

# Pork production in the Tanzanian livestock master plan

In line with plans outlined in the Development Vision 2025, the Tanzania pig industry has the capacity to become a dynamic market-orientated sector, operating in a more sustainable and climate-smart manner, supplying consumers with high-quality and safe pork, contributing to increased nutritional security, livelihoods and economic growth. A number of targeted interventions in the areas of animal health, genetics, marketing and processing and policies proposed as part of the Tanzania livestock master plan, if implemented, would increase the contribution of the pork sector in Tanzania to gross national product by 83% to nearly USD 36 million over the 2017–2022 period. They would also reduce the production–consumption deficit for pork from 8,000 to 1,350 tonnes.

The proposed combined interventions of approximately USD 33 million—22% and 78% from the public and private sectors respectively—for improved family and expanded commercial specialized pig production systems would result in a 69% increase—42% and 219% respectively—in pig meat production. Production would grow from 22,025 to 37,191 tonnes between 2017 and 2022. The impact of this additional targeted investment would result in a 10% increase in income accruing to farmers in the family pig subsystems and a 57% increase to those in the specialized pig subsystem, and the return on investment to those with small and medium-sized herds would be 86% and 17% respectively, as opposed to 22% to those in specialized subsystems. In all cases the investment would be clearly justified.



Nearly USD 90 million would be required over the 15-year period to transform the sector. In the first five years, a third of investment into the sector should be directed towards animal health and food safety, followed by 29% towards product marketing. The main role of the public sector going forward is one of issuance and enforcement of regulation, facilitation, and the provision of incentives to attract and encourage private investors.

Improving pig meat requires a focus on controlling African swine fever, to increase pig productivity and meat production to help close the all-meat consumption gap projected over the next 15 years. In the 'without additional investment scenario', by year 2032, a deficit of 16,000 tonnes of pork is estimated, thereby resulting in a total all-meat deficit of two million tonnes. However, industrializing pork production (in large commercial-scale operations) and processing for product transformation will lower domestic meat prices, while enabling an increase in exports and foreign exchange earnings.

## Background

Tanzania's National Livestock Sector Policy document suggests that the sector has the potential to significantly contribute to food security, improved nutrition and increased incomes, while conserving the environment. An emerging industry in Tanzania, the pig sector provides income and animal-source food for 190,000 households, and sustains 1,436 enterprise units. There are approximately two millions pigs distributed throughout the country, 82% of which are owned by smallholders.

There are two major pig production systems in Tanzania: traditional extensive family and modern intensive specialized. The traditional system is characterized by low productivity, a scavenging and semi-scavenging system with an average holding of 1–3 sows per household and a litter size of 6–8. The commercial specialized pig production systems is an intensive system with moderately higher productivity, 8 sows and litter size of 8–11.

Disease is the most significant constraint facing the sector. Pig mortality is as high as 20% for young pigs before weaning, primarily due to the prevalence of several diseases and the lack of access to quality animal health services. African swine fever (ASF) is the number one killer of pigs. Once there is an outbreak, ASF is very difficult to eradicate. Although it is not zoonotic, ASF hampers pig meat production and product trade.

Feed shortages and poor management and housing are also critical constraints limiting industry productivity. In line with the Tanzania Development Vision 2025, this brief highlights the need for comprehensive interventions to transform and modernize the low productive traditional system and upgrade and upscale the intensive system to boost the productivity and production of pig meat.

## Pig sector development challenges and strategies

**Genetics:** Most pigs are kept in traditional subsystems, marked by poor productivity due to low genetic potential, further aggravated by inbreeding. There are limited numbers of improved breeds in the country and a lack of well-bred pig stocks coming from pig multiplication and breeding farms, as well as a dearth of specialized commercial pig breeding farms. The strategies proposed to mitigate these challenges include the:

- establishment of public and private sector specialized commercial pig breeding and multiplication farms;
- importation of new lines of improved high-yielding pig breeds—adaptable tropical productive pig sows and boars for breeding and crossbreeding—to avoid inbreeding and increase productivity;
- provision of extension support to farmers in the areas of pig management and husbandry to lower the probability of inbreeding; and
- provision of financial and technical support for the Tanzania Livestock Research Institute pig breeding and related research activities.

**Animal health:** The delivery of animal health services in Tanzania is weak, aggravated by the low capacity of extension staff, the existence of pig health and reproductive challenges, and high prevalence of lethal diseases, such as ASF, foot-and-mouth disease, erysipelas, transmissible gastroenteritis and brucellosis. The strategies proposed to mitigate these challenges include the:

- strengthening of national surveillance, early detection and diagnosis systems for priority diseases;

- reinforcement of the capacity of national and local government authorities to recruit staff capable of responding to disease outbreaks and providing specialized pig extension services;
- development by the Ministry of Agriculture, Livestock and Fisheries (MALF) of national pig biosecurity policy guidelines for small and commercial farmers, and feed and meat processors;
- provision of support for immunization measures (for foot-and-mouth disease, brucellosis, etc.);
- improvement of pig farm management practices;
- enforcement of the 2008 Animal Welfare and Animal Pound acts; and
- development of regulations to stop free roaming, and the raising of awareness among extensive pig farmers of the need to respect these rules.

