



The United Republic of Tanzania
Ministry of Livestock and Fisheries

Livestock and Fisheries Commodity Value Chain Briefs

Brief No. 4



POULTRY

Key Messages:

- 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 is 57% and 36% respectively
- There is a need to develop poultry breeding through establishment of a national recording program by spotting local breeds and strains for commercial production. Indigenous chickens need to be characterized and selected, and desirable traits for improvement and conservation established
- There is a high need to strengthen enforcement of the Animal Disease Act 2003 for poultry and the Grazing Land and Animal Feed Resources Act 2010, building the capacity of animal feed and meat inspectors, and formulating and enforcing poultry feed inspection guidelines and bio-security and other relevant disease control guidelines.

SUMMARY STATISTICS

Table 1: Production of Poultry in Tanzania

Number of household (million)	Annual production chicken (million)	Annual production chicken meat (tons)	Annual production eggs (millions)	Per capita consumption eggs in numbers	Per capita consumption meat in kgs	Annual export earnings (mil USD)	Annual import (tons)	Annual import parent stock (mil USD)
3.70	79.10	78,110	3,600	106	2.07	N.A.	N.A.	225,000

Source: Ministry of Livestock and Fisheries, 2019

1. INTRODUCTION

Livestock keeping is one of the most important means of improving livelihoods. Livestock Sector Analysis (LSA) shows that 50% of all Tanzanians household keep livestock which is about 4.6 million households and according to Tanzania Livestock Modernization Initiative (TLMI 2015), 62% are rural and 23% urban, with ownership pattern dominated by chickens 86%, goats 48%, cattle 35%, pigs 9% and other livestock 10%.

The poultry sector is still at infancy stage both in the commercial and traditional subsectors. However, poultry farming does play a pivotal role in both urban and rural settings in terms of food security, source of income, manure and meeting social obligations such as dowry and rituals. The growth of the poultry sector is steady. Indigenous chickens are mainly raised by rural dwellers and contribute to almost 100% of poultry meat and 20% of eggs consumed in the rural and urban areas respectively, while layers and broilers are raised by urban dwellers. The commercial poultry industry includes the breeder farms, hatcheries, poultry farms (layers and broiler farms), traders and processors. Poultry as a source of protein has a competitive advantage over other livestock such as cattle, goat, sheep, and pig due to the fact that it can be produced in large quantities within minimum space and time. As eating habits are changing from red meat to white meat and the economy is growing, disposable income is increasing and the demand for poultry products is likely to keep increasing.

2. PRODUCTION, PRODUCTIVITY AND FARMING SYSTEM

The current (2018/2019) population of chickens is estimated at 79.1 million, of which 38.5 million are indigenous (backyard chicken) and the remaining 40.6 million are commercial poultry (Budget Speech, 2019). Among the existing 4.6 million livestock households in Tanzania, 3.7 million households keep chicken. Furthermore, the poultry industry has a potential to employ a large number of people, especially the youth who are currently facing unemployment. There is ample land for growing grain and soya to provide enough raw materials to be self-sufficient. The current population of chicken is estimated from the National Panel Survey as per table below.

Table 2: Poultry production trends 2012 – 2018

Population 2012 Millions	Estimates based on National Panel Survey				Reference population in 2012 Million	Projected Population in 2017 Million	Projected Population in 2018 Million	Projected Population in 2019 Millions
	2008	2010	2012	Annual growth rate				
36.5	46.1	53.6	54.3	0.7	36.5	68.9	74.8	79.1

Source: Tanzania Livestock Master Plan, 2018

There are three major poultry production systems; traditional/indigenous, improved family chicken and commercial specialized chicken systems (LMP, 2015; Da Silva et al., 2017).

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. This 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.

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 the traditional indigenous and improved family subsystems are family-orientated. The main indigenous breed subtypes include Kuchi, Kishingo, Sukuma, Kinyafuzi and Kiduchu. This improved family chicken production system is attracting interest of several stakeholders who wish to develop this system such as AKM Glitters, Kuku Deal, and Nzua Enterprises. (ACGG, 2018).

