



Rapid Market Assessment of the Livestock / Meat Value Chain in Ethiopia

SUB-REPORT 2: Poultry / chicken meat

Commissioned by:

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Glossary

AACCSA Addis Ababa Chamber of Commerce and Sectoral Associations

DA Developments Assistants

ETB Ethiopian Birr

GoE Government of Ethiopia

MT Metric Ton

PANVAC Pan African Veterinary Vaccine Centre

PMDC Poultry Multiplication and Distribution Centres

Work in progress

1. Introduction and methodology

This Rapid Market Assessment (RMA) was commissioned by Stichting Sustainable Meat in the Netherlands and executed by F&S Ethiopia in the months of April and May 2017. Its objective is to provide background information preceding the scoping mission planned by these two organizations in May / June 2017. This document focuses on the poultry / chicken meat value chain, and the broiler value chain in particular, which is part of the larger livestock / meat value chain or sector in Ethiopia. A second report has also been prepared, and focuses on the cattle / beef value chain. Other chains within the livestock / meat sector are not taken into detailed account in either of these documents; they include the value chains of sheep, goats, pigs and camels.

Rapid Market Appraisal (the formal term) or Rapid Market Assessment methods are efficient ways of obtaining quick policy relevant information, to provide guidance for development interventions, or, in this case, relevant background information for an investment decision. They can be used to orientate more in-depth, quantitative follow-up studies. RMA studies are designed to generate information that is largely general and qualitative. However, where possible, they include analysis of quantitative information from secondary sources and other rapid appraisal methods. It needs to be kept in mind that they are not comparable to a market survey, which is a distinct method requiring other (more) resources (Holtzman, 1995, Morris, 1995, in Gebremedhin 2009).

2. The poultry / chicken meat value chain in Ethiopia

2.1. Background

The current Ethiopian poultry population is around 56 million. With regard to breed, 95.86%, 2.79% and 1.35% of the total poultry were reported to be indigenous, hybrid and exotic, respectively. (CSA: 2014). Table 1 below presents the poultry population per Region; Oromiya (which includes Addis Ababa) is the largest, followed by Amhara, SNNPR and Tigray.

Table 1 Ethiopian Poultry Population

	Region	Poultry population	Hybrid population	Exotic poultry	Human population
1.	Tigray	6,189,848	603,852	362,044	5,062,000
2.	Afar	132,215			1,650,000
3.	Amhara	18,031,121	513,705	206,200	19,219,000
4.	Oromiya	20,076,129	342,389	119,889	32,220,000
5.	Somali	162,882			5,318,000

6.	Benishangul	1,375,326	3745		1,028,000
7.	SNNPR	10,433,773	105,695	70,648	17,887,000
8.	Harari	71,419			215,000
9.	Diredawa	86,617	2730	2532	395,000
10.	Gambela	307,387	340		406,000

Source: CSA, 2014

Poultry is an important sub-sector in Ethiopian agriculture. It generates employment and income for many people in the country. Poultry meat represents around 5% of the total meat production. Poultry has a big potential to contribute to livestock production. This is mainly because chickens are small in size and fast in reproduction compared to other species of livestock. It is expected that the poultry sub-sector will help close the total national meat production-consumption gap. ILRI (2014) promotes poultry as a relatively low greenhouse gas emission alternative to cattle rearing. In the livestock master plan it is stated that the current 5% share is expected to be raised to 30% of all meat production in 2030.

The largest proportion of eggs and poultry meat consumed in the country comes from indigenous birds produced by rural growers. Traditional production methods dominate the market for birds, eggs and meat. However, during the past 15-20 years, there has been a gradual increase to commercial small and medium-scale flock production. This reflects the efforts of the Government of Ethiopia (GoE) during the period since the early 1990s to boost the productive base of domestic birds with a genetic improvement programme. Concerted efforts have been made to introduce and distribute exotic breeds, provide improved extension advice and services and to generally exploit the capacity of the sector to boost rural productivity.

In recent years, an emerging middle-class urban sector - middle income and with more buying power - has boosted the demand for poultry products, and this has led directly to expansion of poultry production particularly in urban and peri-urban areas. As a result, the establishment of privately owned veterinary services has increased – with pharmacies, practices and medicines widely available.

Some Government owned Poultry Multiplication and Distribution Centres (PMDCs) (in Gubre, Bedelle, Hawassa, Kombolcha and Adama) have their own parent stock and hatchery from which they multiply and distribute breeding and production birds to urban and rural areas. At the beginning, the PMDCs were mainly involved in distributing improved poultry breeds to farmers in rural areas, but with better links to urban agricultural departments they now distribute to urban and pre-urban areas.

