

Animal health strategy and vision for Ethiopia



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Preface

In 2012, the Ministry of Agriculture commissioned ILRI to develop several background papers to inform the development of a livestock master plan and roadmap for Ethiopia. The papers were developed by teams of people brought together for this task.

The production of the background papers was supported by the Improving the Productivity and Market Success of Ethiopian farmers project (IPMS) funded by the Canadian International Development Agency (CIDA). The eight papers are listed below and are all available at <https://cgspace.cgiar.org/handle/10568/51565>.

- Animal health strategy and vision for Ethiopia.
- Animal production vision and strategy for Ethiopia.
- Apiculture value chain vision and strategy for Ethiopia.
- Dairy value chain vision and strategy for Ethiopia
- Livestock extension vision and strategy for Ethiopia.
- Hides, skins and leather value chain vision and strategy for Ethiopia.
- Live animals and meat value chain vision and strategy for Ethiopia.
- Review of past policies and strategies for livestock in Ethiopia.

Background: The animal health subsector

The contribution of the livestock sector to the national economy is minimal compared to its potential. One of the main causes of this mismatch between population size and production output from livestock in Ethiopia is the widespread occurrence of many infectious and parasitic diseases which drastically reduce the production of livestock through morbidity, mortality and market restriction.

Ethiopia is endemic to a number of livestock diseases which continue to deter livestock productivity and agricultural development. The impact of animal diseases stems from direct losses due to mortality and its indirect effects through slow growth, low fertility and decreased work output that result from morbidity. Most livestock diseases have more devastating effects on young animals. Animals that recover experience severe growth problems which hinder longer term productivity, all of which translates to poor returns for the livestock keeper.

The annual loss due to mortality ranges from 8–10% for cattle, 12–14% for sheep, 11–13% for goats and 56.9% for poultry. These figures are much higher for calves, lambs and kids. The direct and indirect losses from livestock disease have significant economic, food security and livelihood impacts on livestock keepers and the national economy.

Available data indicate that Ethiopia's livestock and livestock products export is very minimal as compared to the national potential. Despite the substantial demand for meat and livestock from potential importing countries, exports to those markets often face impediments as a result of stringent animal health requirements and repeated bans. These bans have disrupted trade with major costs to Ethiopian producers, livestock traders and meat exporters.

The presence and prevalence of a number of trade-limiting transboundary livestock diseases has denied the country access to international market and makes it vulnerable to trade bans. 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.

In the wake of globalization many countries are moving to rapidly integrate SPS and world trade organization principles. These escalating standards for livestock and livestock products, with all their auditing and certification requirements, present a growing challenge for Ethiopia as it seeks access to external markets.

Ethiopia offers a wide range of processed and semi-processed leather products to the world market. A few diseases directly cause pre-slaughter defects on hides and skins. Cackle (an allergic dermatitis from lice and ked infestation) is regarded as an economically catastrophic disease since it causes over 50% of skin rejection or downgrading.

Animal diseases also have an important impact on human health, with 60% of human diseases being of animal origin. Ethiopia is endemic to a wide range of such zoonotic diseases. In the past two decades, emerging and re-emerging zoonotic diseases have acquired global significance for Veterinary Public Health (VPH). These developments call for increased levels of epidemiological surveillance and preparedness, and for novel approaches to control and prevention. The OneHealth approach, which has been developed by the international community in the recent years in the context of influenza pandemics, has been adopted as the global framework for streamlining this collaboration.

Current situation

The current delivery of animal health services is inadequate both in terms of coverage and quality. There are very few private veterinary service providers other than veterinary drug importers and distributors, few private veterinary pharmacies and very few community animal health workers (CAHWs) often supported by NGOs. The government, instead of providing incentives to the private sector, has been expanding the number of public clinics, which does not necessarily increase the provision of clinical service delivery in these areas. The woreda's, zonal and regional bureaus currently face problems in retaining their veterinary field personnel, especially in the more remote pastoral areas.

Growth of private animal health service delivery is constrained by absence of an enabling policy environment and subsidized delivery of public animal health services. A system of sanitary mandates does not exist.

Only 45% of the country is served by animal health delivery systems. Field services are constrained by lack of input supply, high operational cost and lack of transport. Budgets do not allow drug purchasers to cover more than a 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 locally produced, imported, distributed and used in the country are not properly regulated and controlled.

