



## MEAT, MILK AND MORE:

### Policy innovations to shepherd inclusive and sustainable livestock systems in Africa



**E**thiopia has the largest livestock population in Africa, with nearly 63 million cattle, over 31 million sheep and 33 million goats, and 61 million chickens in 2018.<sup>1</sup> The sector contributed up to 40 percent of agricultural GDP, nearly 20 percent of total GDP, and 20 percent of national foreign exchange earnings in 2017.<sup>2</sup> Between 2000 and 2016, the average stock of livestock, measured in tropical livestock units (TLU) per 100 people, stood at 50.970 TLU, more than double the continental median of 23.44 TLU. At the same time, the average growth rate of gross production value during the same period was 4.54 percent – also twice the continental median of 2.2 percent.<sup>i</sup> These successes are an outcome of comprehensive government action

at the institutional and policy levels for both, pastoralist and non-pastoralist communities. Interventions across livestock value chains on animal health, inputs, research and marketing as well as incentivizing private sector engagement have ensured that the sector thrives. Combined with a young rural workforce and proximity and strong relationships with the Middle East—one of the world's largest meat markets – Ethiopia has the prerequisites to develop a vibrant and competitive livestock sector that can also help to improve the food security and nutrition status of its population, as well as meet its ambition to become a middle-income country by 2025.

<sup>i</sup> The average livestock stock TLU per 100 people over the period 2000–2016 (FAO data) was chosen to assess countries' levels of animal stock. To define high and low levels of animal stock, the threshold was set at the median. The average growth rate of the gross production value (GPV) of livestock (in constant 2004–2006 international dollars) over the period 2000–2016 (FAO data) was chosen as indicator of value addition growth of the sector.



## Institutional innovation

The livestock sector has gained prominence in Ethiopian politics and institutional presence over the last 10 years. Until 2013, elements of the livestock sector value chain were allocated to different departments within the Ministry of Agriculture (MoA) and Ministry of Trade (which primarily handled the trade of live animals).<sup>3</sup> The MoA led the development of the Livestock Master Plan to coordinate activities in the sector (see below). In 2013, MoA created the State Ministry of Livestock and Fisheries to guide overall livestock and fisheries development in the country. Three departments—for livestock production and fisheries, veterinary services, and pastoral development—were formed within the State Ministry to administer the sector.<sup>4</sup> The State Ministry was mandated to bring to scale good practices in livestock productivity; reduce the prevalence of animal diseases; facilitate private sector participation across the value chain; oversee pastoral area development; regulate import and export of livestock, livestock products and inputs; and expand research in the livestock sector.<sup>5</sup> In 2015, the State Ministry was formalized as the Ministry of Livestock and Fisheries (MoLF), thereby affirming the importance of the sector to the Ethiopian economy and politics. MoLF comprised three state ministers, for Animal Health and Feed (including veterinary drug regulation), Animal Production and Fisheries, and Marketing of Inputs and Outputs. In addition, the State Ministry for Animal Production had a specific unit for Pastoral Area Development and Cooperation. Creating MoLF as an independent ministry provided



more focus and autonomy to scale up government support for the sectors.<sup>6</sup> Its formalization was also financed by a US\$170 million loan from the World Bank in 2017 to increase commercialization of producers and processors, improve service delivery, and respond to emergencies in mixed-crop livestock production systems.<sup>7</sup> Currently, the primary institution responsible for livestock is the Ministry of Agriculture (MoA), while the Ministry of Peace oversees pastoralist issues. MoA assumed responsibility for the livestock sector following a merger between MoLF and MoA in 2018 meant to align priorities and deliver joint agriculture and livestock targets simultaneously.<sup>8</sup>

The Ministry of Peace, established in 2018, leads the management and oversight of pastoralist issues, previously located under the Ministry of Federal Affairs and Pastoralist Development. The key role of the Ministry of Peace in this respect is to coordinate, harmonize, and monitor interventions in pastoralist areas by different ministries. Pastoralist matters are also represented in Parliament by the Agriculture Pastoral Affairs and Environmental Protection Standing Committee (formerly the Pastoral Affairs Standing Committee (PASC)) within the House of Peoples' Representatives.<sup>9</sup> PASC was founded in 2002 to ensure equitable pastoral development through legislative, oversight, and representative processes. Committee members were drawn from different ethnic groups and regional states.

### *Front-runner on animal health*

Responsibilities for animal health and marketing have advanced in parallel. Veterinary services were first boosted by the establishment of the National Veterinary Institute (NVI) in 1964, through MoA, to develop, manufacture, and disseminate vaccines. It achieved internationally recognized certification for the production and distribution of vaccines in 2005.<sup>10</sup> By 2020, NVI was producing 20 different vaccines for domestic use and occasionally for export to up to 26 African countries. From producing nearly 4 million doses of vaccines per year in its early years, NVI now (2020) produces approximately 200 million doses per year.<sup>11</sup> In October 2018, NVI received a lyophilizer (freeze dryer) from FAO and the European Union to produce thermostable vaccines against sheep and goat plague (PPR). The technology is expected to support the eradication of PPR from Ethiopia by 2027.<sup>12</sup> A new manufacturing plant is also being constructed at the main campus to augment production of veterinary drugs and boluses.<sup>13</sup>



To complement NVI's remit to produce vaccines, the Department of Veterinary Services at the MoA authorized the construction of a second national laboratory focused on disease investigation in 1995. This National Animal Health Diagnostic and Investigation Center (NAHDIC) was mandated to lead national efforts in disease surveillance and monitoring, investigation and research, and support laboratory testing for export and import animals.<sup>14</sup> Both NVI and NAHDIC are supported by regional veterinary laboratories across the country. The formation of the Ethiopian Veterinary Association (EVA) in 1974 provided further momentum in the promotion and strengthening of the veterinary profession and service provision, now representing over 1,500 professionals.<sup>15</sup>

