
- the project focused on the implementation of activities that did not require field activities and gatherings. These included supporting the MoA to revise and finalize the legislation/proclamation through the legal officer of FAO SFE; revising SoPs and guidelines; and conducting training activities and meetings virtually; and
- seeking other ways, with IGAD/IGAD Centre for Pastoral Areas and Livestock Development (ICPALD), to facilitate a business networking event in the subregion.

Resource partner contribution

The STDF contribution to the project amounted to USD 795 450.

Coordination

The project was coordinated by the national staff of FAO Ethiopia. The implementation of project activities was done by signing LoAs with government stakeholders and technical institutions abroad. The major implementer of the project activities was the MoA, which implemented most of the activities under Output 1 and all the activities of Output 2.

The AHI (NAHDIC) and IZSAM TERAMO were involved in capacity enhancement training and technical backstopping activities to introduce LIMS/SILAB to the VDFACA and RVL. The SWR from the Netherlands supported the VDAFACA in the development of a National Residue Monitoring Plan and to enhance its capacity to test residues in foods of animal origin (muscle and milk). The CIRAD supported the establishment of a risk assessment unit by the MoA/EAA. The performance of these implementing partners was monitored and supervised by FAO Ethiopia staff and beneficiary institutions by monitoring missions and reviewing technical reports. The project revitalized the National SPS Steering Committee, which conducted consultative meetings aimed at reviewing project implementation progress, identifying bottlenecks and setting the way forward. The steering committee comprised the public and private institutions mentioned above (Activity 2.3).

Risk management

Table 2: Risk management

| Risk identified | Risk mitigation measures | Level of risk management |
|---|--|---|
| Trade disruption due to non-technical reasons. | Regular dialogue with importing countries to improve the relationship with Ethiopia. Organizing exchange visits to win the hearts of decision-making bodies. | Non-technical reasons seriously affected the performance of the project in expanding export trade and making trade deals with importing countries. |
| Prolonged market access negotiations. | Build capacity for negotiation with importing countries and follow a stepwise approach. Start the negotiation process with countries that have less stringent SPS requirements and high demand for products of animal origin as a quick win. Learn from the negotiation process, and start negotiating with the next categories of countries in terms of their SPS demand. | The trade negotiations were not done due to the non-technical (geopolitical) reasons and movement restrictions, and related reduced demand of livestock and meat in MENA countries due to COVID-19. |
| Limited willingness and absorption capacity of project beneficiaries to actively participate in the project activities and consistently apply the knowledge acquired on good practices. | Careful identification of project beneficiaries from the outset based on baseline data collection; working with companies, farmers and sector associations willing to benefit from the project and which can operate as catalysts leading to | This was not a problem during the implementation, as the willingness and absorption capacity of project beneficiaries was good. |

| Risk identified | Risk mitigation measures | Level of risk management |
|--|--|---|
| | higher levels of commitment to the project. Provide continuous advisory/coaching support to project beneficiaries by local experts trained by the project. | |
| Business complementarities identified are not followed-up with concrete actions by companies and remain declarations of intent only. | Match exports with corresponding import demand; help companies regroup their offer (through national experts and sector association) to facilitate exports in bulk; prepare companies before business networking event and provide them with advisory support to follow up on business contacts; encourage/incentivize producers to supply good quality animals. | This risk was not properly managed as little was done to identify and follow up business complementarities, as demand was reduced due to COVID-19 related travel restrictions. |
| Limited response to disease reports by veterinary services. | The project will help develop and operationalize standard operating procedures for responses to disease reports and establish a strong link between the project area and the four rapid response teams to be established with the support of the “Improving and Integrating Animal Health Services in the Livestock Value Chain through Public Private Dialogue in Ethiopia” (Livestock value Chain Public Private Dialogue [LVC-PP]) project. | The project improved the coordination and networking between federal and regional veterinary services, thereby minimizing this risk |
| Some of the newly constructed abattoirs with cattle kill line may not start operation in the project period. | The project will work closely with company owners, support them to develop a business plan, and follow through so that they can be operational in the project period. | The newly constructed abattoirs with cattle kill line are already operational but their operations are constrained by the low price for cattle meat in the importing countries. |
| Delays in the promulgation of the draft legislations | The project office will work closely with veterinary services task force and lobby with government authorities and parliamentarians. | The legislation has not been promulgated, despite the fact that it has been updated and submitted to the government for endorsement. |
| Limited participation of stakeholders in coordination forums and the business networking events. | Identify companies which will attend events/trade fairs and mobilize them through trade support institutions like ministry of trade, and support part of their costs to attend the event. | The business networking activity could not be implemented due to issues associated with SPS and halal requirements. |

