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Competition issues in soybean to poultry markets in Tanzania

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Executive summary

Poultry is one of the cheapest sources of protein and one of those with the least impact on the environment. In addition, it holds excellent prospects for inclusive growth as women small-scale producers are a majority of the producers in Tanzania. It also has important linkages to agriculture through the demand for inputs to animal feed.

The industry in Tanzania is in its infancy. Consumption and production are very low with 1.5kg of meat consumed per capita in Tanzania compared with an average for Africa of 17kg. High rates of population growth, urbanisation and increasing incomes all point to rapidly growing demand that needs to be met.

A growing, competitive and inclusive industry means ensuring good linkages from the key inputs of day-old chicks (DOCs) and poultry feed through to the producers. The analysis points to major concerns here in Tanzania. While there have been substantial investments in poultry breeding stock to supply day-old chicks of the leading global breeds, the prices of the DOCs have increased substantially since 2017 and have reached levels some 50-70% higher than in South Africa. Poultry feed prices have also been much higher than in South Africa and other international benchmarks.

At these input prices small-scale producers have been unable to compete and have been exiting broiler meat production to focus on eggs or slow growing breeds for meat which do not have the potential to address rapidly growing demand. In effect, the margins of smaller poultry firms have been squeezed into negative territory as the costs of day-old chicks and feed have been higher than the prices received for chickens, even without taking other costs into account. Small poultry producers are effectively being excluded from the market. Large and integrated producers which are able to source breeding stock and feed internally appear to be much better positioned. The performance of these firms has, however, been part of industry consolidation and not inclusive growth.

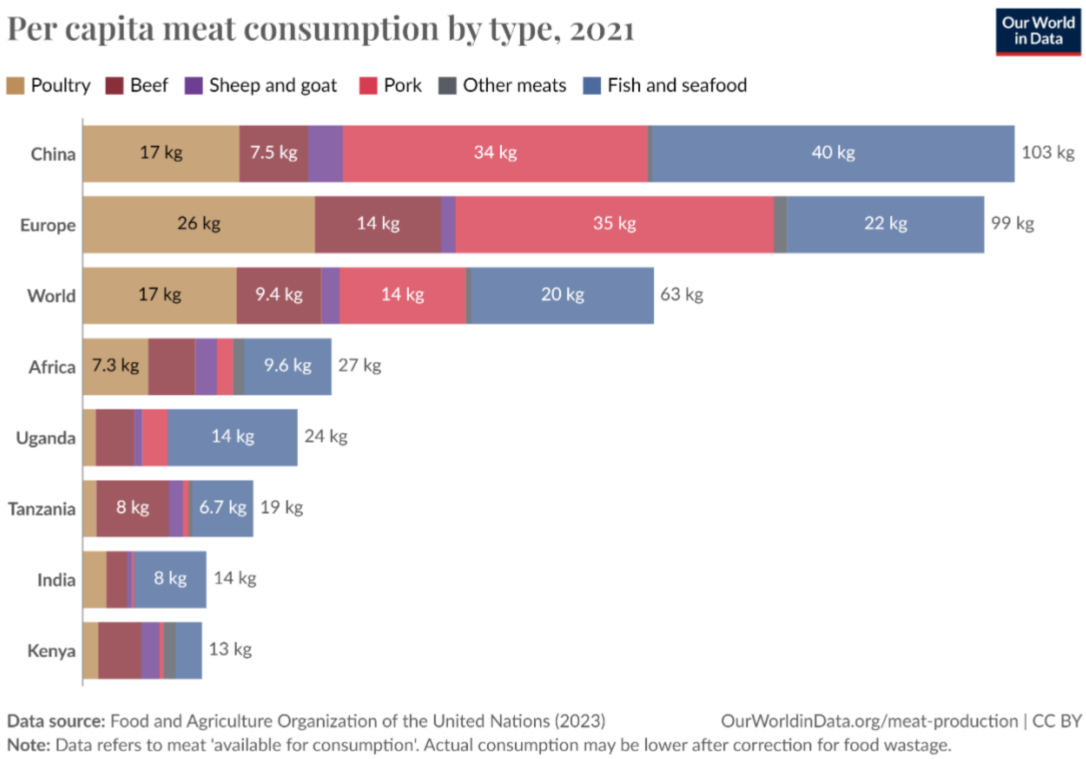
There are major concerns in the regional production and trading of the key inputs to poultry feed, namely maize and soymeal. In spite of excellent growing conditions across East and Southern Africa, and large exports of soymeal into global markets in 2022 and 2023, prices in Tanzania have been far above international prices. This is for reasons including restrictions on exports from the largest producers and concerns about the market power and concentration of the companies processing soybeans into soymeal and vegetable oil.

In the context of growing demand, the nascent state of the industry and the huge potential for growth, a package of measures for sustainable and inclusive development is urgently required. Such a package must include measures to ensure fair prices and non-discriminatory terms of supply for inputs to all producers alongside measures for better integration of regional markets to support expanded agriculture production and trade. Government support for investments and standards is also essential. Such a package can lower the cost base across the industry and ensure rapid expansions in production, creating value and employment.

1. Introduction

In sub-Saharan Africa, increased urbanization and rising incomes have led to a surge in demand for poultry as a primary protein source, however, from a very low base. Chicken meat consumption was at just 1.51 kg per capita in 2021 for a population of about 65 million people (out of the 19kg per capita for all meat consumption, Figure 1).[1] Poultry production was estimated to contribute approximately 1.8% to Tanzania's Gross Domestic Product (Ringo & Lekule, 2020). Poultry consumption is expected to increase ninefold in per capita terms by 2050 to levels closer to the current world average and, as such, Tanzania presents a market with exponential growth potential. Poultry is also responsible for much less emissions than beef.

Figure 1: Per capita meat consumption, 2021



There are strong linkages from poultry backwards to small-scale farmers of maize and soybeans for animal feed, while poultry rearing provides opportunities for small and medium producers in an inclusive growth path. In Tanzania, women and youth dominate poultry smallholder production. However, at key levels of the value chain, notably in breeding stock, animal feed and processing of live chickens, there are high levels of concentration. Given these high levels of concentration, inclusive and sustainable development of poultry in Tanzania depends on understanding and regulating market power to ensure fair competition for all. This paper makes a contribution in assessing

[1] This is slightly higher than the 81 thousand metric tonnes (Mt) of poultry meat (1.4kg per capita) being produced, as estimated by Ringo & Lekule, 2020.

concentration and market outcomes in Tanzania, with recommendations for an enabling policy framework for inclusion and growth.

Commercial poultry production consists of a long value chain, with links to agriculture through production of maize and soybean which are processed into feed, and breeding stock, sourced as 'day-old chicks' (DOCs) which are grown to chickens which can be sold live or slaughtered. Feed accounts for around 60-70% of costs and DOCs for around 20%.

Of the estimated total of 83 million chickens in 2021 in Tanzania, 39 million (47%) were indigenous breeds, 33 million (40%) were commercial broiler chickens,[2] and 11 million (13%) were egg layers (Lumenyela & Dimosso, 2022). While traditional indigenous breeds are widely kept by rural households for subsistence and local markets, the commercial poultry sector has been expanding rapidly in urban areas such as Dar es Salaam owing to higher productivity in terms of weight and number of eggs produced, faster cooking time and faster growth of commercial chickens in comparison to other chickens in the market (Wilson et al., 2022). This report focuses on commercial poultry for meat production.

Tanzania has ample land for growing maize and soybeans to provide raw materials for poultry feeds meaning that the country can meet growing local demand and export to improve food security across the region. Tanzania generally produces abundant maize for feed and human consumption,[3] while it relies on imports of soymeal from neighbouring countries led by Zambia and Malawi. Soymeal is produced by processing soybeans in a large-scale industrial process to extract the vegetable oil.