More recently, the Veterinary Drug and Animal Feed Administration and Control Authority (VDAFACA) of Ethiopia was established in 2011 to regulate the delivery of safe and quality feed and effective veterinary drugs. VDAFACA registers manufacturers, importers, and wholesalers of veterinary drugs, equipment, and feed, thereby ensuring a clear role for private entrepreneurs in the livestock sector.<sup>16</sup>

Finally, the National Institute for the Control and Eradication of Tsetse Fly and Trypanosomiasis (NICETT) was established in 2014 with the support of the International Atomic Energy Agency (IAEA). NICETT is an independent organization, accountable to the MoA, mandated to eradicate the pest and disease across the country.<sup>17</sup>

## *Prioritizing research*

At the same time, Ethiopia has invested heavily in the development of its agricultural research capacity. To expand home-grown competence in animal health, a Faculty of Veterinary Medicine was founded in 1984 at Addis Ababa University. Four additional faculties were added by the Ministry of Education at the turn of the millennium,<sup>18</sup> and the number of veterinary schools increased from 1 to 15 between 2005 and 2015.<sup>19</sup> Moreover, a new research system was formalized through the establishment of the Ethiopian Agricultural Research Organization in 1997. Renamed the Ethiopian Institute of Agricultural Research (EIAR) in 2005, the organization is mandated to adapt, produce, and demonstrate new agricultural technologies. Within the livestock sector, EIAR has led the development of several new breeds (particularly crosses of local Boran cattle with Jersey and Holstein Friesian breeds), new varieties of forage and pasture, and husbandry methods, such as generating feeding strategies for dairy, beef, and poultry production, production processes for camels, and housing and health management for poultry.<sup>20</sup> EIAR is also supported by regional research institutes. Complementing the technical and scientific research capacity provided by EIAR, the Ethiopian Agricultural Transformation Agency (ATA) supports both public and private sectors to promote the uptake of specific solutions, including within livestock value chains.<sup>21</sup>

## *Export-oriented production with private sector support*

Much of Ethiopia's livestock production is destined for export markets, primarily in the Middle East. Since the sector is a key source of foreign exchange, forming strong marketing institutions has long been a focus of Ethiopia's livestock sector development. Initially located inside federal ministries, the Livestock Marketing Agency (LMA) was established in 1998 within the Ministry of Trade to promote and govern domestic and export trade of livestock and livestock products. This was done by issuing quality control regulations on exportable and importable materials, organizing quarantine stations, facilitating the construction and maintenance of markets and abattoirs, and nurturing research. To improve cooperation between marketing and veterinary services, the LMA was redeployed as the Livestock and Fishery Marketing Department (LFMD) in 2005 within the Ministry of Agriculture and Rural Development.<sup>22</sup> The LFMD led efforts to privatize functions in the livestock value chain, including promoting private tanneries, export abattoirs, leather industries, and poultry farms.<sup>23</sup> Marketing responsibilities have since been transferred to the Ethiopian Meat and Dairy Technology Institute, formalized in 2010 and renamed as the Ethiopian Meat



and Dairy Industry Development Institute (EMDIDI) in 2013, which is mandated to raise the sector's global competitiveness. Upholding the objectives of the LFMD, EMDIDI also facilitates private sector involvement in the meat and dairy industries.<sup>24</sup>

In addition, in 2003, the Ethiopian government established the National Export Coordinating Committee, subsequently renamed the National Export Council (NEC). NEC is mandated to boost trade by assisting companies to overcome export-related challenges and coordinating among government institutions. NEC is chaired by the Prime Minister's office, and comprises relevant ministerial and institutional representation, such as the Ethiopian Revenue and Customs Authority, the Ministry of Trade, and the Ministry of Industry, as well as the National Bank of Ethiopia, Commercial Bank of Ethiopia, and Ethiopian Airlines. Six export sector committees—for coffee, oil seeds, minerals, leather, horticulture, and meat and live animals – meet periodically to review export performance.<sup>25</sup> This leadership from the NEC contributed to the growth in exports by about 22 percent per year on average between 2006 and 2012.<sup>26</sup>

Stimulated by a national drive to increase the export of live animals and meat, combined with greater private sector engagement, there were seven operational slaughterhouses and eight more under construction by 2015. In addition, 28 abattoirs were serving the domestic market.<sup>27</sup> The sector also attracted foreign investment from companies like Verde Beef Processing PLC (Norway) and Allana Group (India), catapulting the Ethiopian companies to become the largest cattle processing operation in East Africa.<sup>28</sup> Over 20 years from 1999 to 2019, the volume of meat exports increased from approximately 8,000 mt to over 19,000 mt. The corresponding value of meat exports (chilled shoats, beef carcasses, and offal) rose from US\$1.7 million to US\$92.65 million. Of this, shoaat carcasses alone accounted for just over US\$80 million (86.72 percent).<sup>29</sup>

## Policy innovation

The Government of Ethiopia (GoE) has introduced several policies and strategies focused on agricultural and livestock development. To meet the long-term economic goals of poverty eradication and transitioning into a middle-income country by 2025, national development plans (NDPs) have emphasized export-led growth to drive rural development and transformation. Ethiopia's NDPs have steered progress in the livestock sector through improved extension and financial support, liberalization of markets, and a more supportive macroeconomic framework.<sup>30</sup>

The NDPs have also formed the basis for a Livestock Master Plan (LMP), developed in 2015, in turn inspiring the formulation of similar plans in Rwanda and Tanzania.<sup>31</sup> This continued and dedicated policy focus has contributed to growth in production and productivity in Ethiopia's livestock sector. Policy and incentive packages have further catalyzed foreign direct investment in the livestock sector, while companies like EthioChicken have transformed the poultry sector.