Visibility

The project sought to recruit an IT consultant for SPS website development, which was not completed before the end of the project. Visibility materials (T-Shirts, caps, USB flash disks, pens and notebooks) were procured and distributed to partners. All visibility materials had STDF and partners’ logos printed on them.

E. SUSTAINABILITY

The project followed the five key principles of FAO's Building a common vision for sustainable food and agriculture. This approach seeks to balance the social, economic and environmental dimensions of sustainability: i) improving efficiency in the use of resources; ii) conserving, protecting and enhancing natural ecosystems; iii) protecting and improving rural livelihoods and social well-being; iv) enhancing the resilience of people, communities and ecosystems; and v) promoting good governance of both natural and human systems.

The project was designed based on the demands and needs of project stakeholders, and on an initial request from the government. It is in line with government priorities and all authorities involved in SPS-related matters were consulted and provided their strong support to the project, as reflected in their support letters. Private-sector associations, such as meat producers and exporters' associations, were directly involved in the implementation of the project, which is vital for replicating and disseminating it to larger group of companies.

a. Capacity development

Given that the project was focused on capacity-building matters, and the principle of implementation was working through national experts and extension officers, it enabled country partners to continue to provide relevant and effective support services, also beyond the project, further expanding the impact and sustainability of the project results. The code of practice and core training materials were also anchored to the relevant institutions. Throughout the project, all relevant stakeholders in the livestock sector were involved, enabling sharing experiences, highlighting progress, promoting success stories, and securing their commitment to continue the efforts to address SPS issues.

The project was prepared in consultation with key project stakeholders and addressed their expectations and demands. It was fully integrated in the country's Growth and Transformation Plan II (GTP II) 2016-2020. It was demand-driven and was designed based on a needs assessment conducted in the framework of the GTP II, which is the country's second national plan, which includes also meat export. Therefore, the project contributed significantly to developing the capacity of key stakeholders by assessing their capacity and gaps, providing tailored technical training sessions, creating experience-sharing opportunities with international institutions that were competent in SPS-related technical areas, and installing software and computer systems to enhance testing, data entry and reporting capacities of the institutions (VDFACA, AHI [NAHDIC] and RVL). This enabled the country to respond to some of the SPS requirements of importing countries.

b. Gender equality

Recognizing the key role that women perform in managing livestock in smallholder households, the project was expected to place special emphasis on engaging women through the project interventions. The inclusion of women was to be ensured through the specification of targets for their participation in all key activities. The annual work plan and budget of the project contained a specific gender action plan, which was periodically reviewed by the Project Management Office (PMO) and the project steering committee. Qualitative and quantitative indicators were disaggregated by sex to track the project's performance in targeting women. The project was expected to maintain a gender balance in training, with women comprising at least 30 percent of the trainees. However, the participation of women in different aspects of the project implementation was not satisfactory due to the poor representation of women in government and non-governmental institutions. In spite of this, both men and women benefited from the outcomes of this project in that both genders have an important role in livestock rearing and production in the project implementation areas. In addition, the impact of the project on the meat export sector should benefit women, as they are engaged in managing small ruminants, which are the dominant species in the meat and live animal export market.

c. Environmental sustainability

The implementation of the project activities did not have a major negative impact on the environment. The project contributed to environmental conservation and sustainability by making the livestock sector more productive through the enhancing of marketing and offtake, using the existing resources more efficiently, and reducing wastage. Activities related to the development of the national residue monitoring plan and supporting the national residue testing laboratory contributed to the safer use and application of pesticides and veterinary drugs and to enhancing the effective control and mitigation of the impact of environmental contaminants. The linkage created and the continued communication between the VDFACA and SWR will be instrumental in ensuring future collaborations to transfer and implement new methods of residue testing.