Currently there are medium-scale and large-scale commercial importers of poultry and service materials in both the private and public sectors. Public sector importers include the agricultural research institutes such as Debre Zeit Agricultural Research Centre. Private sector poultry farms include a few dozen producers, the largest of which are Elfora Agro-

Industries, Alema Koudijs and Genesis farms. In total they supply the Addis Ababa market with about one million chickens and 34 million eggs annually (Demeke, 2007). Producers have an important role in the expansion of small-scale poultry production along the main Addis Ababa and Debre Zeit road axis and in-and-around the two cities. Some farms specialize in chickens producing eggs for market consumption (layers), or on hatching and rearing chickens for the purpose of meat production (broilers). Large farms specialize in raising broilers for meat production.

Despite this increasing activity in the sector, the average per capita consumption of chicken is less than 1 kilo, making Ethiopia one of the lowest poultry meat consumers in Africa.

2.2 Chain functions

This section is based on Boere et al, 2015. The poultry value chain involves multiple actors and service providers. Main actors include input suppliers, producers, processors, brokers, traders and consumers. Major activities in poultry value chain include feed, breeding, hatchery, processing, distribution and retail. More than 90% of poultry production is from backyard producers, which are based on scavenging feed systems. Commercial poultry farming is growing in the past few years. There are several chains in the sector, depending on the type of poultry production and the type of end consumers. The value chain of poultry products from backyard traditional producers is relatively short as compared to poultry products produced by commercial farmers. Backyard chicken producers sell at live chicken market to end buyers. A smaller portion of backyard-produced chickens is distributed through collectors (traders) at urban live chicken markets. Figure 1 below shows the value chain map of the sector.

Value Chain map for exotic broilers in Ethiopia

Source: Poultry in Ethiopia: a survey of production, value chain and marketing of commercial poultry in Ethiopia. NABC report

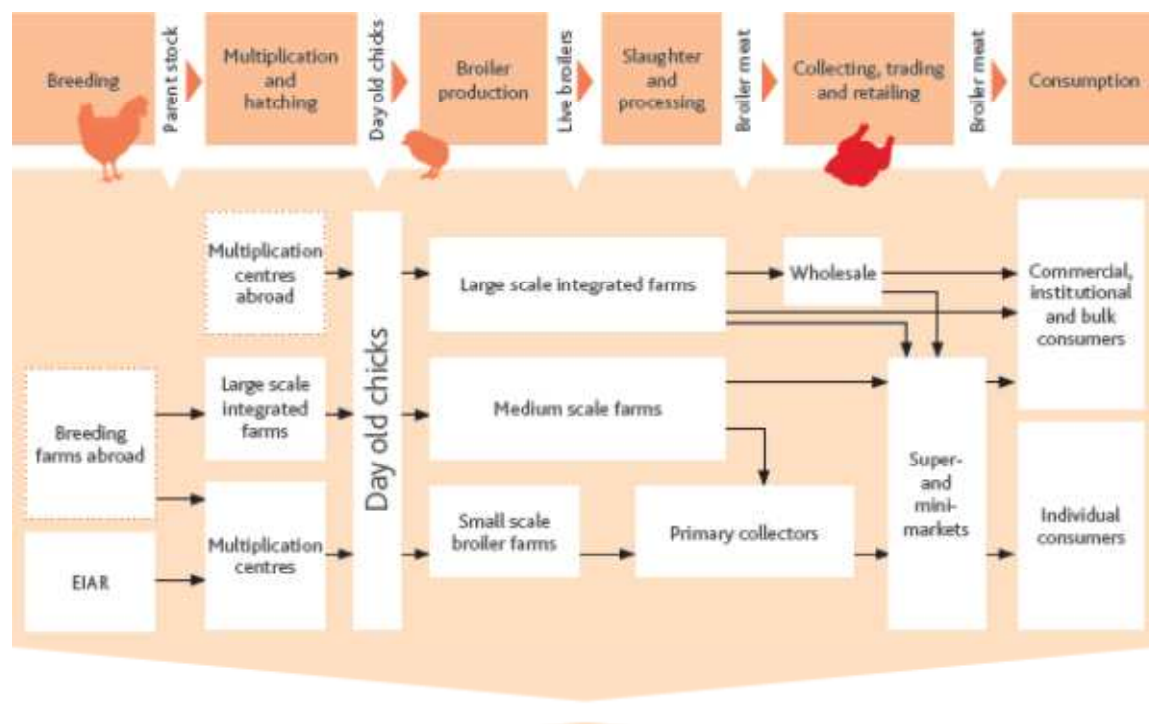


Figure 1 Value Chain Map of the poultry sector in Ethiopia

Source: Boere et al, 2015

Feed: There are a few commercial feed producers that produce specialised poultry feed in the country, like Alema Koudijs Feed, Akaki Feed Factory, Ethio-feed, Friendship Agro-Industries, Bora integrated commercial farms, Adis Alem feed mill, and Kality animal feed mill, to name a few major ones. Feed mills generally use locally produced raw materials. Premixes and concentrates are usually imported since there is no production of good quality premixes and concentrates in the country. Recently, a few foreign investors have come to Ethiopia to produce compound feed on a large-scale next, most notably Astral Foods and Feedco. The latter should also start the production of pre-mixes in Ethiopia. See section 2.3 below for more details on the fodder value chain.