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 lack of private investment in the establishment of grandparent, parent and day-old-chick production facilities hinders the expansion of the commercial sector (Da Silva et al., 2017; LMP, 2015). Tanzania is still a net importer of parent stock; with only a slow growth in local parent stock farms and hatcheries. High start-up costs and inputs have also hampered growth (NBS 2012). Commercial poultry is largely made up of small- to medium-scale producers who own between 200 and 2000 birds and provide housing, balanced feed, and veterinary care (FAO SHFS, 2015). This includes breeder farms, hatcheries, poultry farms (layers and broiler farms), traders and processors (SAPA, 2015).

Table 3: Tanzania Production of poultry products from 2011 to 2018

Year	Meat (tons)	Eggs (000')
2011/2012	84,524	3,494,584
2012/2013	87,408	3,725,200
2013/2014	54,360	3,899,568
2014/2015	99,540	4,153,800
2015/2016	104,292	4,353,182
2016/2017	63,597	2,758,000

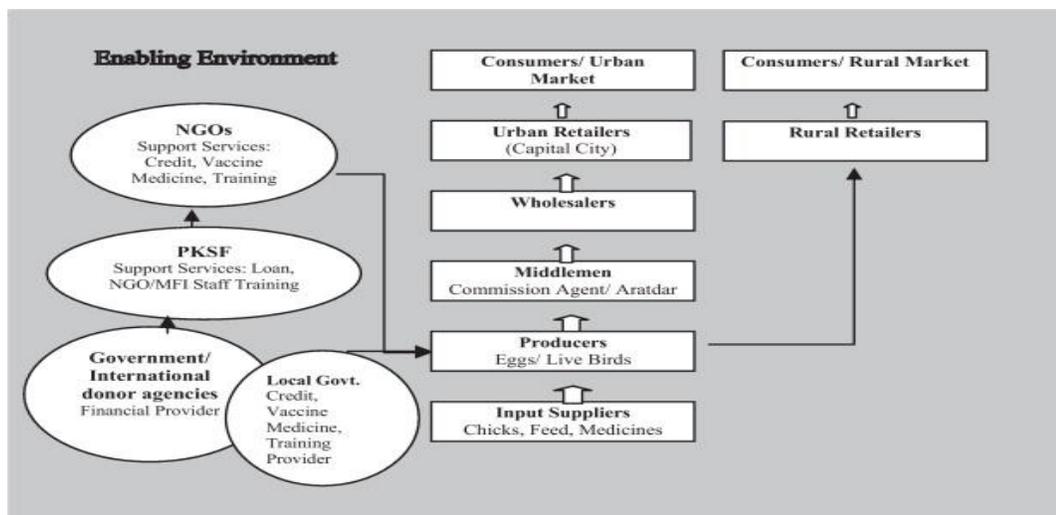
Year	Meat (tons)	Eggs (000')
2017/2018	78,110	3,156,692

