Livestock is a crucial component of agricultural production in Ethiopia, serving as a source of food, income, draft power, social security and foreign currency earnings. The country possesses about 119 million ruminants and nine million equines that support the livelihoods of nearly 80 percent of its rural population. However, the benefits gained from the sector is not proportional to the potential due to various challenges – the main of which are livestock diseases that include tsetse-transmitted trypanosomosis. Tsetse flies infest close to 200,000 km² (18 percent of the country’s territory), leaving over 14 million head of cattle and equivalent number of small ruminants at risk of contracting trypanosomosis. Tsetse fly infestation is also invading new localities, where land degradation and deforestation are intense due to climate change, haphazard agricultural activities and human settlement. The disease causes enormous mortality and morbidity. The total loss inflicted to the livestock sector, including the most visible direct losses (meat and milk) and the costs of drugs, due to tsetse and trypanosomosis (T&T) has been difficult to measure accurately, but roughly estimated to USD 200 million per year. Apart from dramatically reducing animal production, this challenge limits the utilization of infested arable lands for both crop and livestock production. This, in turn, constrains the growth and diversification of crop-livestock production systems.

Different actors have launched various initiatives to control the disease. These interventions have brought in considerable results in some areas, where tsetse fly populations and trypanosomosis prevalence they were high. However, the efforts could not realise sustainable solutions as were fragmented and poorly planned, focusing on temporary relief. Hence, some areas were re-infested, thus resulting in considerable damages.

Recognizing this gap, FAO, in collaboration with the government of Ethiopia, implemented a Technical Cooperation Project (TCP), “Developing national implementation capacities for the control of Tsetse and African Animal Trypanosomosis in Ethiopia.” The Project was executed in Oromiya and Benshangul Gumuz regions, from July 2018 to December 2021. The National Institute for Control and Eradication of Tsetse Fly and Trypanosomosis (NICETT) of the Ministry of Agriculture also benefited from the capacity building components of the Project.

Key facts

Project title
Developing national implementation capacities for the control of Tsetse and African animal Trypanosomosis in Ethiopia

Budget
USD 237,000

Duration
July 2018 – December 2021

Partners/stakeholders:
National Institute for Control and Eradication of Tsetse and Trypanosomosis (NICETT), Ministry of Agriculture (Livestock and Fisheries), Epidemiology and Disease Prevention and Control Directorate, and other public and private livestock services at national, regional, wereda and kebele levels.

Beneficiaries
Farmers (livestock keepers/owners), veterinarians and animal health workers, extension workers, national authorities, principally NICETT and ultimately policy makers at the Ministry of Agriculture. The general population in the pilot intervention areas were the ultimate groups as they benefited from increased livestock production and productivity.
Objectives
The objectives of the Project were to:
• formulate a national strategy and an implementation roadmap against tsetse and African animal trypanosomosis (AAT) in line with the Progressive Control Pathway (PCP);
• develop a national-level information system on tsetse and AAT occurrence (i.e. an Atlas);
• implement PCP-smart AAT control activities in two pilot areas; and
• build the technical and managerial capacities of NICETT.

Methodologies
Consultative workshops and discussions were conducted with stakeholders on the development of national strategy and roadmap. The collection of data was carried out from all tsetse affected regions and NICETT offices through document reviews, questionnaire surveys and stakeholders feedbacks. Focal persons and data managers were enabled to organize the collection of entomological, parasitological, and socioeconomic data from two pilot project areas – which helped to understand the state of T&T and the PCP-smart intervention activities. The Project also provided essential laboratory and field equipment, consumables, and field motorbikes to NICETT to support operations in the field.

Capacity building
Technical, managerial and awareness creation trainings/workshops were conducted to enhance the capacity of stakeholders, from NICETT to community members at regional, zonal, woreda and kebele levels.
• Three consultative workshops were given to 67 participants drawn from federal and regional institutions to contribute on the national strategy and roadmap.
• Three data management and GIS trainings were provided to 24 data managers. A virtual training, which aimed to provide technical support to the data managers in the decentralised offices, was also organized by FAO-HQ for 6 weeks for 3 data managers.
• Nine trainings/workshops were organized for different purposes: awareness creation, gender mainstreaming, baseline data collection (entomological, parasitological and socioeconomic data), risk-based integrated T&T control, and monitoring and evaluation of the progress and impact of the intervention. These workshops were attended by 602 participants (409 men and 193 women), that include farmers.

Achievements and project outputs
• National T&T strategy and implementation roadmap was prepared, validated and officially endorsed for implementation.
• A national database (i.e. an Atlas of tsetse and AAT) was developed to enable effective data management.
• Over 20 000 entomological and 91 000 parasitological data, collected over 10 years (2010-2019) by NICETT, were effectively cleaned, verified, harmonized and assembled in a data repository.
• A manuscript, “The national atlas of tsetse flies and African animal trypanosomosis in Ethiopia” was prepared for wider dissemination through an open access scientific publication.
• A risk-based and PCP-smart progressive control of T&T was implemented in two pilot areas with an achievement of about 70 percent reduction of fly density and disease prevalence. The fly density was reduced from 3.84 F/T/D to 0.98 F/T/D and disease prevalence from 7.07 percent to 2.12 percent. The intervention used integrated environmentally acceptable, user-friendly and affordable technologies that include insecticide treated cattle (ITC), insecticide treated targets (ITT) and ground spray (GS) through community participation.
• Experience was gained from the pilot project in the sustainable reduction of AAT burden through progressive control of T&T, which could be utilized for future operations and, in particular, in the implementation of the national T&T strategy.

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The atlas of tsetse and African animal trypanosomosis in Ethiopia.
Source: UN 2021 modified with data from NICETT (Dagnachew et al. In preparation). Dashed lines on maps represent approximate border lines for which there may not yet be full agreement. Final boundary between the Sudan and South Sudan has not yet been determined.