Animal health services is affected by the government decentralization policy (devolvement of authority and responsibility to empower the regions), since the responsibilities of the federal and regional states were not well defined. There are poor communication lines between the different levels of veterinary services for the control of transboundary animal diseases (TADs).

Disease surveillance and reporting is poor and irregular, with only about 30–35% of woreda's submitting disease outbreak reports each month. That figure is below 5% for pastoral and agropastoral areas. Moreover, the sensitivity, specificity and timeliness of the reports are very low.

There is no autonomous statutory body to regulate the profession, uphold ethics and educational standards.

The quality of veterinary education is threatened by the growing number of new veterinary schools in the country. Over the past decade, the number of veterinary schools in Ethiopia has grown from 1 to 11. With such rapid growth comes a risk relating to maintaining educational and professional standards in teaching and in professional practice. Moreover, the education system is not geared to address new and growing challenges in the sector such as trade, diversification and intensification of production systems.

The lack of well-developed quarantine and certification systems, which comply with international standards and meet the requirements of trading partners is further compounded by the absence of livestock movement controls, and identification and traceability systems.

The country lacks laboratory and staff capacity and a quality management system especially at the regional level and there are poor linkages between federal and regional laboratories.

There are poor import quarantine and inspection systems to control the introduction and establishment of exotic diseases into the country through import of live animals, animal products, genetic and pathological materials.

Sound and cost-effective disease control strategies are lacking, mainly due to lack of reliable epidemiological information and risk assessment. Implementation of control programs is mainly monitored in terms of the number of vaccinations achieved, and not by monitoring the level of the disease targeted for control or eradication.

There are no well-developed, adequately funded and coordinated emergency preparedness and contingency plans for exotic, emerging and re-emerging diseases.

The prevention and control of zoonoses and food-borne diseases is poorly addressed and the veterinary service is not providing front-line services. Inspection services are limited to export meat and poorly address primary livestock products such as milk, egg, honey and fish.

Existing laws are obsolete and fail to comply with current scientific developments and international standards.

Strengths of the existing animal health services

The government has embraced the OIE PVS pathway to enhance quality of animal health services in line with international standards. Veterinary Services management systems generally seemed to have benefitted from a nationwide government policy focused on Business Process Reengineering, incorporating approaches based on sound planning, efficiency, stakeholder service, transparency and accountability.

Coverage of veterinary service has improved over the past years. Veterinary infrastructure in the field is improving as the government moves towards an ambitious target of providing approximately one animal health clinic or post per three peasant associations (PAs) or kebeles.

Professional staffing in central and regional VS is improving. This is due to major growth in veterinary and veterinary para-professional training. Over the past decade the number of veterinary schools in Ethiopia has increased from 1 to 11.

The country has promoted the use of CAHWs in pastoral areas as alternative service delivery system. Standard training manuals and guidelines have been developed to ensure quality and sustainability of such services.

MoUs to clarify roles and responsibilities between national and regional administrative (APHRD and regional bureaus) and technical (NAHDIC and regional labs) VS levels have been developed and agreed.

The National Veterinary Institute, a government parastatal, is producing 16 vaccines against various livestock diseases for local use and at times for export.

Veterinary drug importation is liberalized and the investment law fully accepts the establishment of private veterinary practices, pharmacies and drug shops.

Ethiopia has verifiably eradicated rinderpest. Lessons learned and the expertise that remained after the successful eradication of rinderpest can be utilized for the progressive control of other major diseases.

The diagnostic laboratory system is well established in Ethiopia in terms of physical infrastructure, cadre of well qualified personnel and equipment layout. NAHDIC laboratory is implementing Quality Management System as part of seeking independent accreditation to ISO-17025. So far the lab is accredited for 11 tests and six diseases.

Over the past years, considerable efforts have made to improve the quarantine and inspection services to meet the demands of importing countries. Ethiopia rapidly expanded its exports to traditional markets while also diversifying into new markets which resulted in steady increase in the volume and value of exports. Standard quarantine facilities are now under construction.

The government has established a new authority under the ministry of agriculture to control and administer the quality, safety and efficacy of veterinary drugs, biological and animal feeds.

Vision and targets

Vision

Enhance veterinary governance in line with the World Organization for Animal health.

