



Ethiopia livestock master plan – key findings

Introduction

Over the last 20 years, the Federal Government of Ethiopia (GoE) has prioritized the transformation of the agricultural sector. This approach has been adopted in the current 2010–2015 Growth and Transformation Plan (GTP I) and its successor, the 2015–2020 GTP II. Yet, the absence of clear roadmaps to develop the livestock sector has persistently hindered successful implementation of these previous investment plans. Detailed interdisciplinary research has revealed the potential benefits of a comprehensive livestock master plan (LMP) in Ethiopia.

The LMP sets out investment interventions—better genetics, feed and health services, which, together with complementary policy support—could help meet the GTP II targets by improving productivity and total production in the key livestock value chains for poultry, red meat-milk, and crossbred dairy cows. If the proposed investments—of 7762 million Ethiopian birr (USD 388.1 million), 57% and 43% from the public and private sectors respectively—were successfully implemented, they could eliminate poverty in approximately 2.36 million livestock-keeping households, helping family farms move from traditional to improved market-oriented systems.

Beyond this impact on rural people, the anticipated transformation of the livestock sector has the potential to impact positively on urban consumers through lower animal product prices. The success of the LMP is critical to the achievement of food and nutrition security at household, sectorial and national levels.

Development of the LMP

Using the most recently available data, from 2013, the Livestock State Ministry and the International Livestock Research Institute (ILRI) employed the Livestock Sector Investment and Policy Toolkit (LSIPT) to develop herd and sector models and a baseline assessment of the current state of agricultural development in Ethiopia. This was used to assess the potential long-term, 15–20 years, impact of proposed combined technology and policy interventions, referred to as the Livestock Sector Analysis (LSA).

The LSA results then formed the basis for the development of the GTP II livestock targets and the Livestock Master Plan for 2015–2020. The LMP is a series of five-year development implementation plans or ‘roadmaps’, to be used to implement the GTP II.

The LSA and LMP interventions were tested using the sector model measures of GoE livestock development and policy objectives for the GTP I and GTP II. The GTP objectives employed to assess the investment interventions of the Ethiopia LMP were to:

- Reduce poverty;
- Achieve food and nutritional security;
- Contribute to economic growth (GDP);
- Contribute to exports and foreign exchange earnings; and
- Contribute to climate change mitigation and adaptation.

Using indicators for the above objectives, three key livestock value chains—poultry, crossbred dairy cow, and red meat-milk (from indigenous cattle, sheep, goats, and camels)—were identified in the LSA as potentially contributing to the long-run development of the sector. The LMP, therefore, comprises two sub-value chains for each value chain: smallholder family and commercial specialized production systems. These six sub-value chains are found in one or more of the three major production typology zones of Ethiopia, officially categorized by the Ministry of Agriculture (MoA): lowland grazing (LG) including both pastoral and agro-pastoral systems), highland mixed crop-livestock rainfall deficient (MRD) and highland mixed crop-livestock rainfall sufficient (MRS).

Crossbred dairy cow development

The projected increase in national cow milk production, as a result of the proposed interventions, during the GTP II period (2015–2020) is 93%, a surplus of 2501 million litres over projected domestic consumption requirements. This production increase would make it possible to meet the milk production targets in the GTP II phase, exceeding the growing domestic demand for milk by 47%. This surplus of milk could then be substituted for imported milk products and used domestically for new or additional industrial uses (e.g. in the baking industry), or exported as milk powder or UHT to raise foreign exchange earnings.

Red meat/milk and feedlot development

The proposed combined interventions for red meat/milk production on family farms and among pastoralists and agro-pastoralists, as well as feedlot development, would result in a 52% increase in total red meat production. Production would grow from 1.275 to 1.933 million tonnes between 2015 and 2020. This would not, however, meet expected consumption growth of 58% by 2020 (to 2.008 million tonnes), leaving a 7% deficit (187,000 tonnes) in the 2015–2020 red meat production and consumption balance. Given the rapidly growing population and increasing incomes in Ethiopia, such projected deficits would put upward pressure on red meat prices and make it very difficult to meet the GTP II red-meat export goals.

Furthermore, meeting poverty reduction goals was shown not to be compatible with large reductions in cattle numbers, as called for in the draft Climate Resilient Green Economy (CRGE) Livestock Investment Plan of the GoE. That said, the annual growth rate in the cattle population could be substantially reduced if the projected productivity increases were realized; but this may still require substantial incentives for farmers to reduce cattle numbers in household herds.

Poultry development

Successful poultry interventions would allow the sub-sector to move to improved family poultry with semi-scavenging crossbreds and for substantial increases in the scale of specialized layer and broiler operations. Such a transformation would contribute considerably to reducing poverty and malnutrition among rural and urban poor, as well as increasing national income.