Source: Ministry of Livestock and Fisheries, 2018

3. VALUE CHAIN

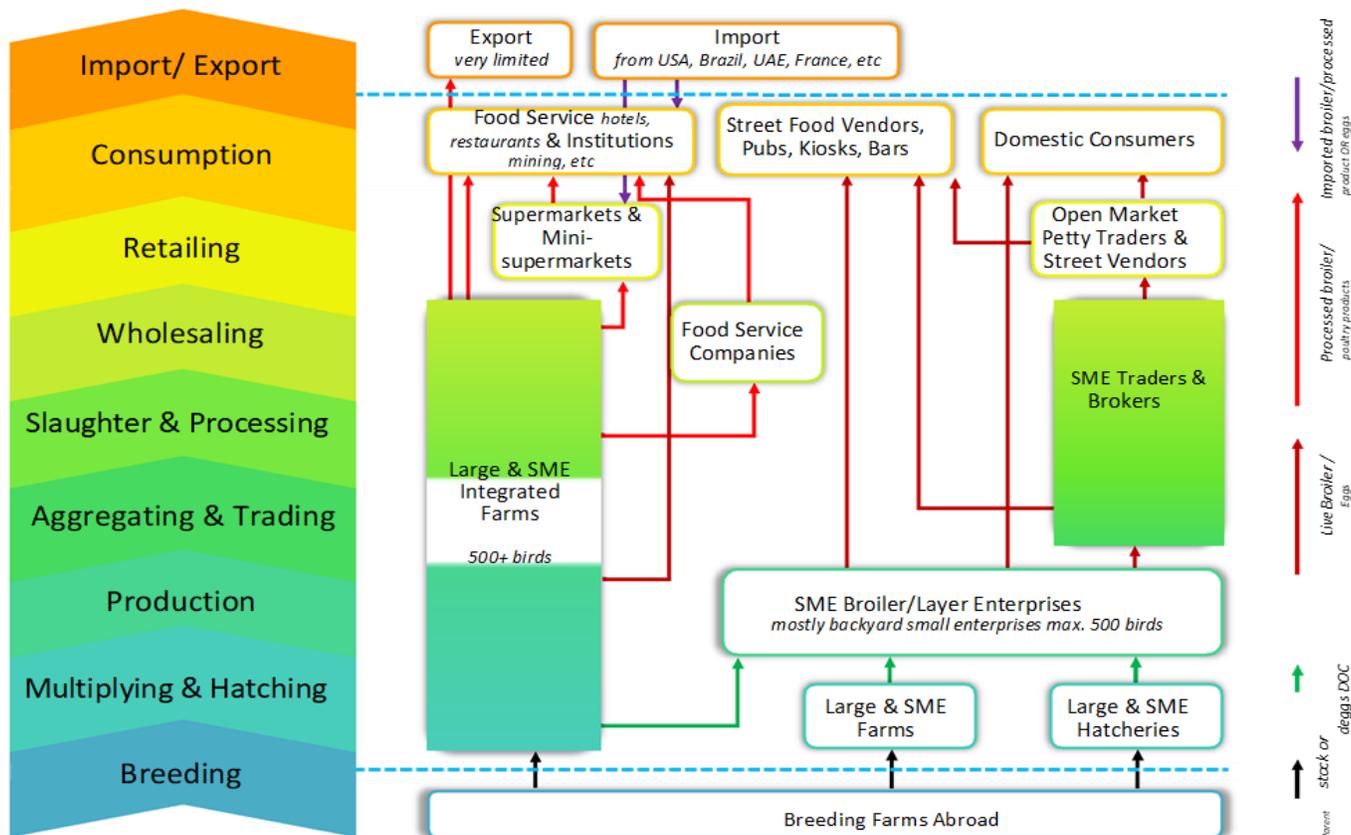
The poultry value chain encompasses several actors. For the improved chicken it starts with the breeding farms abroad producing parent stock which are then used for production. The chain depends on the type of poultry whether layers or broilers. The indigenous chicken has a more simplified value chain as indicated below.

Figure I: Value Chain for indigenous breeds



Source: <https://doi.org/10.1016/j.landusepol.2012.05.010>

Figure 2: Value Chain Broilers and Layers



Source: Match Maker Associates, 2018

4. MARKETING, TRADE AND INVESTMENT OPPORTUNITIES

Traditional poultry encompasses about 70% of producers while commercial takes about 30%. However, 60% of eggs are consumed away from home (restaurants, hotels) while the rest (40%) are consumed at home. There are several market actors who are involved in the chicken egg value chain; poultry producers, village egg collectors, small and big traders, restaurants and hotels.

Tanzania is a member of the Southern African Development Community (SADC), East African Community (EAC), and Tripartite Free Trade Area/Common Market for Eastern and Southern Africa (COMESA) with a population of more than 600 million people hence a potential market for poultry products. (TIC, 2018).

Investment opportunities exist along the value chain in the areas of: breeder farms, cross breed chicken research and development, processing facilities including slaughter houses and cold storage, animal feeds technology including processing and storage, farm infrastructures and transportation.

Despite the market and investment opportunities the outbreak of Avian Influenza in the mid-2000, has made importation of poultry and its products into mainland Tanzania to be banned. However, since the Tanzanian border controls are not very efficiently controlled, illegal importation of poultry meat is rampant. Tanzania currently export day old chicken (DOC) to Comoro, Kenya and Uganda.