Provide animal health services which comply with international standards, are conducive to a sustainable, globally competitive livestock industry, and contribute to the achievement of food security, poverty alleviation, public health and socio economic growth.

Targets

- By the year 2025, the animal health service coverage will reach 80% by implementing integrated, prevention oriented and risk-based programs.
- By the year 2025, the veterinary service will improve its level of advancement from the current level of 2.63/5 to 4/5 in the OIE PVS evaluation.

Challenges and strategies

Challenge 1: Attain OIE performance of veterinary services pathway

The OIE Performance of Veterinary Services (PVS) pathway is designed to assist Veterinary Services (VS) to establish their current level of performance, to identify gaps and weaknesses regarding their ability to comply with OIE international standards, to form a shared vision with stakeholders (including the private sector), and to establish priorities and carry out strategic initiatives geared towards meeting their objectives, aligned with international standards (OIE 2009). The Ethiopian veterinary services underwent the PVS evaluation in May 2011 (OIE 2011a) and the PVS Gap analysis in September 2012. The veterinary services will need to continue to pursue subsequent stages in the pathway to strengthen the VS and ensure compliance with international standards.

- Strategic interventions
 - Develop a strategic plan which will be used as a working document to build competent veterinary services.
 - Seek support from the government/Donors to implement projects that improve the vet system.
 - Carry out additional PVS follow up evaluations to independently measure progress over time.
 - Enhance active participation and cooperation with regional organizations, and engagement with international organizations such as OIE and codex.

Challenge 2: Strengthen livestock disease surveillance and information systems

Accurate and timely surveillance is critical for early detection, identification and monitoring of disease progression in a particular area. The data supplied by the surveillance system will serve as an early warning system to detect animal diseases, track trends of Transboundary Animal Diseases, identify populations that are at great risk, implement control measures such as targeted vaccination, movement restrictions, voluntary cessation of export trade, assessing the social and economic impact of the disease, etc. Currently disease surveillance and reporting is poor and irregular, with only about 30–35% of woreda's submitting disease outbreak reports each month. That figure is below 5% for pastoral and agropastoral areas. Moreover, the sensitivity, specificity and timeliness of the reports are very low (LDMSP 2007).

- Strategic interventions
 - Develop and enforce guidelines for veterinary information and disease outbreak reporting including obligations of private practitioners from village to national level.
 - Adopt ARIS 2 system to harmonize the animal health information system at both federal and regional level.
 - Introduce new technologies such as digital pen and mobile phones to enhance the quality of reporting system.
 - Enhance the timely and accurate confirmation of suspected disease outbreaks which is currently very low.
 - Expand the information system to include data from veterinary laboratories, abattoirs and quarantine stations.
 - Strengthen feedback systems to the regions and districts through newsletters, bulletins, websites etc.
 - Carry out regular surveillance for diseases selected on risk assessment to inform control strategies.
 - Strengthen and capacitate federal and regional epidemiology units with adequate staff and facilities.
 - Promote use of participatory Diseases Surveillance (PDS) in disease investigation.

Challenge 3: Control or eradicate livestock diseases of trade and livelihood importance

In Ethiopia, the best bet for successful disease control or eradication is to work out a risk-based strategy and to concentrate surveillance to identify areas of infection, areas of endemic maintenance and areas at high risk. Focused programs would be more efficient and economical. Alternative approaches such as a commodity based program (Thomson et al. 2004) and compartmentalization (OIE 2011a) are worth considering for international trade purposes.

- Strategic interventions
 - Develop and implement progressive control strategies for trade-limiting TADs such as Foot and Mouth Disease (FMD), Peste des petits Ruminants (PPR), Sheep and Goat Pox (SGP), Contagious Caprine Pleuropneumonia (CCPP), Lumpy Skin Disease (LSD), Contagious Bovine Pleuropneumonia (CBPP).
 - Eradicate Trypanosomosis according to Pan-African Tsetse and Trypanosomosis Eradication Campaign.
 - Control Newcastle and Gumoro diseases in backyard and commercial settings.
 - Control lice, ked and mange mites which seriously affect the leather industry. Scale up ongoing large scale campaigns to control external parasites to improve the quality of hides and skins.
 - Promote commodity based and compartment approaches to reduce the risk of trade sensitive diseases.
 - Promote regional approaches for TADs control and harmonize activities with neighbouring countries.
 - Assist regional states to set priorities and strategies to control non-TADs, sporadic and production diseases.