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

This was a national project aimed at supporting the various stakeholders along the meat value chain and building the SPS capacity of the competent authority. The project activities had no adverse effect on indigenous communities. The project actively engaged both the public and private sector in Ethiopia, based on a value chain approach. On the private sector

side, the project involved as much as possible the complete range of stakeholders involved in the meat value chain, the EMPEA and the ELTPA. The livestock trade is probably the largest single source of employment in the pastoral and agropastoral areas of the country and the most important source of household income. The support provided by this project to address the SPS requirements of importing countries is expected to ensure the sustainability of income generation by pastoral and agropastoral communities from the livestock sector, by avoiding bans from international livestock and livestock products trade. It will also have an impact on the prevention and control of TADs, the prevention of zoonotic diseases, and the control of food safety hazards.

e. Technological sustainability

The new technologies introduced by the project improved the capacity of national and regional laboratories to align their activities with international standards. In terms of the project contributing to the development of local knowledge, capacity, resources and good practice, national and regional laboratories benefited greatly from the capacity-enhancement training sessions and systems installed by international laboratories, as they enabled them to conduct laboratory tests without external support.

f. Economic sustainability

The project benefits the livestock-producing communities in pastoral and agropastoral areas of Ethiopia, where livestock is the main means of livelihood. The main source of animals for live animal and meat export in Ethiopia are pastoral and agropastoral areas, and any improvement on the live animals and meat export market would have a direct economic impact on these communities. This would be achieved by creating more markets for livestock sales, increasing the demand for livestock, and thereby improving livestock prices and increasing livestock offtake, and reducing the risk of livestock loss during emergencies.

F. LESSONS LEARNED

Lessons learned – *Elements of success*

- The MoA allocates a substantial amount of funds annually on the control of TADs, and regional veterinary services also invest in production diseases. This enables the country to respond to some of the SPS requirements and address the concerns of importing countries.

- The improved disease surveillance activities, especially Disease Outbreak and Vaccination Reporting (DOVAR) and Animal Disease Notification and Investigation System (ADNIS) and biannual epidemiology and laboratory network meetings are supporting the efforts to address the SPS issues and improving the live animal and meat export market.
- The involvement of major stakeholders, from the designing of the project to implementation and monitoring, helped with the successful implementation of some of the project activities.
- The engagement of international laboratories/institutions (IZSIM, SWR and CIRAD) brought significant and tangible change in improving the capacity of national and regional laboratories, the VDFACA and the MoA epidemiology unit to successfully discharge their mandates and tasks.
- The technical assistance of resource/development partners (such as FAO and WTO) in the successful implementation of most of the project activities was crucial.

Lessons learned – *Impediments/constraints*

- The movement restrictions that were introduced in response to the COVID-19 pandemic delayed the implementation of the project activities.
- The frequent change in the government structure and the delay in the formation of the current government delayed the endorsement and enforcement of the animal health, welfare and public health legislation.
- The current veterinary structure or arrangement between federal and regional organs is not allowing smooth information exchange and following a clear line command to prevent and control the spread of TADs.
- The shortage of laboratory consumables in national and regional veterinary laboratories remains a big challenge for rapid diagnosis and reporting of disease outbreaks and testing of residues in meat, milk and other foods of animal origin.
- The non-technical issues influencing the attitude of the MENA countries impeded the efforts this project made in creating links between exporters and importers and conducting trade deals and negotiations with importing countries.
- The poor LITS in Ethiopia has been a concern of the meat/live animal importing countries, and affected the implementation of the project activities related to expanding the meat/live animal export trade.

- The concerns of importing countries on halal requirements, which demand more on the hygienic aspect of the halal system, also hindered efforts to create links of exporters with importers in MENA countries.