Vaccines and drugs: NVI- PANVAC (Pan African Veterinary Vaccine Centre) in Debre Zeit produces a number of vaccines for poultry, such as live and inactivated Newcastle disease, IBD, Fowl pox, and Fowl typhoid. Other important vaccines are not available from local producers. Only East-African Pharmaceuticals produces some veterinary medicines. Currently the Ethiopian government is registering more veterinary medicines and vaccines, facilitating commercial livestock production and increasing business opportunities for suppliers. At the moment some of the most important suppliers of veterinary products are: Equatorial Business Group, East-Africa Pharmaceuticals, Rangvet PLC and Gasco Trading.

Equipment: Poultry farm equipment is available through several farm equipment distributors. The distributors have close relationships with several companies abroad (based in Belgium, Italy, the Netherlands, India, China, etc.). Customers are farmers of all sizes. Small and medium scale farmers mostly buy drinkers and feeders, while large scale farmers need more comprehensive solutions including hatchery and climate systems. Most important importers and suppliers domestically: Gasco Trading, Wise team PLC, Friendship Agro-Industries (supplies own-made equipment, e.g. self-designed cages).

Hatcheries in Ethiopia (Breeder Farms): Hatcheries produce table eggs, fertile eggs, day old chickens (DOC) and pullets (3 month old). As the supply from local hatcheries is not sufficient more than a million DOC are imported annually. Few publicly owned hatcheries (about 8) are operating in the country and mainly distributing their products to small-scale producers. Though there are few farms in other regions, hatchery farms are mainly concentrated around Addis Ababa like, Sululta, Butajira, DebreZeit, Modjo, Adama, Awash Melkasa and Dhera. Table 2 below provides an overview. In general, the knowledge on the hatchery process is low and management standards in most of the hatcheries are poor, leading to:

- Low hatching percentage on several of hatcheries in Ethiopia.
- Hatching results that are negatively influenced by parent stock management as well as management of hatching

- Total output of the hatcheries currently too low to meet the demand of customers / outgrowers. This makes poultry production a risky venture and as a result, many people drop out of poultry keeping and turn to other ways of income

A structural problem with all hatcheries in Ethiopia is the altitude on which they are built (temperatures need to be managed well). The FSRE fund has financed poultry companies such as AMEL to work with outgrower farmers, who are supplied with pullets reared by the company. This model, although small-scale, is promising.

Table 2 Hatcheries overview 2014/15

Name	Capacity		DOC Delivered per year	Parent Source
	Setter	Hatcher		
1. Abebaw Gessese	7*14,040	7,000	265,000	France Avian
2. Alema Farms (new)	225,000	98,000	500,000	Isa and Cobb varieties
3. Ayna poultry Farm (Alemishet Degife)	1*57,000	1*19,200	250,000	ISA
4. Daniel Getu	3*19,200	1*19,200	100,000	ISA
5. ELERE Farms (Fanta Trefe)	6*30,000	3*19,200 1*15,000	1.3 million	Cobb and Lohman
6. Gerado Farm (Ibrahim)	1*76,000	19,200	250,000	ISA
7. Hawassa Genene	3*19,200	3*6,000	120,000	ISA
8. SW poultry farm (Samson Wosen)	1*77,000	1*19,200	300,000	ISA and cob 500
9. Kombolicha (Shimelis)	2*10,000	7*6,000	450,000	ISA Kockock
10. ELFORA	210,000	76,000	112,000/week	Ross and Hendrix
11. ELFORA new farm in Chefa	10*41,472	4*20,736	6,000,000	Cobb for broilers
12. Bracod Agro industry	38,400	19,200	2,000	Lohman
13. Andasa (Bahirdar)	38,000	12,000	10,000	Lohman
14. Milkas Albert	76,800	19,200		Cob Vantress
15. Hage farms	76,800	19,200	10,000	Bovan and cobb
16. Ethio-chicken (formerly Mekelle farms)	n/a	n/a	200,000 / month	Bovans Brown, Rhode Island red and Kuroiler

Source: Boere et al 2015

Poultry farms: There are more than 20 private large-scale commercial poultry production farms, all of which are located in and around Addis Ababa, particularly in and around Debre Zeit. ELFORA has large-scale poultry farms at 4 different locations. Its slaughtering service has a capacity of 1,000,000 kg/year. Alema Farm is the second largest enterprise with a capacity of 400,000 broiler chickens per annum including a distribution capacity of up to 500,000 DOCs.