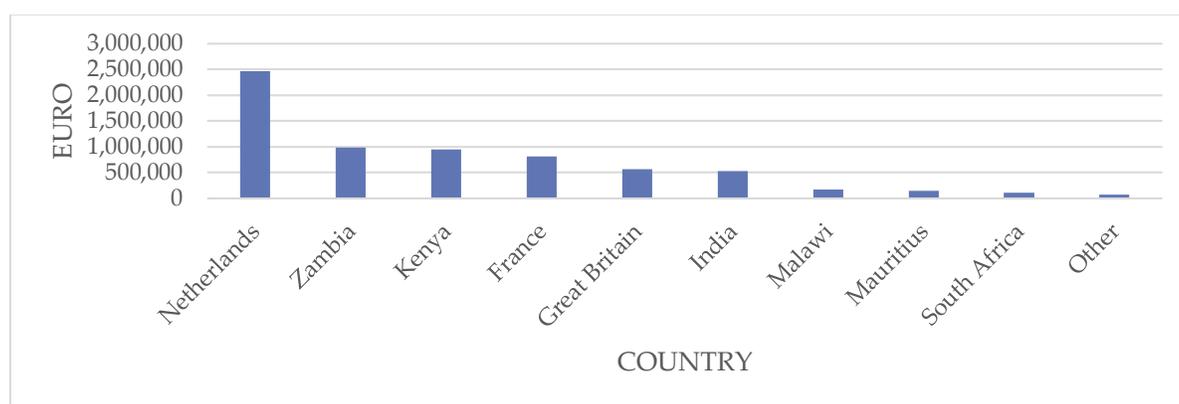
Table 4: Import and Export of DOC and Eggs by volume (2016-2018)

	DOC Value	Import DOC Value	Export Fertilized Import Value	Eggs Fertilized Export Value	Eggs
2016	€ 0	€ 32,931	€ 631,302	€ 46,496	
2017	€ 0	€ 319,508	€ 512,120	€ 89,036	
2018*	€ 0	€ 113,327	€ 195,837	€ 81,466	

Source: TRA, September 2018

Tanzania imports parent stock from different countries as the country lacks breeding programs and facilities to feed the demand. Most hatcheries and poultry breeder farms operate within residential areas without standard operating procedures. Unregistered themselves, they rarely avail of services of registered veterinarians. The number of parent stock farms has been moderately increasing but mostly are owned by hatchery facility operators and not specialized breeder farms. Some new projects claim to have grandparent stock as well. This suggests a need for potential investors to invest into poultry breeder farms. Also, investment in hatchery facilities has been moderately increasing, thus, increase in production of DOCs. However, most of the hatcheries are operating at only 45% of their installed capacity (Ringo, 2018). There is, however, large importation of fertile eggs by the large hatcheries. The chart below shows importation of parent fertilized eggs from different countries in euros for the last three years (2016 – 2018).

Graph 1: Parent stock fertilized eggs import in euros (2016-2018)