The broiler breeding stock comes from two multinational corporations, Aviagen and Cobb-Vantress (Goga and Roberts, 2023). The globalization of broiler production and the links to local breeding operations is important in understanding Tanzania's poultry value chain, including the ability of smaller market participants to compete.

1.1. Methodology

The paper draws on publicly available trade and production data along with information from the African Market Observatory (AMO), an initiative on staple food markets in East and Southern Africa (ESA) housed at the University of Johannesburg and in partnership with competition authorities across the region. Data was also collected through semi-structured, in-depth interviews, with market participants at different levels of the value chain, as well as industry associations and key government stakeholders based on the relationships and the role they play with regard to supporting Tanzania's poultry industry.

The assessment of market outcomes and market structure at each level of the value chain highlights why markets need to function better for smaller participants including farmers

[2] Note that broiler chickens take around 6 weeks to grow, so several flocks of the same number of chickens could be reared and slaughtered in the course of a year.
[3] Around 4.5 million Mt is for human consumption and around 500,000 Mt for feed (interviews with market participants)

and poultry producers, and the role that regional integration and competition enforcement can play for fairer and more competitive poultry markets.

The paper is organized as follows: section 2 provides an overview of the animal feed to poultry value chain, highlighting some of the key features in Tanzania's poultry markets. Section 3 analyses the market structure and market outcomes in poultry markets in Tanzania, with section 4 analysing competition and competitiveness including mergers and pricing. Section 5 concludes and offers recommendations.

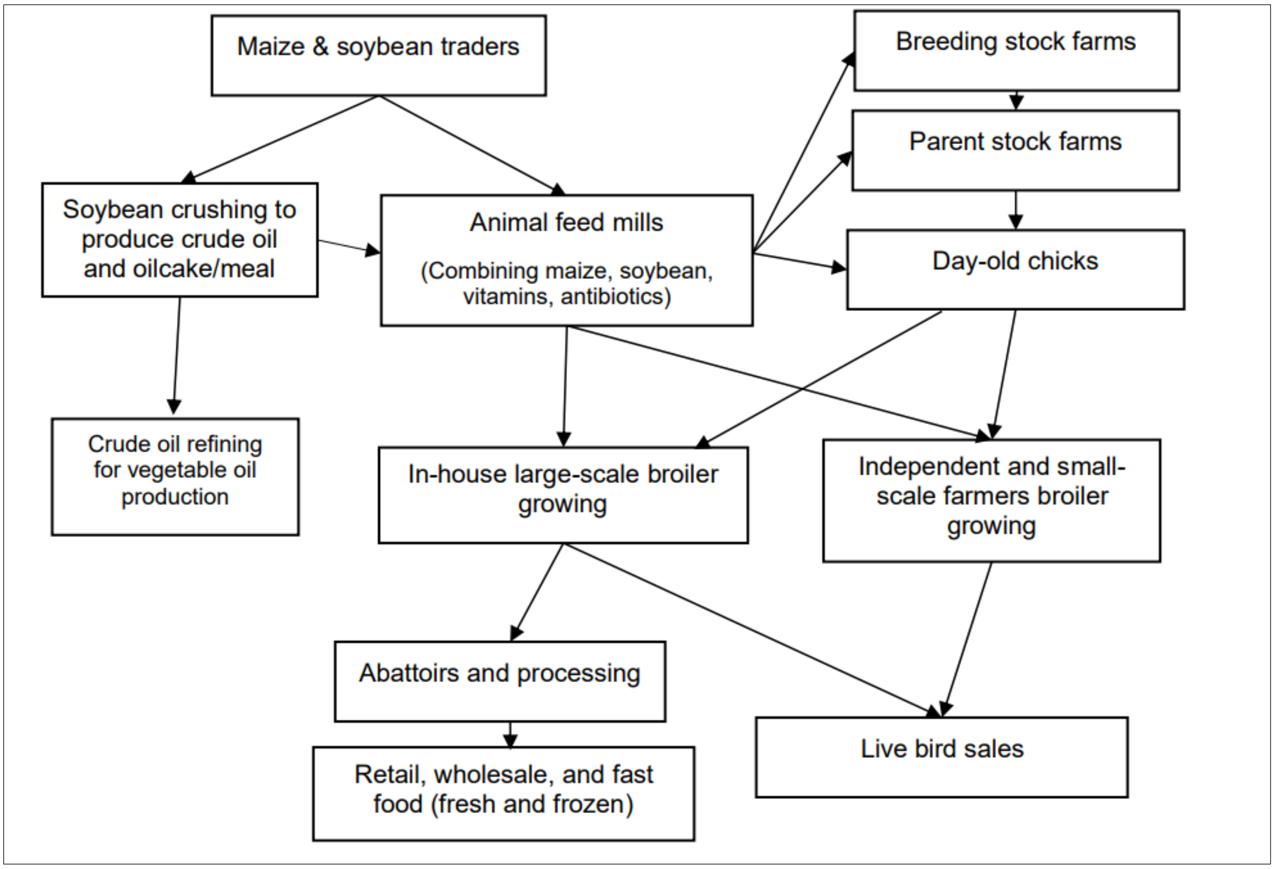
2. Animal feed to poultry value chain

The poultry value chain operates along multiple levels, starting from the production and processing of commodities like maize and soybean for animal feed, to the industrial processes involved in the rearing, processing, and distribution of poultry in live, fresh, and frozen forms (Figure 2). Feed is the primary input cost, followed by the day-old chicks (DOCs) from breeding stock. The main components of poultry feed are milled maize and soybean (including in meal or oilcake form), with salt, vitamins and mineral premixes, and synthetic amino acids accounting for a relatively smaller proportion of the feed mixture. While Tanzania typically has sufficient maize, the country is heavily dependent on soymeal from Malawi, Zambia and Uganda (Nsomba et al., 2022). Tanzania's soybean production has only been around 20,000 tonnes per annum between 2018 and 2022, which is far below the demand of the feed industry (in the order of five times this).

Large-scale commercial producers are typically vertically integrated, managing key inputs such as animal feed and breeding stock, all the way through to slaughtering operations. In Tanzania, large players are mainly integrated through the production of animal feed and breeding stock. Much of the poultry produced is sold as live chickens.[4] Independent poultry and feed producers compete with the integrated large commercial businesses. Although there are many feed producers, the market is relatively concentrated, with a few large feed manufacturers that are considered market leaders and therefore set the prices.[5]

[4] Interview with Commercial Poultry Association of Tanzania, July 2024 and interview with Poultry Association of Tanzania, July 2024.
[5] Interview with Tanzania Layer Farmers Association, July 2024.

Figure 2: The poultry value chain in Tanzania



Source: Gondwe, Nsomba & Roberts, 2022

For the majority of broiler production in ESA, poultry breeding stock for DoCs comes from two multinational corporations: Aviagen (EW Group) and Cobb-Vantress (Tyson Foods) (Goga and Roberts, 2023). The main breeds are Aviagen's Ross 308 and Cobb-Vantress's Cobb 500 birds, which together account for over 90% of global commercial broiler production. Other breeds, such as Hubbard, Indian River, Sasso, and Kuroiler, are used in countries like Malawi, Zambia and Tanzania. Hubbard and Indian River are owned by Aviagen (following mergers in 2005 and 2018), while Sasso was developed by Hendrix Genetics which has been in a joint venture with Cobb-Vantress since 2007 (Goga and Roberts, 2023). Tanzania also has a local breed of dual-purpose chickens, Tanbro, which is produced by one of the large players in Tanzania, Interchick.[6] For layers, the main breed across the region is the Hy-Line breed (from EW Group) and Tanzania also has Bovan's Brown and ISA Brown (of Hendrix Genetics), and other breeds.