## *Special effort for pastoral areas*

Although considered a minority population, pastoralists owned approximately 69 percent of Ethiopia's cattle, 53 percent of sheep, 67 percent of goats, 25 percent of camels, and 22 percent of poultry in 2017.<sup>32</sup> They are therefore a central pillar for success in Ethiopia's livestock sector. Since the 1990s, the GoE's view on pastoralism has shifted away from its former top-down approach, toward a more inclusive approach focusing on poor livestock-holders and poverty reduction, rather than only focused on the livestock.<sup>33</sup> Crucially, Ethiopia's constitution – adopted in 1995 – guarantees pastoralists the right to grazing land and not to be displaced from their lands. The constitution also endorses farmers' and pastoralists' right to receive fair prices for their products, thereby ensuring that they obtain an equitable share of the national wealth, commensurate with their contribution.<sup>34</sup> Informed by these principles, and recognizing the value of pastoralism in contributing to the development of the livestock sector, subsequent NDPs and dedicated policies address the challenges faced by pastoralists. Policies (and projects) have guided the provision of physical infrastructure and successfully overseen the control of contagious animal diseases. There is also a symbolic shift away from forced sedentarization to voluntary settlement.<sup>35</sup> NDPs in the 2000s—the Plan for Accelerated and Sustained Development to End Poverty 2005–2010 (PASDEP), Growth and Transformation Plan I 2010–2015 (GTP I), and Growth and Transformation Plan II 2015–2020 (GTP II)—all promoted the provision of veterinary services, access to water resources (water points), enhancing extension services, and improving access to markets for live animals and livestock products. In addition, the introduction of early-warning systems has made pastoralist communities more resilient to a changing climate.<sup>36</sup> Importantly, the change in attitude toward pastoralism, not least through the Ministry of Peace and the Agriculture Pastoral Affairs and Environmental Protection Standing Committee mentioned above, has made a noticeable contribution in raising the awareness of pastoralists and building their capacity to manage their own development affairs.<sup>37</sup>



Pastoralist policy in Ethiopia is also aligned with and informed by the Intergovernmental Authority on Development (IGAD) regional Drought Resilience and Sustainability Initiative (DRSI). Following a severe drought in 2011 that affected 13.4 million people in the region, DRSI was designed to strengthen mid- and long-term resilience and reduce the need for emergency assistance, particularly among pastoralists and agro-pastoralists in the region. DRSI's vision of holistic development programming and increased investments in arid and semi-arid lands was endorsed by each IGAD country through a corresponding Country Program Paper (CPP). Ethiopia's CPP (2012) identified six components to boost production, processing, and marketing of livestock and livestock products—all aligned with other ongoing government interventions.<sup>38</sup> The availability of a clear vision in the CPP mobilized resources from development partners such as the World Bank, IFAD, USAID, and the German Corporation for International Cooperation (GIZ) to implement programs targeted at resilience-building and economic development in pastoral communities. The second phase of the CPP (2019-2024) aims to scale up successful results from these interventions.<sup>39</sup>

A new policy for pastoral development is currently under review at the Ministry of Peace, designed to sustain pastoralist livelihoods, improve food security, and coordinate interventions by public and nongovernmental actors. The policy is expected to focus on commercialization and diversification of livestock production under pastoral livelihoods with support from infrastructure development, natural resource management and tenure security, fostering good governance, and building on best practices.<sup>40</sup>

### *Advancing holistic livestock development*

Livestock has been at the heart of Ethiopia's "agriculture development-led industrialization" strategy, in place since 1991. Methodical adjustments to successive NDPs—PASDEP, GTP I, and GTP II—have guided attention toward the development of a commercially viable and sustainable sector. Each NDP sets out ambitious targets for production (quantity of meat, milk, eggs and other animal products), activities for ancillary value chains (such as feed and health) to achieve those targets, and a commensurate allocation of national funding for the whole agricultural sector. Following the success of PASDEP, under which meat production rose by 39,000 mt and milk production by 1.43 million mt, the focus of livestock development evolved toward enhancing productivity.<sup>41</sup> During GTP I (2010-2015), the number of crossbred cattle and milk cows more than doubled, establishing the basis for intensifying productivity over

the following five years. Emphasizing export markets, GTP II (2015-2020) proposes an increase in average daily milk yield from crossbred cows from 8 to 12 liters per cow per day and an increase in average cattle carcass yield from 107 kg to 138 kg.<sup>42</sup> To fulfill these targets, the Livestock Master Plan – developed by the MoA in partnership with ILRI – presents a series of five-year budgeted roadmaps (covering 2013 to 2028) that identify priority investment interventions, such as better genetics, feed, and health services, to meet projected demand in poultry, red meat, and dairy value chains. Distinctively, the targets set out in the Livestock Master Plan have been aligned with Ethiopia's Climate Resilient Green Economy plan to ensure that higher livestock production remains compliant with climate ambitions.<sup>43</sup> The meat sector is further guided by the Meat Industry Sub-Sector Strategic Plan (2015-2025) of the Ethiopian Agro-Industry Strategy, developed by the Ministry of Industry. This strategy provides a costed plan to revitalize meat processing, eliminate inefficiencies, maximize competitiveness, stimulate upstream linkages driving commercialization in production, and support the country's progress toward becoming a middle-income country by 2025.<sup>44</sup>

### *Coordinated financing for livestock sector development*

In 2010, as part of its commitments to the CAADP process, the GoE issued an Agricultural Sector Policy and Investment Framework (PIF) for 2010 to 2020. PIF aimed to align national-level aspirations in PASDEP, GTP I, and CAADP by raising production and productivity through commercialization of agricultural activities and greater natural resource and disaster risk management. PIF identified a number of priority areas for investment in the agriculture sector and highlighted the need for a focused approach to the livestock subsector, which the authors discerned had received little coordinated policy focus until then. PIF allocated a growing share of GDP to the budget for agriculture and rural development, increased from 6.2 percent of GDP in 2008/09 to 7.5 percent by 2020. Over the duration of PIF, this would amount to a total of US\$11.83 billion. In addition, PIF recommended an incremental amount of US\$6.23 billion over the 10 years to achieve the high agricultural growth target.<sup>45</sup> Although lacking specific allocations for the livestock sector, it is argued that PIF paved the way for a new investment thrust in the livestock sector by highlighting the subsector's potential and raising its profile sufficiently to warrant leadership at the state minister level. This process also contributed toward the development of the Livestock Master Plan.<sup>46</sup> However, not all investment priorities identified in the PIF could be funded from the national budget. Therefore, PIF highlighted a funding gap that would require



investments from the domestic private sector as well as foreign private and development investments.