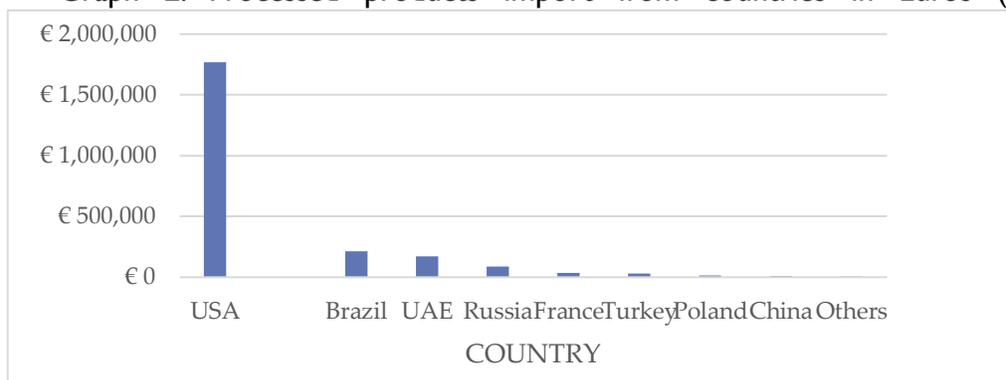


Source: TRA, 2018

5. CONSUMPTION

The per capita consumption is 106 eggs and has been increasing particularly with people in the middle-class mining and tourism industry. Consumption of meat is low and is estimated at 2.07 per capita consumption per annum. The current supply estimates don't meet the market demand (MMA – AMDT, 2016). Hence, the country is importing significant volumes of processed chicken products (frozen chicken meat, eggs, hatchery (fertilized) eggs, etc.) primarily from the USA, Brazil, the UAE, and Russia and also from France, Turkey, Poland, and until 2018, China (Ringo 2018)

Graph 2: Processed products import from countries in Euros (2016 – 2018)



Source: TRA 2018

Table 4: Poultry Slaughter Facilities in Tanzania

No.	Name of the Company	Capacity per day (Birds).	Location
1	Interchick Limited	3,000	Dar es salaam
2.	Mkuza Chicks	5,000	Pwani
3.	Kuku Poa	5,000	Mwanza
4.	Delish Foods	2,000	Mwanza
5.	Mitoboto	3,000	Pwani
6.	Kiliagro	4,000	Arusha
7.	Mbarali	1,000	Mbeya
8.	Amani (Endanahai)	400	Manyara
9.	Kings Chicken	400	Dar-es-salaam
10.	Nguru Hills	16,000	Morogoro

Source: Ministry of Livestock and Fisheries, 2018

6. PROFITABILITY

According to Tanzania Livestock Master Plan -2018; successful poultry interventions would allow the subsector to move to improved farming of poultry with semi-scavenging crossbreeds and for substantial increases in the scale of specialized layer and broiler operations. Such a transformation—depending on successful interventions in the areas of breed selection, health services (particularly in treating Newcastle disease), feed, extension, private investment and

trade policies—would contribute considerably to improving food and nutrition security and household incomes, as well as increasing its contribution to GDP by 182% from TZS 256 billion to 723 billion, and to substantially contributing closing the production–consumption gap for meat.

Projected annual chicken meat and egg production in Tanzania would rise to 465,600 tons and 4.2 billion eggs, respectively. This would bring the production-consumption deficit for chicken meat from 130,000 to a surplus of 258,000 tons between 2017 and 2022. The combined interventions would result in increases of 666% and 40% respectively in chicken meat and egg production by 2022. Such accomplishments 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.

Perhaps most importantly, the growth of the poultry subsector would enable Tanzania to close the total national meat production-consumption gap. It would also contribute to the reduction of greenhouse gas emissions from total meat consumption. Taking advantage of the benefits of the potential poultry revolution would thus require substantial investments in promotional activities to shift tastes and preferences away from beef and mutton, as well as from local chicken meat and eggs, towards exotic chicken meat and eggs.

Moreover, if the surplus chicken meat could substitute for domestic red meat consumption, this would also enable meat exports (of beef, mutton and goat meat) to be increased to raise foreign exchange earnings, in line with the government's meat export policy.

Furthermore, the surplus eggs created could be also processed into egg powder and used domestically for new or additional industrial uses (e.g. in the baking industry), or exported as egg powder to raise foreign exchange earnings. (TLMP, 2018).

7. PROFIT MARGINS AND COST STRUCTURE

The internal rate of return of the investment for improved traditional and improved tropical family chicken production is estimated at 75% and 58%, respectively while for specialized broilers and layers the projected return would be 57% and 36%. These returns on investments are higher above interest rates charged on loans which average rate is 17.34% hence profitable investments. (TLMP, 2018).

The chicken meat gross marketing margins (price spread) for the commercial broilers and traditional broilers value chain varied from TZS 267,887 to TZS 547,026 per tone and TZS 2,277,043 to TZS 2,009,155 per tone respectively. The gross marketing margin for the traditional chicken value chain is found to be greater than the commercial broiler value chain. This demonstrates the importance of the traditional poultry system in terms of the economic opportunity it provides for the value chain actors.

