

# BUSINESS OPPORTUNITY REPORT

## Invest in the Ethiopian Poultry Sector

### 2020

Prepared by ENTAG



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## ACRONYMS

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<b>ACGG</b>	African Chicken Genetic Gain
<b>ATA</b>	Agricultural Transformation Agency
<b>BITs</b>	Bilateral Investment Treaties
<b>CBE</b>	Commercial Bank of Ethiopia
<b>CSA</b>	Central Statistical Agency
<b>CFTA</b>	Continental Free Trade Area
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>DBE</b>	Development Bank of Ethiopia
<b>DOC</b>	Day-Old Chicken
<b>DTTs</b>	Double Taxation Avoidance Treaties
<b>EIAR</b>	Ethiopian Institute of Agricultural Research
<b>ENTAG</b>	Ethiopia–Netherlands Trade for Agricultural Growth
<b>EPPPA</b>	Ethiopian Poultry Producers and Processors Association
<b>ERCA</b>	Ethiopian Revenue and Customs Authority
<b>FAO</b>	Food and Agriculture Organization
<b>GoE</b>	Government of Ethiopia
<b>HAPP</b>	Holland–Africa Poultry Partners
<b>ILRI</b>	International Livestock Research Institute
<b>ITC</b>	International Trade Center
<b>IMF</b>	International Monetary Fund
<b>LMP</b>	Livestock Master Plan
<b>LSA</b>	Livestock Sector Analysis
<b>MoA</b>	Ministry of Agriculture
<b>NAHDIC</b>	National Animal Health Diagnosis and Investigation Center
<b>NABC</b>	Netherland African Business Council
<b>NGOs</b>	Non-Governmental Organizations
<b>NVI</b>	National Veterinary Institute
<b>PANVAC</b>	Pan African Veterinary Vaccine Center
<b>VDFACA</b>	Veterinary Drug and Feed Administration and Control Authority







# 1. WHY INVEST IN THE ETHIOPIAN POULTRY SECTOR?

**A growing economy:** Over the past decade, the Ethiopian economy has been growing at an average rate of 10% per annum, and the poverty rate has fallen from 44% in 2000 to 23.5%.<sup>1</sup> A decline in the poverty rate of a country generally implies an increase in disposable income, which in turn triggers growth in the demand for consumable products, including poultry.

**Enormous gaps to be filled:** There are gaps in the supply of inputs for poultry production and processing in Ethiopia. Producers and processors are challenged by limited access to high-quality poultry equipment and machinery, vet supplies, vet equipment, feed ingredients, day-old chicks (DOCs) and parent stock. For example, the limitation with the feed value chain represents a bottleneck for the growth of the poultry sector. However, this also implies that there is an opportunity for investors to address this bottleneck and invest in feed production.

**Growing urbanization and huge population:** Ethiopia is the second most populous country in Africa with about 110 million people, which represents a large consumer base. The proportion of the population living in urban areas in Ethiopia is increasing rapidly from around 14% in the late 1990s to about 21% today, resulting in a growing demand for consumable products associated with an urban way of life. Fast food chains are growing and international brand names/global franchises are entering the market; Pizza Hut being the first international restaurant franchise to enter the Ethiopian Market with a plan of opening 20 branches all over the country. Furthermore, local brands specializing in chicken meat are increasing in popularity. The growth in the volume of local poultry production and imported poultry meat from Brazil and other countries testifies to the emergence of a fast-growing poultry sector in Ethiopia.

**Increasing market outlet opportunities:** Supermarkets and retail shops are increasing in most of the cities and towns of Ethiopia. The hospitality sector is growing rapidly, surpassing Kenya. Supermarkets, hotels and restaurants are becoming key players in the poultry value chain.

**Government role:** The Government of Ethiopia (GoE) has recognized that the development of the poultry sector is key to reducing poverty, achieving food and nutritional security, and contributing to the national GDP. According to GoE's five-year Livestock Master Plan (LMP), significant strategy action items are outlined to boost the production and supply of poultry products. These measures include creating a conducive environment for foreign and local investors by developing industrial parks, and enhancing the ease of doing business by improving legal frameworks and working procedures.

According to the LMP, the GoE intends to work through Private Public Partnerships (PPP) for the expansion of improved semi-scavenging breeds, which have a higher genetic potential for egg and meat production. It also aims to increase annual chicken meat production to 164,000 tons (about four times the current level of production) and increase egg production to 3.9 billion. By 2030, the government plans to have achieved an increase in the consumption rate of poultry meat from 5% to 27% to fill the meat demand and supply gap. In this regard, the GoE plans to address feed challenges, enhance extension services, and provide incentives to private investors.

**Public Private Partnership (PPP):** Poultry is more than just a business; it embodies nutrition, food security, and job opportunities for millions of youth and rural households. The GoE and development partners are interested in working with private investors in poultry development. Some large-scale poultry farms are already engaged in the PPP scheme.

**Export opportunities:** Ethiopia has export opportunities through virtue of being a member of the Common Market for Eastern and Southern Africa (COMESA), and as one of the 44 countries in Africa that has signed up to the Continental Free Trade Area (CFTA). Ethiopia has also signed Bilateral Investment Treaties (BITs) with 30 countries and Double Taxation Avoidance Treaties (DTTs) with 12 countries.

**Investment incentives:** The GoE provides different incentive mechanisms, including duty-free import of capital goods, duty-free import of motor vehicles, income tax holidays, loss carry forward, export incentives (zero VAT rate, duty drawback scheme, retention of foreign currency earned from exports), and financial incentives in the form of loans, to the extent of financing up to 50% of a project cost.

See [Annex 1](#) for the list of Dutch investors, who are operating in the Ethiopian poultry sector.

See [Annex 3](#) for the list of Dutch Africa Poultry Partners that could potentially operate in the Ethiopian poultry sector.

<sup>1</sup> As at 2015/16.

## 2. DEMOGRAPHIC AND ECONOMIC PROFILE

**Demography:** Ethiopia, the 12th most populous country in the world, has a population of 110 million (2019). The population is growing at an annual average rate of 2.7%, and is expected to reach 130 million by 2032. More than 60% of the Ethiopian population is young (below the age of 24). The literacy rate is low at a rate of 49%, but promises to increase significantly in the coming years. The literacy rate has grown by 22% in the past 25 years. The Human Development Index, at 0.463, has been growing for the past couple of years at a rate of 1.8% per annum.

**Economy:** Ethiopia's economy has been growing at an annual average rate of 8.9% since 2012. The growth rate in 2018 was 7.7%. Economic growth is well above the world's average economic growth rate in terms of GDP.

In 2018, GDP was US\$90.97 billion (at current price) with a per capita income of US\$853. GDP per capita is growing at a rate of 12% annually. According to a forecast by the IMF, the economy is expected to register a GDP of UD\$108 billion in 2021.

The agriculture sector contributes 39% of national GDP, followed by services (34%) and industry (27%). The share of the industry sector has grown from 13% in 2010 to 27% in 2018. Crops are the major contributor in the agriculture sector, representing 65.3% of agricultural GDP, followed by the livestock sector, which contributes about 25.6%. The contribution of the livestock sector increased from 21.7% in 2012 to 25.6% in 2018. The growing poultry and dairy sectors contribute significantly to the growth in the contribution of the livestock sector.

## 3. OVERVIEW

Poultry has a significant role in the Ethiopia rural community as a source of income and nutrition. About 45% of rural households in Ethiopia, about 8.1 million households, hold up to nine chickens, and about 1.7 million households have between 10 and 49 chickens each (CSA, 2018). The role of the commercial sector is increasing (16.52% commercial meat production and 25% commercial egg production) and overtaking the share of the traditional backyard poultry farming system from year to year in terms of production volume.



### APPROACH

*Data from the Central Statistical Agency (CSA, 2018) on annual commercial poultry meat and egg production in Ethiopia has been found to be an underestimate of the actual size. Therefore, based on the data collected for the sake of this report, the commercial production and per capita consumption have been synthesized, taking into account key parameters – such as mortality rate, laying percentage and production performance – to estimate the average amount of commercial production and consumption in Ethiopia. Furthermore, data synthesized in this report is a reflection of the commercial sector only and its contribution to local production, thus excluding imports.*



## 4. PRIMARY PRODUCTION – COMMERCIAL POULTRY

### 4.1 COMMERCIAL SECTOR POULTRY PRODUCTION CAPACITY

#### 4.1.1 PARENT STOCK

The commercial poultry sector has about 71,000 broiler breeder stock, 87,300 layer breeder stock and 141,700 dual-purpose parent stock. All of the large-scale and some of the medium-scale poultry farms depend on their own parent stock to ensure sustainable production of DOCs. All parent stocks are imported from various countries. Popular parent stock breeds in Ethiopia for broilers are Cobb-500, Hubbard, and Rose 308. Likewise, common layer and dual-purpose breeders in Ethiopia include Bovans Brown, ISA, Lohmann, TETRA-SL and Sasso. Sasso, which is a dual-purpose breed, dominates the PPP model business, which targets mainly the backyard production system. There is no company yet established for the production of grandparent stock. Debre Zeit Agricultural Research Center (DZARC) has a pure line breed called Koekoek (about 3,800), thus does not require frequent imports of parent stock.

#### 4.1.2. CHICKEN MEAT PRODUCTION

According to statistical data from the CSA and Food and Agriculture Organization (FAO) in 2018 and 2019, annual poultry meat production is estimated at 54,000 tons, of which the commercial sector's contribution is 16.5%. In 2013, annual poultry meat production was about 48,000 tons, of which 99% came from the traditional backyard system and 1% from the commercial poultry sector (LSA, 2017).

However, based on a detailed assessment of commercial farms for the purpose of this report, poultry meat production is estimated to be 7,750 tons per year, taking into account a conservative estimate based on the available 71,000 parent stock (broiler breeders). This indicates that the commercial sector's contribution is much greater than that indicated by the CSA. Furthermore, the per capita consumption of chicken meat is estimated to be about 0.55kg, which is much lower than many countries.<sup>2</sup>

Table 1 shows the estimation of meat production by the commercial sector.

TABLE 1: BROILER PRODUCTION

FARM NAME	BOILER BREEDER FLOCK SIZE	BATCH	NET BROILER BREEDERS (8%)	DOCS (COMMERCIAL)	TOTAL AFTER NET MORTALITY OF DOCS – 5%
Alema Farms	5,000	4	4,600	656,880	624,036
ELFORA	7,500	2	6,900	985,320	936,054
Hage Farm	3,000	3	2,760	394,128	374,422
SW Farm	4,000	3	3,680	525,504	499,229
Bisrate Gebriel Poultry Farm	4,000	1	3,680	525,504	499,229
Elere Farm	6,000	1	5,520	788,256	748,843
Chico Meat	5,000	1	4,600	656,880	624,036
<b>TOTAL</b>	<b>71,000</b>			<b>4,532,472</b>	<b>4,305,849</b>
Estimated meat production at <b>1.8 kg</b> per carcass weight:					<b>7,750,526.4 kg</b> <b>7,750.5264 tons</b>

Note: Broiler production is estimated taking into account fertile egg production of 168 eggs within 8 months of laying period per batch and a hatchability of 85%. The mortality rate of the breeders is 8%, with a production rate of 70%.

<sup>2</sup> According to OECD FAO database, per capita consumption of poultry in Ethiopia is 0.11 kg (five times lower than this report finding). By way of comparison, per capita consumption is 2.4 kg in India, 11.2 kg in Egypt, 16.9 kg in Japan, 49.68 kg in USA and 64.86 kg in Israel.

### 4.1.3 EGG PRODUCTION

According to the CSA (2017/18), total egg production in 2017/18 was 136 million, of which 63% came from indigenous breeds. The CSA's figure of 136 million eggs is far below the actual production of eggs estimated by the key sector players.

Based on data collected for this report, taking into account a conservative estimate of 87,300 layer breeder stock, 141,700 dual-purpose parent stock, and a commercial layer of 166,400 the annual egg production is estimated at 1.83 billion eggs or about 73,357 tons. Using these figures, the per capita consumption of egg is 0.7 kg (or about 18 eggs), which is far below the world average.<sup>3</sup> The population of indigenous layers has declined in the past 10 years, as a result of the expansion of the commercial sector has increased

market penetration in the rural community in layer and dual-purpose chicken distribution. See Table 2.

According to the CSA, the population of laying hens is about 19.5 million, of which exotic breeds represent just (11.81%). The contribution of exotic breeds (which are supplied by the commercial sector) increased from 2% in 2012/13 to 25% in 2017/18. About 75% of egg production comes from traditional backyard farmers who own indigenous breeds, and 25% comes from the commercial sector. About 39% of the total eggs produced at national level are available for sale.

However, this report indicates that the commercial sector contributes about 12.2 million layers, which is much greater than the contribution of the commercial sector as indicated by the CSA.

TABLE 2: TABLE EGG PRODUCTION

FARM NAME	LAYER BREEDERS	DUAL	TOTAL BREEDERS	TOTAL LAYERS	EGGS PER ANNUM	TOTAL
EthioChicken		120,000	120,000	5,540,400	120	664,848,000
EthioChicken	30,000		30,000	1,385,100	120	166,212,000
Alema Farms	7,500		7,500	692,550	246	170,367,300
Gerado Farms	10,000		10,000	923,400	246	227,156,400
Ene Ali Yimer	3,000		3,000	277,020	246	68,146,920
Golden Poultry Farm	4,500		4,500	415,530	246	102,220,380
Hawassa Farm	10,000		10,000	923,400	246	227,156,400
Hawassa Farm		20,000	20,000	923,400	120	110,808,000
BedeLe Farm	3,500		3,500	323,190	246	79,504,740
EIAR	3,800		3,800	350,892	246	86,319,432
EIAR		1,700	1,700	78,489	120	9,418,680
Elere Farm	5,000		5,000	461,700	246	113,578,200
<b>TOTAL</b>	<b>87,300</b>	<b>141,700</b>	<b>219,000</b>	<b>12,295,071</b>		<b>1,790,214,048</b>

COMMERCIAL LAYERS						
FARM NAME	FLOCK SIZE	MORTALITY FROM FLOCK (10%)	PRODUCTION DAYS	NUMBER OF EGGS	PRODUCTION RATE	TOTAL NUMBER OF EGGS
ELFORA	86,400	77,760	365	28,382,400	80%	22,705,920
Maranatha Poultry Farm	40,000	36,000	365	13,140,000	80%	10,512,000
Debre Holland Poultry Farm	40,000	36,000	365	13,140,000	80%	10,512,000
<b>TOTAL</b>						<b>43,729,920</b>
<b>Total egg production in quantity</b>						<b>1,833,943,968</b>
<b>Egg weight in kg</b>						<b>0.04</b>
<b>Total egg production in kg</b>						<b>73,357,759</b>
<b>Total population</b>						<b>100,000,000</b>
<b>Per capita egg consumption in no. of eggs</b>						<b>18.339</b>
<b>Per capita egg consumption in kg</b>						<b>0.734</b>

Note: Key parameters used for the estimation of egg production are: 288 fertile eggs produced per annum per parent stock layer; a mortality rate of 10% for the parent stock; a hatchability rate of 75%; 50% chance of female layer; 5% mortality rate at farm level; and 50% backyard farmer-level loss (for dual-purpose chicken only). See Annex 2 for more details.