Challenge 4: Strengthen veterinary public health

The control of zoonoses and food-borne diseases in Ethiopia is poorly addressed and is limited to anti and post-mortem examination of carcasses in abattoirs. Increasing Intensification of livestock production systems will increase the risk of the spread of serious zoonotic diseases. Concentration of livestock production, particularly dairy, pigs and poultry, in peri-urban areas will increase the interface between animals and humans and hence the opportunity for zoonotic diseases to spread from animals to people. Veterinary Services should provide front-line services in the prevention and control of priority disease such as Brucellosis, Tuberculosis, Tapeworm, salmonellosis, enterotoxigenic coliform and rabies.

- Strategic interventions
 - Implement Good Hygiene Practice (GHP), Hazard Analysis Critical Control Points (HACCP) and ISO 22000 in export abattoirs.
 - Develop food safety standards for primary animal products such as milk, fish, egg and honey.
 - Ensure hygiene and sanitation of meat and meat products by maintaining the required cold chain and applying routine personal hygiene from production until it reaches end market.
 - Develop standards for meat and offal packing and labelling in close consultation with the industry.
 - Set and implement minimum standards of design, facility and staffing for domestic abattoirs.
 - Progressively improve the hygiene and inspection standards of domestic slaughterhouses.
 - Support private sector investments in slaughterhouses and gradually sell existing municipal slaughterhouses to private operators.
 - Extend food safety awareness, measures and regulations to animal products such as milk and milk products, with a priority focus on zoonotic risks, particularly brucellosis and tuberculosis, from raw milk.
 - Establish mechanisms for joint engagement of ministries responsible for livestock and for health to control zoonotic diseases.

Challenge 5: Establish line management and coordination between federal and regional veterinary services

International animal health authorities such as the FAO and OIE (FAO 2008; OIE 2011a), recommend that veterinary services have strong national coordination and direct line management. The coordination and overall supervision of national disease control programs is most effectively done at the federal level. In Ethiopia, there is no direct line management in regard to veterinary services between federal, regional, zonal and woreda levels to strengthen coordination of efforts. A coherent and efficient control program requires strong intra-national level coordination.

- Strategic interventions
 - Ensure a clear, legislated chain of command involving singular decision-making authority and accountability during a declared animal health emergency.

- Set requirements where regional states comply with national disease reporting and execute national disease control programs in their respective areas in line with set strategies by the federal veterinary services.
- Create of a National Veterinary Committee or equivalent where the national CVO and all regional heads of animal health meet together formally and at regular intervals to discuss and agree on policy and programs, and to monitor their nationally consistent implementation.

Challenge 6: Improve efficiency and coverage of public clinical services

The existing clinical service delivery model which relies heavily on public service provision is very much constrained by staff shortages, high operational costs, input supply shortages and poor transport provision. The long term plan would be for government to withdraw from providing services where good private clinical services exist.

- Strategic interventions
 - Implement partial cost-recovery leading gradually to full cost-recovery and finally self-sustained clinical services by public veterinary clinics.
 - Improve coverage and efficiency of clinical services by providing adequate operational budget and transport.
 - Provide resources for in-service training and continuous professional development for animal health workers.
 - Set categories and standards including design, facility, level and number of animal health staff required for veterinary clinics.
 - Train staff in veterinary clinics in sample collection, preservation and submission to laboratories.
 - Improve staff evaluation and merit based promotion to motivate and retain field level staff providing grass root service delivery.

Challenge 7: Improve and sustain laboratory diagnostic services at Federal and Regional levels

The National Animal Health Diagnostic Laboratory (NAHDIC) has made considerable progress over the past years to carry out nation-wide and targeted surveillance for selected diseases, establish and implement a quality assurance program, train staff in the regional laboratories, and establish a suite of OIE-recommended laboratory tests to support disease control and exports. So far, NAHDIC is accredited for eleven tests and 6 diseases. This should be expanded further for other diseases and NAHDIC should be supported to be a reputable and credible laboratory for the subregion. Moreover, there is need to build analytical capacity to undertake residue testing in foods of animal origin (meat, fish, milk, honey etc.). 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, organizational and shortage of supplies such as kits and consumables.