Other large-scale commercial poultry farms (defined as 2,500 to 50,000 chickens) are located in and around Addis Ababa with a collective capacity of 208,000 broilers per annum. Table and fertile eggs, day old chicks and broiler meat are the major products of these farms. There is also an emerging small-scale intensive system where a small number of exotic breeds of chickens (50-1,000) is produced along commercial lines using relatively modern management methods. This activity is being undertaken as a source of income in and around major cities and towns such as Debre Zeit. Most of these farms obtain their feeds and

foundation stocks from Alema farms & Alema Koudijs feed processing plant and occasionally from nearby government owned breeding and multiplication centres.

Processors: Few commercial farms are engaged in processing activities targeting urban consumers mainly consumers at Addis Ababa. Some of the commercial farms have their own distribution outlets. At national level, processed broiler meat is only about 5% of the total national level production. Recently, several companies including Bora and ELERE have invested in slaughter lines funded by the Food Security and Rural Entrepreneurship (FSRE) fund managed by ICCO. These machines are not yet operational however.

2.3 The fodder value chain

Ethiopia has a large livestock population and diverse genetic resources, diverse agro-ecologies suitable for different kinds of livestock production. However, the productivity and economic contribution of the livestock sector is much below the potential due to shortage of feed supply in terms of both quantity and quality. According to CSA 2011/12 the animals feed requirement per annum is 95.83 million tons (dry matter) but the available feed is 65.64 million tons, leaving a gap of about 30% or 30.2 million MT.

Feed cost account for 60 to 70% of the total cost of livestock production. Shortage of feed and the escalating price are adversely affecting the productivity and profitability of commercial livestock operations. The feed milling industry and modern live stock production are interdependent. The market for different compound feeds is concentrated along the Addis Abeba-Adama corridor, where the feed processing industries and modern livestock farms (poultry, dairy, pig, cattle fattening) are concentrated. Table 3 presents the major companies.

The existing feed industries capacity of the feed mills range from 20 quintals (2 MT) to 125 quintals (12,5 MT) per hour. The standard for feed mills is 2000 hours of operation annually but, feed mills in Ethiopia generally operating much lower than this standard; 30 % of their design capacity ins no exception. Major reasons are management flaws and lack of raw materials. The sources of compound feed production are purchased grains, agro-industrial-by products and imported vitamins and Minerals. Hence it is feasible for local and foreign investors to be engaged in field of animal feed industries in order to enhance feed development and full fill the shortage of animal feed supply both in quantity and quality in Ethiopia.

Table 3 Production capacity of major commercial compound feed companies

Name of Feed mill	Facility/ Estimated capacity MT/hr)					
	Mill	Mixer	Pellet line	Liquid mixer	Ingredient storage	Processed feed storage
1.Alema Koudijs Feed Plc	12.5	15	1	1.5	50,000	1,000
2.Ashraf	6.25	6.25	-	-	500	300
3.Akaki animal feed PLC	5.2	8	-	-	1000	500
4.Kality animal feed enterprise	4	6	-	-	1500	-
5.AddisAlem Agricultural Development PLC	2	4	2	-	3,000	1000
6.BSLF Animal Feed	0.5	0.5	-	-	-	-
7.Fantu and Family	0.5	0.5	-	-	100	-
8.H.B.A General Business	2	1.5	--	-	50	20
9.Ada;aa Dairy cooperative	1.5	1	-	-	100	60
10.Almaz Poultry and Feed processing Enterprise	0.5	0.5	-	-	40	-
11.Ethio-Feed PLC	2	1	-	-	300	20
12.Bora Feed mill Plc.	0.5	1	-	-	100	50
13.Friendship Agro processing	1	1	-	-	100	100

Source: Yemane 2014

2.4 SWOT analysis of the poultry / chicken meat sector

Table 4 below presents the SWOT analysis for the poultry sector with a focus on broiler production.

Table 4 SWOT Analysis on broiler production in Ethiopia

Strengths	Weaknesses
<ul style="list-style-type: none"> • Reduced taxation on feed additives imported • Universities and higher educational institutes are expected to produce technically and theoretical capable professionals • The GoE facilitates different incentives for investors who bring new technology and knowledge to the country, including access to land 	<ul style="list-style-type: none"> • Import regulation of the country remains a major challenge for poultry farms • Lack of efficient and modern equipment • Inconsistent feed supply • Poor quality vaccine production • Production characterized by poor production methods • Lack of technical and managerial skill among small and medium-scale producers • Lack of availability of balanced poultry feed • Lack of skilled man power on poultry breeding management
Opportunities	Threats
<ul style="list-style-type: none"> • Increased demand of broiler DOC • Breeding stock, due to small number of breeder farms • Feed production: market is far from being served adequately in quality and quantity 	<ul style="list-style-type: none"> • Market fluctuations; fasting season has a negative impact on sales (no consumption of animal products) • Disease outbreaks