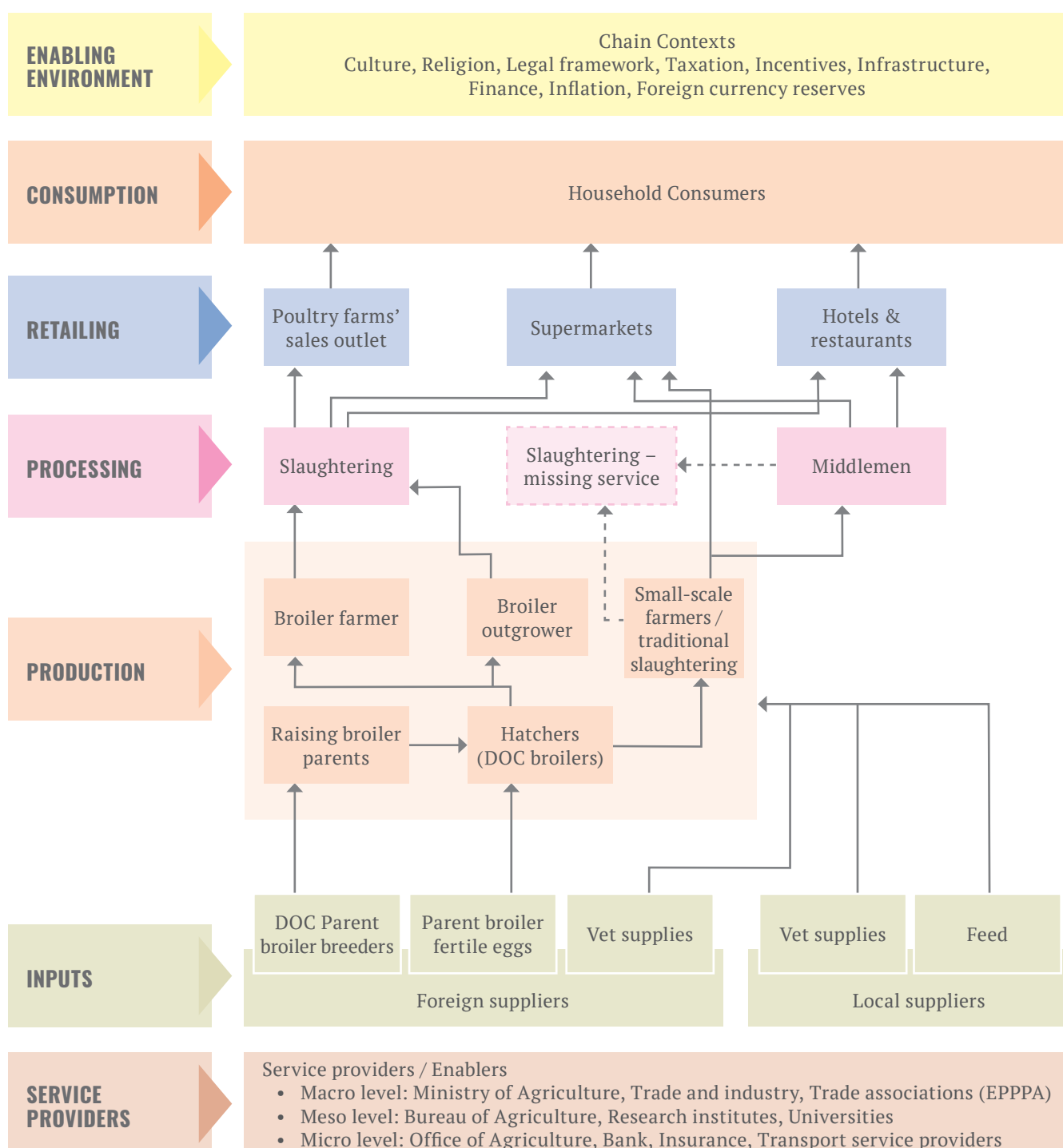
<sup>3</sup> According to the FAO (2019 data), Africa's average egg consumption is 2.3 kg per capita per year, while USA's is 11.4 kg and Europe's is 12.7 kg. The world average is 8.9 kg. USA's per capita egg consumption is about 250 eggs per year.

## 4.2 COMMERCIAL POULTRY VALUE CHAIN

Big players in the poultry sector are commercial farmers, processors, supermarkets, kiosks, open market retailers, hotels, restaurants and household consumers. Other key players are feed processors, DOC suppliers, feed premix importers and suppliers, vet service providers and equipment suppliers. The Ministry of Agriculture, regional agriculture bureaus and woreda-level agriculture offices play an important role in setting and implementing policies, providing technical and extension support, and facilitating PPPs.

In addition, other government institutions provide support in research and development activities. Non-governmental organizations (NGOs) and trade and professional associations have their role in supporting the private sector through development activities, such as interventions to address identified bottlenecks that are hindering sector development. Key value chain contexts that positively or negatively affect the poultry value chain are issues related to access to land, access to finance, the legal framework, culture, investment incentives and infrastructure.

FIGURE 1: POULTRY MEAT VALUE CHAIN





## 4.2.1 THE POULTRY VALUE CHAIN

### Input suppliers

- » **Parent stock**  
Parent stock is sourced from foreign suppliers, as there are no grandparent producers locally. Commercial farmers directly import DOC parent stock. Though not significant in volume, a few poultry farms import fertile eggs.
- » **Veterinary supplies**  
Veterinary supplies are sourced from local producers and from foreign suppliers. The National Veterinary Institute (NVI) is the key supplier of vaccines in Ethiopia.
- » **Poultry feed**  
Poultry feed is largely produced locally. Key ingredients for the production of feed, including premixes and vitamins, are imported from abroad. Most of the large- and medium-scale commercial farms have their own processing plants, which produce feed for internal consumption only. Some large-scale feed processors specialize in the production and supply of poultry feed. Section 5 of this report provides an in-depth assessment of the input value chain.

### Broiler DOC producers and distributors

Key players in broiler production are large- and medium-scale commercial farms that have parent stock. Alema Farms, ELFORA, Fantu, SW Farm, Bistrate Gebriel Poultry Farm, Elere Farm and Chico Meat collectively produce about 4.3 million broiler DOCs per annum.

**The business model for broilers:** Some of the large-scale commercial farms (such as Alema Farms and ELFORA) have fully-integrated poultry meat production, including DOC production, distribution of DOCs and/or fertile eggs, growing broilers, meat processing, and distribution of meat through their sales outlets. These farms also supply directly to hotels and supermarkets.

The second business model starts from the sourcing of broiler DOCs. Medium- and small-scale commercial farms start from the acquisition of DOC broilers (sourcing from large-scale commercial farmers), do the processing, and sell to hotels and restaurants.

The third business model is an out-grower scheme. Under this model, poultry farms distribute DOC broilers to small-scale poultry farms and repurchase them at a pre-agreed price after they have grown. They then slaughter, pack, and distribute through their sales channels. Chico Meat is a good example of the use of this model. FW Farm, which is a sister company of SW Farm, also specializes in slaughtering and packing, mainly sourcing from SW Farm and from out-growers.

### Layer DOC producers, importers and distributors

The major suppliers of DOCs are commercial farmers concentrated within a 100km radius of Addis Ababa. There are also commercial farmers that produce DOCs in regional towns.

Figure 2 shows the value chain of table egg production.

**The business model for layers:** The first business model is the production of eggs starting with the acquisition of commercial layer DOCs, such as ELFORA, Maranatha and Debre Holland poultry farms. Medium-scale farms such as Gerado Poultry Farms start from the acquisition of fertile eggs to produce DOCs.

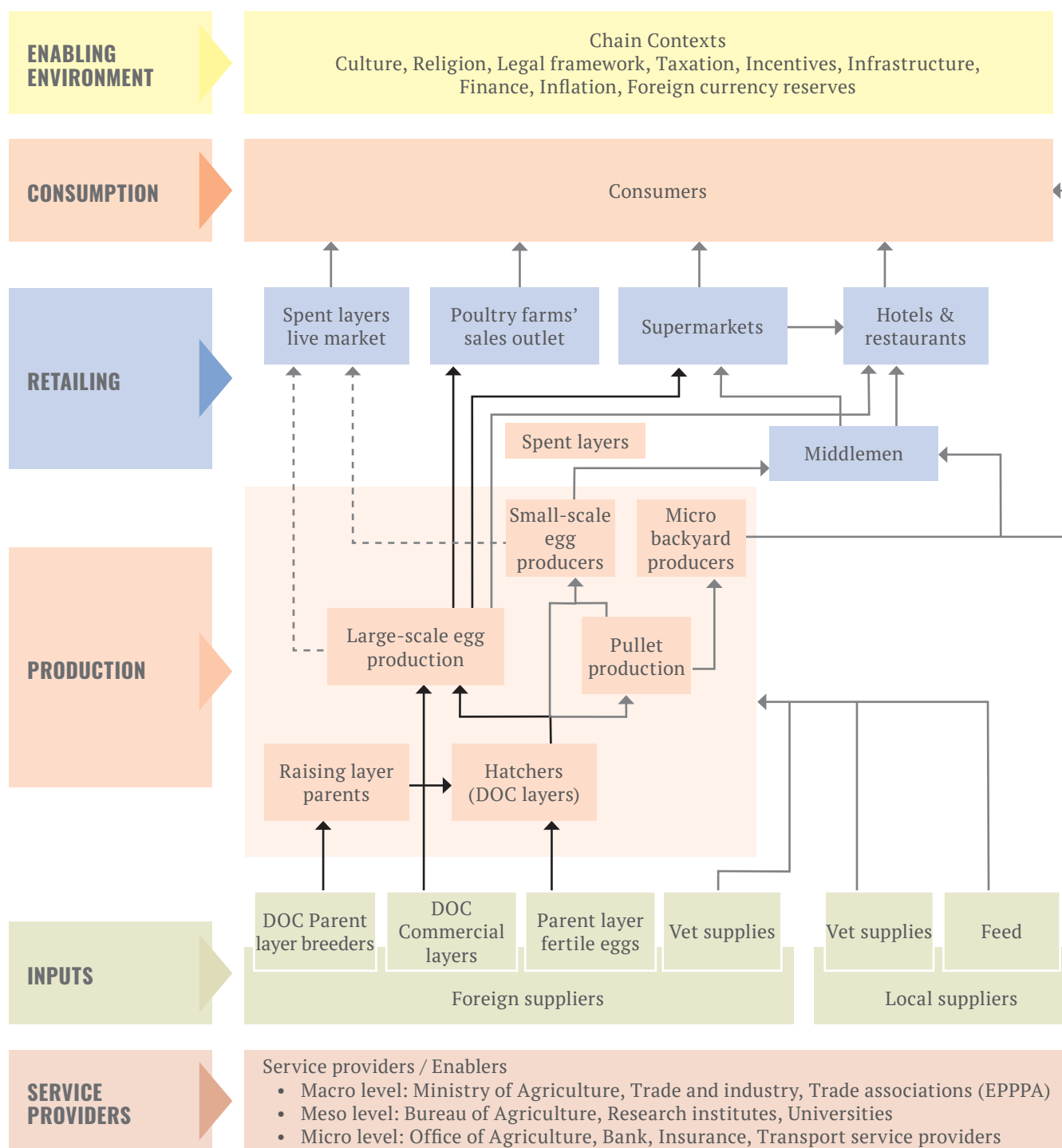
The second business model involves multiple activities, including the import of layer parent stock (breeders), commercial production, and distribution of DOC layers. Major suppliers of layers and/or dual-purpose chickens are EthioChicken, Alema Farms, Hawassa Farm and Gerado Farms. These farms sell DOC layers in different ways. Some of them (Alema and Gerado) distribute layer DOCs to small and medium-sized poultry farms. Others (EthioChicken and Hawassa Farm) distribute a significant portion of their layer and dual-purpose DOCs through a PPP arrangement.

The third type of model is distribution through agents. EthioChicken distributes DOCs through its 5,300-plus agents throughout Ethiopia. EthioChicken distributed about 20 million DOCs in 2019. Major customers of DOC are medium- and small-scale poultry farms that do not have their own hatchery facilities or parent stock. Some poultry farms sell DOCs together with feed as a package.

The fourth model is the production and distribution of pullets. Some commercial farms sell layers at the pullet stage. Alema Farms and Gerado Farms are examples of this model. Alema Farms sells about 40,000 pullets per annum. Major customers for pullets are youth and women's group enterprises, as well as rural backyard poultry farmers. Some farms supply pullets to small-scale farms. For example, Hawassa Poultry Farm sells about 140,000 pullets annually through the PPP scheme.

The fifth business model (which is not a commercial business) is the production and distribution of layer DOCs by government institutions that are not for profit. Debre Zeit Agricultural Research Center (DZARC), a public institution, sells DOCs and fertile eggs for its dual breed at ETB 10, for farmers, youth enterprises and private companies, with the objective of promoting poultry production. Due to the limited supply, there is often a long queue to receive orders from DZARC. In the coming years, DZARC plans to increase its DOC production capacity fivefold. Though small in size, there are also other government-owned hatcheries that produce and distribute DOCs.

FIGURE 2: TABLE EGGS VALUE CHAIN



## Hatchery

All of the large-scale farms and most of the medium-scale poultry farms have their own hatchery facilities. Poultry farms' hatchery capacity ranges from 4,000 to 850,000 per batch. Common brands of hatchery equipment used are Petersime, Pasreform, Victoria and Robinson, as well as Chinese and locally produced hatcheries.

Some of the poultry farms operate their hatcheries under capacity, mainly due to the short supply of foreign currency for the importation of parent stock or commercial layer DOCs, and/or shortage of feed supply or internal management issues.

Table 3 shows the hatchery capacity and utilization rate of some poultry farms.

## Processing

Generally, there are only a few farms engaged in poultry processing such as Chico Meat, FW agro-processing and Alema Farms. However, there are no specialized poultry businesses conducting chicken slaughtering services for the public. Those businesses that operate in an out-

grower scheme raise broilers on their own or source them from their related companies. Most poultry farms are self-sufficient and some small-scale farms process meat in a poorly equipped facility. The lack of slaughtering, marketing and cold storage facility services results in market loss for mainly small- and medium-scale poultry farms during times of over-supply. Supply could be regulated if there are consolidated and specialized slaughtering, storage and marketing services.

## Retailing

Table eggs are produced by farms with different capacities. These can be categorized as large-, medium- and small-scale farms. Small-scale farms include micro-enterprises, such as those operated by youth and women's groups (enterprises), and individual rural backyard poultry farmers.

Most of the commercial farms have their own sales outlets and directly sell to supermarkets and hotels. Small-scale farms and some medium-scale farms sell to traders who have market networks. These traders mainly supply hotels, restaurants and supermarkets.