- Strategic interventions
 - Establish a laboratory quality management system involving proficiency testing and third-party accreditation.

- Develop a Laboratory Information Management System for federal and regional veterinary laboratories.
- Capacitate NAHDIC and regional laboratories to meet demands for export testing and disease surveillance.
- Collect and stockpile isolates of important pathogens for genetic sequencing and vaccine production.
- Develop functional linkages and collaboration between regional and federal veterinary laboratories.
- Create strong linkage between field veterinary clinics and regional laboratories.
- Initiate cost-recovery from the commercial sector to self-sustain quality laboratory services.
- Maintain close working relations and linkage between NAHDIC and world reference laboratories.
- Support NAHDIC to be reputable and credible and serve as centre of excellence for selected diseases.
- Build analytical capacity to undertake residue testing in foods of animal origin (meat, fish, milk, honey etc.).

Challenge 8: Promote animal welfare

There is a critical relationship between animal health and animal welfare (OIE 2011b). The use of animals carries with it an ethical responsibility to ensure the welfare of such animals to the greatest extent practicable. Improvements in farm animal welfare can often improve productivity and food safety, and hence lead to economic benefits. Issues of animal welfare have acquired global significance and presently influence or impact international trade in animals and animal products. To access international markets, it is essential that international animal welfare standards are established and observed.

- Strategic interventions
 - Enact and enforce animal welfare legislation and guidelines.
 - Establish an Animal Welfare Fund to support implementation of legislation and guidelines.
 - Encourage Good farm Practices (GFP) to enhance animal welfare.
 - Develop a comprehensive communication action plan to produce and disseminate accurate, useful, and timely public information on animal welfare.
 - Encourage the establishment of animal welfare groups..

Challenge 9: Strengthen the legal framework

The need for legal support in implementing animal health and food safety standards cannot be overemphasized. Control of animal disease is only achievable through 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 OIE standards, Sanitary and Phytosanitary Agreements (SPS) and Codex Alimentarius. In light of changing disease risks and occurrences, as well as scientific advances and improving international standards, current laws fail to address

the changing situation and emerging challenges. There are several new laws awaiting approval in Ethiopia. However, promulgation of legislation in Ethiopia is a very slow process. If indeed the veterinary service is to promote export of animals and animal products, endorsement and enforcement of required laws conforming to evolving international standards need to be a priority.

- Strategic interventions
 - Endorse and enforce draft proclamations and regulations awaiting approval.
 - Establish a mechanism to regularly review animal health laws in light of changing disease risks, scientific advances and international SPS and OIE standards.
 - Create awareness among stakeholders of the livestock sector on existence of laws and regulations governing animal health issues.
 - Establish mechanisms to enforce existing laws and regulations at all levels.

Challenge 10: Regulate the veterinary profession and uphold professional standards and ethics

One of the gaps identified in the OIE PVS assessment was the need for a veterinary council to register and license private and public veterinarians and para-professionals. The government must establish and maintain high veterinary professional standards to give credibility to export certification, and enable delivery of the required levels of disease control, regulation and licensing. Ethiopia does not have an autonomous statutory body to regulate the veterinary profession, license and register veterinary surgeons and veterinary practitioners, and regulate professional education and professional conduct. For instance, veterinary programs are being established in new universities, but they lack appropriate curricula adequate to prepare for licensing and operating as a vet.

- Strategic interventions
 - Establish an autonomous statutory body to regulate the veterinary profession, license and register veterinary surgeons and veterinary practitioners, and regulate professional education and professional conduct.
 - Create an annual Veterinary Faculty Dean's Forum attended by all Deans to discuss harmonization of veterinary educational standards, curriculum development, VS needs and related issues.
 - Introduce some form of international benchmarking for undergraduate veterinary education.
 - Develop and enforce guidelines and code of conduct for public and private veterinary services practitioners and para-veterinarians.
 - Institute a system of awarding points for continuing education and make this mandatory for veterinarians in both the government and private sectors.

