



Development of the chicken sector in the Tanzanian livestock master plan

Mlau Da Silva, Solomon Desta and James Stapleton

The potential of the poultry industry in Tanzania to reduce the meat production–consumption deficit, enhance food and nutritional security and contribute to household and national economic growth is enormous. 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 national poultry sector to gross national product by 182% to nearly USD 324 million over the 2017–2022 period.

The proposed combined interventions of approximately USD 337 million—26% and 74% from the public and private sectors, respectively—for improved family and expanded commercial specialized poultry production systems would result in 666% tonne and 40% increase in chicken meat and egg production by 2022 to 465,600 tonnes and 4.2 billion eggs respectively. This would bring the production–consumption deficit for chicken meat from a surplus of 130,000 to 258,000 tonnes by 2022.

The internal rate of return of the investment for improved traditional and improved tropical family chicken production is estimated at 75% and 58%, while for specialized broilers and layers the projected return would be 57% and 36%. Both returns on investment are well above the discount rate of 10%.

Poultry sector investments would be designed to improve feeding, health, genetics, extension, policy and chicken

product marketing and processing. An estimated USD 114 million would go to improving the quantity and quality of processed feeds and the production of processed feed raw materials. A further USD 104 million would be targeted towards enhancing farmer management capacities and abilities in using new technologies, such as artificial incubators and brooding boxes. Nearly USD 48 million is needed for chicken genetic improvement, particularly the identification and testing of suitable tropical pure breeds and semi-scavenging crossbreeds, and the establishment of multiplication facilities/centres.

Investments of approximately USD 25 million are needed to improve animal health services through the upgrading and expansion of Newcastle disease, fowl pox and gumboro vaccine production centres, and enhancement of poultry industry biosafety programs. It is recommended that the remainder be directed to policy development and the improvement of poultry product marketing and processing.

Successful poultry interventions would enable Tanzania to meet the chicken meat and egg demand for its growing population, and produce a very significant surplus for domestic industrial use or export. With the help of policies encouraging large investment in processing plants, 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.

Background

Chicken production is an important source of animal-source food and income for rural subsistence producers in Tanzania. It also offers well-remunerated opportunities for commercial chicken production enterprises. In terms of livestock ownership, chicken is dominant in Tanzania. It is reported that 86% of livestock-keeping households in Tanzania own chickens. Of the 4.6 million livestock-keeping households, 48% only keep chickens. These statistics demonstrate the central importance of promoting poultry meat and egg production to poverty reduction and nutrition improvement in Tanzania.

In Tanzania, there are three major poultry production systems: traditional indigenous and improved family chicken and commercial specialized chicken systems. The traditional indigenous family subsystem is an extensive scavenging dual-purpose system, with levels of low egg (50 eggs/year) and meat (1.5 kg for mature chicken) production. The improved family chicken subsystem (with improved local/ imported tropical breeds) is a semi-intensive, semi-scavenging moderately high productivity (150 eggs/year; and 1.8 kg live weight at maturity) subsystem. Both subsystems are family-orientated and traditional. The commercial specialized chicken system is an intensive layers and broilers system with high productivity (2 kg live weight at maturity and 270 eggs/year).

The traditional indigenous system supports the largest proportion of the national flock. The supply of indigenous chickens meets more than 70% of demand for chicken meat and egg production in rural areas and 20% in urban areas. Low-yielding genetic composition, poor animal health services and feed shortages are the major obstacles to improving the productivity of the traditional poultry production system, the largest source of the country's egg and chicken meat production upon which millions depend for their livelihoods.

Chicken sector development challenges and strategies

Feed. Chicken feeds available in Tanzania are of low quality, lacking in nutritional content in terms of energy, protein, mineral and amino acid and crude fibre content. Unfortunately, there is a lack of access to land to produce maize and soya beans for feed formulation and little institutional capacity to control the quality of chicken feed produced and processed. The strategies proposed to mitigate these challenges include the:

- development of the capacities of animal feed inspectors and feed processors;
- preparation and implementation of guidelines for poultry feed inspection;
- raising of awareness of value chain actors on the importance of producing quality poultry feed;
- introduction of regulations on the export and importation of cooking oils designed to increase availability of oil by-products and oil cakes; and
- strengthening of quality control mechanisms for poultry feed.

Animal health services. The poultry sector in Tanzania is characterized by a high prevalence of disease affecting small-scale producers, particularly Newcastle disease, salmonellosis and Marek's disease. This situation is aggravated by poor handling practices, poor quality medicines and vaccines, the unreliable cold chain supply of vaccines, poor housing and sanitation conditions, and a lack of qualified staff. The strategies proposed to mitigate these challenges include the:

- strengthening of the enforcement of the Animal Disease Act 2003 and associated regulations;
- formulation of biosafety and other relevant guidelines for disease control;
- enforcement of stricter disease controls on the importation of commercial replacement stock; and
- production of effective vaccines for Newcastle disease and the introduction of a mandatory mass vaccination program against the disease.