Despite the availability of various broiler breeds, almost all therefore originate from the same two multinational companies. The workings of this are that the intellectual property

[6] Interview with market participants, July 2024.

holder - Aviagen or Cobb-Vantress - licenses great grandparent stock of the breed to a breeding company within a specific region. This breeding company then produces grandparents to supply parent stock to hatcheries. The parent stock produces DOCs, which are raised as broiler chickens in approximately 42 days (Gondwe, Nsomba & Roberts, 2024). These licensed breeding companies may also be involved in hatching as well as broiler production themselves, in addition to supplying independent hatcheries and broiler producers.

In the East and Southern Africa region, broiler breeding and distribution rights are licensed to a limited number of breeding companies, with South Africa and Zambia serving as key locations for license holders. Tanzania is an emerging hub for East Africa with a Ross grandparent facility in the Kilimanjaro area, and a Cobb facility being planned (with Irvines). Poultry producers must purchase breeding stock from these license holders (Goga & Roberts, 2023). It takes about a year from the delivery of grandparent day-old chicks to the production of the first commercial-level broiler DOCs.

Due to the large investment requirements for licensing and breeding, a specific breed typically has only one license holder in a given country or geographic area at the grandparent level. There may be several companies producing DOCs from parent stock, as this does not require licensing. Breeding companies have the ability to monitor and control breeding stock levels within a region and therefore the broiler chicken production quantities. This could impact competition, especially given the high levels of global concentration (Goga & Roberts, 2023). Furthermore, apart from parent stock DOCs and fertilized eggs, Tanzania has banned the import of poultry products since the early 2000s (Ringo & Lekule, 2020). While there were some imports of DOCs - mainly through illegal markets - due to shortages around 2021, the ban was reinforced by a total ban on DOCs which took effect in July 2022.[7]

Tanzania's animal feed markets meet the demand from the 70% of commercial poultry production which is in or around Dar es Salaam. Feed producers also distribute their products from feed manufacturing plants across various regions, sometimes covering distances of over 250km to reach demand scattered throughout rural areas. Transportation costs impact on the pricing of animal feed to customers spread out across the country.

The competitiveness of the poultry value chain, therefore, relies on the coordination of production and investment across different levels and the ability to access key inputs at reasonable prices. The largest firms play a significant role in shaping production activities along the value chain and influencing the ability of smaller independent firms to compete.

In Tanzania, the downstream poultry markets are largely informal, with approximately 80% of transactions involving live chickens sold per head rather than by live weight.[8] Production is predominantly done by a large number of micro, small and medium independent

[7] Interview with Tanzania Broiler Farmers Association, July 2024 and interview with Commercial Poultry Association of Tanzania, July 2024.
[8] Interview with Commercial Poultry Association of Tanzania, July 2024.

producers which are mostly women and youth (Ringo & Mwenda, 2018). The industry is encouraging broiler and layer farmers to register, to formalize Tanzania's infant poultry industry.[9] This level of the value chain sees significant entry and exit, with producers responding to seasonal fluctuations.[10]

The ability of small and informal producers to grow their businesses and earn reasonable returns is thus directly linked to large and multinational companies involved in breeding stock and animal feed. As we discuss below, prices for the main inputs in Tanzania have been very high, impacting producers and being passed on in higher prices for poultry to consumers.

Regarding routes to markets, trading arrangements are facilitated through selling live broilers to brokers or directly to customers.[11] Although there are many routes to market such as retail shops, supermarkets, catering services, hotels, and restaurants, chickens are primarily sold through open markets where prices are set by brokers. While farmers are generally aware of market trends and seasonal pricing, they generally sell to brokers to avoid high feeding costs associated with keeping broilers for extended periods.[12] Only a small percentage of chickens are slaughtered and processed, with key players like Interchick and Phoenix managing contract growers or operating through vertical integration.

3. Analysis of market structure and market dynamics

There is a general consensus that production of poultry meat in Tanzania is primarily by small-scale producers (those which are those with flocks up to 5,000 birds).[13] These market participants enter and exit according to demand which increases from mid-April to September due to tourism demand, and peaks again for the holiday season in December.[14] For layer production, there are a great many small to medium producers with 200 to 1,000 chickens, along with around 10 to 20 larger operators with 2,000 to 5,000 chickens.[15] Breeding stock and feed are more concentrated, with a few large producers accounting for a large proportion of supply. This report focuses on the broiler chicken value chain.

[9] Interview with Commercial Poultry Association of Tanzania, July 2024 and interview with Poultry Association of Tanzania, July 2024. Tanzania Association of Layer Farmers currently has 500 registered members (Interview with Tanzania Layer Farmers Association, July 2024).
[10] Interview with market participants, July 2024.
[11] Interview with Commercial Poultry Association of Tanzania, July 2024; interview with market participants, July 2024 and Tanzania Broiler Farmers Association, July 2024.
[12] Interview with Tanzania Broiler Farmers Association, July 2024.
[13] Interviews with market participants, July 2024.
[14] Interview with Commercial Poultry Association of Tanzania, July 2024 and interview with market participants, July 2024.
[15] Interview with Tanzania Layer Farmers Association, July 2024.

3.1. Breeding stock: DOCs

The three largest producers of broiler DOCs - Interchick, Silverlands and Irvines - collectively hold about 75 to 80% of the market share, each producing at least 300,000 broiler DoCs per week out of the total 1.2 million DoCs produced weekly in Tanzania (around 5 million per month).[16] There are a large number of smaller hatcheries also supplying broiler DOCs, layer DOCs and dual-purpose DOCs.[17]

Of these, Interchick, Silverlands and most other hatcheries obtain Ross parent stock from Tanzania's only grandparent poultry facility, owned by Aviagen East Africa - a joint venture between Aviagen, African Poultry Development Limited (APDL), and Country Bird Holdings (CBH) (Nsomba et al., 2022).[18] Established in 2022, this facility now provides Ross 308 parent stock to most broiler breeding companies in Tanzania.[19]

The Cobb 500 bird is exclusively represented by Irvines in Tanzania, as across much of the continent.[20] Cobb parent stock is believed to be imported to Tanzania from Zambia and Zimbabwe, but Irvines and Cobb have announced plans to establish a joint venture grandparent operation in Tanzania.[21] As the sole agent for Cobb in Tanzania, Irvines also handles all veterinary services for Cobb DoC producers from parent stock, which has reportedly led to some tension and some producers of DOCs have switched from Cobb to Ross. For example, before Aviagen's grandparent facility was established, Silverlands was breeding Cobb but has since transitioned to the Ross 308 breed. In effect, the changes mean that Aviagen is the dominant supplier of breeding stock. This control has been further solidified by a total ban on day-old chick imports, which took effect in July 2022 and coincided with the official opening of Aviagen East Africa's grandparent facility. Prior to the ban, small and medium-scale poultry producers not integrated into the day-old chick supply chain would import day-old chicks, through informal channels, from Malawi and Zambia. [22]

Other DOC producers, mainly using Ross parents, include Tanzania Poultry Farmers, Harsho, Organia, Kibo Poultry and Central Chicks. Falcon Animal Feeds began its parent stock breeding farms (as Happy Chicks) in 2021, and are producing from the Hubbard breed, as is

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[16] Interview with market participants, July 2024; and interview with Commercial Poultry Association of Tanzania, July 2024.

[17] There are an estimated 5.9 million broiler chicks, 580,000 layers, and 1 million dual-purpose day-old chicks (DoCs) produced per month by around 15 hatcheries according to interview with Commercial Poultry Association of Tanzania, July 2024, market participants, July 2024, and see also Ringo & Lekule (2020).

[18] https://farmersreviewafrica.com/aviagen-east-africa-celebrates-grand-opening-of-new-grand-parent-farms/

[19] Interview with market participants, July 2024 and interview with Poultry Association of Tanzania, July 2024.

[20] See https://www.cobbafrica.com/ and https://irvinesgroup.com ; interview with Poultry Association of Tanzania, July 2024; interview with Tanzania Broiler Farmers Association, July 2024.