- Investment in pre-mixes and concentrates factory for supply to local feed producers
- Import of pre-mixes, micro-ingredients, concentrate to Ethiopia
- Import of poultry medicines, anti-biotic, anaesthetics anthelmintic, vaccines, etc.
- Increasing commercial broiler meat market will increase demand for investments in professional slaughterhouses
- Import of slaughter equipment, rendering systems, water treatment systems, etc.
- Import of cooling equipment and investments in cooling and freezing stations

3. Poultry / chicken meat production and slaughtering in Ethiopia

3.1. Production systems

Poultry production systems worldwide are usually classified in four different categories:

1. Industrial integrated system with a high level of bio-security and birds/products marketed commercially (e.g. farms that are part of an integrated broiler production enterprise with clearly defined and implemented standard operating procedures for bio-security).
2. Commercial poultry production system with moderate to high bio-security and birds/products usually marketed commercially (e.g. farms with birds kept indoors continuously; strictly preventing contact with other poultry or wildlife).
3. Commercial poultry production system with low to minimal bio-security and birds/products entering live bird markets (e.g. a caged layer farm with birds in open sheds; a farm with poultry spending time outside the shed; a farm producing chickens and waterfowl).
4. Village or backyard production with minimal bio-security

In Ethiopia, chickens are reared using three different methods either for egg or meat production. And based on chicken breed type, input and output level, mortality rate, type of producer, purpose of production, length of broodiness, growth rate and number of chicken reared. The production systems are discussed below.

Free - range chicken production system: This chicken production system is practiced in most rural areas; production is for household consumption and as source of additional income for the household. It is a subsistence farming practice that covers 95-98% of the country. Chickens scavenge and are kept in the main house with the family. There is high mortality of chicken and long brooding periods Indigenous poultry breeds in this system do not produce more than 60 eggs per hen per year; chickens that are not productive anymore are eaten and typically only yield 0.5 kg of meat carcass from 1.5 kg live weight chicken. Abebe, *et al*, (2015).

Semi- intensive chicken production system: This type of chicken production system is an improvement on the free-range production system since it uses inputs like supplemental feed, vaccines, etc. It uses small houses, which accommodate laying nests and feeders and which serve as chicken house for the night-time. Around the house is a fenced area. Since the feed the chickens obtain from the scavenging is very low, they should be supplemented with energy and protein feeds. Since the main objective of the production is to get profit, they should get better health management practice like vaccination. This production system is more productive, with flock sizes of 50-200 birds/chicken per household which are generally improved breeds, ATA (2016).

Intensive chicken production system: This type of chicken production system uses more inputs (feeds and feeding, breed, health, housing and other inputs) than the above two chicken production systems. It is market oriented and profit driven. The number of chickens involved is relatively high (over 200 up to thousands of chickens). The chicken breed used is specialized improved breeds (layer or broiler). There are three types of intensive chicken production systems, which include the deep litter system, cage system and full slatted rearing systems.

Of these three systems, the one suitable for broiler/ meat chicken production system is the deep litter system. This involves rearing of chickens on a floor littered by 5-10 cm thickness of litter. The litter can be made from locally available material such as dry hay, teff straw, coffee pulp and saw dust. The litter should be dry at any time otherwise it can cause occurrence of different disease. In addition to provision of comfort for the chicken, the litter absorbs any waste material excreted from the chickens and make the house dry. It is possible to place the feeders and drinkers in the house on the litter. But it is advisable to hang them and to place laying nests in the house. In this way it is possible to rear either layer or broiler. At least once a week, the litter should be sprayed with disinfectant chemicals. To keep healthy chicken in this type of system, the following points should be noted:

- The existing litter should be removed totally when the existing stock is culled
- Before introduction of new stock, the house should be cleaned carefully and left free at least for two weeks
- Make sure that the litter should be dry at any time
- At any time the thickness of the litter should not be less than 5cm (Abebe *et al* (2015)).

3.2 Slaughtering facilities in Ethiopia

Tables 5 and 6 below present the larger and smaller chicken slaughtering facilities in Ethiopia. See also the contact list document in Excel. These firms have to fulfil standards that are required by the customers. Some of these requirements include implementation of Hazard Access Critical Control Point (HACCP) and Food Safety Management systems, which is confirmed by the provision of ISO certificates. No one of the above mentioned poultry meat processors have got this certificate due to lack of these quality requirements.