TABLE 3: HATCHERY CAPACITY OF POULTRY FARMS IN ETHIOPIA

	SETTER	HATCHER	MACHINERY TYPES
ELFORA	1,000,000	850,000	
EthioChicken	2,118,400	335,360	Chick Master
Alema Farms	450,000	350,000	Petersime, Victoria
Hawassa Poultry	247,800	75,200	Petersime, Victoria and Chicken Master
Gerado Farms	153,600	38,400	Pasreform
Gerado Poultry Farm	72,150	26,800	Pasreform and Victoria
Seyoum and Abebayehu	38,400	19,200	
SW	76,800	19,200	Pasreform
EIAR	153,600	38,400	Pasreform and Victoria
Getu	76,800	19,200	Pasreform
KSMA	18,300	6,300	Victoria
Bethel Farm Asegedech	57,600	19,200	Petersime
Abebaw Geses/Mojo	28,080	7,000	Robinson
Asefa Holleta Farm	18,400	6,300	Victoria/Chinese-made
Almaz	22,000	–	Locally produced
Adele	18,400	6,300	Victoria
Bedele	18,400	6,300	Victoria
Beke	8,400	–	Chinese
Alage TVET	18,400	6,300	Victoria
Adama	37,000	6,400	Victoria
Addis Ababa Urban Agriculture	38,448	12,852	
Papazone Poultry	10,000	4,000	Chinese-made
<b>TOTAL</b>	<b>4,670,978</b>	<b>1,848,712</b>	

*Note: It is estimated that this list captures at least 95% of the hatcheries available in Ethiopia by the end of 2019. Some of the hatcheries and setters are not functional for a number of reasons, including lack of foreign currency, inputs or working capital.*



## Traders and brokers

The role of traders in the value chain is to collect poultry products – mainly live chickens, eggs and poultry meat – and distribute them to different customers. Traders based in urban areas mainly source from small and medium-sized farms. They sell their products in village markets, kiosks, supermarkets and hotels. Some traders carry out slaughtering but often have sub-standard facilities. Some large supermarkets prefer to buy from large commercial farms due to quality concerns, although hotels often prefer to buy from traders, as traders ensure more sustainable supplies compared to some small- and medium-scale poultry farms, which may not always be able to supply a product (for reasons explained above). Though traders/brokers are filling the vacuum in relation to sustainable supplies, many small- and medium-scale farmers complain about that they are pressurizing them to decrease the selling price and disseminating wrong information about the supply and demand of poultry products.

## Supermarkets, hotels and restaurants

More than 85% of processed meat is supplied to more than 100 supermarkets, hotels and restaurants. Moderate size supermarkets sell between 30 and 80 kilograms of chicken meat per week and between 1,000–2,000 eggs per week. Supermarkets source poultry meat mainly from large-scale poultry farms and some from medium- and small-scale farms. In addition, they also source eggs from all available sources, including traders.

Hotels and restaurants, which have significantly increased in number in the last 10 years, are also major buyers of poultry products. They source from traders and commercial farmers. Global franchises such as Pizza Hut, specialty restaurants including Chicken Hut, WoW Burger, Roomi Burger and other fast food vendors, are also major buyers of poultry meat.

## Kiosks and village markets

Apart from supermarkets, poultry products are also distributed to small shops (kiosks) and village markets by traders. In this area of the market, table eggs are usually distributed. However, live chickens, such as spent hens that are to be consumed as chicken meat, are occasionally distributed to local village markets.

## Consumers

Householders source poultry meat from commercial farm sales outlets and supermarkets. For traditional cuisine, consumers prefer to buy live chickens, slaughtered local breeds or spent layers.

Many small towns and rural communities do not have supermarkets and well-established hotels and restaurants which provide broiler chicken meat. This segment

of society is not a direct consumer of commercial broilers. Their main sources of meat are the indigenous breeds, spent layers and dual-purpose chickens. According to the CSA, 27% of poultry is produced by traditional backyard poultry producers and 27% of the eggs produced are consumed by household-level producers, while the remaining 73% are sold through village markets. Brokers in urban areas, including in major towns and cities, collect live chickens (mainly spent hens and indigenous breeds) from villages and sell them to open market traders. Table eggs are largely consumed at the breakfast table in households, hotels and cafés. Other users include pastry and cake producers. During holidays, eggs are also added to traditional *doro wot* cuisine.

Addis Ababa is the major market in Ethiopia for poultry meat and eggs. The increasing urban population and the growing hospitality sector in the capital have contributed to the growing demand for poultry products. Tourist arrivals have grown by 14% annually (UNWTO 2019). Ethiopia has surpassed Kenya in terms of hotels and related hospitality establishments, and international brands that are located in the country include Hilton, Sheraton, Marriott, Golden Tulip, Radisson Blu, Ramada, Pullman and Hyatt Regency. In addition, prominent local hospitality and hotel brands are on the rise.

There are about 80 hotels in Addis Ababa that are rated at two stars or above. Ethiopia has the largest hospitality sector in East Africa. The network of Ethiopian Airlines, and the presence of convention centers, including the African Union and the United Nations Economic Commission for Africa, make Addis Ababa an attractive location for international conferences. In the past few years, chain restaurants specializing in poultry meat have been expanding.

At household level, the traditional cuisine, *doro wot*, is a popular chicken dish in most of the regions of Ethiopia. The lengthy preparation process and the cost of ingredients (including eggs) make *doro wot* expensive. The ever-increasing price of chicken and eggs, induced by increasing feed costs, makes them unaffordable for many. The development and promotion of various easy-to-make and less costly cuisines at household level are identified as part of the strategy in the LMP.

## Import

Imported poultry meat represents less than 0.6% of annual poultry meat production in Ethiopia. The volume of imported chicken meat increased significantly in the past five years, almost by 100 times. Frozen meat constitutes about 67% of total chicken meat imports. Figure 3 shows the volume of imported chicken meat. Frozen chicken meat is mainly imported from Brazil (67%) and France (33%). Fresh or chilled meat is imported mainly from Ukraine.

As the local DOC supply is not sufficient for poultry farms, some import DOCs for resale and for their own use. According to the ITC database, in 2017, about 430,000 DOCs were imported, which includes broilers, layers and parent stock.

Live chickens are imported mainly as parent stock and DOCs, either for layer, broiler or dual purpose. Ethiopia imported 438,391 live chickens in 2017 from different countries, including Belgium (41%), the Netherlands (28%), Brazil (27%) and Germany (4%). The volume of imported live chickens has not grown to the same extent as the volume of imported chicken meat. This is partly due to the increase in the production and supply of DOCs locally. Since 2013, the annual volume of imported live chicken has grown at an average rate of 5.4% annually (Table 4).

### Pricing

The price of poultry products varies depending on the size of poultry product supply and demand. Supply and demand are affected by the availability of feed, feed cost, foreign currency, holidays, fasting seasons and other factors.

The prices indicated below are those captured at the time of preparation of this report, in the third quarter of 2019.

- » *Broilers*: The price of broiler meat ranges from ETB 60 to ETB 80 per kilo when sold from a farm. Retailers sell at a price between ETB 110 and ETB 125, depending on the season or supply.
- » *DOCs*: The price of DOCs ranges from ETB 28 to ETB 30. DZARC sells DOCs and fertile eggs at ETB 10 per unit, which is three times lower than the market price.
- » *Pullets*: The price of pullets ranges from ETB 100 to ETB 120.
- » *Table eggs*: The price of eggs at producer level ranges from ETB 4.00 to ETB 4.50; at retail level it ranges from ETB 5.00 to ETB 5.80.

### Competition

Generally, large-scale poultry farms have a stable market through their channels, although there are instances where impact of competition is seen, such as when supply volume surges or where demand fall during fasting season or because other factors. Some small-scale farmers point out that certain large-scale poultry farms from which they source broiler DOCs compete with them in the poultry meat market.

FIGURE 3: IMPORT OF POULTRY MEAT

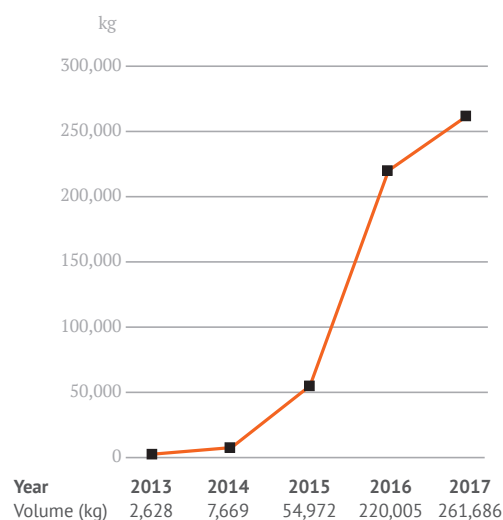


TABLE 4: QUANTITY OF LIVE CHICKEN IMPORTED INTO ETHIOPIA BETWEEN 2013 AND 2017

Source: ITC

2013	2014	2015	2016	2017
359,747	264,661	350,823	498,125	438,391

## 4.3 EXPORT

Ethiopia has the opportunity to export poultry products across Africa since it's a member of COMESA and CFTA. With the existing limited capacity, poultry farms exported 24,300 kilograms of eggs to Somalia and Djibouti in 2017. In the same year, 46,000 DOCs and 21,800 chickens weighing more than 185 g were exported to Rwanda, Somalia and Djibouti – EthioChicken exported to its branch office in Rwanda; commercial farmers exported to Somalia and Djibouti. Theodros Kassahun was the only exporter to Djibouti and Somalia in the past two years.

**Social changes:** Ethiopia's population is estimated to be about 110 million (end of 2019) and to reach up to 130 million by 2032, which represents about 1.4% of the world's population. This is a huge market potential for consumable products. While Ethiopia's has the lowest proportion of urban residents in the world, the urban population has grown rapidly in the last 20 years, from 14% to 21%, and growing urbanization triggers more demand for poultry products. It is also worth noting that more than 60% of the population is below the age of 24, which represents an extensive pool of human resources.

**Economy:** The economy of Ethiopia has been growing at annual average rate of 8.9% since 2012 and is expected to register an annual average rate of above 7% up to 2024 (IMF). Figure 5 shows GDP growth trends and estimates since 2000.

Over the past four years the inflation rate has increased 2–3% every year and is currently about 18%. Foreign currency reserves have been at their lowest in the past few years and are expected to continue at this low point for the coming one or two years. The GoE provides a number of incentives for investors engaged in export marketing. For poultry businesses, the export of DOCs and parent stock from Ethiopia is a potential investment line. Foreign investors are permitted by law to repatriate their profits or their net proceeds from business disposal in foreign currency. Details of investment incentives are available at [www.investethiopia.gov.et](http://www.investethiopia.gov.et).

**Infrastructure:** The GoE has been investing in infrastructure for the past 20 years, including in transport, electric power and telecoms. Ethiopian Airlines, the largest airline in Africa, has its hub in Addis Ababa. Those engaged in the export and import of light and perishable items, including DOCs and parent stock, can take advantage of Ethiopian Airlines' network of destinations across the globe.

In spite of multiple infrastructure projects, road coverage and electric power are still a challenge to development initiatives. The completion of the Great Renaissance Dam and other power projects are expected to satisfy growing power demands. Close to 90% of electricity is generated by hydropower, which makes the cost of electricity relatively cheap compared to other countries.

FIGURE 4: MONTHLY EGG DEMAND PATTERN OF FRIENDSHIP SUPERMARKET 2018/19

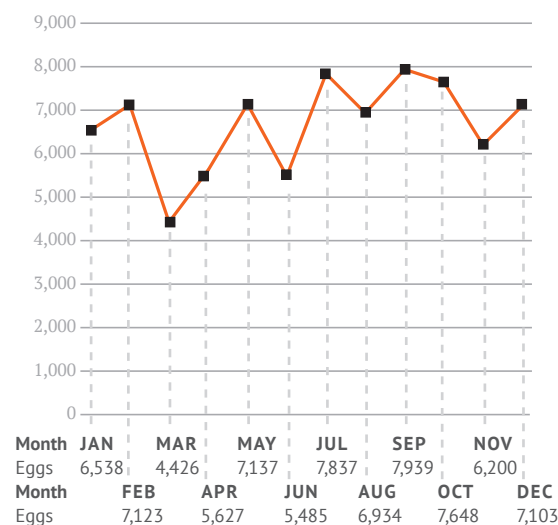
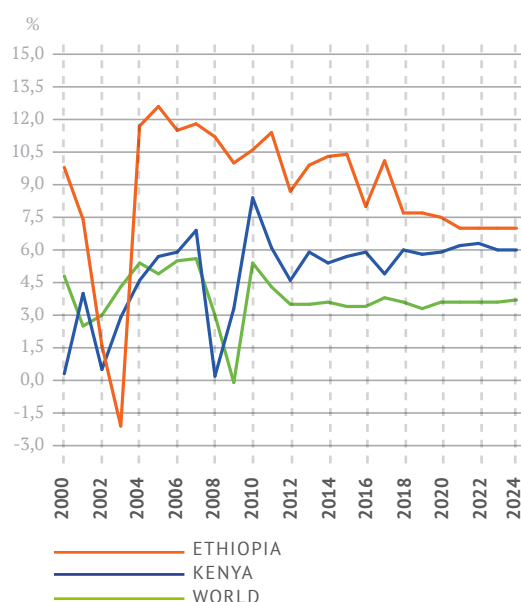


TABLE 5: EXPORT OF EGGS FROM ETHIOPIA

2013	2014	2015	2016	2017
159,066	58,014	42,300	80,190	24,300

FIGURE 5: GDP GROWTH TRENDS AND FORECASTS

Source: IMF, 2019





**Poultry health:** The most common disease is Newcastle, followed by Gumboro, infectious bronchitis, fowl pox, coccidiosis and salmonellosis. Vet services are available from local producers and importers. Some poultry farmers have concerns about the quality of vet supplies imported from some Asian countries and some supplies produced locally. There are investment opportunities in Ethiopia for the manufacture of high-quality vet supplies.

**Legal framework:** The legal framework for doing businesses and investments is generally clear and workable. While Ethiopia in recent years has been rated low in World Bank's overall index of 'ease in doing business', the GoE has established a taskforce to relax stringent business registration and other related business services. The trade registration proclamation was revised in 2019.

When it comes to the poultry sector, the LMP clearly shows the government's intention to make significant changes to the sector. The plan covers the years 2015 to 2020, although it seems that the targets are not achievable within the remaining one-year span. It is expected that the government will develop a revised roadmap for the next five years. Policies in the area of biosecurity, regulation of DOC production and distribution are under revision and the Ministry of Agriculture has developed a standard for poultry feed.

Poultry farmers have indicated that there is an absence of a clear policy which defines the roles of private and government institutions in poultry production, processing and marketing; and inadequate poultry disease prevention and control systems. The marketing of commercial poultry products is yet to be regulated.

A poultry policy is under development by the MoA's Poultry Directorate. Currently, the Ministry has stated that the poultry policy will be compiled as part of the livestock policy. However, the Ethiopian Poultry Producers and Processors Association (EPPPA) is lobbying for a separate poultry policy in order to secure greater exposure of the ministry's aims and targets for the poultry sector.

Foreign investors are allowed to invest in the poultry sector and foreign manufacturers can supply to Ethiopian importers. In general, it is allowed for Ethiopian nationals to import into Ethiopia DOCs and poultry production inputs, including medical supplies, equipment, and feed ingredients. However, foreign investors cannot establish such a business in Ethiopia.

Key data on the legal framework are included in [Annex 6](#).

**Government institutions:** The Ministry of Agriculture (at federal level), bureaus of agriculture (at regional level) and offices of agriculture (at woreda/district level) play key roles in the setting of policies and the provision of technical and extension services. The rural community accesses vet services from public animal health posts. Other specialized government institutions also provide services. See Section 5 for a brief description of government institutions which provide support to the poultry sector.