## *Fostering private sector involvement*

### *Fiscal incentives*

In 2012, the GoE outlined fiscal incentives to facilitate private sector investment in Ethiopia.<sup>47</sup> For the livestock sector, these include tax exemptions for capital expenditure – for example for dairy factories or farm machinery, including spare parts. In addition, entrepreneurs receive income tax exemptions for up to five years, or longer if enterprises grow by at least 50 percent during this time.<sup>48</sup> Taking advantage of these incentives, which were promoted during a business promotion trip by then Prime Minister Meles Zenawi, one of China's largest shoe exporting companies – Huajian International Shoe City Plc – opened operations in Ethiopia in 2012. By 2016, approximately 3,800 Ethiopian employees were producing 6,500 pairs of shoes per day at Huajian, using locally produced skins and hides. Since Huajian demanded higher standards in inputs, local tanneries were compelled to raise the quality of their leather outputs.<sup>49</sup> Indeed, the success of Ethiopia's leather and leather products industries is the result of over 15 years of careful and systematic fiscal and industrial policy interventions to upgrade the outputs and nudge producers further up the value chain.<sup>50</sup> However, without significant adjustments in livestock production (including animal health) and slaughtering processes, farmers are unlikely to benefit from this burgeoning industry.<sup>51</sup>

### *Clustering industries*

GTP II in 2015 marked the formal initiation of Ethiopia's clustering approach, implemented through the creation of industrial parks. To deliver on its premise of export-led growth, GTP II outlined strategic sectors—including leather and leather products—that would be included in industrial parks and benefit from more efficient trade logistics and transport services, energy supply, and trade and customs facilitation. Industrial parks catalyze integration within supply chains, ensuring more efficient production, and attract foreign and domestic investments.<sup>52</sup> To further entice private sector investments in industrial parks, the GoE introduced fiscal and nonfiscal incentives such as: income tax exemption for 8 to 10 years, customs duty exemption for capital goods, construction materials and spare parts, and export credit guarantee (payment for exports in the event that a customer defaults). Although exports from industrial parks are exempt from export taxes, hides and skins are not exempted so as to boost the export

of value-added products.<sup>53</sup> In addition, milk processing facilities receive income tax exemptions for up to 15 years if located within these agro-processing parks.<sup>54</sup> By 2020, three government owned industrial parks were engaged in combined production of apparel and textiles as well as leather and leather products. They employ 23,000 workers and had exported approximately US\$43 million worth of products in the previous year. In addition, one privately owned industrial park, George Shoe IP, produces only leather and leather products. Huajian has also developed a privately-owned industrial park, attracting other upstream and downstream companies in the leather industry.<sup>55</sup> Four additional integrated agro-industrial parks are under construction and are expected to be accessible for private investors in 2020. These will attract more private sector engagement in agro-processing, thus enhancing agricultural production and productivity.<sup>56</sup>

### *Programmatic interventions*

Guided by governmental strategies, several value chain interventions have been implemented in Ethiopia's cattle and small ruminant value chains by the public sector and development partners.

### *Improving the Productivity and Market Success of Ethiopian Farmers*

In response to concerns about low productivity among smallholder farmers and pastoralists, the Ministry of Agriculture and Rural Development in partnership with ILRI initiated the Improving the Productivity and Market Success of Ethiopian Farmers (IPMS) project in 2005. The project adopted and adapted best practices from across the world to transform subsistence cattle, small ruminant, and poultry production to more commercial systems. Interventions focused on core segments of the value chains, including inputs (feed and veterinary products and services), production (breeding and fattening), and marketing (clustering, quality improvement, and storage and processing).<sup>57</sup> With improved breeding technologies and techniques such as coordinated mass insemination, as well as greater uptake of commercial feeds, milk yield grew over the first five years by 30 percent from 4.48 liters per cow per day to 5.79 liters per cow per day. As the number of dairy producers participating in the program increased, total annual milk production increased from over 725,000 liters in 2005 to 3.32 million liters in 2010, and total revenue rose by 200 percent in real terms. Among producers of small ruminants, improved fodder production, greater use of crop residues, credit supply, and linkages with input and output markets led to a near doubling of the number of animals undergoing a fattening process



and a growth in revenue from ETB 46 million (US\$5.3 million) to ETB 120 million (US\$8.9 million). With similar interventions in cattle production, the total number of fattened animals nearly quadrupled during the same period and total revenue grew by 867 percent. Finally, the adoption of exotic chickens combined with improved feed and management practices led to a 29 percent increase in egg productivity and a revenue increase from ETB 1 million (US\$116,000) to nearly ETB 4 million (US\$295,000).<sup>58</sup>

### *Livestock and Irrigated Value chains for Ethiopian Smallholders projects*

IPMS was succeeded by the Livestock and Irrigated Value chains for Ethiopian Smallholders (LIVES) project in 2012, which culminated in 2018. Its key objective was to scale out successful approaches and interventions in high-value livestock value chains for income generation in a gender-balanced and environmentally sustainable manner. Deploying a “research for development” approach, the project centred around public research and extension service provision for technology development, capacity building, and knowledge generation and dissemination. LIVES recognized that unlocking the full benefit of livestock value chains can engage different stakeholders at different stages of the value chain.<sup>59</sup> Interventions in cattle, sheep, and poultry value chains resulted in several outputs highlighting lessons learned and implications for scaling out.<sup>60,61</sup>