Table 5 Major chicken slaughtering facilities in Ethiopia

	Name of the firm	Location	Contact Person	Phone number	e-mail address
1	Alema Farms	Bishoftu	Alemayehu	0114339966	alemafarms@yahoo.com
2	ELFORA Agro industry	Bishoftu	n/a	0911203139	n/a
3	Abebaw Gesese Poultry Farm	Modjo	Abebaw Gesese	0911507235	azore@etionet.com
4	Hage farms	Bishoftu	Fantahun	0911491068	faregawi@yahoo.com

5	ELERE Farms	Bishoftu	Fantu Terefe	0911491049	Fanta-elere@yahoo.com
6	Kelebet Agro industry	Dukem	Abera	0935401089	kelebetfarm@gmail.com
7	Fasil Poultry Farm	Modjo	Fasil	0929337291	Fwossen@gmail.com
8	Bernehigo Poultry Farm	awassh	Milkias Albert	0911509505	birnihigop@gmail.com

Source: F&S RMA

Table 6 Small scale broiler producers mapped

No	Organization's name	Contact Person	Location	Phone
1.	E & E Farm	Elias	Bishoftu	0912293529
2.	Mahari Nigussie Farm	Mahari Nigussie	Bishoftu	0914760998
3.	Alemshet Farm	Alemshet	Bishoftu	0911400463
4.	Dagnachew Ashenafi Farm	Dagnachew Ashenafi	Bishoftu	0912192251
5.	Melaku yai Farm	Melaku yai	Bishoftu	0911837763
6.	Kidist & Dawit Farm	Dawit	Bishoftu	0911349482
7.	Hailu Yimam Farm	Hailu Yimam	Bishoftu	0911330140
8.	Abebe Mekonen Farm	Abebe Mekonen	Bishoftu	0921069759
9.	Bora Farm	Efrem	Bishoftu	0934751534
10.	Alemayehu Poultry Farm	Alemayehu	Bishoftu	0911916360
11.	Eliyas Poultry Farm	Eliyas	Bishoftu	0911689849
12.	Bekesh Poultry Farm	Bekesh	Bishoftu	0911385892
13.	Micro Poultry farm	Kasahun	Bishoftu	0912827801
14.	Safe Poultry PLC	Belay	Bishoftu	0911795724
15.	Kant Poultry Farm	Kasaye	Bishoftu	0911699420
16.	Yona Agro industry	Nigist	Bishoftu	0913118565/ 0932087560
17.	Mekonen Poultry Farm	Mekonen	Dibandiba	0946611242
18.	Dolche Poultry Farm	Tujar	Dibandiba	0910278686
19.	Tsehai Poultry Farm	Mulualem	Modjo	0911671731
20.	SW Poultry Farm	Samson	Dera	0912608485
21.	Abyssinia Technology Adaptation Center	Hana	Dukem	0923705565
22.	Geremew & Hewan Poultry Farm	Geremew	Dukem	0916827262
23.	Adama Poultry Farm	Lidia	Adama	0913960080
24.	Addisalem & Wolde Farm	Addisalem	Adama	0913901667
25.	Kelbessa Gameda Farm	Kelbessa Gameda	Adama	0911395351
26.	Selihom & Debebe Farm	Selihom/Debebe	Adama	0912080964
27.	Temesgen Getachew Farm	Temesgen Getachew	Adama	0911466803
28.	Getu Poultry Farm	Getu	Awash	0911420495/ 0913337321
29.	Haimi poultry farm	Alemshet	Awash	0911209260

Source: F&S RMA

4. Poultry / chicken meat consumption in Ethiopia: a brief market analysis

4.1 Consumption

As mentioned in section 1, Ethiopians consumer less than 1 kg of chicken meat per year. Assuming 40,000 MT consumption of poultry meat with an estimated population of 86 million in 2013 (FAOSTAT) the per capita poultry meat consumption in Ethiopia was 460 grams per annum. This per capita consumption¹ rate is significantly lower than the average per capita consumption of developed countries, which is 33 kilo (!). It also compares as low versus the 4kg annual consumption per capita in Kenya.

The chicken meat consumption per capita of Ethiopia has a growing trend, as illustrated in table 7 below. With the increasing economic growth of the country, Ethiopia has a lot of potential for a higher consumption. The ever-increasing local meat price, the short supply of meat coupled with poverty has contributed a lot for a lower per capita consumption. Unlike many countries of the world, the price of chicken meat is lower than that of other meats such as beef. It needs to be noted that currently, supply is not keeping track with demand, even though poultry farms are professionalizing and increasing their production.

One bottleneck to the growth of the sector is the long fasting season in the country especially by the orthodox Christians. 43% of the Ethiopian population are not consuming meat for more than 200 days in a year. During the fasting season chicken meat producers change their production strategy: broiler producers begin holding DOC in their farms at the beginning of the longest fasting season before Easter (55 days). They slaughter the chickens when the holiday approaches. Since the feed price is a major cost driver, they may also decide to slaughter the chickens and store the meat in deep freezers. It is estimated that fasting reduces the aggregate demand by 20-35% per year (AACCSA, 2015).