## 4.4 ACCESS TO FINANCE

The finance sector includes banks, microfinance and private equity organizations, grants from donor programs, and insurance companies. There are about 17 banks and 17 insurance companies in Ethiopia, with total assets of ETB 835 billion, excluding the Development Bank of Ethiopia (DBE). The state-owned Commercial Bank of Ethiopia (CBE) is the largest bank. CBE's total assets (ETB 712 billion) are six times larger than the combined assets of all private commercial banks. Commercial banks are regulated by the National Bank of Ethiopia. Key issues to know about financing from commercial banks are:

- » Agriculture is one of a priority sectors for the CBE, and in many banks 20% of the loan portfolio is earmarked for the agriculture sector, which includes poultry (10–25% in the case of DBE).
- » Banks generally view the poultry sector as moderate or low risk.
- » The interest rate charged is based on a matrix of duration, type of collateral offered and business sector. There is no specific interest rate for poultry, but the minimum is 11.5% (CBE and DBE). Awash Bank (private) has the highest interest rate – between 15% and 17% if the products are for local sales, and 9% if they are for export.
- » Collateral is mandatory to secure a loan, and also has an impact on the interest rate.
- » Banks require a business plan/feasibility study when an investor applies for financing.

## 5. INPUT SUPPLY

### 5.1 FEED

#### 5.1.1. POULTRY FEED VALUE CHAIN

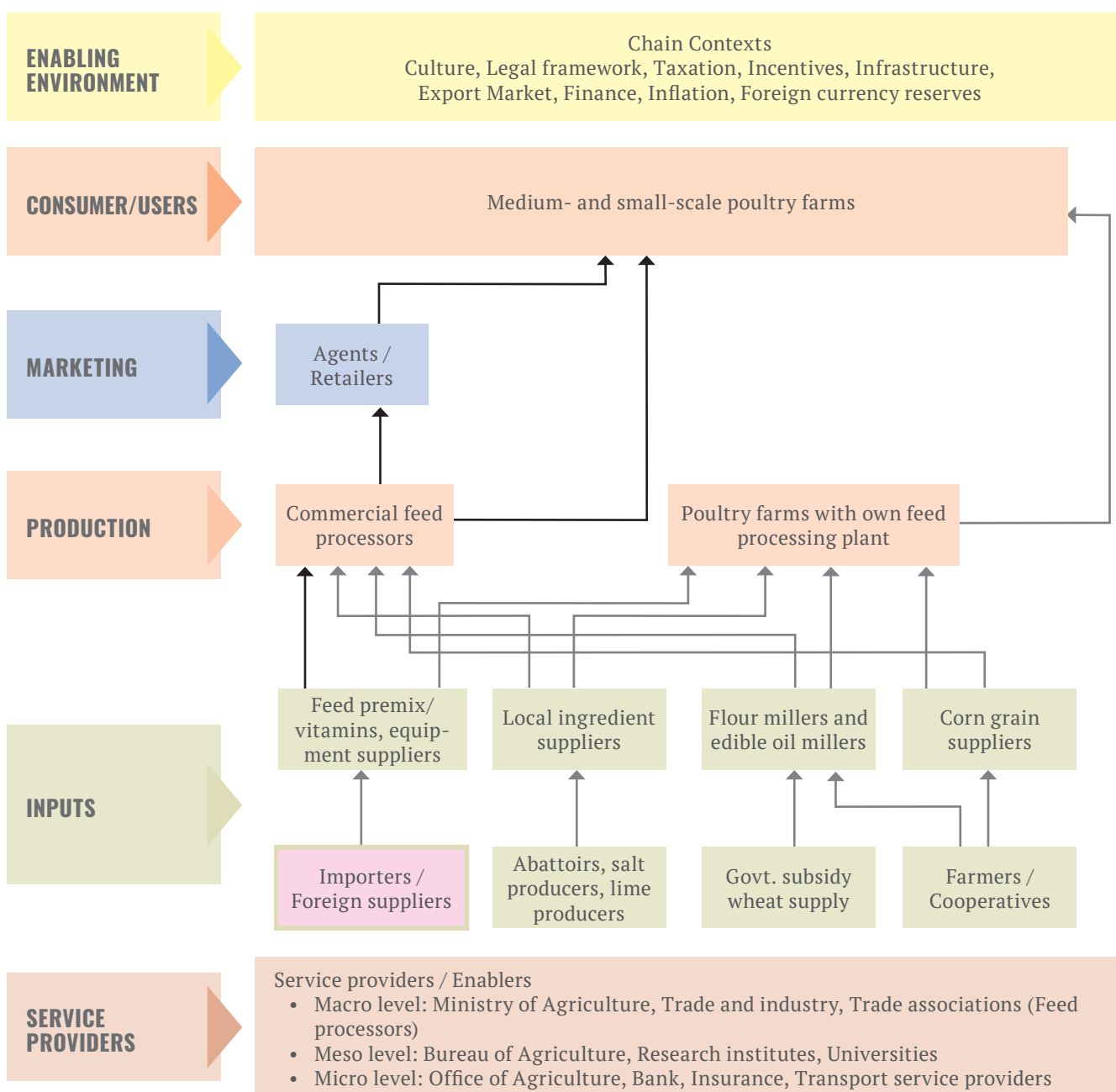
The poultry feed value chain broadly consists of input suppliers, feed processors, retailers, enablers and the chain contexts. See Figure 6.

#### Input suppliers

Animal feed input suppliers include importers who supply vitamins and minerals, feed ingredients and poultry equipment. Some importers directly supply to feed processors and others sell through distributors. Flour millers supply wheat bran and middling, and edible oil millers supply oil cakes. Other suppliers include salt producers and retailers, lime producers and retailers, and poultry abattoirs. Farmers and farmers' organizations (cooperatives and unions) are major suppliers of wheat grain to flour millers and corn (maize) to traders.

FIGURE 6: POULTRY FEED VALUE CHAIN

Source: Based on data analysis



The government also imports and distributes wheat grain at subsidized prices. Wheat millers who agree to sell wheat flour at a fixed price are allowed to share a quota from subsidized wheat supplies. Brokers play a significant role in linking traders and feed processors in the purchase of maize.

#### *Soya bean and maize supply*

Soya bean and maize constitute more than 50% of the ingredients. Between 2011 and 2016, soya bean and maize production volume increased annually at average rates of 31.6% and 4.5%, respectively. However, the supply of both products is far below demand (Table 6).

The FAO's data on the production of soya bean and maize is slightly different from CSA data, as shown in Table 7.

As indicated above, the agriculture sector is dominated by smallholder farmers. A significant volume of production is used for household consumption and reused for seed. According to the CSA, only 13% of the total maize produced and 54% of soya bean produced were supplied to the market. This means that 92,900 tons of maize and 44,300 tons of soya bean were available for sale in 2015/16. The volume of soya bean exported in 2015 was 32,697 tons, which represents about 74% of soya bean available for sale. Hence, only 11,603 tons of soya bean were available to the local market. Poultry feed processors are not the only buyers of soya bean. Food processors also compete for the purchase of soya bean. Table 8 shows the trend in the volume of soya bean exported by Ethiopia.

Feed processors mainly buy soya bean and maize from traders. Brokers, with their network and marketing information capability, significantly influence the price. Feed processors accuse brokers of artificially inflating prices and sabotaging the market by hoarding stock in anticipation of price hikes.

#### *Premixes and other ingredients*

Other feed ingredients used by poultry feed producers are premixes of amino acids, concentrates, trace minerals and vitamins. According to a feed assessment report issued in 2018, about 677 tons of feed supplements were imported in 2015/16, of which 90% (about 610 tons) was for poultry feed production. Specifically, poultry premix accounted for 43% of total imports, while layer/broiler concentrates accounted for 30%.

There are 15 enterprises engaged in the importation of supplements (premixes, additives and vitamins), while three enterprises are engaged in the manufacturing of supplements. Ten of these importing enterprises are situated in Addis Ababa, while the remaining five are situated in Oromia (four) and SNNPR (one).

**TABLE 6: ANNUAL SOYA BEAN AND MAIZE PRODUCTION IN METRIC TONS – CSA DATA**

	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
<b>Maize</b>	6,069,413	6,158,318	6,491,540	7,234,955	7,150,835
<b>Soya bean</b>	35,880	63,653	61,025	72,184	81,242

**TABLE 7: SOYA BEAN AND MAIZE PRODUCTION IN METRIC TONS – ACCORDING TO FAO. Source: FAOSTAT. FAO indicates that the data for 2013–2016 are official and the 2017 data is FAO's computation**

	2013	2014	2015	2016	2017
<b>Maize</b>	6,491,540	7,234,955	7,882,444	7,847,175	8,116,787
<b>Soya bean</b>	61,025	72,184	89,554	81,235	84,033

**TABLE 8: SOYA BEANS EXPORTED BY ETHIOPIA IN TONS**  
Source: ITC database, ERCA

	2014	2015	2016	2017	2018
<b>Soya beans</b>	35,532	32,697	73,275	53,935	84,733



## Cost of poultry feed structure

Feed ingredients constitute about 55–70% of the cost of feed, depending on the size and technology of the feed processing facility. The cost of transportation constitutes 10% to 15%, and labor and overheads account for about 10% each.

Feed accounts for 40–70% of the cost of poultry production; for some small farms, it may represent up to 80% of the cost of production. The production size, the volume of purchase or production, proximity to the feed supply and seasonal price fluctuations affect the overall feed cost in terms of the proportion of the total cost of poultry production. Higher economies of scale and better access to feed supplies will lower the cost of feed per unit of production. Feed processors mainly use local inputs, except premixes and concentrates, which represent 10% of the feed composition. The total feed required for poultry production is estimated at 2.7 kg of feed per kg of egg for layers and 1.8 kg of feed per kg of live weight of broilers.

The average prices of the different feed ingredients have increased by over 100% in the past eight years.

Table 9 shows the unit price of feed ingredients in 2011, 2016 and 2019.

### Key challenges

**Access to land:** The highlands of Ethiopia are dominated by smallholder farmers where the value chain between the farmers and feed processors is too inefficient. It is often difficult to predict the volume of maize and soya bean production, as millions of farmers decide individually what to produce within the small plots of lands that they have. Although the GoE encourages investors to enter into large-scale commercial farming, no significant change has yet been observed in terms of supply.

**Broker interference:** Many feed processors complain about grain trade brokers sabotaging the supply of corn and causing artificially inflated prices. This is an indication of the weak value chain link between producers and feed processors.

**Feed quality:** The quality of concentrate feed is a concern for some of the feed processors, as is the quality of compound feed for poultry farms. Although the Ministry of Agriculture has issued quality standards for poultry feed, due to the lack of enforcement, sub-standard items affect the productivity of poultry farming, especially for small- and medium-scale farms.

**Foreign currency supply:** The shortage of foreign currency has increased the lead time between ordering and receiving supply input imports such as premix. During long waiting periods to obtain foreign currency, there can be price fluctuations and import cost inflation of high-priced equipment, especially equipment imported from Europe.

TABLE 9: PRICE TRENDS OF FEED INGREDIENTS IN ETB

Source: Feed Processors Association (2011 and 2016), data collected 2019.

INGREDIENTS (per ton)	2010/11	2015/16	2019	Change
Maize	4,000	5,100	10,000	150%
Wheat bran	2,800	4,170	6,500	132%
Wheat middling	3,000	4,200	3,500	17%
Noug cake	3,000	4,800	9,500	217%
Soybean meal	7,500	12,000	20,000	167%
Layer rations	5,030	8,340	12,500	149%
Grower rations	5,520	10,270	13,500	145%
Chick starter rations	6,550	10,676	14,000	114%
INGREDIENTS (per kg)				
Limestone	1	2	2	100%
Methionine	185	197	200	8%
Lysine	90	134	135	50%
Vitamin premix	32	37	62	94%
Salt	3.2	4.6		44%

### Feed processors

Large-scale feed processors, such as Alema Koudijs, carry out feed production and marketing, but are not involved in poultry production. Most of the large-scale poultry farms, including EthioChicken and ELFORA, have their own feed processing facilities. Feed processors either supply their products from the factory gate or through their agents and retailers (often referred to as agro dealers). Some of the DOC sellers provide poultry feed to their customers as part of the sales package.

According to ACDI/VOCA, fewer than 100 enterprises produce animal feed as a commercial business in Ethiopia. Private plants account for 84% of compound feed production, while farmers' unions produce 16%. Most processors produce multiple feed items, including for poultry, dairy and cattle fattening; some specialize in producing just one of the items. Around 99% of feed production of farmers' cooperative unions is for dairy and fattening cattle. Poultry feed production represents 66% of total feed production by commercial feed processors. Some poultry farms have vertical integration and hence consume all their feed such as Alema Farms and ELFORA; others sell part of their feed such as Friendship and Elere and others sell all their production such as Alema Koudijs and Akaki Feed Processing.

The major feed processors are listed in [Annex 5](#).

Commercial feed processors are concentrated around Addis Ababa and the four regions (Oromia, Amhara, SNNPR and Tigray). About 68% of private feed processing plants are found in Oromia (37%) and Addis Ababa (31%), while Amhara, SNNPR and Tigray constitute 13%, 13% and 6%, respectively. Farmers' unions are evenly distributed across SNNPR, Oromia, Amhara and Tigray.

The total poultry feed production capacity in Ethiopia is estimated at 500,000 tons. The annual production of poultry feed (2019) is estimated at 270,000 tons. Some of the large-scale feed processors are operating almost at full capacity. Many of the processors are operating at a lower capacity (between 40% and 60%), mainly due to the shortage of input supplies, inconsistent demand, power outages, inflation, or because they are focusing on other animal feed products. Table 10 shows a list of 20 major feed producers (some of them are also poultry producers). The list represents more than 85% of poultry feed producers.

### Retailers

Retailers distribute feed produced by feed processors, mainly targeting small feed enterprises that cannot afford to place large-scale orders to source directly from commercial feed processors.

### Customers/Users

Small- and medium-sized poultry farms are the final consumers of poultry feed. Some of them acquire feed as a package from their DOC suppliers and others buy from retailers or directly from feed processors. Urban and peri-urban poultry farms buy about 65% of poultry feed production. About 20% of the customers are smallholder poultry farmers. Government agencies and NGOs buy about 10% and 5% of poultry feed produced, respectively.<sup>4</sup>

### Chain supporters and service providers

The Ministry of Agriculture and regional and woreda-level agricultural offices, the Agricultural Transformation Agency, the National Veterinary Institute (NVI), Veterinary Drug and Feed Administration and Control Authority (VDFACA), the Ethiopian Meat & Dairy Development Institution, various agricultural research institutes, and NGOs are among the providers of technical advice, research and grants (mainly to cooperatives) with the objective of supporting and regulating the feed sector. The LMP identified feed development as a key action item for the development of the poultry sector.

**TABLE 10: POULTRY FEED PRODUCTION CAPACITY OF SELECTED POULTRY FEED PROCESSORS IN METRIC TONS, 2019/20**

*Source: Interviews with company representatives*

COMPANY NAME	PRODUCTION VOLUME	REMARK
Alema Koudijs	78,000	
EthioChicken	50,000	
Amen Animal Feed Producer	21,600	2,000 quintals per day
Elere Farm	2,920	
ELFORA	12,000	
Yegnanesh Poultry & Feed	382.5	
Tegenu & Marshet Partnership	96	
Beyene Feed Processors	5,840	20 quintals per day
Friendship Agro Industry	21,900	600 quintals per day
Jagdesb Agro Production Plc	78,000	New company – annual capacity
Bora Integrated Poultry Farm	3,100	
Gerado Farms	30,000	Capacity is more than 60,000
OK Agro Industry	7,200	
Ethio-Feed	7,200	
Hawassa Poultry Farm	86,000	
Bisrate Gebriel Poultry Farm	4,800	
SW Poultry	4,800	
DZARC	2,500	
Bora Integrated Commercial Farms	2,500	
Addis Alem Animal Feed Processing	10,800	360 quintals per shift – 35% poultry

<sup>4</sup> Feed assessment report by ACIDI/VOCA, 2018.