[21] Interview with Poultry Association of Tanzania, July 2024.
https://www.cobbgenetics.com/en_US/news/cobb-expands-its-footprint-in-africa-with-new-jv

[22] Interview with Tanzania Broiler Farmers Association, July 2024.

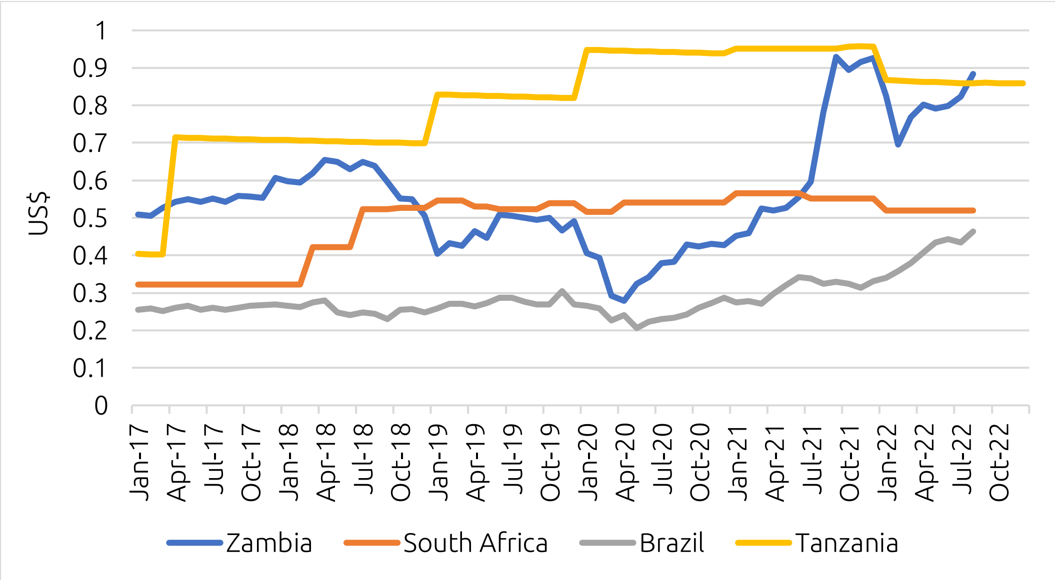
Mkuza Chicks. [23] This is a slow-growing breed acquired by Aviagen in 2018, with parent stock imported from France or the Netherlands. There are also dual-purpose breeds (meat and layers) such as Sasso, Kuroiler, and Tanbro (Ringo & Lekule, 2020).[24] Silverlands holds exclusive rights to the Sasso breed (which is owned by Tyson-Cobb and Hendrix in a joint venture), while Interchick is the sole producer of the Tanbro breed. Meanwhile, the license to breed Kuroiler parent stock was granted to AKM Glitters and Interchick in Tanzania.[25] Layer DOCs are of various breeds, mainly from the same multinational groupings.[26]

Many of the larger DOC producers are integrated into feed production to varying extents. Silverlands and Interchick both have their own feed manufacturing plants, while Irvines, despite not having a feed manufacturing facility, appears to have an arrangement with Falcon Feeds, where Falcon produces and bags feed under the Irvines brand.[27] Other significant feed manufacturers, such as Backbone Feeds, have begun investing in hatching facilities.[28]

Tanzania's broiler DOC prices have been significantly higher than benchmark prices in South Africa, Brazil, and even Zambia, a key supplier of parent stock for DOCs to Tanzania (Figure 3). Specifically, the price disparity between Zambia and Tanzania was most pronounced between 2019 and 2021. During this period, Zambia's prices dropped considerably due to a cartel investigation by the Competition and Consumer Protection Commission of Zambia in 2018, targeting hatcheries, and leading to a substantial decrease in prices (Nsomba et al., 2022). In 2020, the prices in Zambia were at US$S0.38, notably less than half of those in Tanzania, where prices were at US$0.94.

[23] Interview with market participants, July 2024.
[24] Estimated to be around 11-15% of the total. Interview with market participants, July 2024.
[25] Interview with market participants, July 2024 and interview with Ministry of Livestock and Fisheries, August 2024.
[26] Interview with market participants, July 2024 and Tanzania Layer Farmers Association, July 2024.
[27] Interviews with market participants in Tanzania, July 2024.
[28] Interview with Poultry Association of Tanzania, July 2024 and interview with market participants, July 2024.

Figure 3: Broiler DOC prices, US$ per chick



Source: Interviews, Embrapa, SAPA, Poultry Association of Zambia

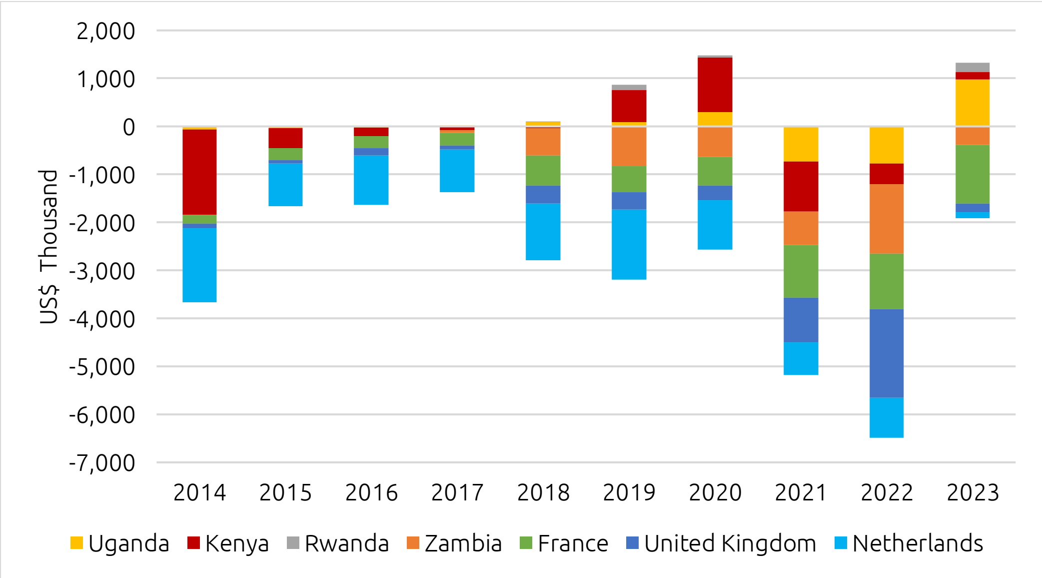
During this same time, Tanzania faced a shortage of DOCs, exacerbated by the trade restrictions. The high prices led to an increase in illegal imports of DOCs from Zambia and Malawi, as well as some legal imports.[29] Despite these imports, prices in Tanzania were sustained at extremely high levels, suggesting that significant profit margins were being captured by local hatcheries.

It appears that the entry of Aviagen into the Tanzanian market around 2022 helped to stabilize and reduce DoC prices, as the availability of grandparent stock increased, improving the supply of DoCs. Tanzania's prices reduced by about 10.5% from US$0.95 in 2021 to US$0.86 in 2022.

There is considerable trade in grandparents and parent DOCs and fertilized eggs (from which chicks) are hatched. Tanzania has imported large quantities from the United Kingdom, the Netherlands, France, Zambia, and even Uganda (Figure 4). The negative trade balance declined in 2023, reflecting the trade ban on DoCs and investment in the Ross grandparent facility in Tanzania. This has also seen Tanzania exporting to Uganda.

[29] Interview with Tanzania Broiler Farmers Association, July 2024.

Figure 4: Tanzania's Trade balances for DoCs and fertilized eggs



Source: ITC Trademap

3.2. Animal feed

Tanzania's feed production has grown from around 700,000 Mt in 2017 to approximately 1 million Mt in 2024.[30] This in turn equates to around 500,000 Mt of maize. The growth has been driven by the poultry broiler market which accounts for more than half of Tanzania's animal feed, and requires substantial soymeal as a constituent for protein, followed by sunflower cake.[31] As the largest cost, feed is essential for the competitiveness of poultry producers (Nsomba et al., 2022; Nsomba and Shedi, 2023).