The total chain level costs of intermediate goods and services incurred in traditional chicken meat value chain varied from TZS 27,191 to TZS 1,204,823 per ton. In the commercial broilers

value chain, the costs of intermediate goods and services varied from TZS 283,157 to TZS 2,287,845 per tone

The chicken eggs gross marketing margins (price spread) for the commercial and traditional value chain varied from TZS 1,233,692 per ton and TZS 5,757,228 per ton of eggs respectively (TLMP, 2018). In general, the gross marketing margin for commercial chicken value chain was found to be greater than the gross marketing margin for traditional chicken egg value chain. This demonstrate the importance of commercial chicken in terms of the economic opportunity it provides for egg value chain actors.

8. DEVELOPMENT PARTNERS

Bill and Melinda Gates through World Poultry Foundation (WPF), a four-year project aimed to increase poultry production and productivity through the access of low input dual purpose birds, increase rural household income, improve household nutrition and empower women.

Soya ni Pesa (Soybean is Money) project is managed by CRS and financed through a donation from the United States Department of Agriculture (USDA), and Foreign Agricultural Service (FAS) of US\$10.5 million. Purpose: increase the competitiveness of soybean production and processing in Tanzania enhancing agricultural productivity and accelerate the commercialization of soybeans from smallholder farmers to supply the emerging demand for poultry feed. SnP project is active in Njombe, Ruvuma and Morogoro regions. SnP project has a component to promote commercialization of poultry. <http://soyanipesaprojectintanzania.weebly.com>

African Chicken Genetic Gains (ACGG) is an Africa-wide collaboration (Tanzania, Ethiopia, Nigeria) led by the International Livestock Research Institute (ILRI). In November 2014, ILRI and partners initiated this new collaboration to provide better chickens to smallholder farmers in Africa. As part of the wider “LiveGene” initiative, ACGG tests and makes available high producing, farmer-preferred genotypes that increase smallholder chicken productivity in Africa. The program will improve chicken genetics and the delivery of adapted chickens to support poverty reduction, productivity growth, increased household animal protein intake, and the empowerment of women farmers in rural communities. ACGG is data driven aimed at understanding the breeds and specific traits that poor smallholder farmers, especially women, prefer across the various countries and agro-ecologies; currently testing five strains in Tanzania (Black Australorp, Koekoek, Kuroiler, Sasso, Local strains)

Nzua and Msigani Joint Venture will officially introduce the Kuroiler hybrid chicken into Tanzania to improve income generation and food security for smallholders.

AKM Glitters Company Limited supplies brooder or mother units with a package of Day-Old Chicks; Quality inputs - feed, vaccines, drugs; Training in improved chicken farming; Technical assistance and extension services.

Silverlands Tanzania partnered with the World Poultry Foundation to implement the African Poultry Multiplication Initiative programme in Tanzania: through the distribution of Sasso day-old chicks. The company will provide improved genetics to the small-scale rural farmer

together with technical assistance and training and offer them access to markets that may not have been possible before. This initiative will increase poultry production and productivity, increase rural household income, improve household nutrition and empower women.

9. CHALLENGES AND OPPORTUNITIES

Challenges

Informality: The market chain for poultry is largely informal, aside from the small segment that deals with broilers. Regulations are complicated and often unenforced with a general *laissez faire* attitude at all levels of the chain (FAO SHFS, 2015).

Extreme shortage of livestock feed resources: There is no adequate feed available for the development of poultry industry. There is high competition between poultry feed and human food requirement. The competition is as high as 14% and is expected to go as high as 43% in the 15-year horizon (TLMP, 2018).

Livestock diseases: The current national animal health service coverage is 40%. The quality and quantity of services provided by both the public and private sectors are low. Mortality rate for chicken is at the rate of 50% hence hinders growth of the sector. Improved animal health and veterinary services delivery must effectively control diseases to reduce current production losses from high morbidity and mortality rates and revenue losses in international trading.

Poor genetic composition: The low genetic potential of the indigenous poultry coupled with limited supply of improved breeds and poor breeding practices has led to poor production and productivity of the poultry industry.