**Feed:** The supply and quality of commercial pig feeds is poor and erratic. Supply shortages is particularly problematic for large pig commercial/specialized pig farms. Moreover, the price of such feeds is extremely high, aggravated by the cost of premixes—such as aminoacids, minerals and vitamins—necessary to meet standard nutritional requirements. The strategies proposed to mitigate these challenges include the:

- establishment of private small-scale feed mills and public–private multi-level feed processing plants;
- strengthening of surveillance system and the regulatory capacity of central veterinary laboratory involved in monitoring feed quality and safety;
- provision of support to commercial pig producers in collectively organizing the importation of substantial amounts of essential feed ingredients e.g. amino acids, vitamins and trace minerals;
- creation of an environment favouring land allocation. Land leases should be offered to investors under the provisions of the current laws, with major tax incentives on land-use fees and an increase in the duration of leasing contracts;
- development and implementation of a business model for the production, transportation, processing and distribution of pig feeds;
- substantial expansion of private sector-led cereal (yellow-corn, maize, sorghum, etc.) and legume (soya beans and other oil seed cakes) production to supply feed processing plants, primarily for commercial pigs;
- commissioning of research on alternative pig feeds—in terms of nutrition values, and feed conversion impacts on weight gain and meat quality—suitable to the needs of each zone of the country; and
- provision of support to the owners of commercial feeds processing plants, large-scale cereal and other alternative feed raw materials to develop and expand their businesses.

**Marketing and processing:** Pigs prices in Tanzania are increased by marketing inefficiencies and high transportation costs from rural to urban areas. The sector is marked by shortages of pig abattoirs, cooling systems, weights and measures, and the absence of a quality grading system for pig meat. These challenges are aggravated by difficulties experienced by value chain actors in accessing formal credit sources, hindering investment in pig production. The strategies proposed to mitigate these challenges include the:

- construction of pig markets, slaughter facilities/ abattoirs and fresh pork outlets to improve marketing, trading capacity and smallholder pig production;
- application of good-manufacturing practices in the production process (GMP), and the implementation of hazard analysis critical control point (HACCP) practices in animal feed manufacturing, pig slaughtering facilities and processing;
- strengthening of swine producer associations (SPAs) to provide credit facilities and offer learning opportunities to value chain actors, such as skills training and joint implementation of biosecurity measures to control diseases, such as ASF;
- provision of support to SPAs to innovate and actively participate in value chain mainstreaming to maximize existing feed and meat processing capacities, own and manage small-scale feed mills, such as cooperatives, enforce the formal use of weights in meat sales, and build the infrastructure to increase the overall size and value of the market.
- establishment of pig meat quality grading standards and regulatory enforcement systems; and
- development of the capacity of animal and livestock production staff on pig ante- and post-mortem inspection skills/techniques.

**Policy:** Development of pig sector in Tanzania is hindered by the absence of policies on marketing, transportation, holding and slaughtering facilities; land allocation for pig production and regarding incentives for the private sector investment. The strategies proposed to mitigate these challenges include the:

- introduction of guidelines/regulations to reorganize the pig marketing/trading system, and facilitate linkages to slaughter facilities, and preservation and processing plants;
- development and implementation of a strategic plan on animal welfare;
- creation of enabling policy environments for the establishment of rural small-scale and urban large-scale slaughter facilities;
- development of policy guidelines and standard operating procedures, and organization of public awareness campaigns on hygiene and food safety in slaughter facilities;
- development of policy designed to facilitate land acquisition and long-term leasing;

- provision of policy incentives by government to encourage foreign and domestic investment in commercial pig production, processing and marketing, as well as supporting the development of domestic pig sales markets, pig products and commercial outlets;
- development of infrastructure to facilitate the sufficient supply of feed sources and production of feed raw materials for large pig farms; and
- introduction of protectionist trade policy to encourage domestic private investment in pig production.

### Complementary interventions

- An increase in the supplementary feeding of family herds and in the production and supply of quality commercial feeds.
- An intensification of livestock production through a combination of small-, medium- and large-scale investments in genetics, biosafety, health and feed designed to increase fertility and productivity rates.
- A greater focus on indoor pig farming through the progressive reduction of the numbers of free-roaming pigs and improvement of traditional units/holdings.
- Strategic development of industrial pig farming through the attraction of, and support for, domestic and foreign direct investment in pig farming, targeting large commercial pig producers.
- Promotion of private sector investment in animal health, and other pig farming technical and business development services.
- Integration of smallholder pig production activities with specialized pig farms and meat processing plants, large-scale cereal production, feed processing and breeding activities, marketing, and pig meat value addition services (slaughter, processing).
- Strengthening of swine associations (producers, traders, processors) to become the vehicles for commercialization of the pig industry, ensuring they have the right knowledge and skills, and access to credit through savings and credit cooperatives and collective marketing opportunities.



### Background to the LMP

The Tanzania livestock master plan was developed by a joint team from the Tanzanian Ministry of Agriculture, Livestock and Fisheries (MALF) and the International Livestock Research Institute (ILRI). Its development was overseen by a high-level technical advisory committee (TAC) convened under the auspices of the MALF Livestock Permanent Secretary, Maria Mashingo, and chaired by Catherine Dangat, the director for Policy and Planning. The TAC comprised the directors of key MALF livestock-related departments and other government agencies, and representatives from the private sector, civil society organizations and development partner agencies.

Data collection and quantitative diagnostics were supported by the ongoing involvement of key national livestock experts and consultation with a wide range of key stakeholders. The quantitative sector analysis was undertaken using the Livestock Sector Investment and Policy Toolkit developed by the World Bank, the Agricultural Research Centre for International Development (CIRAD) and the Food and Agriculture Organization of the United Nations working under the auspices of the African Union Interafrican Bureau for Animal Resources.

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