G. FOLLOW-UP ACTIONS FOR GOVERNMENT ATTENTION

- Ratification and enforcement of Animal Health, Welfare and Public Health Proclamation as well as its subsidiary laws: despite the contribution of this project to review and finalize this proclamation, the ratification by the parliament is still pending. This requires follow-up activities to move the ratification process forward by engaging policy and decision-makers in different platforms. As the EAA is mandated with regulatory activities in the agriculture sector, it would be following the ratification process. Other stakeholders such as the MoA and the Ethiopian Veterinary Association are also pushing for the finalization of the ratification.
- Capacity enhancement for expanding the livestock and livestock products export market: although this was part of this project, it was not properly implemented for different reasons. Therefore, it is essential to support the livestock and livestock products export market value chain actors to forge trade agreements with importing companies, by benchmarking SPS good practices of other countries, improving trade negotiation skills of experts of the EAA and exporters, and providing more capacity-enhancement training on SPS standards and other international livestock and livestock products trade standards.
- Strengthening disease surveillance and response activities: this is crucial to have a real-time understanding of the prevalence of TADs and early detection of outbreaks, to take appropriate actions in time and prevent and control further spread, which would compromise the livestock and livestock products export market.
- Strengthening LITS activities: LITS has been one of the issues constraining the efforts to fulfil SPS requirements. Although some progress was made in improving the system, it is not practised as widely as expected and needs to be strengthened.
- Strengthen the capacity of regional veterinary services and laboratories: regional veterinary services and RVL are very important in ensuring the fulfilment of SPS requirements. They are the frontline actors in detecting disease outbreaks and providing basic veterinary services. Therefore, strengthening their capacity to diagnose, report and act against TADs is crucial.

- Institutionalization of the NPSP committee: the project supported the revitalization of the national SPS committee, but this committee needs to be institutionalized, which would give the committee legal ground to execute its mandates, as set in the ToR, sustainably.
- Strengthen the control on cross-border illegal livestock trade/movement: although there are efforts made by countries in IGAD subregion to jointly prevent and control the spread of cross-border livestock diseases, illegal cross-border livestock trade and movement is still widely practised, posing the risk of the introduction of TADs, and threatening the efforts of the country to fulfil the SPS standards. Therefore, there is a need to support the development/enactment of legal frameworks that govern cross-border livestock trade/movement and ensure that cross-border trades are practised with due consideration of international standards and norms.

Appendix 1

LOGFRAME MATRIX - ACHIEVEMENT OF INDICATORS

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken | |
|---|---|----------|---|--|--|---|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | | |
| Impact | To increase export revenues of producers, feedlot operators and export abattoir owners along the meat export value chain in Ethiopia. (15% increase in real average annual meat export value at national level by addressing importing countries' requirements within 3 years). | | | | | |
| Project Outcome Improve SPS compliance and linkage for market access in the meat export industry. | <ul style="list-style-type: none"> - Acceptance of the certification system by MENA and SE Asia countries. - Percentage of export abattoirs expanding their export volumes. | | <ul style="list-style-type: none"> - SPS certification system of Ethiopia accepted by 100% of the existing importing countries in MENA and at least 60% of the identified potential importing countries in SE Asia. - At least 60% of export abattoirs in Ethiopia expand their export volumes/values by entering into new markets and expanding their customer base in SE Asia and MENA. | <ul style="list-style-type: none"> - At least 50% of the importing countries accept the SPS certification system. - Expanding the export volumes of export abattoirs was not successful. | <ul style="list-style-type: none"> - Geopolitical concerns outweigh technical issues in MENA countries, affecting the expansion of meat export. - The halal system in Ethiopia is not accepted by most of the export destination countries in MENA. They demand more on the hygienic aspect of the halal system. - The poor traceability of meat in Ethiopia has been a concern of most of the importing countries. | <ul style="list-style-type: none"> - Political dialogue with importing countries whose judgement is influenced by geopolitics. - Introducing an alternative halal system, which will satisfy the requirements of importing countries in MENA. - Capacity-enhancement training on food safety management system to all meat value chain actors, certifying veterinary officers. |