The feed market in Tanzania has several suppliers and is less concentrated than in breeding stock, however, feed prices have also been high compared to other countries (Figure 5). There are close to 20 suppliers each with annual capacity of over 50,000 Mt per annum. Within this group, there are two leaders with Falcon and Backbone each having production capacities of around 350,000 Mt per year.[32] These are followed by Hillfeeds and Silverlands which have capacities of more than 250,000 Mt (Table 2). These companies are also involved in breeding stock supply.

There is a third tier of many small producers of various sizes and some new entrants. For example, a new entrant, Koudjis Animal Nutrition Tanzania established a warehouse in Tanzania in 2020 and imports animal feed concentrates from the Netherlands which can be mixed with soybeans, maize and other oilseeds such as sunflower to produce animal feed.[33] Entrants such as these are useful in lowering barriers to entry for small feed manufacturers

[30] Interview with market participants, July 2024.
[31] Interview with market participants, July 2024.
[32] Interview with market participants, July 2024.
[33] Interview with market participants, July 2024.

by making feed concentrates available, as well as in potentially lowering the feed price for poultry producers

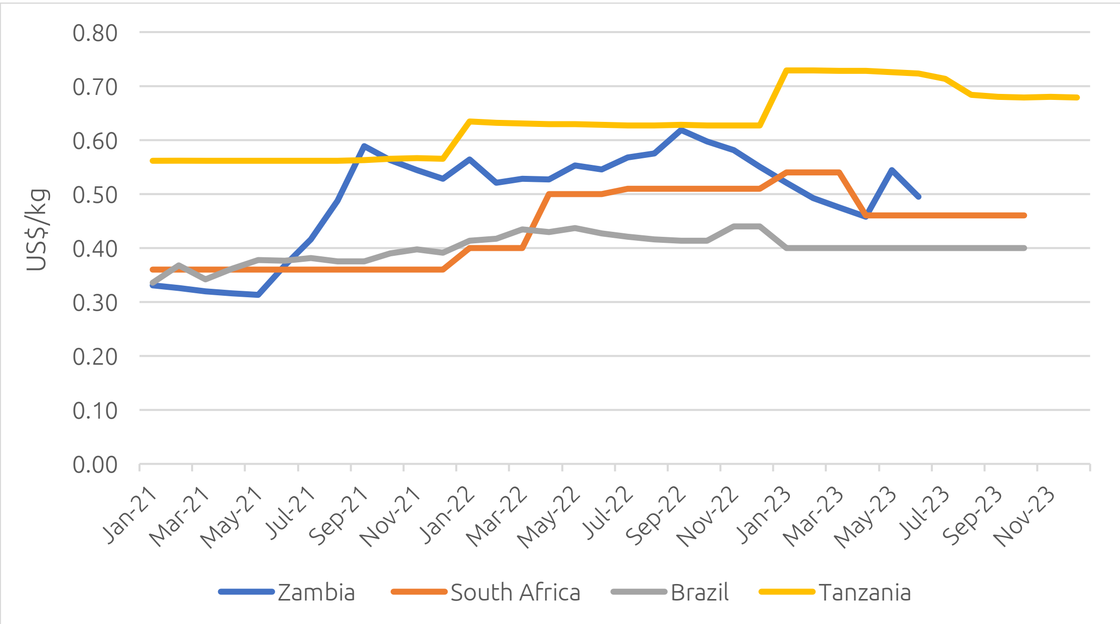
Table 1: Animal feed producers in Tanzania by tier

Producer category	Capacity (Mt per annum)	Identified suppliers
Tier 1	200,000 – 350,000	Falcon Animal Feeds, Backbone Feeds, Hill Feeds, Silverlands
Tier 2	50,000 – 200,000	Tan Feeds, Nutrifeeds, Arusha Feeds, Hekhama, Irvine's; approx. 10 others

Source: Compiled by authors from interview data

Poultry feed prices in Tanzania have been substantially higher than in available comparator countries of Brazil, South Africa and Zambia. Tanzania prices have been more than 50% higher than in Brazil and South Africa for most of 2021 to 2023, and substantially above Zambia for some of the time (Figure 5).

Figure 5: Poultry broiler feed, US$/kg



Source: Interviews, SAPA, POZ

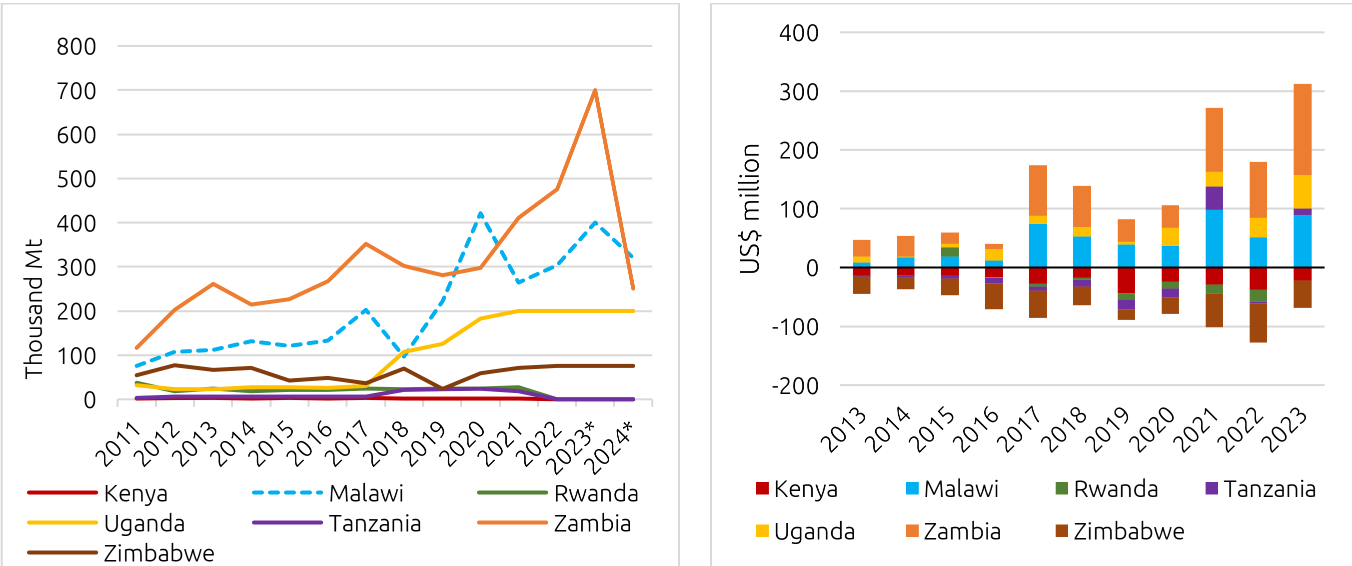
The high prices in Tanzania appear to be due to the feed input costs, led by maize and soymeal. Given that animal feed production typically consists of 50-60% maize and 25-30% soybeans by volume, to understand feed pricing we need to consider the linked impacts of these inputs (Goga & Bosiu, 2019).

While Tanzania is self-sufficient in maize production, the country largely depends on imports at the trade terms and prices offered by traders from Malawi and Zambia for soybeans and soymeal as the main source of protein in poultry feed. There is limited processing capacity in Tanzania with just one sizable processor, Mount Meru, along with some smaller-scale mechanical extractors, such as those of Interchick, Hillfeeds, and Falcon.[34] Tanzania mainly imports soybean in the form of meal from large-scale processors in Malawi and Zambia.[35] These countries have recorded substantial net exports consistent with their soybean production (see Figure 6).[36] The soymeal results from processing the beans to extract vegetable oil (which can be blended with sunflower and/or palm oil).