Challenge 11: Improve early detection and response to emergencies

Animal disease emergency can have serious socio-economic consequences which, in extreme cases, can affect the whole national economy. If a new disease can be recognized quickly while it is still localized and prompt action taken to contain and then progressively eliminate it, the chances for eradication of the disease are markedly enhanced. Conversely, eradication may be extremely difficult, costly and even impossible if the disease is not quickly recognized and appropriate control action taken before it becomes widespread. Lack of approved plans and resources for early detection and containment of emergency disease outbreaks and lack of command structure of veterinary services for emergency response need to be addressed. The Animal and Plant Health Regulatory Directorate (APHRD) has the responsibility to develop and oversee emergency plans and implement them in collaboration with all relevant stakeholders.

- Strategic interventions
 - Establish a disease early warning system and emergence preparedness unit to deal with epizootics of diseases of major economic and public health importance.
 - Advance preparation of both generic and disease-specific emergency plans and operating procedures for priority diseases.
 - Allocate necessary financial and human resources to be rapidly mobilized in response to disease outbreaks.
 - Include animal disease emergencies as a component of the national disaster response plan.
 - Develop coordinated and efficient mechanisms to ensure collaboration of all relevant stakeholders.

Challenge 12: Expand private animal health service and strengthen public private partnerships

There are a number of strong arguments to promote increased private sector involvement in veterinary service delivery. At present the government service does not cover even 45% of the country. With more private companies and individuals involved, service coverage will increase and government expenditure will be reduced. This would allow public veterinary services to concentrate on core functions and to divest non-core functions to the private sector. The rate at which this can be achieved would depend on growth of the, currently embryonic, private sector. These require delineation of tasks and geographical areas between private and public veterinary services, removal of unfair competition through cost recovery, gradual withdrawal of the public service from clinical services, contracting certain public goods activities to the private sector through sanitary mandates (FAO 2007). The strategy involves helping existing vets and new graduates set up private rural farm stores. The government will need to interest donors in funding projects to support these efforts.

- Strategic interventions
 - Delineate tasks and geographical areas between private and public veterinary services.
 - Remove unfair competition through cost-recovery.

- Gradually withdraw the public service from clinical services.
- Contract certain public goods activities to the private sector through sanitary mandates.
- Support existing vets and new graduates set up private rural farm stores (selling vet supplies, AI, pesticides and also other agricultural inputs). GOE will need to interest donors in funding projects to support their creation, including with grants and credit guarantees.

Challenge 13: Administer and control the quality, safety and efficacy of veterinary drugs and biological products

The broad goals of controlling drugs used on animals are to preserve the health of the animals, improve animal production and protect public health. The registration, administration and control of veterinary drugs, biological products and feed additives were officially transferred from Ministry of Health (MoH) to Ministry of Agriculture (MoA). However, the responsible authority in MOA has yet to be established. Timely establishment of the authority is of paramount importance to regulate the importation, production, distribution and use of these products. There is also need for developing analytical capacity to undertake chemical tests to determine the nature, contents, quality, quantity or potency of veterinary drugs and biologicals. The analytical lab under construction by MoA at Kaliti should be equipped and staffed with adequately trained personnel. It has also to establish Laboratory Quality management System and secure third party accreditation.

- Strategic interventions
 - Timely establishment of the authority to regulate the importation, production, distribution and use of veterinary drugs and biologicals.
 - Develop analytical capacity to undertake chemical tests to determine the nature, contents, quality, quantity or potency of veterinary drugs and biologicals.
 - Equip and staff the analytical lab under construction with adequately trained personnel.
 - Collaborate with Pan African Vaccine Centre (PANVAC) for quality control of veterinary vaccines.
 - Establish Laboratory Quality management System in the analytical lab and secure third party accreditation.
 - Reduce availability of substandard and illegally marketed animal drugs.

Challenge 14: Promote action-oriented research in animal health

The primary focus of research needs to be identifying, testing, and adapting existing technologies available from around the world, while strengthening research on areas of strategic or national importance. National institutions will partner with regional and international research organizations that have advanced laboratory and related facilities to do advanced basic research.

- Strategic interventions

- Develop and technology transfer reliable thermo-stable vaccines against major livestock diseases.
- Develop combined vaccines.
- Develop DIVA vaccines (differentiating infected from vaccinates).
- Develop pen-size tests, diagnostic kits and reagents.
- Conduct epidemiological studies on TADs and socio-economic studies to inform policy and strategy development.
- Study the root causes and appropriate remedies to prevent darkening of meat and improve its shelf life.