## 5.2 VET SUPPLY

Vet supplies include vet medicines (mainly antibiotics), veterinary equipment and laboratory equipment. The only local producer of vet vaccines in Ethiopia is the NVI. Vaccines and other medicines are also imported from various countries, including France, Pakistan, Italy and China. Many poultry farms prefer European-origin vet supplies. Lab equipment imported from Europe is more durable than cheaper equipment sourced from Asian countries. Among the private importers of vaccine products is SumJohn Veterinary Drug medicine and equipment importer. It mainly distributes the products of France-based vaccine producer, CEVA. CEVA predominantly supplies to large-scale farms, including Alema Farms, EthioChicken and ELFORA. Some large-scale poultry farms such as ELFORA import vet supplies for their own consumption, and occasionally buy from local suppliers when they are short of supplies (often due to problems accessing foreign currency to pay for imports). See [Annex 4](#) for a list of importers of vet supplies.

Some poultry farms express concerns about the quality and availability of vet supplies from NVI. In response, NVI notes that the poor handling of vaccines by some poultry farms affects their effectiveness, such as storing vaccines at inappropriate temperatures, mixing vaccines with contaminated water (instead of distilled water), mixing failures, and improper injections. NVI is quarterly reviewed by AU-PANVAC (a pan African vet center) for quality assurance.

Key challenges in the sector include shortages of vaccines and medical supplies due to a lack of foreign currency, seasonality of demand, and the increasing cost of medical supplies. Weak health advisory services, inadequate drug supplies, poor quality of vaccines/insufficient quality control of drugs and vet supplies are common concerns of poultry farms.

## 5.3 POULTRY EQUIPMENT

Equipment for the poultry industry is imported, and includes hatcheries (industrial and small scale), cages, feeders, mixers, drinkers, and hammer mills, as well as equipment for cold storage and slaughtering. Products are usually tailor-made to meet customers' specifications, and products originating from Europe are typically reliable and durable. There are also local equipment manufacturers. Equipment suppliers are listed in [Annex 4](#). The rising cost of equipment, as a result of inflation and the short supply of foreign currency, increases the cost of production at poultry farms.

## 5.4 INVESTMENT OPPORTUNITY

**Investment in large-scale farms for the production of soya bean and maize:** As indicated above, most of the large-scale feed processing plants are operating at close to full capacity, while medium-size farms are operating under capacity, mainly due to the limited access to feed supplies and inability to absorb price hikes. The most significant cost of poultry production is the cost of feed. Consequently, the supply of feed to poultry farms is determined by success of feed producing companies which in turn is highly dependent on a consistent and sustainable supply of maize and soya bean. Therefore, investing on maize and soya bean in a large scale is seen as an opportunity for investors.

**Premix manufacturing:** Some feed processors halt their operations when they run out of premix. In addition to quality concerns, supply is sometimes affected by the availability of foreign currency to importers. Potential investors may also consider neighboring countries for the export of premixes to operate at a larger scale.

**Manufacturing of poultry equipment:** As the sector grows, it will become increasingly expensive for many new entrants to import poultry equipment. This represents an opportunity for investors to establish manufacturing businesses for key and fast-moving poultry equipment. An assembly plant could be a quick-win to enter into the market instead of a large-scale manufacturing plant. Investors can also consider neighboring countries for the export of poultry equipment produced in Ethiopia. There is a huge demand for equipment that makes poultry producers more efficient in terms of cost and productivity. Investors may need to explore the cost-effective technologies in the context of an infant but fast-growing sector.

**Consultancy/Education services:** This is an opportunity for a knowledge institute to invest in consulting and research services, such as for feed composition, based on available resources in Ethiopia and also taking into account the genetic make-up of breeds in use. Potential customers would be the GoE, as well as NGOs and international organizations working in development of the poultry sector.

**Production of vet medicines:** Investors have opportunities to invest in the production of vet supplies in Ethiopia. Favorable conditions include tax exemptions for the import of components for the production of vet supplies; a clear and transparent registration process for new vet supplies by the controlling authority (VDFACA); and huge demand from customers seeking to access reliable vet supplies. For those who wish to invest at a larger scale, the export market is an alternative, which can attract more incentives from government.

## 6. PROSPECTS OF THE POULTRY SECTOR

**Private Public Partnership:** It is the policy of the Ethiopian government to promote Private Public Partnerships (PPPs) for the production and distribution of DOCs and vaccines, and to reach as many smallholder farmers as possible. Though it is at an infant stage, some commercial farms are working in collaboration with the GoE to distribute DOCs.

The LMP sees the distribution of improved semi-scavenging and tropical pure breeds by the private sector as a vehicle to transform and improve the traditional family poultry farming system. In the policy, the government has also expressed its intention to support private commercial farms and other actors in establishing grandparent farms. The government envisages private grandparent farms with a capacity of 110 million DOCs by 2028 through promotion, incentives, business extension services and consumer training. The government has also indicated in the LMP that it will make available 122,000 ha and 102,000 ha of land for the production of maize (580,000 tons) and soya bean (299,000 tons), respectively.

**Environment:** Environmental concerns appear to favor the poultry sector compared to other popular sources of meat. Poultry is believed by many to be the meat product of the future, as it has the lowest of all CO<sub>2</sub> emissions.

### Government intention to improve the breed quality:

The GoE would like to increase the average slaughter weight of chickens, from 1.5 kg (indigenous breeds) to 2.5 kg (exotic breeds). There is a huge opportunity for investors here in terms of introducing and disseminating breeds, establishing parent stock production facilities, and vet supplies.

**Health service intervention:** The GoE plans to reduce the 50% mortality rate of chickens in the backyard farming system to 10%. This represents an opportunity for international investors experienced in animal health medical products and services. The government anticipates encouraging the private sector with an overall spend of US\$397 million to achieve the targets set out in Table 11.

TABLE 11: GOVERNMENT STRATEGY PLAN  
Source: LMP

	STATUS IN 2013	TARGET FOR 2028
Specialized layer units	290	2,400
Broiler farms	30	2,415
Average number of birds per unit – layers	500	6,250
Average number of birds per unit – broilers	6,400	35,200
Total number of layers		73.2 million
Total number of broilers		375.5 million

## 7. KEY POINTS TO CONSIDER

- » The poultry sector is a priority sector, as indicated by the GoE in the LMP, with a particular emphasis on PPP.
- » Though policy gaps have been identified, the Ministry of Agriculture is working on addressing them in collaboration with stakeholders.
- » Lack of capacity of certain government offices has been indicated as a limitation, however it is important to note that the government is working to improve on the possible challenges.
- » The government has recently undergone a restructuring of its ministries and agencies. As a result, new comers to the poultry sector could recognize that the mandates of different government bodies may have overlapped.
- » It is recommended for investors to be aware of the basic requirements for investment in Ethiopia. Visit [www.investethiopia.gov.et](http://www.investethiopia.gov.et) for details of investment incentives, areas of business allowable for foreign investors, and investment thresholds.
- » Tax laws and regulations are available on the Ethiopian Revenues and Customs Authority website: [www.mor.gov.et](http://www.mor.gov.et). The corporate tax rate is 30% for investors establishing a business as a private limited company. For sole proprietorships and partnerships, the tax rate is progressive according to net income and the maximum rate is 35%.



## 8. SOURCES OF FURTHER INFORMATION

### GOVERNMENT ORGANIZATIONS

#### Ministry of Agriculture

The Ministry of Agriculture has a livestock department that consists of three main departments, namely Animal Production, Animal Health and Pastoralists. The Ministry is responsible for the development of policy and strategy in the agriculture sector and oversees their implementation at federal and regional level. The Bureau of Agriculture and the office of agricultures at regional level and woreda (district) level also implement regional-level policies and strategies. For further information, visit [www.moa.gov.et](http://www.moa.gov.et).

#### Government extension service

The Ministry of Agriculture establishes set national-level extension policy, providing technical support to the extension system and supporting the regions with training and other capacity-strengthening activities. Bureaus of Agriculture at regional level and offices of agriculture at zonal and woreda (district) level mainly implement agricultural policies. The majority of extension workers are based at woreda level.

#### Agricultural Transformation Agency

The Ethiopian Agricultural Transformation Agency (ATA) is an initiative of the GoE established in 2011. The primary aim of the Agency is to promote agricultural sector transformation by supporting existing structures of government, the private sector and other non-governmental partners to address systemic bottlenecks and deliver a prioritized national agenda to achieve growth and food security. Its recent projects include commercial farm service centers, agricultural one-stop shop, mechanization service centers, multiple private sector development projects, ICT for agricultural services, and market infrastructure-related projects. For further information, visit [www.ata.gov.et](http://www.ata.gov.et).

#### Veterinary Drug and Feed Administration and Control Authority

The Veterinary Drug and Feed Administration and Control Authority (VDFACA) is the administering and control authority for veterinary drugs in Ethiopia. It is accountable to the Ministry of Agriculture. It is responsible for controlling the quality and safety of veterinary drugs and animal feed in the country. The authority is responsible for issuing certificates to those who intend to trade import vet supplies. Importers should fulfil facility and human resources requirements to obtain permit for import license. The importation of vet medicines requires the prior approval of the VDFACA. The process requires a rigorous assessment, including

a due diligence visit to the manufacturing plant of the exporter. Some importers complain that the time between applying and receiving the permit for a product import takes several months. VDFACA admits there are often delays, mainly due to limited numbers of staff to deal with the large number of requests for new certification. However, under normal circumstances, the process takes between six and eight months. The authority also provides training to vet professionals on vet medicine handling and control, and conducts monitoring activities to combat counterfeit (fake) products. For further information, visit [www.vdfaca.gov.et](http://www.vdfaca.gov.et).

### 8.1 RESEARCH AND EDUCATION

#### Ethiopian Institute of Agricultural Research (EIAR)

All agricultural research in Ethiopia is carried out by the Ethiopian Institute of Agricultural Research (EIAR), a government body. EIAR coordinates the decentralized agricultural research activities at federal and regional research centers, and through higher education institutions, including seven regional and 15 federal agricultural research institutes.

The head office of the EIAR is located in Addis Ababa and most of the poultry research is carried out at its research station in Debre Zeit. The EIAR operates Regional Agricultural Research Institutes (RARIs) at various locations across the country. Poultry research concentrates on four different themes:

1. multiplication and distribution of breeds adaptable to Ethiopia;
2. breeds are multiplied on-station and on-farm;
3. developing technologies;
4. evaluation of distribution programs.

For further information, visit [www.eiar.gov.et](http://www.eiar.gov.et).

#### Universities

Veterinary science education is provided at 11 universities in the country, and animal science at 14 universities. The content of the animal science curriculum is not yet fully harmonized at national level. Poultry education is part of the animal science curriculum. Poultry education is spread across three different modules, and covers a total of 100 contact hours.

University curricula are usually rather theoretically oriented, with little focus on practical training. Some universities have their own poultry units, but the management quality and utilization of training options in these units differ from university to university.

The Netherlands consortium, Holland–Africa Poultry Partners, with input from the Dutch government, built the National Poultry Training Center (NPTC) in Debre Zeit which was officially open in 2015, although it is not currently operational. However, the Ethiopian Poultry Producers and Processors Association (EPPPA), in collaboration with the Ethiopian Meat and Dairy Industry Development Institute (EMDIDI), are working closely with the MoA Poultry Directorate to reopen the training center.

### **The TVET system (technical and vocational training and education)**

All the regions have two or more Agricultural TVETs (ATVET), all of which include animal production in their programs. The ATVETs also offer short courses for farmers, extension officers and government extension workers. Farmers are selected by the DAs (development assistants/extension workers) of the government at woreda level.

Most of the ATVET graduates end up in government service as DAs or animal health technicians. Recently, some ATVETs have started adapting their curricula to the growing labor needs of the private sector, with some assistance from Dutch educational institutes, supported by Nuffic, which is an independent non for profit Dutch organization for internationalization in education.

### **National Veterinary Institute (NVI)**

The National Veterinary Institute has for years been the sole provider of vaccines for livestock production in Ethiopia, including poultry. Its core business has been the production of vaccines for livestock diseases. Additionally, NVI provides feed analysis services. However, the NVI has not been able to produce all necessary vaccinations for commercial poultry production, which is one of the reasons why vaccine production should be taken up by the private sector in the years to come. At the same time, NVI has not only produced vaccines for the domestic market, but also exports to other African countries.

The Institute provides the following ISO/IEC 17025:2005 accredited laboratory tests for the wider public:

- » bacterial identification;
- » antibody detection for certain diseases (ELISA, CFT, HAI, RBPT, AGID, SNT);
- » isolation and identification of some viral pathogens;
- » molecular detection (classical and real-time PCR) of certain viral and bacterial pathogens;
- » feed analysis.

NVI is undertaking various vaccine improvement and vaccine and diagnostic kit development projects. For further information, visit [www.nvi.com.et](http://www.nvi.com.et).

### **AU-PANVAC**

The Pan African Veterinary Vaccine Center (AU-PANVAC), an African Union Agency, was launched on March 12th, 2004 in Debre Zeit (Ethiopia). AU-PANVAC has a mandate to:

- » provide international independent quality control of veterinary vaccines produced in Africa and imported to Africa;
- » produce and distribute essential biological reagents for animal disease diagnosis and surveillance;
- » facilitate the standardization of veterinary vaccine production and harmonization of quality control techniques in Africa;
- » promote the transfer of appropriate vaccine production technologies in Africa;
- » provide training and technical support services to veterinary vaccine and quality control laboratories.

### **National Animal Health Diagnosis and Investigation Center (NAHDIC)**

The National Animal Health Diagnosis and Investigation Center (NAHDIC) is the most important veterinary laboratory in Ethiopia. It is a state-owned center of excellence for animal disease surveillance, investigation, diagnosis and veterinary research. Currently, NAHDIC has implemented ISO/IEC 17025:2005 in three laboratories, selecting six tests as its scope of accreditation since 2009. These tests have been recommended for accreditation in the pre-assessment process, and will be accredited soon after the follow-up evaluation by the accreditation body. The center is located in Sebeta, 25 km from Addis Ababa. <https://www.facebook.com/NAHDIC/>.

## **8.2 ASSOCIATIONS**

### **Ethiopian Poultry Producers and Processors Association**

Established in 2010, the Ethiopian Poultry Producers and Processors Association (EPPPA) is working to support the development of the poultry sector in Ethiopia by addressing the key challenges of its members. It works in collaboration with key stakeholders in addressing policy matters which affect the sector. For further information, visit [www.epppa.org](http://www.epppa.org).

### **Other associations**

Other professional associations that are linked to the poultry sector include the Ethiopian Veterinary Association ([www.eva-ethiopia.org](http://www.eva-ethiopia.org)), Ethiopian Society of Animal Production, and the Ethiopian Animal Feed Industry Association ([www.eafia.com](http://www.eafia.com)).