Figure 6: Soybeans production and net exports in selected ESA countries

Soybean Production

Net exports of soybeans and oilcake



Source: Production data from FAOSTAT, with 2023 2024* data from USDA, trade data from ITC Trademap*

Malawi and Zambia have recorded large net exports including to China, Pakistan, India and the United Arab Emirates in 2022 and 2023, via Dar es Salaam. Feed pricing in Tanzania would be expected to reflect the abundant regional sources of inputs. Instead, as observed above (Figure 5) feed prices in Tanzania have been consistently high, surpassing benchmarks in Brazil and South Africa.

The production and supply of soymeal is relatively concentrated, with just a few companies operating across the region. Some of the major companies have production plants in both Malawi and Zambia (Table 3). Mount Meru, ETG and Global Industries (Wilmar) are global and regional commodity traders that are integrated into soybean crushing for vegetable oil production and also into storage and logistics (Nsomba et al., 2022). ETG alone identifies itself as the largest non-GM soybean originator in Africa distributing more than 500th Mt per annum, implying that it controls a large share of the intra-regional trade to supply Tanzania.

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[34] Interview with market participants, July 2024.

[35] There is also VAT on soybean imports, while there is a VAT waiver on soymeal.

[36] Interview with market participants, July. There is also a 10% import duty on soybeans from non-SADC regions, such as non-genetically modified soybean producers India and Pakistan.

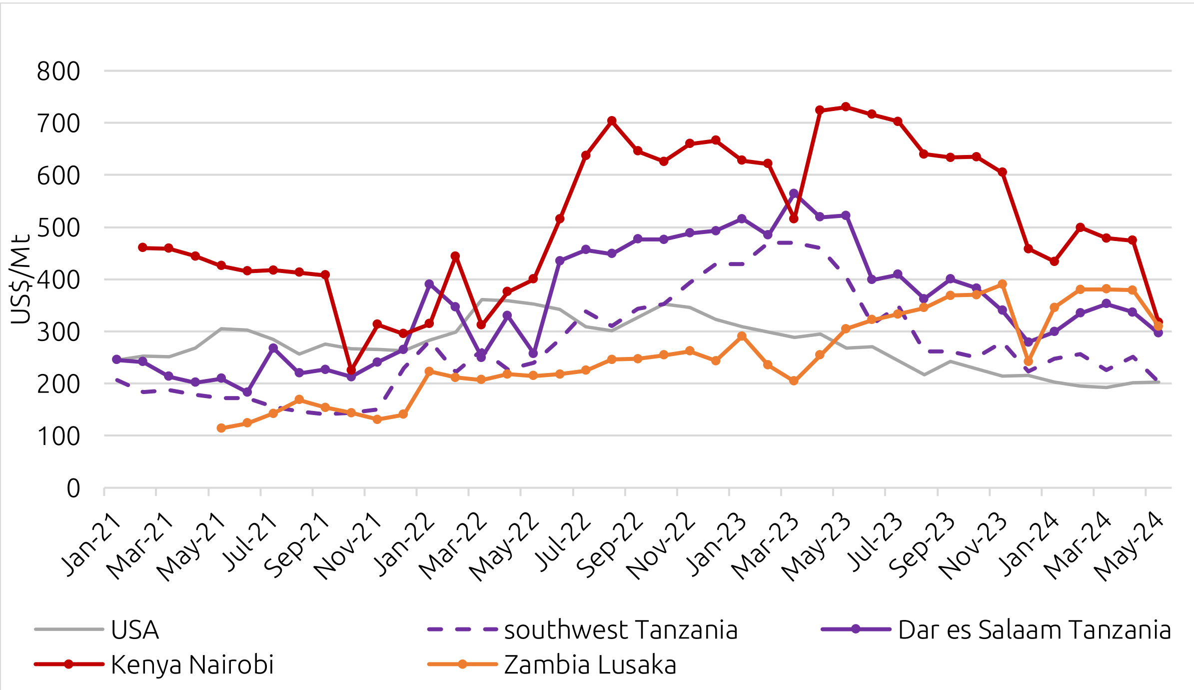
Table 2: Main soybean processors and traders, annual crushing capacities (thousand Mt)

	Malawi	Zambia
ETG/Parrogate	100	240
Mount Meru	150	150
Others	CP feeds: 180 CORI: 70	Global/Wilmar: 360 Alliance: 100 Pembe: 100

Source: Nsomba et al. (2022)

When we examine the prices of maize and soybeans we observe that good harvests have seen maize prices in Tanzania below world prices in the main growing areas in the southwest of Tanzania from 2021 to mid-2022 (Figure 7). Demand from other countries in East Africa such as Kenya which had experienced drought conditions in 2022 and 2023 have then pulled up prices from mid 2022.

Figure 7: Maize prices in selected ESA countries

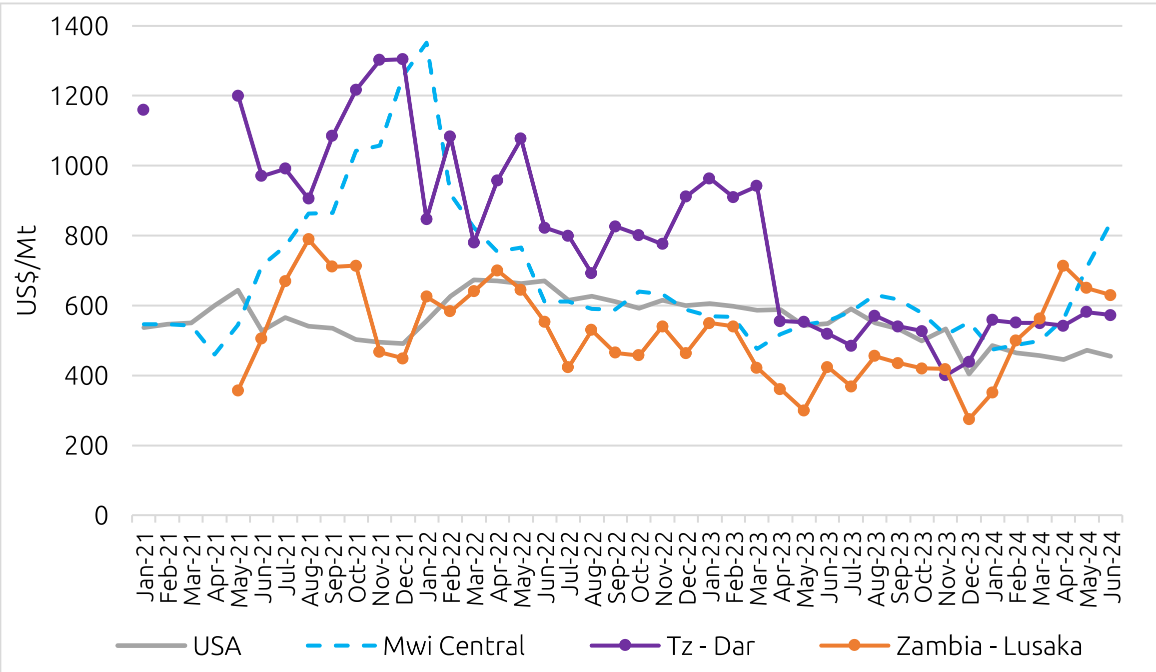


Source: African Market Observatory data

Tanzania is the largest producer of non-genetically modified maize in the region and has normally recorded small exports given the size of local demand which is typically at around 6 million tonnes (Mtaki & Snyder, 2024). Tanzania became an important source of maize exports to other parts of the region in 2023/2024 as Tanzania had bumper harvests due to above average rainfall consistent with El Niño cycle of the El Niño Southern Oscillation (ENSO) which started around October 2023. Zambia and Uganda are the other net exporters, mainly within the region. The third largest regional producer, Kenya, is a net importer due to the size of its demand.