### *Feed Enhancement for Ethiopia Development project*

The Feed Enhancement for Ethiopian Development (FEED) project was implemented by ACIDI/VOCA in 2009 through USDA’s Feed for Progress program. The aim of the project was to boost access to, and use of, high-quality feed for livestock and poultry. Through training and technical assistance, FEED sought to stimulate additional production of animal feed to increase its availability and affordability. Working in collaboration with local government offices and the private sector, FEED established new nurseries and rehabilitated existing ones to expand the production of quality forage seeds such as alfalfa, Rhodes grass, elephant grass, and pigeon pea. FEED also supported cooperatives to transition into feed production; 13 commercial enterprises were established by 2013. In addition, the project invested nearly US\$400,000 in fish and fruit processing operations to provide alternative sources of animal feed. Feed processors were also trained on strategic procurement and stock management. The use of improved feed raised milk production by 80 percent per household, and reduced the time required for fattening by 28 days, which in turn reduced the amount of feed needed by 10 percent.<sup>62</sup>

The project also provided training and technical support to dairy cooperatives to facilitate more processing and better storage of milk. At one dairy cooperative, milk collections increased tenfold.<sup>63</sup> To scale up the success of the first phase of the FEED project (ended 2013), the second phase (FEED II, 2013–2017) established a further 12 commercial feed-manufacturing operations and 15 forage multiplication nurseries by 2016. FEED II also trained 26,000 smallholder farmers – 32 percent of whom were women – in sustainable forage production and improved feeding management and recordkeeping.<sup>64</sup> At the end of 2015, some of the cooperatives became indispensable suppliers of feed during the severe drought.<sup>65</sup> FEED III, initiated in 2018, seeks to dramatically scale up production by strengthening capacity and coordination with the private sector. During 2018, 25 farmers’ unions produced and sold nearly 20,000 mt of compound feed – 108 percent above sales in 2016 – valued at nearly US\$4.7 million. By 2018, milk production per cow per day had also increased by 200 percent and the number of eggs produced per household increased by 747 percent.<sup>66</sup>

### *Agricultural Growth Program*

In 2010, several development partners including the World Bank, FAO, and GAFSP joined forces to contribute to the realization of GoE’s poverty reduction strategy through agricultural development-led industrialization. The key aims of the Agricultural Growth Program (AGP) were scaling up production and commercialization and small-scale rural infrastructure development.<sup>67</sup> In 2012, USAID initiated the Livestock Market Development component of the AGP (AGP-LMD, 2012–2018). This overlapped with the second phase of AGP (AGP II), which was initiated in 2015 to sustainably increase agricultural production and productivity of crop and livestock commodities, establish market linkages and accelerate commercialization, and improve dietary diversification.<sup>68</sup> Over the duration of AGP-LMD, the project leveraged the capacity of existing cooperatives, government agencies, and private enterprises to provide commercial farm inputs and services, elevate and actualize 11 policy discussions and outcomes, disseminate nutrition messaging to 160,000 people through community mobilization, and train more than 400 women entrepreneurs in business and leadership. Moreover, collaboration with the GoE also led to the launch of the Ethiopian Livestock Identification and Traceability System (ETLITS) in 2017.<sup>69</sup>



## *Enhancing Dairy Sector Growth in Ethiopia project*

Between 2013 and 2017, the Ministry of Livestock and Fisheries (now MoA) collaborated with SNV - the Netherlands Development Organisation to implement the Enhancing Dairy Sector Growth in Ethiopia (EDGET) project. Covering 65,000 smallholder dairy-farming households, the project aimed to expand production, processing, and marketing to double household income and improve the nutritional status of children by promoting dairy consumption. EDGET was implemented in 51 *woredas* (districts) in the three regional states of Oromia, Amhara, and the Southern Nations, Nationalities and Peoples' Region (SNNPR). To enhance production and productivity, the project targeted interventions to:

- extension system: public extension, farmer-to-farmer training, and distribution of extension materials;
- forage production: providing forage seed, improved feeding techniques, and promoting supplementary feeding;
- agro-input dealer network: establishment and development of 50 agro-input dealers through trainings, networking, and access to microfinance institutions;
- dairy processing units: training on administrative management, quality testing, equipment for milk collection, storage, and processing; and
- nutrition awareness raising.

Although the project was unable to reach 65,000 dairy farmers as planned, by 2017, there were more farmers who received forage seed, established forage plots, practiced calf feeding, and used more hygienic containers to collect and store milk. Nearly 54,000 households benefited from forage input supply support. Some 52,000 households had developed forage plots with at least two different types of forage.<sup>70</sup> In addition, 26 dairy processing units were also in operation in 2017. Milk production and net income from milk were also found to be significantly higher in 2017 than in 2013. Over the duration of the project, average household net income—for the households supplying dairy processing units—increased from ETB 792 (US\$42) to 6,221 (US\$268) per household.<sup>71</sup> The increase in milk production was significantly higher in female-headed households (1,523 liters per year) than for male-headed households (1,100 liters per year). However, with poor baseline data on income, the overall impact remains unclear. Nevertheless, there was a small increase in the daily consumption of milk, particularly during the fasting season.<sup>72</sup>

## *Livestock and Fishery Sector Development Project*

At the end of 2017, the World Bank extended US\$170 million in credit to MoLF for the Livestock and Fishery Sector Development Project (LFSDP). Drawing on recommendations in the Livestock Master Plan, LFSDP was initiated to increase the productivity and commercialization of producers and processors in dairy, poultry, red meat, and fisheries value chains, and to foster private investment in the sector. Interventions focus on improving linkages to markets and strengthening national institutions and programs on animal health, breeding, extension, and advisory services. It is being implemented in Amhara, Oromia, SNNP, Tigray, Gambela, and Benishangul-Gumuz regions.<sup>73</sup> Within the first two years, LFSDP had already facilitated the training of nearly 900 trainers who subsequently cascaded the learnings to 4,875 development agents. In addition, a Jersey Breeding Center is being rehabilitated in Holeta, and 263 tons of forage seed and 30 million forage cuttings were distributed and planted on nearly 2,000 hectares of land in Oromia and Amhara.<sup>74</sup>

Ethiopia's livestock sector has benefitted substantially from comprehensive government action at the institutional and policy levels for both, pastoralist and non-pastoralist livestock keepers and producers. This progress forms a strong foundation to achieve greater successes. Ethiopia's livestock sector has enormous potential to achieve several of its national and international commitments on poverty alleviation, food security, and improved nutrition. While there is clear recognition of this opportunity on the institutional, policy, and programmatic fronts, there is a need to simplify and clarify roles to improve the overall efficiency of implementation. Streamlining the overall system that supervises the sector will also ensure that it is nimble enough to provide leadership in responding to future challenges, including climate change, urbanization, and changing demographics.