Challenge 15: Ensure timely provision animal health inputs

Livestock development efforts should include implementation of well-conceived disease control strategies, and many of these will be based on therapeutic and targeted vaccination programs. Thus, future disease control will require increased quantities and improved quality of drugs and animal disease vaccines, and more effective distribution and marketing systems. Establishment of a drug fund is an area to be explored to ensure regular and timely supply of drugs. The National Veterinary Institute (NVI) produces a wide range of vaccines. However, some essential vaccines are not produced or are not produced in sufficient quantity and quality. This would be improved through strengthening of the NVI and the government to get private entrepreneurs to invest in vaccine production and marketing.

- Strategic interventions
 - Establish a drug fund to ensure adequate, regular and timely supply of drugs to public veterinary clinics.
 - Enhance the capacity of NVI to increase production of CCPP and FMD vaccines, produce new vaccines for diseases like Mareks, and improve the efficacy and potency of existing vaccines such as AHS, LSD and Pasturellosis.
 - Maintain appropriate cold chain and establish cold depots in strategic locations of the country to handle and transport veterinary vaccines.
 - Build capacity of the private sector to import or manufacture appropriate veterinary drugs and vaccines.
 - Facilitate development of marketing models for distribution of veterinary drugs and vaccines through the private sector.

Challenge 16: Establish phased livestock identification and traceability system

The pressure for identification and traceability is rapidly mounting globally as consumers are demanding to know more about the animals from which their food was derived. The design and implementation of an animal identification system is required to enable identification and traceability of livestock destined for export. The system can be gradually expanded to identify and trace livestock to their source of origin at production level. The strategy involves the study and implementation of cost effective, sustainable and acceptable methods and tools for identification and traceability.

- Strategic interventions
 - Study cost effective, sustainable and acceptable methods and tools for identification and traceability.
 - Develop and support implementation of livestock identification, registration and traceability systems starting with export animals and gradually expanding to the national herd.
 - Formulate and enact legislation to provide for livestock identification and traceability.
 - Establish a national livestock registry and traceability data bank.

Challenge 17: Strengthen quarantine and inspection systems

Regulating the import and export of livestock, livestock products, by-products and genetic materials is an important disease prevention strategy to minimize the introduction of disease agents. Lack of well-developed quarantine and certification systems which comply with international standards and meet the requirements of trading partners remains a major problem. This strategy involves strengthening the competent authority (Animal and Plant Health Regulatory Directorate) to develop standard import export procedures and protocols. Construction of quarantine facilities by government and private operators is needed to apply strict management and biosecurity procedures for animals to be imported or destined for export, and establishment of a credible certification system is needed for negotiation with trading partners on equivalence and other standards.

- Strategic interventions
 - Construct quarantine facilities to apply strict management and biosecurity procedures for animals to be imported or destined for export.
 - Negotiate with importing and transit countries so the quarantine facility to be built and international animal health certificate issued by Ethiopian veterinary authorities are recognized and accepted.
 - Study and implement cost effective and efficient management of the quarantine facilities through public private partnerships..
 - Establish a credible certification system and initiate negotiation with trading partners on equivalence and other standards.
 - Regularly assess the retail and food service meat markets in importing countries and take corrective actions on complaints and feedbacks on Ethiopian products to remain competitive and expand market share.
 - Regularly assess and compile SPS requirements of potential importing countries, identify those with less stringent requirements and initiate negotiations to penetrate new markets for Ethiopian products.
 - Develop and enforce standard guidelines to ensure safe handling of animal during trekking, loading, transporting, unloading, holding, etc.
 - Strengthen veterinary border posts with the necessary facilities and trained staff.
 - Harmonize livestock disease control and prevention efforts with neighbouring countries.

- Strengthen import procedures and protocols for live animals, primary animal products, genetic and pathological materials based on risk assessment.

Challenge 18: Mitigate climate change impacts on animal health

Climatic factors can have a major effect on the rate of transmission of many infectious diseases. Microbial agents and their vector organisms are sensitive to factors such as temperature, humidity, precipitation, surface water, wind and changes in vegetation. It is projected, therefore, that climate change and altered weather patterns will affect the range, intensity, and seasonality of vector-borne and other infectious diseases. Priority endemic and exotic diseases include East coast Fever (ECF), Rift Valley Fever (RVF), Blue Tongue (BT), African Horse Sickness (AHS) and trypanosomosis, transmitted by tsetse flies. This strategy will be perused in collaboration with international organizations.