Tanzania should have benefitted from high levels of soybean production and exports by Zambia and Malawi. Instead, soybean prices in Tanzania have been much higher than benchmark international prices, and marked up substantially above Zambian prices, in particular, by much more than transport costs (Figure 8). In 2021 Tanzania's prices hit levels above US$1300/Mt, double international prices, even while Zambia and Malawi were exporting into international markets. This suggests that exports were being made at lower prices while high prices were charged to customers within the region, including also within Malawi. Prices remained high through 2022 until April 2023. Efficient transport costs from Zambia to Dar es Salaam were just around US$80/Mt. Since April 2023 prices have been more in line with international pricing.

Figure 8: Soybean prices in selected ESA countries



Source: African Market Observatory data

While input costs have increased, the price of chicken in Tanzania has remained relatively stable over time, with a 12% increase from TZS5600 (US$2.40) in 2022 to TZS6250 (US$2.60) per foul in 2023.[37] These are farm gate prices which likely understate the market prices due to additional margins captured by brokers and other intermediaries which may exacerbate the cost to Tanzania's poultry consumers.

The very high DoC and animal feed prices in Tanzania mean that smaller and non-integrated producers have been placed in a severe squeeze. Larger producers which are integrated into

[37] Interview with Tanzania Broiler Farmers Association, July 2024.

feed and/or into breeding production are able to benefit from internal transfer pricing. It is notable that smaller poultry producers have reported moving out of commercial broilers into egg production. Layers produce for a number of years meaning the DOC price is less significant and they can use less commercial feed (even while performance may not be so good).

A competitive poultry sector has the potential to grow value-added and employment. Instead, it appears as if market power through the value chain has undermined the industry, especially independent small-scale producers which have been the bulk of the producers historically and now appear to have been squeezed out. Changing this trajectory hinges on the governance of these value chains at both national and regional levels, including the role of lead firms (Gereffi and Fernandez-Stark, 2011). To ensure that rising soybean production contributes to the development of regional value chains via cross-border exports from soybean-producing nations, challenges such as transport costs and market competition must also be tackled (Nsomba, Roberts, and Tshabalala, 2021).

4. Competition and competitiveness in the animal feed to poultry value chain

The investments made in recent years mean that global companies have large-scale production facilities to supply key inputs to poultry farmers in Tanzania. However, the interviews reflected small-scale producers exiting from broiler production due to high input costs and instead concentrating on layers (of eggs) and slow growing breeds of chickens on a small-scale. Other factors which were cited included the technical knowledge to maintain commercial poultry production.

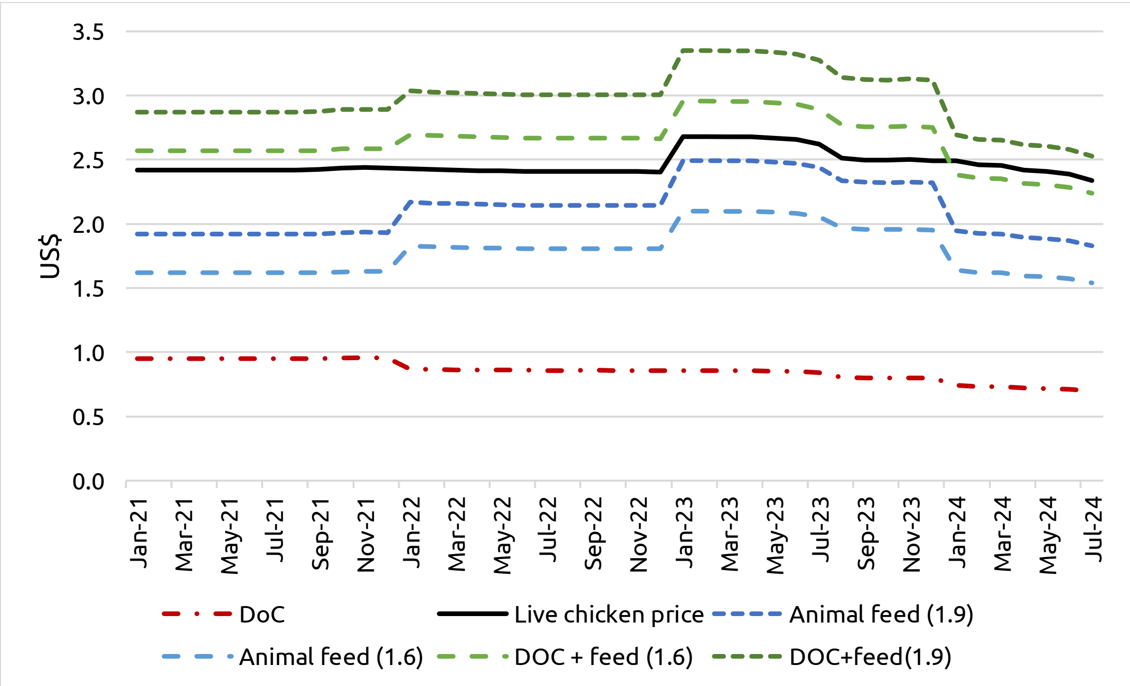
We consider the effect of the input costs on broiler producers by assessing the poultry prices and costs. This requires estimates of the feed conversion ratios and the size of chickens being produced. Broiler producers recommend growing chickens to a live weight of 2kg or more, however, the live market sells per bird and interviews indicated that, given high feed prices, birds were being sold at lower weights.[38] We use a weight of 1.8kg per bird. Feed conversion ratios (the weight gain achieved per kg of feed) is around 1.6 under highly controlled conditions. Based on interviews we use a conversion ratio of 1.9, as more in line with actual producers, and also do the calculation of costs with a 1.6 conversion ratio as a target.

The estimates reveal the input costs together with the broiler prices being charged for chickens (ex-farm) by the integrated producers mean that small-scale independent producers have been unable to compete, even if they could achieve a feed conversion ratio

[38] Indigenous chickens are grown to 1.5kg live weight; commercial chickens should reach 2kg (https://research.csiro.au/livegaps/findings/livestock-production/poultry-production-in-tanzania/). Mramba and Mpunda (2024) find a range of weights for commercial broilers of 1.8 to 2.3kg.

of 1.6. Adding together the DOC cost and the feed cost at 1.6 on a per chicken basis yields a cost higher than the price of live chickens, apart from the very end of the period in 2024, and 7% higher on average over the whole period (Figure 9). Using a feed conversion ratio of 1.9 the DOC and feed costs were 21% higher than the chicken price. These calculations takes no account of other costs such as energy and labour, makes no allowance for return on investment, nor makes any allowance for mortalities before gaining full weight. We note that the integrated producers are commercially viable and, as such, the internal pricing of feed and DOC in their operations must be more favourable than the prices to non-integrated independent producers.

Figure 9: Chicken prices, feed and DoC costs, per chicken, for live sales



Source: Compiled by authors from interview data
Note: Calculations are made on a 1.8kg live bird using feed conversion ratios of 1.9 and of 1.6. Feed prices using finisher feed from the main suppliers (starter and grower feeds are slightly more expensive).

The DOC prices are set by the companies with the breeding rights. Through a series of mergers (see below) these are linked directly into the multinationals and there appears to be very little competition, including with the dual purpose and slow-growing breeds other than the Kuroiler bird.

In terms of animal feed, the high prices of soymeal imports have been a major factor undermining the Tanzanian industry. While Zambia has had large exports, these have been subject to restrictions, and the allocation of export licences have meant that volumes can be restricted to different export markets by the producers of soymeal (Nsomba and Roberts, 2023). In addition, the low prices earned by farmers in Zambia and Malawi, meant much less was planted in 2024. Zambian farmers purchased 50% less soybean seed for the 2024 season than the previous year. Poor rains in 2024 also hit production hard.