## Endnotes

- 1 Food and Agriculture Organization of the United Nations, 2019. FAOSTAT database. <http://www.fao.org/faostat/en/>
- 2 The World Bank, 2017. International Development Association: Project Appraisal Document on a Proposed Credit in the Amount of SDR 121.1 Million (US\$ 170 Million Equivalent) to The Federal Democratic Republic of Ethiopia for a Livestock and Fisheries Sector Development Project (Project Appraisal Document No. PAD2396). Washington DC.
- 3 Bereda, A., 2016. Livestock and Livestock Products and By-Product Trade in Ethiopia: A Review. IISTE Developing Country Studies 6, 44-51.
- 4 Felleke, G., Woldearegay, M., Haile, G., 2010. Inventory of Dairy Policy - Ethiopia. Target Business Consultants Plc, Netherlands Development Organization (SNV), Addis Ababa.
- 5 Ethiopia creates new livestock development state ministry, 2019. Lives Ethiopia Project. <http://lives-ethiopia.org/2013/08/26/state-minister/> (accessed 6.9.20).
- 6 The World Bank, 2017. International Development Association: Project Appraisal Document on a Proposed Credit in the Amount of SDR 121.1 Million (US\$ 170 Million Equivalent) to The Federal Democratic Republic of Ethiopia for a Livestock and Fisheries Sector Development Project (Project Appraisal Document No. PAD2396). Washington DC.
- 7 Livestock and Fisheries Sector Development Project [WWW Document], n.d. World Bank. <https://projects.worldbank.org/en/projects-operations/project-detail/P159382> (accessed 6.9.20).
- 8 Ethiopia merges Livestock and Fisheries Ministry with Ministry of Agriculture [WWW Document], 2018. Xinhua (English). [http://www.xinhuanet.com/english/2018-04/20/c\\_137123410.htm](http://www.xinhuanet.com/english/2018-04/20/c_137123410.htm) (accessed 6.9.20).
- 9 HOPR, 2018. Agricultural, Pastoralist and Environmental Protection Affairs [WWW Document]. <https://www.hopr.gov.et/web/guest/agricultural-affairs> (accessed 6.10.20).
- 10 National Veterinary Institute, n.d. History of NVI. History of NVI. <http://www.nvi.com.et/about-us/history-of-nvi/> (accessed 6.9.20).
- 11 Ibid.
- 12 NVI, 2018. FAO and EU Donate Modern thermo-tolerant vaccine production Technology GoE. National Veterinary Institute. <http://www.nvi.com.et/news/fao-and-eu-donate-modern-thermo-tolerant-vaccine-production-technology-goe/> (accessed 6.10.20).
- 13 NVI, 2017. Veterinary Drugs Manufacturing. National Veterinary Institute. <http://www.nvi.com.et/2017/03/10/veterinary-drugs-manufacturing/> (accessed 6.10.20).
- 14 Haile Mariam, S., n.d. History of NAHDIC. National Animal Health Diagnostic and Investigation Center. <https://nahdic.gov.et/history-of-nahdic/> (accessed 6.9.20).
- 15 Ethiopian Veterinary Association, n.d. About us [WWW Document]. Ethiopian Veterinary Association. [https://www.eva-ethiopia.org/who\\_we\\_are/about-us](https://www.eva-ethiopia.org/who_we_are/about-us) (accessed 6.9.20).
- 16 VDAFACA, n.d. Mission & Vision Values. Veterinary Drug and Animal Feed Administration & Control Authority. <https://www.vdfaca.gov.et/725-2/> (accessed 6.9.20).
- 17 Council of Ministers, 2014. Council of Ministers Regulation to Provide for the Establishment of the National Institute for Control and Eradication of Tsetse Fly and Trypanosomiasis, 304/2013.
- 18 Wolmer, W., 2005. Animal Health Policy in Ethiopia, in: UNOCHA Pastoralist Communication Initiative (Ed.), Policy Processes in Livestock Health and Marketing. Ministry of Agriculture and Natural Resources, Addis Ababa, pp. 20-27.
- 19 Shapiro, B.I., Gebru, G., Desta, S., Negassa, A., Nigussie, K., Aboset, G. and Mechal, H., 2015. Ethiopia livestock master plan. ILRI Project Report. Nairobi, Kenya: International Livestock Research Institute (ILRI).
- 20 EIAR, n.d. Livestock Research, An Overview [WWW Document]. Ethiopian Institute of Agricultural Research. <http://www.eiar.gov.et/index.php/en/livestock-research> (accessed 6.9.20).
- 21 Ethiopian ATA, n.d. Livestock and Fisheries Sector Development Project. ATA. <http://www.ata.gov.et/our-approach/livestock-and-fisheries-sector-development-project/> (accessed 6.9.20).
- 22 Nell, A.J., 2006. Quick scan of the livestock and meat sector in Ethiopia: Issues and opportunities. Wageningen University and Research Centre, Wageningen.