Table 7 Per capita chicken consumption

Year	Population	Chickens Slaughtered		Growth rate in %
		Production (x 1000 head)	Per capita consumption (whole chicken)	
2005	70,123,898	53,200	0,76	
2006	71,996,206	56,500	0,78	3%
2007	73,918,505	57,800	0,78	0%
2008	75,892,129	60,736	0,80	2%
2009	77,918,449	63,000	0,81	1%
2010	79,998,872	69,000	0,86	7%
2011	82,134,841	81,500	0,99	1.7%
Average 7 years		62,576	0,83	4.7%

Source: FAOSTAT

¹ It needs to be noted that Ethiopia has a lot of inhabitants, so this figure is diluted. Also, no data were found on disaggregated groups (per income strata for example) but chicken consumption can be assumed to be highest at the highest purchasing power levels.

The price of dressed broiler meat varies from time to time, the price influenced by the breeder farm output of DOC on the market and the seasons. During summer time (rainy season, June to September) the broiler meat price goes up because most of the out growers close their farm due to fear of disease and coldness of the season.

The average meat yield of a commercial broiler can attain 1.8 to 2.2 kg within 55 days. The farm gate price of 1 kg of broiler meat is currently ETB 60 birr up to ETB 120 depending on the number of broiler chickens on the farmer’s hand. The Ethiopian Poultry Association (EPA) has set broiler meat price at ETB 78 before VAT to promote a sustainable and consistent market flow. However, price setting of broiler meat dependent remains highly dependent on production and the activities of brokers. In supermarkets in Addis Ababa the price of broiler meat is around 150 ETB/kg and chicken meat is often sold frozen. The trend of sales of chicken meat from supermarkets is increasing recently. The changes in life style, the increase in income, the comparative increase in prices of beef meat are the major contributing factors for the increase in sales of poultry meat from supermarkets.

4.2 Chicken meat retail networks in Ethiopia

Most of the indigenous breeds are marketed through traditional open markets all over the country. The sales of poultry products reach its peak during Christian holidays (Christmas, Easter) when people eat the traditional dish *doro wot*. The vast majority of chicken meat on the local markets comes from small slaughter business, and backyard slaughter.

Modern poultry farms distribute their products through retailers and supermarkets. Popular large size supermarkets in Addis Ababa are estimated to be selling between 20 and 50kgs of poultry meat per day. Hotels and restaurants are also among the main customers of poultry farms. Large-scale suppliers are preferred suppliers to many supermarkets because of the consistency of supply and quality. There are also small-scale poultry meat suppliers to supermarkets. Some restaurants prefer to buy from small-scale poultry meat suppliers to benefit from lower prices.

As can be seen in table 8 below, in 2016, the largest chicken meat producers produced 1986.5 MT of chicken meat and delivered to the well-known super markets and large international hotels in Addis Ababa City. These are specified in table 9 below.

Table 8 Main poultry meat producers and their performance in 2016

No	Name of the Farm	Production in ton in 2016	Estimated value (assuming USD 8/KG at retail level)
1	Alema Farms	1132,69	9.061.520
2	ELFORA Agro Industry	787,98	6.303.840
3	Abebaw Gesese Poultry Farm	35,02	280.160
4	Sinknesh Poultry Farm	30,8	246.400
	Total	1986,49	15.891.920

Table 9 Main institutional chicken meat buyers

No	Hotels	Super Markets	Government Organizations	Embassies
1	Sheraton Addis	Fantu Supermarket	Ethiopian Airlines	Embassy of USA
2	Hilton Addis	Shoa Supermarket	Universities	British Embassy
3	Capital Hotel	Seven Eleven Supermarket		Embassy of Israel
4	Elily Int. Hotel	Shi Solomon Supermarket		Brazil Embassy
5	Raddison Blu Hotel	Shiper Supermarket		Australia Embassy
6	Ghion Hotel	Blue Top Supermarket		France Embassy
7	Harmony Hotel	Getfam Supermarket		Germany Embassy
8	Desalegn Hotel	Fresh Corner		Ireland Embassy
9	Global Hotel	Bambis Super Market		Norway Embassy
10	Getfam Hotel	Safe Way Supermarket		Russia Embassy

Source: F&S RMA

4.3 Chicken meat import

The amount of chicken meat produced in the country is not satisfying the need of all the above-mentioned organizations and other chicken meat consumers. Therefore, a large amount of chicken meat is imported to the country every year, as shown in table 10.