Production conditions for soybeans are very good in the south-west of Tanzania and the Tanzania Soybean Development Strategy had aimed to grow production to 2 million tonnes of soya from 1.4 million hectares of land (TSDS, 2010). However, the country has been producing less than 20,000 Mt of soybeans per annum, far less than local demand (Nsomba & Roberts, 2024). This means that the feed industry in Tanzania has remained heavily reliant on favourable production levels and fair pricing from markets in Malawi and Zambia.

Regional mergers in Southern Africa in poultry breeding

There has been a succession of mergers and acquisitions which have extended ownership links by the multinational corporations across East and Southern Africa, including in Tanzania. This has brought investment in expanded modern breeding facilities, however, at the same time Tanzania has seen prices increase substantially. We review the possible competition implications of the mergers.

Aviagen, CBH and APDL in Aviagen East Africa

Aviagen, African Poultry Development Limited (APDL) and Country Bird Holdings Limited (CBH) invested in Aviagen East Africa in March 2021, including in establishing new GP farms and a parent stock hatchery in Tanzania to supply breeding stock to the region.[39] The new GP farms were opened in October 2022. APDL is the holding company of Hybrid, the Zambia producer of Cobb breeding stock, and has been incorporated in Mauritius since 2007, owned by Seaboard Corporation of the USA. It is linked to Tanbreed Poultry which has been incorporated in Tanzania (since 2007) and is also owned by Seaboard.[40] We note that one of the parent stock customers in Tanzania is Silverlands which produces Ross DOCs, as well as SASSO DOCs (the Hendrix breed developed closely with Cobb).[41] The merger means there are ownership relationships between suppliers of competing breeds.

Ross Breeders Central Africa JV (of RBZ and Aviagen)

In March 2021, the Zambian Competition and Consumer Protection Commission (CCPC) approved a merger of Aviagen European Holdings Limited and Ross Breeders Zambia Limited to establish a joint venture to promote the breeding of grandparent stock in Zambia and increase the availability of the supply of parent stock to various customers in Zambia (through Ross Breeders Central Africa). The Zambian CCPC granted conditional authorization due to competition concerns and imposed conditions including that Aviagen

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[39] https://www.thepoultrysite.com/news/2021/03/aviagen-secures-local-supply-through-a-greenfield-investment-in-east-africa-with-the-establishment-of-aviagen-east-africa-limited

[40] Tanbreed is reported as importing Hubbard parent stock from France in 2020, and Arbor Acres parent stock from the UK https://www.exportgenius.in/tanbreed-poultry-limited-importer-in-tanzania

[41] https://www.silverlandstanzania.net/
Silverlands was established in 2013 by the then CDC, now British International Investment (wholly owned by the UK government), it is now owned by SilverStreet Capital and has operations also in Kenya and Uganda. SilverStreet is also invested in Quantum. Silverlands Tanzania was the second largest producer of DOCs in Tanzania in 2021 (with 14 million sales). It also has a feed business.

undertook not to restrict companies from Zambia from importing other breeds under the Aviagen group.

In August 2021, the Competition Authority of Botswana approved the same transaction, indicating that Aviagen European Holdings Limited acquired 25% of Ross Breeders Central Africa, incorporated in Zambia and a wholly-owned subsidiary of RBZ (itself a subsidiary of Ross Africa Ltd, in turn a wholly owned subsidiary of CBH).[42] The merger was notified in Botswana as parent stock is sold by RBZ to its sister company Master Farmers Feeds in Botswana, which is also ultimately controlled by CBH.

What does not appear to have been considered in these mergers is that the owner of Hybrid in Zambia (APDL / Seaboard), a competitor to CBH/RBZ in Zambia and in exports to the region, was a joint venture partner of Aviagen and CBH in East Africa including Tanzania, sharing a border with Zambia, and with Kenya which is in the Common Market of East and Southern Africa (COMESA) with Zambia. We return to these relationships in section 3.2 below.

Cobb Africa and Tyson/Buchan

Cobb Africa owned by Irvine's (originally of Zimbabwe) has the rights to the Cobb breed in most countries in the region, aside from Zambia, South Africa, and Namibia. It boasts of being the oldest Cobb distributor, going back over 50 years. Tyson Foods acquired a stake in Buchan Ltd in 2017, which is an owner in Irvine's, and in Mauritius-registered Cobb Africa.[43] The Buchan holding company is also indicated as having control of Irvine's operations in Botswana, Mozambique and Tanzania. The 2017 acquisition was focused on day-old chicks and feed according to Irvine's CEO Craig Irvine, quoted as saying "[t]his transaction is primarily about day-old chicks. We're going into the day-old chick and feed markets, not so much in processing. We sell to tens of thousands of small-scale farmers in each of these countries, who in turn have their own small businesses, buy the feed, buy the chicks, grow them, and sell them into the live-bird markets. At this stage, we are not into processing in these ventures." It does not appear that this merger was assessed by any competition authority.[44]

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[42] https://www.competitionauthority.co.bw/cca-approves-acquisition-25-issued-shares-ross-central-africa-limited-aviagen-european-holdings The Directors of RBZ are Anthony Collet (British), Kevin James (Zimbabwean) and Colin Lindsay (Zimbabwean).

[43] https://www.just-food.com/news/tyson-and-ex-ceo-donnie-smith-invests-in-african-poultry-business/

[44] It should have been notified to the COMESA Competition Commission.

5. Conclusions and recommendations

The poultry industry in Tanzania holds prospects for inclusive and sustainable growth. There are linkages to agriculture and a high representation of women in poultry production in Tanzania. Poultry products are among the cheapest sources of protein and have a low environmental impact compared to other meat. Consumption of poultry in Tanzania is very low and set to grow with population growth, urbanisation and rising incomes.

The development of the sector depends on building production capabilities at the different levels of the value chain, from farming of maize and soybeans as the main inputs to feed, together with expansion of poultry breeding stock. Tanzania and neighbouring countries in the East and Southern African region have among the best conditions for expanding agricultural production in the world. There have also been significant investments in poultry breeding operations with the participation of the global leaders in the industry.

Our assessment has demonstrated that input costs have been extremely high over the period 2018 to 2023. Prices of DOCs and poultry feed in Tanzania have been some 50% higher than in international comparator countries South Africa and Brazil. Poultry producers which have to pay arms-length prices for their breeding stock and feed are uncompetitive and experienced negative margins if selling their poultry at the prevailing market prices set by the large integrated poultry producers.

In the case of DOCs, it is unclear why the prices increased to such high levels, with substantial increases having been set from 2017 through to 2020. In poultry feed, there are major challenges in the pricing and supply of key inputs especially in sourcing soymeal from industrial suppliers in neighbouring countries. While there have been abundant supplies of soymeal in the region from 2021 to 2023, as reflected in exports to countries in 'deep sea' markets, including through the Dar es Salaam port, prices to buyers in Tanzania appear to have been very high and uncompetitive by comparison.

The analysis points to the importance of a package of measures if the huge potential for sustainable and inclusive poultry development is to be realised. The measures include:

- Ongoing monitoring of prices of the key inputs and the constituents of animal feed, relative to international benchmarks and to provide an ongoing check on fair pricing. This can be done through extending the African Market Observatory of the Centre for Competition, Regulation and Economic Development.
- The Fair Competition Commission of Tanzania could consider undertaking a market inquiry into the basis for the pricing and related terms of supply of DOCs by the large breeding companies, especially in light of the mergers which have occurred over recent years.
- Setting clear expectations for non-discriminatory treatment of small-scale producers, alongside government support for the industry including in maintaining standards to guard against avian flu and other hazards.
- Policies to support substantially increased soybean production in Tanzania, along with storage and logistics, to supply the processing plants within the country.

- Agreement with neighbouring countries Malawi, Zambia and Uganda for improved integration of regional markets to lower transport costs and remove barriers to trade. The region as a whole can realise enormous potential to meet export demand in global markets while having low-cost suppliers to grow the poultry industry domestically.

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