- Strategic interventions
 - Foster partnerships between Ethiopia and international organizations to devise cost effective methods to mitigate the effects of climatic change.
 - Use preventive veterinary medicine, adjustment of animal husbandry and create social resilience by empowering communities in health protection.
 - Use field and laboratory studies combined with satellite remote sensing, geographical information systems and biomathematical modelling to predict when and where disease outbreaks are likely to occur and how the situation might alter with climate change.

Challenge 19: Strengthen animal health extension services

Animal health extension services are generally poor. The focus needs to be on the prevention and control of livestock diseases, including production diseases due to parasites. This is expected to reduce the current level of high mortality and morbidity rate and increase the off-take and supply of animals. It is highly probable that development of the dairy subsector in Ethiopia will mean increasing numbers of crossbred animals and larger dairy herds, both of which are risk factors for many diseases. Priorities will be reproductive problems, calf mortality and mastitis. Farmer training offers a positive way of reducing the risk of these diseases because it improves their ability to recognize and treat animals appropriately. Dissemination of knowledge through appropriate delivery methods is important.

- Strategic interventions
 - Scale up the campaigns to control external parasites to improve the quality of hides and skins through community participation
 - Develop treatment regime for the prevention and control of parasitic diseases appropriate for the various agro ecological areas
 - Preparation of an animal disease map to plot potential diseases in specific areas, and prepare an animal health knowledge kit with community participation
 - Promote information sharing on good practices in animal health advisory services and lessons learned.

Challenge 20: Strengthen veterinary services in pastoral areas

There are many obstacles to veterinary service delivery in pastoral areas including a difficult physical environment, high cost of delivery due to poor infrastructure, illegal operators, low cash economy and the mobility of pastoralists. These problems are further compounded by insecurity. To bring the veterinary services closer to the livestock owners, most countries in the region have introduced community animal health workers (CAHWs). Experience indicates that these workers can have a substantial impact on livestock morbidity and mortality through the treatment or prevention of a limited range of animal health problems. Nevertheless, these experiences are not without weaknesses and the OIE Code regards a CAHW as a category of para-professional whose activities should be regulated by the statutory body.

- Strategic interventions
 - Develop objective and transparent systems for the accreditation, monitoring and supervision of CAHWs.
 - Link community animal health service delivery systems to private pharmacies for regular drug supply and monitoring.
 - Coordinate the activities of agencies involved in CAH to harmonize approaches.
 - Enforce the implementation of the guidelines and standardized training for CAHWs.
 - Integrate community animal health delivery systems into existing animal health delivery systems.

References

- FAO. 2007. Principles for rational delivery of public and private veterinary services with reference to Africa. Rome: FAO.
- FAO. 2008. Manual on the preparation of animal disease emergency preparedness plan. Rome: FAO.
- LDMSP. 2007. Livestock development master plan study. Vol. F Animal health. Addis Ababa, Ethiopia: LDMSP.
- OIE. 2009. OIE tool for the evaluation of performance of veterinary services. 4th edition. Paris: OIE.
- OIE. 2011a. OIE–PVS evaluation report of the veterinary services of Ethiopia. Paris: OIE.
- OIE. 2011b. The terrestrial animal health code. Paris: OIE.
- Thomson, G.R., Tambi, E.N., Hargreaves, S.K., Leyland, T.J., Catley, A.P., van't Klooster, G.G.M. and Penrith, M.L. 2004. International trade in livestock and livestock products: The need for a commodity-based approach. *Veterinary Record* 155:429–433.

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The Improving the Productivity and Market Success of Ethiopian Farmers (IPMS) project, funded by the Canadian International Development Agency (CIDA), was a research for development project that worked with the Ethiopian Ministry of Agriculture (MoA) to transform the smallholder subsistence farming system to a more commercial-oriented agricultural system. To contribute to this transformation process, the project used a value chain systems approach, focusing on the MoA's extension system, value chain actors, service and input suppliers. <https://ipmsethiopia.wordpress.com/>



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