| Results chain | Indicators | | | | If not achieved, explain why | If applicable/ follow-up action to be taken |
|---|--|----------|---|--|--|--|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | Achieved | | |
| <p>Output (1) Strengthened capacity of the Competent Authority to apply and monitor SPS measures along the export meat value chain</p> | <ul style="list-style-type: none"> - Number of proclamations and regulation enacted/ enforced. - Number of laboratories implementing LIMS and QMS. - Number of countries signing trade agreement. - Number of SOPs or guidelines applied along the value chain and establishment of a functional risk analysis unit. | | <ul style="list-style-type: none"> - A total of 1 proclamation and 8 regulations enacted and enforced that address both large and small ruminants to address gender equity and empowerment. - Four regional veterinary laboratories and Kaliti Quality Control lab implementing LIMS & QMS. - Negotiation carried out and trade agreement concluded with three new importing countries. - 14 SOP and guidelines applied along the value chain. - Strong and functional risk analysis unit established. | <ul style="list-style-type: none"> - The Animal Health, Welfare and Veterinary Public Health Legislation was reviewed and is awaiting endorsement by the parliament. - Three regional laboratories and VDFACA started implementing LIMS and QMS. - No negotiation was carried out with importing countries. - 15 SOPs and guidelines reviewed and updated and awareness creation made among different stakeholders. - A risk analysis unit has been established under the Quarantine Department of the EAA. | <ul style="list-style-type: none"> - The endorsement and enforcement of the Animal Health, Welfare and Veterinary Public Health Legislation was delayed owing to the delay in the establishment of the new government in Ethiopia, as the election was postponed due to the COVID-19 pandemic. - The frequent changes in government structure also delayed the endorsement and enforcement of the legislation. - Movement restrictions due to COVID-19 affected the travel arrangements for the trade agreement negotiations. | <ul style="list-style-type: none"> - Close follow-up by the EAA and MoA on the endorsement of the revised legislation by the parliament. - Develop negotiation skills of the staff of the EAA, meat exporters. - Improve the involvement of professional negotiators of trade deals. - Facilitate the negotiation process through logistical and technical support. - Improve the traceability of livestock and livestock products. |

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken |
|--|------------|----------|--|--|---|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | |
| <u>Activity 1.1</u> Support negotiation on SPS and related issues | | | Target negotiation carried out with potential importing countries. | No negotiation was carried out with importing countries. | Movement restrictions due to the COVID-19 pandemic affected the travel arrangements for the trade agreement negotiations. |
| <u>Activity 1.2</u> Support finalization of draft legislation | | | A total of 1 proclamation and 8 regulations reviewed & finalized. | The Animal Health, Welfare and Veterinary Public Health Legislation was reviewed and is awaiting endorsement by the parliament. | The endorsement and enforcement of the Animal Health, Welfare and Veterinary Public Health Legislation was delayed owing to the delay in the establishment of a new government in Ethiopia. |
| <u>Activity 1.3</u> Build the capacity of the risk analysis unit of MoLF | | | Risk analysis unit established and risk analysis documents produced and at least 70% of them are of acceptable standard (peer review). | A risk analysis unit was established under the Quarantine Department of the EAA. | |
| <u>Activity 1.4</u> Support the development of national residue monitoring plan | | | A national residue monitoring plan developed. | The project supported the development of a National Residue Monitoring Plan to guide the testing of meat residues. The VDFACA developed the draft National animal source food and feed chemical residue and biological | |

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken |
|---|------------|----------|---|--|---|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | |
| | | | | hazard monitoring plan, which was validated at a workshop involving all stakeholders. The plan is now operational. | |
| <u>Activity 1.5</u> Introduce QMS and support accreditation of the residue testing lab at Kality | | | QMS introduced, implemented & accreditation granted to the quality control lab at VDFACA. | The VDFACA quality control laboratory was supported in introducing QMS. The support included capacity-building training sessions and the preparation of QMS documents. Basic refresher training on ISO/IEC 17025:2017 requirements and accreditation and the proficiency testing participation process was provided. | |
| <u>Activity 1.6</u> Introduce LIMS and QMS in regional labs along the meat export value chain (Yabello, Jijiga, Semera, Mekelle) | | | LIMS and QMS introduced in four regional labs from regions where export meat animals are sourced. | Three regional laboratories and VDFACA started implementing LIMS and QMS. | |
| <u>Activity 1.7</u> Revise existing SOPs and guidelines related to | | | A total of 14 SoPs and guidelines revised and updated. | 15 SoPs and guidelines were reviewed and updated, and awareness creation was carried out | |