## 8.3 DEVELOPMENT PARTNERS

### African Chicken Genetic Gain program (2014–2019)

In November 2014, the International Livestock Research Institute (ILRI) and partners initiated a new collaboration to provide better chickens to smallholder farmers in Africa, entitled the African Chicken Genetic Gain (ACGG) program. ACGG is a platform for testing, delivering, and continuously improving tropically-adapted chickens for productivity growth in sub-Saharan Africa. The program targets three African countries – Ethiopia, Nigeria and Tanzania – and is mainly financed by the Bill & Melinda Gates Foundation. It has a budget for the first five-year phase of US\$15 million and in Ethiopia the program will be implemented in the main production regions, namely Amhara, Oromia, SNNPR and Tigray, as well as in and around Addis Ababa.

The program aims to 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. The immediate goal of the program is to increase the access of poor smallholder farmers in sub-Saharan Africa to high-producing but agro-ecologically appropriate chickens. Improved breeds of chickens from India and Africa will be tested to demonstrate high production potential under low-input systems. For more information, see [www.africacgg.net](http://www.africacgg.net).

### ACDI/VOCA

ACDI/VOCA implements projects mainly funded by the US government. The organization has been operating in Ethiopia for more than 10 years. Its current projects include Advanced Maize Seed Adoption Program (AMSAP) and Feed Enhancement for Ethiopian Development (FEED) III. FEED III has the objective of strengthening agricultural enterprises to participate in the livestock value chain, expanding the trade of agriculture products in the livestock and poultry sectors by enabling growth of feed, forage, fattening, poultry and dairy enterprises, and building the institutional capacity of private and public stakeholders by supporting improved feed policies and regulations. For more information, see [www.acdivoca.org/projects/by-country/ethiopia/](http://www.acdivoca.org/projects/by-country/ethiopia/).

### Ethiopian–Dutch poultry sector relations

Dutch companies have been involved in the Ethiopian poultry sector more than two decades. In the 1990s, the company Double Harvest, led by Mr Gert van Putten, came to Ethiopia to establish the large-scale integrated Genesis Farms, which included poultry farming. At the same time, Henk and Henny Janssen supported the small-scale chicken farm Alema Farms in Debre Zeit (which is now one of the largest poultry integrations in Ethiopia). Double Harvest has a clear Christian Reformed basis and never intended to solely make profits, but

specifically to create employment, provide training and empower Ethiopians in the countryside. Much later, Double Harvest established a specialized poultry farm through the establishment of Maranatha Farms in 2009, also in Debre Zeit, managed by Mr Karel Brak. These initiatives laid the foundation for further actions by other Dutch poultry stakeholders. For example, Mr Geert Westenbrink, Agricultural Counsellor for the Netherlands Embassy in Addis Ababa between 2008 and 2012, tried to expand Dutch support in the Ethiopian poultry sector by supporting the establishment of the Ethiopian Poultry Producers Association (EPPA) which is now called the Ethiopian Poultry Producers and Processors Association (EPPPA) in collaboration with Netherland African Business Council (NABC). NABC also supported the organization of the first poultry mission to Ethiopia in February 2011 by a large group of Dutch companies. This mission created momentum for more extensive engagement and the establishment of the Holland–Africa Poultry Partners (HAPP) consortium ([www.nabc.nl/dutch-poultry-africa-platform](http://www.nabc.nl/dutch-poultry-africa-platform)). This partnership was created at the end of 2011 within the 2g@there poultry project, a three-year program in which the Dutch private poultry sector actively engaged with Ethiopian poultry actors. The program included various trade missions (both ways), trainings, mapping of the Ethiopian poultry sector in a research report, and the establishment of the first National Poultry Training Center in Ethiopia, equipped with Dutch technology, at the Ethiopian Institute of Agricultural Research (EIAR). Parallel to this program, another multi-annual initiative financed by the Netherlands Embassy in Addis Ababa, the Agri-Business Support Facility (ABSF), facilitated the organization of a tri-annual Poultry Platform and the further support of the EPPA, in cooperation with the Dutch agricultural NGO, Agriterro. Agriterro is supporting a number of farmers' cooperatives to engage in the production of animal feed.

Ethiopia–Netherlands Trade for Agricultural Growth (ENTAG) is a project initiated to support agribusiness and entrepreneurs operating in Ethiopia to develop the country's agricultural sector. The project was initiated in 2016 and is due to conclude in 2020. ENTAG assists clients who seek technical support, legal service support including establishing a business, advisory support on legal frameworks, organizing sub-sector business platforms and trade missions, providing innovation funds, and supporting private sector associations. ENTAG works with EPPPA on poultry sub-sector platforms and strengthening of the association. ENTAG has supported the sector in developing “A strategic plan for implementation of disease prevention and control in commercial poultry” by the end of 2018, in collaboration with the MoA and other stakeholders which is expected to be implemented in 2020. Furthermore, ENTAG has supported entrepreneurs with a €25,000 grant contribution as an innovation fund, to an innovative business model and/or service delivery of a new or improved product related to poultry feed supplement, feed additives and green feed innovations. More information is available on the ENTAG website, <http://entag.org>.

## World Bank

The World Bank and its private wing, the International Financial Corporation, have offices in Ethiopia and run a number of projects. It is very useful for the poultry sector players to keep an eye on initiatives from the World Bank Group. At the time of preparation of this report, the World Bank is running the Livestock and Fisheries Sector Development Project at a cost of US\$170 million. The objective of the project is to increase the productivity and commercialization of producers and processors in selected value chains, strengthen the service delivery system in the livestock and fisheries sectors, and to respond promptly and effectively to an eligible crisis or emergency. The project components link productive farmers to the market. Poultry is part of the intervention area. Details are available at <http://projects.worldbank.org/P159382?lang=en>.

The World Bank also initiated the Ethiopia Resilient Landscapes and Livelihoods Project in 2018, at a cost of US\$100 million, which targets poultry among other livelihood development intervention areas.



# ANNEXES



# ANNEX 1

## Dutch investors in poultry sector

**Existing Dutch investors in Ethiopia:** The following foreign investors are operating in the poultry sector

COMPANY NAME	DESCRIPTION	WEBSITE
<b>Maranatha Farm &amp; Debre Holland</b>	Maranatha farm was Founded in 2008 by the co-founder of Genesis Farms, Mr Gert van Putten as a project of the Double Harvest Nederland Foundation. Now owned by a Dutch private investor, it is a major supplier of table eggs and high-quality pullets in Ethiopia along with its sister company Debre Holland established in 2019.	<a href="http://maranathafarmethiopia.com/aboutus.html">http://maranathafarmethiopia.com/aboutus.html</a>
<b>Chico Meat</b>	A slaughterhouse working with out-growers.	<a href="https://chicomeat.wordpress.com/">https://chicomeat.wordpress.com/</a>
<b>Alema Koudijs Feed Plc</b>	A joint venture between Alema Farms Plc and De Heus Animal Nutrition B.V. (Koudijs). A producer of a complete program of animal feed.	<a href="http://www.alemakoudijs.com/about-alema-koudijs/about-us">www.alemakoudijs.com/about-alema-koudijs/about-us</a>

# ANNEX 2

## Egg production estimate

FARM NAME	LAYER BREEDER	DUAL	TOTAL	LAYERS (Net of mortality)	FERTILE EGG Production per annum	DOC (Net hatched)	FEMALE - ONLY DOC	NET OF FARM LEVEL MORTALITY	LOSS AT FARMERS (BACKYARD) LEVEL (Dual only)	NET AFTER FARM LOSS	DUAL FEMALE SLAUGHTERED FOR MEAT	TOTAL LAYERS	EGGS PER ANNUM	TOTAL
			Total	90%	288	75%	50%	95%	50%		30%			
EthioChicken	0	120,000	120,000	108,000	31,104,000	23,328,000	11,664,000	11,080,800	(5,540,400)	5,540,400	(1,662,120)	3,878,280	120	465,393,600
	30,000		30,000	27,000	7,776,000	5,832,000	2,916,000	2,770,200	(1,385,100)	1,385,100		1,385,100	120	166,212,000
Alema Farms	7,500		7,500	6,750	1,944,000	1,458,000	729,000	692,550	-	692,550		692,550	246	170,367,300
Gerado Farm Ebrahim	20,000		10,000	9,000	2,592,000	1,944,000	972,000	923,400	-	923,400		923,400	246	227,156,400
Ene Ali Yimer	3,000		3,000	2,700	777,600	583,200	291,600	277,020	-	277,020		277,020	246	68,146,920
Golden Poultry Farm	4,500		4,500	4,050	1,166,400	874,800	437,400	415,530	-	415,530		415,530	246	102,220,380
Hawassa Farm	10,000		10,000	9,000	2,592,000	1,944,000	972,000	923,400	-	923,400		923,400	246	227,156,400
		20,000	20,000	18,000	5,184,000	3,888,000	1,944,000	1,846,800	(923,400)	923,400	(277,020)	646,380	120	77,565,600
Bedele Farm	3,500		3,500	3,150	907,200	680,400	340,200	323,190	-	323,190		323,190	246	79,504,740
EAIR	3,800		3,800	3,420	984,960	738,720	369,360	350,892	-	350,892		350,892	246	86,319,432
		1,700	1,700	1,530	440,640	330,480	165,240	156,978	(78,489)	78,489	(23,547)	54,942	120	6,593,076
Elere Farm	5,000		5,000	4,500	1,296,000	972,000	486,000	461,700	-	461,700		461,700	246	113,578,200
Total	87,300	141,700	219,000			42,573,600	21,286,800	20,222,460	-7,927,389	12,295,071		<b>10,332,384</b>		<b>1,790,214,048</b>
ELFORA			86,400			77,760		365				<b>28,382,400</b>	80%	<b>22,705,920</b>
Maranatha			40,000			36,000		365				<b>13,140,000</b>	80%	<b>10,512,000</b>
Debre Holland			40,000			36,000		365				<b>13,140,000</b>	80%	<b>10,512,000</b>
Total egg production in quantity														1,833,943,968
Egg weight in kg														0.04
Total egg production in kg														73,357,759
Total population														100,000,000
Per capita egg consumption in no. of eggs														18.339
Per capita egg consumption in kg														0.734

# ANNEX 3

## Dutch Africa Poultry Platform partners

([www.nabc.nl/dutch-poultry-africa-platform](http://www.nabc.nl/dutch-poultry-africa-platform))

NAME OF COMPANY	SPECIALTY	ADDRESS
<b>Aeres Training Center International</b> (ATCI & Aeres University of Applied Science)	Offers education and training programs at master, bachelor and certificate levels, for the next generation of professionals in the green sector. Aeres Group also offers consultancy services and project implementation to both profit and non-profit organizations.	<b>Aeres Groep</b> Bovenbuurtweg 27 6717 XA Ede Postbus 245 6710 BE Ede T: +31 (0)880 207000 E: <a href="mailto:info@aeres.nl">info@aeres.nl</a> W: <a href="http://www.aeresinternational.nl">www.aeresinternational.nl</a>
<b>Agraplan B.V.</b>	Animal health group, with expertise in poultry and feed additives for poultry.	<b>Agraplan B.V.</b> Maalstoel 6 7773 NN Hardenberg The Netherlands T: +31 (0)880 156677 E: <a href="mailto:info.agraplan.nl">info.agraplan.nl</a> W: <a href="http://www.agraplan.nl">www.agraplan.nl</a>
<b>Cagemax B.V.</b>	Producer of animal protein; fat used as additives.	<b>Cagemax B.V.</b> Oude Bosscheweg 9 5301 LA Zaltbommel The Netherlands T: +31 (0)418 584949 E: <a href="mailto:info@cagemax.com">info@cagemax.com</a> W: <a href="http://www.cagemax.com">www.cagemax.com</a>
<b>Champrix B.V.</b>	Delivers a wide range of premixes and protein concentrates.	<b>Champrix B.V.</b> Lombardje 14 5211 HM 's-Hertogenbosch The Netherlands T: +31 (0)850 640500 E: <a href="mailto:info@champrix.nl">info@champrix.nl</a> W: <a href="http://www.champrix.nl">www.champrix.nl</a>
<b>Darling Ingredients</b> (Sonac & DAR PRO Ingredients)	Producer of proteins, minerals, and fats.	<b>Darling Ingredients</b> (Sonac & DAR PRO ingredients) Kanaaldijk Noord 20 5690 AA Son The Netherlands T: +31 (0)499 364820 E: <a href="mailto:info@sonac.biz">info@sonac.biz</a> W: <a href="http://www.sonac.biz">www.sonac.biz</a>
<b>De Heus Animal Nutrition B.V.</b>	Animal feed producing company. The company has 26 production units, of which eight are located in the Netherlands. Production units outside the Netherlands are located in Poland, Egypt, Ethiopia, South Africa, Vietnam, Russia, Czech Republic, Brazil and China.	<b>De Heus Animal Nutrition B.V.</b> Rubenstraat 175 6717 VE Ede – Wageningen The Netherlands T: +31 (0)318 675500 E: <a href="mailto:info@deheus.com">info@deheus.com</a> W: <a href="http://www.deheus.com">www.deheus.com</a>
<b>Foodmate B.V.</b>	Poultry processing equipment manufacturer.	<b>Foodmate B.V.</b> Einsteinstraat 26 3281 NJ Numansdorp The Netherlands T: +31 (0)186 630240 E: <a href="mailto:sales@foodmate.nl">sales@foodmate.nl</a> W: <a href="http://www.foodmate.nl">www.foodmate.nl</a>