- 23 Wolmer, W., 2005b. Livestock Production and Marketing Policy in Ethiopia, in: UNOCHA Pastoralist Communication Initiative (Ed.), Policy Processes in Livestock Health and Marketing. Ministry of Agriculture and Natural Resources, Addis Ababa, pp. 28-36.
- 24 EMDIDI, 2016. Ethiopian Meat and Dairy Institute (EMDIDI). <http://emdidi.org/wp-content/uploads/2016/12/brusher.pdf> (accessed 6.9.20)
- 25 Bekele, K., 2017. National Export Council to be restructured [WWW Document]. The Reporter Ethiopia (English). <http://www.thereporterethiopia.com/content/national-export-council-be-restructured> (accessed 6.9.20).
- 26 Oqubay, A., 2015. Made in Africa: Industrial Policy in Ethiopia. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198739890.001.0001>
- 27 BCaD Consulting Management PLC, 2015. Value Chain Study on Meat Processing Industry in Ethiopia. Addis Ababa Chamber of Commerce and Sectoral Associations (AACCSA), Addis Ababa.
- 28 Addisstandard, 2014. India's Allana to build Ethiopia meat processing plant. Addis Standard. <http://addisstandard.com/indias-allana-to-build-ethiopia-meat-processing-plant/> (accessed 6.11.20).
- 29 Birhanu, A.F., 2019. A Review on Ethiopian Meat production trends, consumption and meat quality parameters. IJFSA 3, 267-274. <https://doi.org/10.26855/ijf.2019.10.002>
- 30 International Bank for Reconstruction and Development/The World Bank, 2007. Ethiopia Accelerating Equitable Growth Country Economic Memorandum. Part II: Thematic Chapters (No. 38662- ET). International Bank for Reconstruction and Development / The World Bank, Washington D.C.
- 31 MacMillan, S., 2017. Ethiopia's 'livestock roadmaps' for growth and transformation to a middle-income nation. ILRI news. <https://news.ilri.org/2017/07/10/ethiopias-livestock-roadmaps-for-growth-and-transformation-to-a-middle-income-nation/> (accessed 6.11.20).
- 32 CSA, 2017. Federal Democratic Republic of Ethiopia. Population, II (September), 2010-2020. Retrieved from [http://www.who.int/entity/countryfocus/cooperation\\_strategy/ccsbrief\\_eth\\_09\\_en.pdf](http://www.who.int/entity/countryfocus/cooperation_strategy/ccsbrief_eth_09_en.pdf)
- 33 Desta, S., 2006. Pastoralism and Development in Ethiopia. Presented at the The Vision 2020 Forum, African Portal, pp. 12-20.
- 34 Federal Democratic Republic of Ethiopia, 1994. Constitution of the Federal Democratic Republic of Ethiopia.
- 35 Anbessa, D., 2015. Ethiopian Pastoralist Policy at the Crossroads: Further Marginalization or Revitalization?, in: Anbessa, D., Abdulahi, M. (Eds.), The Intricate Road to Development: Government Development Strategies in the Pastoral Areas of the Horn of Africa. Institute for Peace and Security Studies, Addis Ababa University, Addis Ababa, pp. 16-21.
- 36 FAO, 2018. Horn of Africa. Impact of Early Warning Early Action: Protecting pastoralist livelihoods ahead of drought. Food and Agriculture Organization of the United Nations, Rome.
- 37 Desta, S., 2006. Pastoralism and Development in Ethiopia. Presented at the The Vision 2020 Forum, African Portal, pp. 12-20.
- 38 Ministry of Agriculture, 2012. Ethiopia Country Programming Paper to End Drought Emergencies in the Horn of Africa. Ministry of Agriculture, Addis Ababa.
- 39 Federal Democratic Republic of Ethiopia, IGAD, 2019. Country Programming Paper: Consolidating the Path to Resilience and Sustainability 2019 - 2024. Ministry of Agriculture, Addis Ababa.
- 40 ENA, 2019. Ethiopia to Introduce Pastoral Dev't Policy, Strategy. Ethiopian News Agency. <https://www.ena.et/en/?p=6781> (accessed 6.9.20).
- 41 Ministry of Finance and Economic Development, 2010. Growth and Transformation Plan 2010/11 -2014/15, Volume I: Main Text. Federal Democratic Republic of Ethiopia, Addis Ababa.
- 42 National Planning Commission, 2016. Growth and Transformation Plan II (GTP II) 2015/16-2019/20, Volume I: Main Text. Federal Democratic Republic of Ethiopia, Addis Ababa.
- 43 Shapiro, B.I., Gebru, G., Desta, S., Negassa, A., Nigussie, K., Aboset, G. and Mechal, H., 2015. Ethiopia livestock master plan. ILRI Project Report. Nairobi, Kenya: International Livestock Research Institute (ILRI).
- 44 Addis Ababa Science and Technology University, 2015. Ethiopian Agro-Industry Strategy Meat Industry Sub- Sector Strategic Plan 2015-2025 (Strategic Plan). Ministry of Industry, Addis Ababa.