Projected annual chicken meat and egg production in Ethiopia would rise to 164,000 tonnes and 3.9 billion respectively, a 247% increase in chicken meat production by 2020. This would bring the production-consumption surplus for chicken meat from 18,000 to 102,000 tonnes between 2015 and 2020. The combined interventions would also result in an 828% increase in chicken egg production, bringing the egg surplus to 3.1 billion eggs during the GTP II period.

Such accomplishments would enable Ethiopia to meet the chicken meat and egg demand for its growing population, and produce a very significant surplus for domestic industrial use or export. The surplus eggs could be processed into egg powder and used domestically for new or additional industrial uses (e.g. in the baking industry), or be exported to generate foreign exchange earnings.

Meat production-consumption balance

Perhaps most importantly, the growth of the poultry sub-sector would enable Ethiopia to close the projected total national meat production-consumption gap. This would also make it possible to meet the CRGE target of increasing the share of chicken meat to total meat consumption from the current 5% to 27% by 2030, but only if chicken is substituted for red meat coming from larger high-emitting ruminants.

Taking advantage of the benefits of the potential poultry revolution would thus require substantial investments in promotional activities to change tastes and preferences from beef and mutton, as well as from local to exotic chicken meat and eggs. The substitution of the surplus chicken meat for domestic red meat consumption would also put downward pressure on domestic meat prices and enable an increase in the export of live animals (of cattle, sheep, and goat), potentially raising foreign exchange earnings.

Priority investment interventions

Various combinations of the three standard types of livestock technology interventions are needed to generate higher incomes and animal productivity, and to lead to the achievement of the GTP II development objectives: improved genetics, health and feed. The appropriate combinations, depending upon the biophysical, agro-ecological and market conditions facing livestock in the three production typology zones in Ethiopia, include the:

- Improvement of cattle dairy through breeding interventions, combining artificial insemination using exotic semen with oestrus synchronization in MRS dairy systems and in peri-urban milk sheds throughout Ethiopia;
- Improvement of productivity of local breed animals (cattle, sheep, goats, and camels) for meat and milk through investments in genetic selection (recording schemes, etc.) and in animal health to reduce young and adult stock mortality, and by implementing critical vaccinations and parasite control programs;
- Increase of public investment in rehabilitating range and pasture lands to improve feeding and animal management to complement genetic and health improvements;
- Promotion of the importation and dissemination of improved semi-scavenging poultry breeds by the private sector and/or through public-private partnerships, combined with the improved capacity of private animal health services to provide critical vaccines, in tandem with the continued promotion by the GoE extension services of improved feeding; and
- Increase of specialized commercial production units and—where conducive agro-ecological and market conditions prevail—consequent increases in animal numbers for all three commodities, and the adoption of appropriate genetic, health and feed technologies.

Complementary policy interventions

- The introduction of policy measures to rationalize public and private sector roles in veterinary service provision, leading to the transition to the private provision of clinical services wherever feasible and public oversight and quality regulations;
- The promotion of the establishment of more private-sector flour and oil mills to encourage the production of additional feeds from agro-industrial by-products by introducing protective policies against flour and cooking oil imports;
- The promotion of land leasing, including land under irrigation, for animal production and the provision of tax incentives and subsidized leasing rates to private entrepreneurs;
- The promotion of feed efficiency through the removal of the double-imposition of VAT and excessive customs duties (currently 53%) on feed mill ingredients, as well as the introduction of quality control measures;
- The promotion of exports to more remunerative markets through the introduction of a practical and affordable system of animal identification and traceability, as well as food safety and animal health programs through the monitoring of abattoirs and disease surveillance;
- The promotion of substantial private investment in livestock product transformation through high value-added processing; and
- The enabling of agribusiness investment through the streamlining of regulations and procedures in order to attract and maintain substantial levels of private investment.



Background to the LMP

Since 2014, the Livestock Resources Development Sector (or Livestock State Ministry) of the Ethiopian MoA and ILRI have been collaborating to develop a livestock master plan (LMP) to provide guidance to the government of Ethiopia on future priorities for livestock research and development activities.

The LMP project development process was funded by the Bill & Melinda Gates Foundation (BMGF). Beyond the plan itself, the project aims to build the capacity of the government to carry out data-driven, fact-based analytics and planning.

The LMP was developed by a joint team from ILRI and the MoA. Development was overseen by a high-level technical advisory committee (TAC) comprising directors of key MoA Livestock State Ministry departments and institutes, as well as representatives from the Food and Agriculture Organization of the United Nations (FAO), the Intergovernmental Authority on Development (IGAD), the Ethiopian Agricultural Transformation Agency (ATA) and the presidents of the relevant professional associations of livestock experts (the Ethiopian Society of Animal Production and the Ethiopian Veterinary Association).

This activity has been supported by the ALive group (African Partnership for Livestock Development) of AU-IBAR (African Union Inter-African Bureau for Animal Resources), as well as the Agricultural Research Centre for International Development (CIRAD) and the World Bank which provided support to implement the LSIPT used to develop the sector model, including training in its use.

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July 2015