NAME OF COMPANY	SPECIALTY	ADDRESS
<b>GD Animal Health</b>	Supports industrial customers, governments, veterinarians and farmers by providing animal health programs and laboratory diagnostic services.	<b>GD Animal Health</b> Arnsbergstraat 7 7418 EZ Deventer The Netherlands T: +31 (0)570 633391 E: <a href="mailto:info@gdanimalhealth.com">info@gdanimalhealth.com</a> W: <a href="http://www.gdanimalhealth.com">www.gdanimalhealth.com</a>
<b>Geerlofs Refrigeration</b>	Supplies turnkey cold stores and freezer stores for fresh produce worldwide; designs and builds tissue culture laboratories and growth rooms.	<b>Geerlofs Refrigeration</b> Delftweg 66 2289 BA Rijswijk The Netherlands T: +31 (0)703 192132 E: <a href="mailto:export@geerlofs.nl">export@geerlofs.nl</a> W: <a href="http://www.geerlofs.com">www.geerlofs.com</a>
<b>GI-OVO B.V.</b>	Supplier of egg handling innovations.	<b>GI-OVO B.V.</b> Anthonie Fokkerstraat 15A 3772 MP Barneveld The Netherlands T: +31 (0)880 308900 E: <a href="mailto:sales@gi-ovo.com">sales@gi-ovo.com</a> W: <a href="http://www.gi-ovo.com">www.gi-ovo.com</a>
<b>I Grow Chicken/EBIT+</b>	Multi-species breeding company with primary activities in layer, turkey, traditional poultry, swine and aquaculture breeding.	<b>I Grow Chicken/EBIT+</b> Wagenweg 222 2012 NM Haarlem The Netherlands T: +31 (0)235 422010 E: <a href="mailto:info@igrowchicken.com">info@igrowchicken.com</a> W: <a href="http://www.igrowchicken.com">www.igrowchicken.com</a>
<b>Impex Barneveld B.V.</b>	Develops management software for poultry farmers.	<b>Impex Barneveld B.V.</b> Harselaarseweg 129 3771 MA Barneveld The Netherlands T: +31 (0)342 416641 E: <a href="mailto:info@impex.nl">info@impex.nl</a> W: <a href="http://www.impex.nl">www.impex.nl</a>
<b>Hendrix Genetics B.V.</b>	Produces and sells parent breeders to the worldwide layer industry. Both white and brown egg layer genetic products are sold under the brand names ISA, Shaver, Babcock, Bovans, Hisex and Dekalb.	<b>ISA/Hendrix Genetics</b> Sporstraat 69 P.O. Box 114 5830 AC Boxmeer The Netherlands T: +31 (0)485 319111 W: <a href="http://www.isapoultry.com">www.isapoultry.com</a>
<b>Jansen Poultry Equipment (JPE)</b>	Develops and produces poultry systems for breeders, layers and broilers. All systems are tailor made to the wishes of the entrepreneur and the needs of the animals.	<b>Jansen Poultry Equipment</b> Harselaarseweg 32 3771 MA Barneveld The Netherlands T: +31 (0)342 427000 E: <a href="mailto:info@jpe.org">info@jpe.org</a> W: <a href="http://www.jpe.org">www.jpe.org</a>
<b>Koudijs Animal Nutrition B.V.</b>	Producer and exporter of a complete program of feed, concentrates and premixes on a worldwide scale.	<b>Koudijs Animal Nutrition B.V.</b> Rubensstraat 175 6710 BJ Ede The Netherlands T: +31 (0)318 675420 E: <a href="mailto:info@koudijs.com">info@koudijs.com</a> W: <a href="http://www.koudijs.deheus.com">www.koudijs.deheus.com</a>
<b>Marel Stork Poultry Processing B.V.</b>	Provider of advanced poultry processing systems and services. Manufactures and supplies dedicated solutions for broilers, layers, parent stock, turkeys, ducks and geese.	<b>Marel Stork Poultry Processing B.V.</b> Handelstraat 3 5831 AV Boxmeer The Netherlands T: +31 (0)485 586111 E: <a href="mailto:info.poultry@marel.com">info.poultry@marel.com</a> W: <a href="http://www.marel.com">www.marel.com</a>

NAME OF COMPANY	SPECIALTY	ADDRESS
<b>MOBA Group</b>	Manufacturer of egg grading, packing and processing machines.	<b>MOBA Group</b> Stationsweg 117 3771 VE Barneveld The Netherlands T: +31 (0)342 455655 E: <a href="mailto:sales@moba.nl">sales@moba.nl</a> W: <a href="http://www.moba.net">www.moba.net</a> <b>Joris van Ooijen</b> Area Sales Manager E: <a href="mailto:joris.van.ooijen@moba.net">joris.van.ooijen@moba.net</a> M: +31 (0)654 241948
<b>MSD Animal Health</b>	Offers veterinarians, farmers, pet owners and governments one of the widest ranges of veterinary pharmaceuticals, vaccines and health management solutions and services.	<b>MSD Animal Health</b> Wim de Körverstraat 35 P.O. Box 31 5830 AA Boxmeer The Netherlands T: +31 (0)485 587293 F: +31 (0)485 587643 W: <a href="http://www.msd-animal-health.com">www.msd-animal-health.com</a>
<b>Ottevanger Milling Engineers</b>	Supplies and produces equipment and processing lines for the grain processing and compound feed industry.	<b>Ottevanger Milling Engineers</b> Moerkapelse Zijde 32 2751 DL Moerkapelle The Netherlands T: +31 (0)795 932221 E: <a href="mailto:mkp@ottevanger.com">mkp@ottevanger.com</a> W: <a href="http://www.ottevanger.com">www.ottevanger.com</a>
<b>Pas Reform</b>	Develops integrated hatchery technologies for the poultry sector.	<b>Pas Reform Hatchery Technologies</b> Bovendorpsstraat 11 7038 CH Zeddam The Netherlands T: +31 (0)314 659111 E: <a href="mailto:info@pasreform.com">info@pasreform.com</a> W: <a href="http://www.pasreform.com">www.pasreform.com</a>
<b>TransNational Agri Projects B.V.</b>	Supplies used, new and refurbished equipment for the slaughter industry.	<b>TransNational Agri Projects B.V.</b> Hoofdstraat 79 4484 CD Kortgene The Netherlands T: +31 (0)113 306042 E: <a href="mailto:info@transnationalagri.nl">info@transnationalagri.nl</a> W: <a href="http://www.transnationalagri.nl">www.transnationalagri.nl</a>
<b>Trouw Nutrition</b>	Provides species-specific nutritional solutions consisting of feed concepts, products and nutritional know-how.	<b>Trouw Nutrition Africa</b> Veerstraat 38 5831 JN Boxmeer The Netherlands T: +31 (0)485 589988 E: <a href="mailto:tnaafrica@trouwnutrition.com">tnaafrica@trouwnutrition.com</a> W: <a href="http://www.trouwnutrition.com">www.trouwnutrition.com</a>
<b>Twinpack Special Products B.V.</b>	Produces and markets high-end quality plastic pallets and drivers.	<b>Twinpack Special Products B.V.</b> Anthonie Fokkerstraat 15A 3772 MP Barneveld The Netherlands T: +31 (0)880 308900 E: <a href="mailto:sales@twinpacksp.com">sales@twinpacksp.com</a> W: <a href="http://www.twinpacksp.com">www.twinpacksp.com</a>
<b>VDL Agrotech</b>	Manufactures and supplies equipment for the modern, intensive livestock industry. Designs, supplies and builds complete turnkey projects worldwide.	<b>VDL Agrotech</b> Hoevenweg 1 5652 AW Eindhoven The Netherlands T: +31 (0)402 925500 E: <a href="mailto:info@vdlagrotech.nl">info@vdlagrotech.nl</a> W: <a href="http://www.vdlagrotech.com">www.vdlagrotech.com</a>

NAME OF COMPANY	SPECIALTY	ADDRESS
<b>Vencomatic Group</b>	Supplies equipment for climate control for optimal poultry performance, hatching and table egg packing and grading, and poultry -friendly housing equipment.	<b>Vencomatic Group</b> Meerheide 200 5521 DW Eersel The Netherlands T: +31 (0)627 003801 E: <a href="mailto:info@vencomaticgroup.com">info@vencomaticgroup.com</a> W: <a href="http://www.vencomatic.com">www.vencomatic.com</a>
<b>Verbeek Hatchery Holland</b>	Supplies hatching eggs, chicks and pullets to poultry farmers.	<b>Verbeek Hatchery Holland</b> Kauwenhoven 3 6741 PW Lunteren The Netherlands T: +31 (0)318 578250 E: <a href="mailto:info@verbeek.nl">info@verbeek.nl</a> W: <a href="http://www.verbeek.nl/en">www.verbeek.nl/en</a>

## ANNEX 4

### List of input suppliers

#### LOCAL POULTRY FEED INPUT, VET MEDICINE AND RELATED SUPPLIERS

COMPANY NAME	PRODUCTS	LOCATION
Dawit Yacob Plc/PureMix	Feed supplements	Addis Ababa
National Veterinary Institute	Vaccine supply	Debre Zeit
Al Impex Veterinary Drug Importer	Vaccines	Addis Ababa
Bejai Ethio	Feed supplements and equipment	Addis Ababa
Jagdish Agro Production Plc	Concentrate	
Naseba Animal Nutrition	Nutrition supplier	Holeta
FeedCo Animal Feed Plc	Feed ingredients and supplements	Mojo
Weljeji Agro-Industry		
Gasco Trading Plc	Feed ingredients and supplements	Addis Ababa
Markos	Feed ingredients and supplements	Addis Ababa
Alema Koudijs Feed Plc	Feed ingredients and supplements	Debre Zeit
DAT International	Feed ingredients and supplements	Addis Ababa
Merruna	Feed ingredients and supplements	Addis Ababa
Garadus	Feed ingredients and supplements	Addis Ababa
Equatorial Business	Feed ingredients and supplements	Addis Ababa
ELFORA	Feed ingredients and supplements	Addis Ababa
Hawetu Vet	Vet supplies	

#### POULTRY EQUIPMENT SUPPLIERS

COMPANY NAME	PRODUCTS	LOCATION
BrazAfric	Feed processing equipment	
Bejai Ethio	Feed supplements and equipment	
Trapp Solution	Equipment Supplier	
Neway Plc	Equipment supplier	Addis Ababa
Markos Plc	Equipment supplier	
Goggle	Poultry equipment supplier	
Gold Long Machinery engineering	Feed machine supplier	China
Gasco Trading Plc	Equipment and nutrition supplier	Ethiopia
Electro Mecce Engineering Service	Feed processing equipment	Ethiopia
Techno Nejat Workshop		
Agrovet Plc	Poultry equipment supplier	Ethiopia
B-SAM Engineering & Mesab Agro Industry	Local manufacturer of poultry equipment/feed processing units	
Hawetu Vet	Veterinary drugs and equipment importer	

# ANNEX 5

## List of feed processors and their operating capacity

A: COMMERCIAL FEED PROCESSORS			
COMPANY/UNION	REGION	ZONE	TOWN/DISTRICT
Akaki Feed Processing	Addis Ababa	Akaki Kaliti	Woreda 08
Friendship Agro Industry	Addis Ababa	Yeka	Woreda 02
Beyene Feed Processing	Addis Ababa	Yeka	Woreda 12
Leulseged Plc	Addis Ababa	Akaki Kaliti	Woreda 05
Merin	Addis Ababa	Yeka	Woreda 02
Asqual	Addis Ababa	Gulele	Woreda 08
Geshaye Geletu Feed Plc	Addis Ababa	Akaki Kaliti	Woreda 01
BZ Poultry and Feed Manufacturing	Addis Ababa	Akaki Kaliti	Woreda 02
Getachew and Friends Plc	Addis Ababa	Kolfe	Weleta
Alema Koudijs Feed Plc	Oromia	East Shewa	Debre Zeit
Eleri Agro-Industry	Oromia	East Shewa	Debre Zeit
Bora Feed Processing	Oromia	East Shewa	Debre Zeit
Sululta Chanco Feed Processing Enterprises	Oromia	Finfine Special Zone	Chanco
Pakana Feed Processing	Oromia	East Shewa	Debre Zeit
Jeale Industry Plc	Oromia	Finfine Zuria	Dukem
Addis Alem	Oromia	East Shewa	Debre Zeit
Ethio Feed	Oromia	East Shewa	Adama
Amell	Oromia	Finfine Zone	Burayu
ATAP	Oromia	Adama	Wonji
Wonggeli Animal Feed Plant Plc	Amhara	East Gojam	Bahirdar
Metebaber Coop Plc	Amhara	East Gojam	Adet
Tshey Farmers Coop Plc	Amhara	North Gonder	Gonder
Wag Himra Feed Processing Plc	Amhara	Wag-Himra Zone	Sekota
Mekele Farms Plc	Tigray	Central Tigray	Mekele
Semeret Agriculture & Industry	Tigray	Central Tigray	Mekele 03
Golden Poultry Plc	SNNP	Gurage	Kella
Abay Feed Processing	SNNP	Hawassa	Hawassa
Hafke Poultry Plc	Oromia	East Shewa	Mojo
Hawassa Poultry Farm	SNNP	Sidama	Hawassa
Yafet Animal Feed Processing	SNNP	Sidama	Hawassa
Adama Metten Animal Feed	Oromia	East Shewa	Adama

Source: ACDI/VOCA Bulletin, as of March 2017.



## B: FARMERS' COOPERATIVE UNIONS

COMPANY/UNION	REGION	ZONE	TOWN/DISTRICT	YEAR STARTED OPERATION
Admas	Amhara	Awi	Koso Ber	2017
Ambericho	SNNP	Kembata	Durame	2015
Ambo	Oromia	West Shewa	Ambo	2016
Biftu Selale	Oromia	North Shewa	Fiche	2017
Bokra	Tigray	South	Maychew	2013
Damota Wolayita	SNNP	Wolayita	Soddo	2016
Debre-Assa	Tigray	South East	Abiy-Adi	2016
Enderta	Tigray	Eastern	Mekelle	2015
Erikum	Amhara	South Wello	Desse	2012
Gamo-Gofa	SNNP	Gamo-Gofa	Arba Mich	2017
Gelema	Oromia	Arsi	Bokoji	2017
Geter Adwa	Tigray	Central	Adewa	2015
Gibe Dedesa	Oromia	East Welega	Nekemt	2016
Gozamen	Amhara	East Gojam	Debre Markos	2016
Lemlem Raya	Tigray	South	Mehonie	2015
Liben	Oromia	SW Shewa	Welliso	2017
Licha Hadiya	SNNP	Hossana	Hossana	2011
Megenagna	Amhara	South Gonder	Debre Tabor	2016
Melik	SNNP	Silte	Worabe	2016
Merkeb	Amhara	West Gojam	Bahirdar	2013
Saeti Samre	Tigray	Central	Mekelle	2016
Selale	Oromia	North Shewa	Chanco	2012
Setit Humera	Tigray	West	Humera	2015
Sidama	SNNP	Sidama	Hawassa	2011
United Feed Processing	Addis Ababa	Akaki Kaliti	—	2012
Wedera	Amhara	North Shewa	Debre Berhan	2011
Welwalo	Tigray	East	Adigrat	2016
Wonji	Oromia	East Shewa	Wonji	2011

# ANNEX 6

## Poultry import/export key requirements

### 1. IMPORTING DAY-OLD CHICKS, TURKEYS, DUCKS, GEESE AND OSTRICHES

#### 1.1 BASIC INFORMATION

Country of origin, species, breed name, identification number on each chick box must be available and clearly readable; breeder institution (name, registration number and address of the farm of origin), importing institution (name and address of the importer or the importing company) and quantity to be imported must be labeled clearly, indicating necessary information for tracing the animal.

#### 1.2 PRODUCTION AND PROCESSING

- 1.2.1 The day-old chicks, turkeys, geese, ducks, ostriches or adult birds must be from parent stock, grandparent stock, and/or be synthetic breeds with high breeding value.
- 1.2.2 The day-old chicks, turkeys, geese, ducks, ostriches or adult birds must be free from any genetically modified organism (GMO) or living modified organism (LMO).
- 1.2.3 The source farms and hatcheries shall be certified for internationally acceptable good practices, biosecurity and management standards, ensuring freedom from diseases.

#### 1.3 HEALTH REQUIREMENTS

- 1.3.1 The day-old chicks (DOC) or adult birds should be accompanied by a veterinary certificate signed by a veterinarian of the competent authority of the exporting country.
- 1.3.2 The certificate shall approve source parent and grandparent flocks, as well as DOCs and adult poultry destined for export, to be free from clinical/infection and evidence of any communicable disease, such as Newcastle disease, infectious bursal disease, pullorum disease, infectious laryngotracheitis, and fowl cholera in the previous year; and shall also be free from H5 and H7 subtype avian influenza, psittacosis, avian encephalomyelitis, egg drop syndrome, infectious bronchitis, chronic respiratory disease caused by *Mycoplasma gallisepticum*, infectious synovitis caused by *Mycoplasma synoviae*, and infectious coryza for the past 6 months.
- 1.3.3 Day-old chicks or adult birds destined for export to Ethiopia shall be subject to regular supervision and inspection by the animal quarantine authority of the exporting country to ensure freedom from diseases stated in 1.3.2 in the 30 days preceding the date of exportation.
- 1.3.4 DOCs and adult birds shall be subject to tests for diseases.
  - 1.3.4.1 Newcastle disease and other paramyxovirus infection: causal agent identification.
  - 1.3.4.2 H5 and H7 subtype avian influenza: antibody test and causal agent identification.
  - 1.3.4.3 Duck virus enteritis: serum neutralization test.
  - 1.3.4.4 Waterfowl parvovirus infection: agent identification (PCR).
- 1.3.5 The certificate shall provide information regarding the date of pre-export quarantine (if applicable, kinds of vaccines administered and dates of vaccination).