- 45 Ministry of Agriculture and Rural Development, 2010. Ethiopia's Agricultural Sector Policy and Investment Framework (PIF) 2010-2020. Ministry of Agriculture and Rural Development, Addis Ababa.
- 46 Chipeta, M., Emanu, B., Chanyalew, D., 2015. Ethiopia's Agriculture Sector Policy and Investment Framework (2010-2020) External Mid-term Review. Secretariat of the Government of Ethiopia, Development Partners Sector Working Group on Rural Development and Food Security (RED&FS), Addis Ababa.
- 47 Council of Ministers, 2012. Council of Ministers Regulation on Investment Incentives and Investment Areas Reserved for Domestic Investors, 270/2012.
- 48 Zijlstra, J., Tinsae Berhanu, Vernooij, A., Lee, J.V.D., 2015. Investment opportunities in the Ethiopian Dairy sector. <https://doi.org/10.13140/RG.2.2.19356.13440>
- 49 Liqiang, H., 2016. Having some skin in the game [WWW Document]. Chinadaily. [http://www.chinadaily.com.cn/kindle/2016-05/22/content\\_25410124.htm](http://www.chinadaily.com.cn/kindle/2016-05/22/content_25410124.htm) (accessed 6.9.20).
- 50 Brautigam, D., Weis, T., Tang, X., 2018. Latent advantage, complex challenges: Industrial policy and Chinese linkages in Ethiopia's leather sector. *China Economic Review* 48, 158-169. <https://doi.org/10.1016/j.chieco.2016.06.006>
- 51 Adem, M., 2019. Production of hide and skin in Ethiopia; marketing opportunities and constraints: A review paper. *Cogent Food & Agriculture* 5, 1565078. <https://doi.org/10.1080/23311932.2019.1565078>
- 52 National Planning Commission, 2016. Growth and Transformation Plan II (GTP II) 2015/16-2019/20, Volume I: Main Text. Federal Democratic Republic of Ethiopia, Addis Ababa.
- 53 EIC, n.d. Industrial Park Facilities, Industrial Park Investment Incentives [WWW Document]. Ethiopian Investment Commission. <http://www.investethiopia.gov.et/index.php/investment-opportunities/other-sectors-of-opportunity/industrial-park-facilities.html> (accessed 6.9.20).
- 54 Zijlstra, J., Tinsae Berhanu, Vernooij, A., Lee, J.V.D., 2015. Investment opportunities in the Ethiopian Dairy sector. <https://doi.org/10.13140/RG.2.2.19356.13440>
- 55 EIC, n.d. Leather and Leather Products: Overview of the sector [WWW Document]. Ethiopian Investment Commission. <http://www.investethiopia.gov.et/index.php/investment-opportunities/strategic-sectors/leather-shoes-and-leather-products.html> (accessed 6.9.20).
- 56 Government and Private Parks [WWW Document], n.d. Ethiopian Investment Commission. <http://www.investethiopia.gov.et/index.php/investment-opportunities/other-sectors-of-opportunity/government-and-private-parks.html> (accessed 6.11.20).
- 57 Canadian International Development Agency, 2005. Improving Productivity & Market Success of Ethiopian Farmers (Project Implementation Plan). International Livestock Research Institute and Ministry of Agriculture and Rural Development, Addis Ababa.
- 58 Gebremedhin, B., Hoekstra, D., Bogale, A., Tegegne, A., 2012. Summary report of market-oriented developmental changes in the IPMS Pilot Learning Woredas (Working Paper No. 30), IPMS (Improving Productivity and Market Success) of Ethiopian Farmers Project. ILRI, Nairobi.
- 59 ILRI, 2014. Livestock and Irrigation Value chains for Ethiopian Smallholders project (Project Brochure). International Livestock Research Institute, Addis Ababa.
- 60 Ebro, A., Mekasha, Y., Gizaw, S., Tesfay, Y., Mekuriaw, Z., Gebremedhin, B., Hoekstra, D., Tegegne, A., 2016. LIVES poultry value chain development interventions: Approaches and scalable interventions.
- 61 Tesfay, Y., Ebro, A., Mekasha, Y., Mekuriaw, Z., Dessalegn, Y., Gizaw, S., Chala, A., Tefera, M., Derso, T., Tekla, W., Tilahun, H., Gebremedhin, B., Hoekstra, D., Tegegne, A., 2016. LIVES Feed Value Chain Development: Approaches and Scalable Interventions.
- 62 ACDI/VOCA, 2017. Feed Enhancement For Ethiopian Development (Brochure).
- 63 Assefa, E., 2015. USDA's Food for Progress Program Strengthens Ethiopia's Dairy Sector (No. ET1511), Global Agricultural Information Network Report. ACDI/VOCA, USDA, Addis Ababa.
- 64 ACDI/VOCA, n.d. Feed Enhancement for Ethiopian Development II (FEED II) [WWW Document]. ACDI/VOCA. <https://www.acdivoca.org/projects/feed-enhancement-for-ethiopian-development-ii-feed-ii/> (accessed 6.9.20).
- 65 Birkelo, C., 2016. USDA's Investment in Ethiopia's Livestock Feed Sector Pays Off (No. ET1602), Global Agricultural Information Network Report. ACDI/VOCA, USDA, Addis Ababa.
- 66 ACDI/VOCA, n.d. Feed Enhancement for Ethiopian Development II (FEED II) [WWW Document]. ACDI/VOCA. <https://www.acdivoca.org/projects/feed-enhancement-for-ethiopian-development-ii-feed-ii/> (accessed 6.9.20).
- 67 The World Bank, 2010. Ethiopia - Agricultural Growth Project (No. 53290). The World Bank, Washington D.C.
- 68 Agricultural Growth Project II (AGP-II) [WWW Document], n.d. Global Agriculture and Food Security Program. <https://www.gafspfund.org/projects/agricultural-growth-project-ii-agp-ii> (accessed 6.11.20).
- 69 Agricultural Growth Program - Livestock Market Development [WWW Document], n.d. CNFA. <https://www.cnfa.org/program/agricultural-growth-program-livestock-market-development-2/> (accessed 6.11.20).
- 70 Kitaba, A., Atnaf, Z., 2017. Bridging the dairy feed gap: Improved forage production by smallholders in Ethiopia (Policy Brief No. 2), The SNV-EDGET Learning Series. Netherlands Development Organisation (SNV).
- 71 SNV, 2018. Evaluation Revealed: Project contributed significantly to dairy sector development [WWW Document]. SNV. <http://snv.org/update/evaluation-revealed-project-contributed-significantly-dairy-sector-development> (accessed 6.9.20).
- 72 ALINe, 2018. EDGET Project Final Evaluation (Evaluation Report). Netherlands Development Organisation (SNV).
- 73 The World Bank, 2017. International Development Association: Project Appraisal Document on a Proposed Credit in the Amount of SDR 121.1 Million (US\$ 170 Million Equivalent) to The Federal Democratic Republic of Ethiopia for a Livestock and Fisheries Sector Development Project (Project Appraisal Document No. PAD2396). Washington DC.
- 74 Legesse, A., 2019. Livestock and Fisheries Sector Development Project - P159382 - Sequence No: 05 (Disclosable Version of the ISR No. ISR39437). The World Bank, Washington D.C.

Copyrights images: A.Davey\_October 24, 2007; Rod Waddington\_Sept 11 2015;

Malabo Montpellier Panel (2020). **MEAT, MILK AND MORE:** Policy innovations to shepherd inclusive and sustainable livestock systems in Africa. Ethiopia case study  
Dakar, Senegal: International Food Policy Research Institute \ AKADEMIYA2063. July 2020.