Genetics. Seventy per cent of the chicken breeds in Tanzania are low yielding, both in terms of egg and meat production. An indigenous hen produces less than 50 eggs a year and wastes a lot of time brooding chicks, and the weight of a mature chicken only reaches a maximum of 1.5 kg. There is a lack of public investment in research and extension in improving the productivity of indigenous chickens, either through selection or crossbreeding. Moreover, the lack of private investment in the establishment of grandparent, parent and day-old-chick production facilities hinders the expansion of the commercial sector. The strategies proposed to mitigate these challenges include the:

- improvement of indigenous chicken productivity through selection and crossbreeding with high yielding tropical breeds;
- undertaking of research to select tropically adaptable semi-scavenging dual-purpose chicken breeds and suitable breeds for crossbreeding, and introducing them into the family chicken production system;
- introduction of brooding facilities—e.g. the hay box brooder—and artificial incubation facilities—e.g. small-scale incubators—to reduce the reproductive wastage of indigenous chickens; and
- establishment of grandparent, parent and day-old-chick production facilities through the provision of financial support and tax exemptions to private sector investors.

Marketing and processing. Most farmer marketing organizations involve small groups of farmers with weak decision-making platforms and tend to be concentrated in urban areas, particularly Dar-es-Salaam, failing to cover the rural majority of the country. In general, there is a lack of poultry slaughtering and meat processing facilities, which is characterized by weak biosafety and hazard analysis critical control point (HACCP) procedures. Moreover, when given a choice, consumers prefer less productive indigenous poultry meat and eggs to more productive exotic counterparts. The strategies proposed to mitigate these challenges include the:

- promotion of the establishment of poultry trader associations throughout the country;
- construction of slaughtering and processing facilities and promotion of poultry meat and egg marketing;
- intensification of marketing and extension activities designed to change consumer attitudes towards eggs and meat from hybrid and exotic breeds; and
- institutionalization of mandatory biosafety and HACCP procedures.

Policy. Most hatcheries and poultry breeding farms operate within residential areas without standard operating procedures. Unregistered themselves, they rarely avail of the services of registered veterinarians. Unsurprisingly, many farmers complain that the high mortality rates among chicks in some hatcheries is due to salmonellosis and emergence of Mark's disease in pullets (layers). The strategies proposed to mitigate these challenges include the:

- promotion of the registration of hatcheries and poultry breeder farms, and the establishment of operational guidelines and standard operating procedures for these enterprises; and
- institutionalization of mandatory biosafety and HACCP procedures for poultry meat, eggs and feeds.

Complimentary interventions—specialized poultry production

- Establishment of a well-functioning private day-old-chicks industry required for their efficient production and distribution to specialized poultry farms.

- Facilitation by government of the establishment of investment in the poultry chicken agribusiness sector through a reduction of bureaucratic obstacles.
- Facilitation by government, as a matter of priority, of the allocation of land for the establishment of poultry farms and the production of feed.
- Promotion of large-scale private investment in poultry processing plants—needed to produce value-added products for industrial uses (e.g. powdered eggs) or to meet consumer demand for processed egg and meat products—through the provision of favourable taxation levels and provision of low-interest loans to investors.
- Establishment of mechanisms to facilitate low-cost production and formulation of poultry feed critical to the success of the specialized poultry subsystem.
- Facilitation of links between specialized chicken and egg producers and processors, ensuring regular access to market outlets, and both with maize producers and cooking oil plants, ensuring a regular supply of feed.
- Use of public–private partnerships in the manufacture and distribution of quality vaccines needed to keep exotic chickens healthy.
- Encouragement of farmer groups and cooperatives to establish outgrower schemes for pullet production and distribution; mini-hatcheries; and feed processing plants and slaughter facilities.



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.

Photo credits:

Page 1: ILRI/Mercy Becon

Page 1: ILRI/Mercy Becon

Page 3: ILRI/J. Bruno

James Stapleton works for the International Livestock Research Institute, Solomon Desta as an independent consultant, and Mlau Da Silva for the Tanzania Ministry of Agriculture, Livestock and Fisheries.

Contact

Barry Shapiro
b.shapiro@cgiar.org
ILRI, Ethiopia



BILL & MELINDA
GATES foundation



ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE

ILRI thanks all donors that globally support its work through their contributions to the [CGIAR system](#)

International Livestock Research Institute
Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org
ilri.org

Ministry of Livestock and Fisheries Development
Veterinary Complex, 131 Nelson Mandela Rd
Box 9152, Dar es Salaam
Phone +255 22 286 1910
Fax +255 22 286 1908
mifugouvuvu.go.tz