Lack of enforceable land use policy: Frequent changes in grazing areas, game reserves, access to feed and water leads to poor investments in the poultry sector.

Inadequate infrastructure: Poor roads, processing facilities for feeds and other technological advancements discourage investments and create unfair competition for locally produced products in the poultry industry.

Lack or inadequate extension services and low knowledge and skills: These factors have been limiting growth of the poultry industry. The current need for extension services in Tanzania is 17,328 while the available extensionist is 8,600 hence missing 8,728 equivalents to 50%. (Budget speech, 2019/2020). Poultry keepers hence lack the proper knowledge and skills that are important in quick and timely adoption of appropriate technology to enhance productivity.

Limited credit facilities: Expansion and commercialization of the industry needs capital investment. High interest rate, lack of long-term investment loans and collaterals hinders development of poultry industry.

Lack of Competition; There is a lack of real competition among buyers. Farmgate prices are similar throughout the country, except in larger urban areas, and sellers seem generally to accept these without too much complaint (FAO SHFS, 2015), although a low market price leads to a lower incentive for chicken keeping at the household level (MMA, 2017)

Opportunities

Tanzania has adequate land resource base and favorable climate and agro-ecological zones. Existence of extensive rangelands which are suitable for investment post a great potential for poultry industry.

Favorable demographic and economic factors; population growth, urbanization and rising per capital income are leading to explore domestic demand for consumption of poultry products which are meat and eggs.

Suitable geographical location: Tanzania borders several countries. This gives the country a highly competitive edge for exploring the regional market of poultry export markets.

The aim of the Government developing the livestock sector is to contribute to the national economic growth, poverty reduction and enhancing food security and to create a good environment for investment in poultry industry.

10. POLICY ISSUES

Hatcheries and poultry breeding farms with standard operating procedures:

Strategies to improve the sector include promotion of the registration of hatcheries and poultry breeder farms, establishment of operational guidelines and standard operating procedures for the enterprise and institutionalizing of mandatory biosafety and Hazard Critical Control Point (HCCP) procedures for poultry meat, eggs and feeds.

The land tenure and poultry farming: Facilitation by Government, as a matter of priority, in the allocation of land for the establishment of poultry farms and the production of feed in accordance with Grazing and Animal Feed Resource Act of 2010.

Cross border trade and private sector involvement: The existing regulation on movement of poultry and its products across borders needs to be addressed. Since the outbreak of chicken influenza in 2000 there is imbalance of trade across our borders. Also, promotion of large-scale private investment in poultry processing plants are needed to produce value added products for industrial uses (e.g. powdered eggs) or to meet consumer demand for processed egg and meat products. This will be through the provision of favorable taxation levels and low- interest loans to investors.

Animal health services: The current national animal health service coverage is 40%. The quality and quantity of services provided by both the public and private sectors are low. Mortality rate for chicken is at the rate of 50% hence hinders growth of the sector. Improved animal health and veterinary services delivery must effectively control diseases to reduce

current production losses from high morbidity and mortality rates and revenue losses in international trading.

Employment and human resource capacity: The current need for extension services in Tanzania is 17,328 while the available extensionist is 8,600. (Budget speech, 2019/2020). Poultry keepers hence lack the proper knowledge and skills which are important in quick and timely adoption of appropriate technology to enhance productivity.

Imposition of VAT on poultry production facilities: Several gears and tools such as battery cages, pluckers, poultry drinkers and chick boxes for transfer of old day chicks hinders investment in the sector. Poultry sector needs improved technology so as to be effective. Government needs to address this challenge by subsidizing importation of these technologies which will trigger more investment and hence multiplier effect will enable government to get more revenue from the poultry production.

Imposition of chick transportation fees for each day-old chick and import duty on parent fertilized egg: This increases the cost of production and hence hinders development of the poultry Industry. There is a need for Government to intervene and reduce or removal this transportation fees for day old chick and import duty on parent fertilized egg as a means to stimulate use of improved chicken breeds, easy transportation and thus improve productivity of the sector.

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 movement permit fees charged for every metric ton hinders availability of quality feeds. 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.

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