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken | |
|--|--|----------|---|--|---|---|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | | |
| livestock and meat and support their implementation (disease control, meat animal handling, quarantine, meat processing, meat handling and transporting) | | | | among different stakeholders. | | |
| Output (2) Increased coordination and linkages among the sector value chain actors including with destination markets | <ul style="list-style-type: none"> - Development of a national communication strategy. - Conducting biannual joint planning workshops. - Conducting quarterly SPS committee meeting. - Number of trade deals concluded between Ethiopian meat exporters and importers in MENA and SE Asia Countries. | | <ul style="list-style-type: none"> - Coordination and collaboration on SPS measures improved nationally through: <ul style="list-style-type: none"> i) development of a national communication strategy; ii) conducting biannual joint planning workshops; iii) conducting quarterly SPS committee meeting. - At least eight trade deals concluded between Ethiopian meat exporters and importers in MENA and SE Asia. | <ul style="list-style-type: none"> - A national communication strategy was developed. - Biannual joint planning workshops were conducted twice. - SPS SC meeting was conducted twice. | <ul style="list-style-type: none"> - The halal system in Ethiopia is not accepted by most of the export destination countries in MENA region. They demand more on the hygienic aspect of the halal system. - The poor traceability of meat in Ethiopia has been a concern of most of the importing countries in MENA region. - Attempts to make deals with four importers were not successful due to the same reasons above. | <ul style="list-style-type: none"> - Introduce alternative halal system that will satisfy the requirements of importing countries in MENA region. - Improve the traceability of livestock and livestock products. |

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken |
|--|------------|----------|---|---|--|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | |
| <u>Activity 2.1</u> Strengthen information exchange through website development | | | A fully functional website dedicated to SPS & related issues developed and launched. | No | This could not be carried out because of the restructuring of the MoA, whereby the regulatory units (both Animal and Plant) were moved to the new EAA. |
| <u>Activity 2.2</u> Initiate and support bi-annual joint planning and consultation meetings between federal and regional states in Ethiopia | | | Bi-annual joint planning meetings carried out each year. | Biannual joint planning workshops were conducted twice. | |
| <u>Activity 2.3</u> Strengthening of the existing national SPS committee | | | One SPS communication strategy document prepared & implemented. | The strategy was not developed. | This was because it was not possible to recruit a consultant to work on the strategy in a timely manner. |
| <u>Activity 2.4</u> Developing and implementation of SPS communication strategy for the meat export value chain | | | SPS committee meets every quarter and discusses and passes recommendations on SPS issues. A mechanism to ensure regular meetings on SPS committee is established. | An SPS SC meeting was conducted twice. | |

| Results chain | Indicators | | | If not achieved, explain why | If applicable/ follow-up action to be taken |
|---|------------|----------|---|--|--|
| | Indicators | Baseline | End target (<i>expected value at project completion</i>) | | |
| <u>Activity 2.5</u> Strengthen linkages between exporters and importers of meat in selected key meat markets in MENA and SE Asia | | | At least 8 trade deals negotiated between Ethiopian meat exporters and importers in MENA and SE Asia. | No deals were made with meat importers in MENA and Southeast Asian countries | The halal system in Ethiopia is not accepted by most of the export destination countries in MENA region. They demand more on the hygienic aspect of the halal system. The poor traceability of meat in Ethiopia has been a concern of most of the importing countries in the MENA region. |

Appendix 2**DOCUMENTS PRODUCED DURING THE PROJECT**

FAO. 2019. *Assessment of the Ethiopian Animal Health and Veterinary Services Policy and Legislation Framework*. Addis Ababa. FAO. 99 pp.

MoA. 2019. *Revised National SPS strategy*. Addis Ababa. MoA. 68 pp.

MoA. 2020. *Revised Animal Health, Welfare and Veterinary Public Health Legislation*. Addis Ababa. MoA. 54 pp.

VDFACA. 2021. *Preliminary assessment of chemical residues and biological hazards in food of animal origin and feeds in Ethiopia*. Addis Ababa. VDFACA. 66 pp.

VDFACA. 2021. *National animal source food and feed chemical residue and biological hazard monitoring plan*. Addis Ababa. VDFACA. 66 pp.