- 1.3.6 The source flock for DOCs and adult birds shall not be vaccinated with vaccines against avian influenza and coccidiosis.
- 1.3.7 The source flock should be subject to a program of disease surveillance and conduct, thorough investigation on any episode of illness or death occurring among the flock, and on any unusual decline in hatchability or deaths in chicks hatched from eggs produced by the source flock.

#### **1.4 TRANSPORTATION**

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- 1.4.1 The DOCs and adult birds shall be transported with clean and sealed containers, disinfected with officially approved disinfectant by the exporting country.
- 1.4.2 The birds shall not be transited through countries or zones where highly pathogenic avian influenza is known to occur.
- 1.4.3 No supplementary feed or beddings shall be supplied and no other poultry or birds shall be loaded during the transportation.
- 1.4.4 Confirmation of details of transport and arrival times must be supplied to the competent authority at the destination country not less than 7 days prior to delivery.
- 1.4.5 DOCs shall be transported by air, via a route and using aircraft approved/accepted by the competent authority where DOCs have been packed in compliance with standards, properly labeled and accompanied by a health certificate.
- 1.4.6 The day-old birds must be unloaded at the port of entry stated on the import permit.
- 1.4.7 On arrival, the day-old birds must be transported under quarantine conditions to an avian quarantine facility approved by the competent authority. Vehicles used to transport the crates to the quarantine facility must not transport any other poultry of different origin and health status.
- 1.4.8 On satisfactory completion of the quarantine period, the imported birds will be released to the importer. No compensation will be paid for birds slaughtered for disease control and diagnosis purposes or for any cost incurred for disease testing.

#### **1.5 PRE-CONDITIONS TO BE FULFILLED BY IMPORTERS**

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- 1.5.1 Facilities to be fulfilled
  - 1.5.1.1 The poultry farms must be established in accordance with standards that enable adequate management and biosecurity, with sufficient premises for flocks, for feed storage and other intended purposes.
  - 1.5.1.2 An appropriate disinfection regime should be applied to poultry premises, feed stores and transportation vehicles and equipments.
  - 1.5.1.3 Dedicated means of transportation should be made available as per the international requirement.
  - 1.5.1.4 A clean and dry feed store with adequate ventilation must be established.
  - 1.5.1.5 The farm must possess offices and record keeping, storage and washing/sterilizing rooms.
- 1.5.2 Human-resources
  - 1.5.2.1 Well-trained and skilled personnel (avian expertise) for the poultry farm management must be recruited.
  - 1.5.2.2 Other attendants for the proper management of the farm, as required, must also be recruited.

## 2. IMPORTING FERTILE/HATCHING EGGS

### 2.1 BASIC INFORMATION

Country of origin, species, breed name, identification number on each crate for hatching eggs must be available and clearly readable; breeder institution (name, registration number and address of the farm of origin), importing institution (name and address of the importer or the importing company) and quantity to be imported must be labeled clearly, indicating necessary information for tracing the animal.

### 2.2 PRODUCTION AND PROCESSING

- 2.2.1 The fertile/hatching eggs of chicks, turkeys geese, ducks and ostriches must be from proven breed, parent stock, grandparent stock, and/or synthetic breed with high breeding value.
- 2.2.2 The fertile/hatching eggs of chicks, turkeys, geese, ducks and ostriches must be sourced from non-infected parent, grandparent flocks, hatchery, area or zone.
- 2.2.3 The fertile/hatching eggs, of chicks, turkeys, geese, ducks and ostriches must be free from any genetically modified organism (GMO) or living modified organism (LMO).
- 2.2.4 The color of hatching eggs shell must be white shell or brown both for layers and broilers, while brown shell is preferable for broilers.
- 2.2.5 During the pre-collection isolation period, the donor birds of the eggs for export must successfully complete the observational treatment and testing requirements and remain healthy and free from disease.
- 2.2.6 The hatching eggs must be collected at frequent intervals of not less than twice per day and placed in clean disinfected containers and should be sanitized as soon as possible after collection. The sanitized eggs should be stored in a clean dust-free room used exclusively for this purpose and kept at 13–15°C; and should have relative humidity of 70–80%. In all circumstances, egg collection must take place within an approved indoor facility.
- 2.2.7 After collection, only visually clean eggs must be selected and fumigated using formaldehyde gas generated according to OIE International Animal Health Code 2010, as updated periodically.
- 2.2.8 Where eggs are stored within the approved facility prior to export, they should not be held together with eggs derived from birds not tested to a standard health status.
- 2.2.9 Each egg in the consignment must be identified using permanent markings or injected micro-chips. Individual eggs must be identified to an individual breeding pair or trio and this information must be reconcilable with the health certificate.

### 2.3 HEALTH

- 2.3.1 The fertile hatchable eggs should be accompanied by a veterinary certificate signed by a veterinarian of the competent authority of the exporting country.
- 2.3.2 The certificate shall approve that source of parent and grandparent flocks for the eggs free are from clinical/infection evidences of any communicable diseases such as Newcastle disease, infectious bursal disease, pullorum disease, infectious laryngotracheitis, and fowl cholera in the previous year; and shall also be free from H5 and H7 subtype avian influenza, psittacosis, avian encephalomyelitis, egg drop syndrome, infectious bronchitis, chronic respiratory disease caused by *Mycoplasma gallisepticum*, infectious synovitis caused by *Mycoplasma synoviae*, and infectious coryza for the past 6 months.
- 2.3.3 The source flocks for DOCs and adult birds shall not be vaccinated with vaccines against avian influenza, coccidiosis and not be subject to vaccination with live Newcastle vaccine.
- 2.3.4 The source flock should be subject to a program of disease surveillance and conduct, thorough investigation on any episode of illness or deaths occurring among source flocks and on any unusual decline in hatchability or deaths in chicks hatched from eggs produced by the source flock.

- 2.3.5 The hatchery building of breeding flocks and poultry farms must be far and bio-secured from contact with wild birds, domestic and wild animals.
- 2.3.6 Any death or illness during the pre-collection isolation period must be subject to specialist veterinary investigation, and reports on causes of such deaths or illness must be made available to the competent authority. The reports must establish that such deaths or illness were not attributable to an infectious or contagious disease of quarantine significance.

## **2.4 TRANSPORTATION**

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- 2.4.1 The hatching eggs shall be disinfected in accordance with the methods designated in Appendix 3.4.1 of the Terrestrial Animal Health Code of OIE or methods approved by the animal quarantine authority of the importing country prior to packing.
- 2.4.2 The fertile eggs shall be packed using standard approved packaging material, should have serial numbers, and have adequate and informative labeling.
- 2.4.3 The hatching eggs shall be transported by air, via a route and using aircraft approved/accepted by the competent authority.
- 2.4.4 Confirmation of details of transport and arrival times must be supplied to the competent authority at the destination country entry not less than 7 days prior to shipment.
- 2.4.5 The hatching eggs must be unloaded at the entry port the inspector of the competent authority approves that requirements are properly met.
- 2.4.6 On arrival, the hatching eggs must be transported in dedicated transport in accordance with acceptable quarantine conditions to its destination facility.

## **2.5 PRECONDITIONS TO BE FULFILLED BY POULTRY IMPORTERS**

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- 2.5.1 Facilities to be fulfilled
  - 2.5.1.1 The poultry hatchery and breeding flock poultry farm establishment should be single purpose, single species enterprises and where several flocks are maintained on one establishment, the individual flocks should be managed as separate entities.
  - 2.5.1.2 Buildings for housing poultry or rooms used to store feed or eggs should be free of vermin and not be accessible to wild birds, and should be dry, clean, well ventilated and dedicated only for egg production, or for hatchery purposes.
  - 2.5.1.3 The hatchery buildings and breeding farms should include physical separation and there has to be a room for egg receiving and egg storage, egg traying, fumigation, setting or initial incubation, hatching, sorting, sexing and placing chicks in boxes.
  - 2.5.1.4 Wash/dressing room for employees, offices, store for equipment, and incinerator for disposal of waste, which is built separately.
- 2.5.2 Equipment and consumables
  - 2.5.2.1 All hatchery and poultry production farm equipment, and consumable utensils and horizontal surfaces in rooms, must be thoroughly cleaned, washed and finally disinfected with efficacy approved disinfectants.
  - 2.5.2.2 The litter in the laying house should be kept dry and in good condition. The nest box litter should be clean and adequate in quantity.
  - 2.5.2.3 The hatchery and poultry production farms must possess facilities with adequate consumable items, disinfection items, washing and/or sterilizing equipment.
- 2.5.3 Human-resources
  - 2.5.3.1 Well-trained and skilled personnel (avian expertise) for the poultry farm management must be recruited.
  - 2.5.3.2 Other attendants for the proper management of the farm as required must also be recruited.



### **3. EXPORTING DAY-OLD CHICKS, TURKEYS, DUCKS, GEESE AND OSTRICHES**

#### **3.1 BASIC INFORMATION**

Country of origin, species, breed name, identification number on each chick box must be available and clearly readable; breeder institution (name, registration number and address of the farm of origin), importing institution (name and address of the exporter or the exporting company) and quantity to be exported must be labeled clearly, indicating necessary information for tracing the animal.

#### **3.2 PRODUCTION AND PROCESSING**

- 3.2.1 A hatchery, breeding farm, poultry production flock must possess a known breeding stock, maintaining strictly hygienic standards.
- 3.2.2 Buildings established for the hatchery or poultry breeding/production must be installed as per the requirements by the importing country, which are in particular far from wild and domestic animal farms. A building must be equipped with adequate rooms for laying chicks, storage, washing rooms and waste disposal facilities.
- 3.2.3 The flock of origin is not subjected to any quarantine or other official restrictions on account of any disease.
- 3.2.4 The premises designed for the handling of laying chicks must be properly ventilated, heated and cleaned properly and periodically, and disinfected with an approved disinfectant prior to each new consignment of birds.
- 3.2.5 Adequate feeding and watering facilities must be provided.
- 3.2.6 The entire facility including exercise facilities should be surrounded by a stock-proof perimeter fence.
- 3.2.7 The birds in isolation must be tended by staff having no contact with other birds of the same species.

#### **3.3 HEALTH**

- 3.3.1 A certification that the poultries were inspected by a veterinarian within 30 days preceding the date of importation, that the poultries were found to be free from avian mycoplasmosis, duck virus hepatitis, fowl cholera, fowl typhoid, avian influenza, avian mycobacteriosis, salmonellosis, infectious bursal disease (Gumboro disease), Marek's disease, Newcastle disease, pullorum disease, turkey rhinotracheitis, avian paramyxovirus, turkey coronavirus (TCV), turkey viral hepatitis (TVH), must be available; as OIE standards periodically updated.
- 3.3.2 The birds desired for export purpose must have not been exposed to any communicable disease, in particular Newcastle, avian influenza and Gumboro, within 60 days preceding the date of the inspection.
- 3.3.3 Veterinary certificates are compulsory to be submitted with the poultries as per the requirement of the importing country.
- 3.3.4 Shipment of animals affected or suspected of being with any disease listed by the OIE or with any other infectious disease shall be prevented, as agreed by the importing country and exporting country.
- 3.3.5 A hatchery or breeding flock poultry production farm must deploy biosecurity facilities.

#### **3.4 TRANSPORTATION**

The day-old chicks, turkeys, ducks, geese, or ostriches shall be transported in a standardized chick box with adequate place and ventilation with clean and unused packages/boxes or satisfactorily cleaned and sprayed with approved disinfectant. In all cases, the transportation facility must cohere with the procedure of OIE Terrestrial Animal Health Code 2007, as amended periodically.

### **3.5 PRE-CONDITIONS TO BE FULFILLED BY LIVE POULTRY EXPORTERS**

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#### **3.5.1 Facilities to be fulfilled.**

- 3.5.1.1 The farm must be established with necessary buildings and facilities for the intended purpose.
- 3.5.1.2 The farm must possess offices and record keeping, storage and washing/sterilizing rooms for equipment.
- 3.5.1.3 Appropriate transportation facility as per the requirement by the importing country must be available.
- 3.5.1.4 A clean and dry feed store with adequate ventilation must be established.

#### **3.5.2 Human-resources**

- 3.5.2.1 Well-trained and skilled personnel (avian expertise) for poultry farm management must be recruited.
- 3.5.2.2 Other attendants for the proper management of the farm as required must also be recruited.

## **4. EXPORTING HATCHABLE EGGS**

### **4.1 BASIC INFORMATION**

Country of origin, species, breed name, identification number on each crates for hatching eggs must be available and clearly readable; breeder institution (name, registration number and address of the farm of origin), importing institution (name and address of the exporter or the exporting company) and quantity to be exported must be labeled clearly, indicating necessary information for tracing the animal.

### **4.2 PRODUCTION AND PROCESSING**

- 4.2.1 A hatchery, breeding farm, poultry production flock must possess a breeding stock maintaining strictly hygienic standards.
- 4.2.2 Buildings established for the layers or poultry breeding/production must be installed as per the requirements by the importing country which are in particular far from wild and domestic animal farms. The building must be equipped with adequate rooms for laying chicks, storage, washing rooms and waste disposal facilities.
- 4.2.3 The premises designed for the handling of laying chicks must be properly ventilated, heated and cleaned properly and periodically and disinfected with an approved disinfectant prior to each new consignment of birds.
- 4.2.4 Adequate feeding and watering facilities must be provided.
- 4.2.5 The entire facility including exercise facilities should be surrounded by a stock-proof perimeter fence.
- 4.2.6 The eggs intended for export must be attended by a staff having no contact with other birds or eggs.

### **4.3 TRANSPORTATION**

The egg shall be transported in a standardized box with adequate place and ventilation with clean and unused packages/boxes or satisfactorily cleaned and sprayed with approved disinfectant. In any case, the transportation facility must cohere with the procedure of OIE Terrestrial Animal Health Code 2007, as amended periodically.

### **4.4 PRE-CONDITIONS TO BE FULFILLED BY HATCHABLE EGG EXPORTERS**

- 4.4.1 Facilities to be fulfilled.
  - 4.4.1.1 The hatchery/breeding farm must be established with necessary buildings and facilities for the intended purpose.
  - 4.4.1.2 The building for hatchery and breeding farm must possess offices and record keeping, storage and washing/sterilizing rooms for equipment.
  - 4.4.1.3 Appropriate transportation facility, as per the requirement by the importing country, must be available.
  - 4.4.1.4 A clean and dry feed store with adequate ventilation must be established.
- 4.4.2 Human-power.
  - 4.4.2.1 Well-trained and skilled personnel (avian expertise) for poultry farm management must be recruited.
  - 4.4.2.2 Other attendants for the proper management of the farm as required must also be recruited.