Appendix 3**PROJECT STAFF**

| Function | Dates of Service | |
|--|---|---|
| | Starting Date | Concluding Date |
| <i>International staff</i> | | |
| Legal Officer | 15 February 2021 | 31 March 2021 |
| International Operations | 1 December 2022 | 31 December 2022 |
| <i>National staff</i> | | |
| Programme Assistant | 1 November 2018 1 November 2018 | 31 October 2019 14 April 2019 |
| National Legal Expert | 17 January 2019 5 May 2021 1 July 2021 5 May 2021 1 July 2021 | 30 April 2019 30 June 2021 12 August 2021 30 June 2021 12 August 2021 |
| Consultant | 19 February 2019 2 August 2021 1 November 2021 | 22 April 2019 10 November 2021 31 December 2021 |
| Project coordinator | 1 April 2019 1 April 2020 10 November 2022 | 31 December 2019 31 December 2020 16 February 2023 |
| Store Assistant | 23 May 2019 | 22 November 2019 |
| Programme Assistant | 21 September 2020 | 28 February 2021 |
| National Climate-Smart Agriculture Consultant | 1 July 2021 | 31 December 2021 |
| Deputy Team Leader – Animal Health and Production | 1 July 2021 1 June 2022 | 31 December 2021 30 June 2022 |
| Administrative Assistant | 1 August 2021 | 31 December 2021 |
| Nutrition Policy Officer | 1 August 2021 | 31 December 2021 |
| Livestock Officer | 1 November 2021 | 31 December 2021 |
| Driver | 1 November 2021 | 31 December 2021 |
| Crop Officer | 1 November 2021 | 31 December 2021 |
| National Monitoring and Evaluation Consultant | 1 November 2021 | 31 December 2021 |
| National Food Security Information Systems Officer | 1 January 2022 | 30 June 2022 |
| Procurement Associate | 1 May 2022 | 1 June 2022 |

Appendix 4**TRAINING AND STUDY TOURS**

| Number of Participants | Title of Study/Training Tour | Place | Date |
|-------------------------------|---|------------------------|------------------------------|
| 17 | Qualitative and quantitative risk analysis | Bishoftu | 4-16 March 2019 |
| 25 (5 female) | LIMS | VDFACA, Addis Ababa | 2-9 February 2020 |
| 5 (1 female) | Analysis of antibiotics on food products | VDFACA, Addis Ababa | 11-27 August 2020 |
| 5 (1 female) | Validation of LC-MS/MS methods for residue analysis | VDFACA, Addis Ababa | 22 February- 7 April 2021 |
| 40 (7 female) | Refresher training on ISO/IEC 17025:2017 requirements, accreditation test and proficiency test | AHI (NAHDIC)/Sebeta | 18- 20 November 2021 |
| 20 | Use and application of SILAB for data entry | Yabello | 13- 16 December 2021 |
| 21 (3 female) | Internal auditing, lead auditing and reporting of findings | AHI (NAHDIC)/Sebeta | 16- 20 December 2021 |
| 10 | Use and application of SILAB for data entry | Jigjiga | 20- 23 December 2021 |
| 40 (9 female) | Techniques of root cause analysis, development of an effective corrective action and preventive actions for handling of non-conformance | AHI (NAHDIC)/Sebeta | 8-9 June 2022 |
| 40 (9 female) | Determination of test method measurement uncertainties, equipment calibration and traceability management system | AHI (NAHDIC)/Sebeta | 16-18 June 2022 |
| 18 | Use and application of SILAB for data entry | Semera | 23-27 August 2022 |
| 29 (6 female) | Test method selection, verification and validation | AHI (NAHDIC)/Sebeta | 20- 22 September 2022 |
| 15 (4 female) | Pathogen bacteria isolation, characterization from food of animal origin by means of conventional or classical techniques application | AHI (NAHDIC)/Sebeta | 3-12 October 2022 |
| 10 (all male) | Mentoring guideline preparation as part of QMS support | AHI (NAHDIC)/Sebeta | 17- 21 October 2022 |
| 5 (1 female) | Analysis of banned substances in muscle and milk | VDFACA, Addis Ababa | 6 August- 22 October 2023 |