Table 10 Ethiopian meat imports 2010 - 2015

Commodity	2010	2011	2012	2013	2014	2015	% increase 2010/2015	Change in Value 2010/15
Fish Products	1,250,564	1,578,212	2,071,672	2,108,424	2,457,576	2,548,013	104%	1,297,450
Beef & Beef Products	148,788	177,429	202,714	205,323	336,507	219,385	47%	70,597
Poultry Meat & Prods.	110,928	99,509	92,462	74,672	873,270	378,303	241%	267,375
Animal Fats	864,713	20,448	3,277	51,233	91,487	143,116	-83%	(721,598)
Pork & Pork Products	125,206	158,125	110,000	211,799	172,881	103,883	-17%	(21,323)

Source: Ethiopian Revenues and Customs Agency (ECRA), 2016 data

The above table illustrates that Ethiopia has imported poultry meat with a value of 378,303 USD in 2015. This indicates that there is still a gap between the amount of chicken produced in the country and the demand, especially in the higher market segments. It is also noted

that the import is on the rise as the figure for the poultry meat shows: 241% increase from the year 2010 to 2015. From this, the rising market demand for high quality market demand is clear, and production of quality chicken meat for local markets would in effect be import substitution.

5. Brief overview of supporting actors, projects and programs

5.1 Research

Ethiopian Institute of Agricultural Research (EIAR)

The Ethiopian Institute of Agricultural Research (EIAR), a government body, carries out all official agricultural research in Ethiopia. EIAR coordinates the decentralized agricultural research activities at federal and regional research centers, and through higher education institutions, including 7 regional and 15 federal agricultural research institutes. It operates at the federal and regional levels. The head office of the EIAR is located in Addis Ababa and most of the poultry research is carried out on the research station in Debre Zeit. The EIAR operates Regional Agricultural Research Institutes (RARI) on various locations through 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: EIAR has from both the Dominant Brown (from Czech) and Hubbard approximately 1000 parent stock. They also have some dual-purpose chickens from the breed Koekoek from South Africa² and the Fayoum dual purpose from Egypt. Capacity to lay is up to 200 eggs annually. EIAR has also conducted a breeding program for breeds adaptable to Ethiopia.
3. Developing technologies: research projects on e.g. efficacy of IB and NDC vaccination, evaluation of bio-security measures, salmonellosis, assessment of feed quality on local markets, demonstrations on small scale poultry keeping packages; investigating for alternative protein sources in various parts of Ethiopia
4. Evaluation of distribution programs

The government operates a pullet distribution program which provides DOC's to poultry farmers, with training and some feed and vaccines if necessary. EIAR monitors the result of this program

Future research priorities under the LMP include:

- Selection to improve indigenous red meat animals and on-farm record keeping
- Better cross breeding of dairy cattle and small ruminants
- Improved Family Poultry and Camel improvement
- How to manage/improve rangelands in pastoral areas
- Developing new poultry lines using indigenous and exotic poultry breeds
- How to reduce animal traction and improve mechanization
- Improving seed and feed options for forage production by livestock owners

² See <http://www.arc.agric.za/home.asp?pid=2611>

5.2. Education

Veterinary Sciences can be studied on eleven universities in the country, Animal Sciences on fourteen universities. Poultry education is part of the Animal Sciences curriculum. The poultry education is divided in three different modules, with in total 100 contact hours. University curricula are usually rather theoretically oriented; there is little attention for practical training. Some universities have their own poultry unit, but the management quality and utilization of training options from these units differ from university to university. The Netherlands consortium Holland Africa Poultry Partners has, with financial inputs from both the Ethiopian and Dutch government built a practical training Centre: the National Poultry Training Centre (NPTC) in Debre Zeit.

All the regions have 2 or more Agricultural TVETs (ATVET), all of which include animal production in their program. The ATVETs also offer short course for farmers, extension officers and government extension workers. Farmers are selected by the Das (Developments Assistants: extension workers) of the government at Woreda level. Most of the ATVET graduates end up in government service as DA or Animal Health Technicians. Recently, some ATVET have started adapting their curriculum to the growing labor needs of the private sector, with some assistance from Dutch educational institutes, supported by EP Nuffic.

5.3. Vaccinations

National Veterinary Institute (NVI)

The National Veterinary Institute is sole provider of vaccinations for livestock production in Ethiopia, including poultry. Their core business has been the production of vaccines for livestock diseases. Additionally they also provide feed analysis services. The NVI has not been able to produce all necessary vaccinations for commercial poultry production, a reason why vaccine production also 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 exported to other African countries.

National Animal Health and Diagnostic Investigation Centre (NAHDIC)

The National Animal Health Diagnostic and Investigation Centre (NAHDIC) is the most important veterinary laboratory in Ethiopia. It is state-owned and the center of excellence for animal disease surveillance, investigation, diagnosis and veterinary research. Currently, NAHDIC has implemented ISO/IEC17025: 2005 in three laboratories. The centre is located in Sebeta 25 kms from the capital, Addis Ababa.

VDFACA

The Veterinary Drug and Feed Administration and Control Authority (VDFACA) is a recently established authority that should amongst others lead the process of increased numbers of registered medicines and vaccinations, in line with the Veterinary Rationalization Roadmap of the Ministry of Agriculture. Next to that, it will be in charge of controlling the quality and safety of veterinary drugs and animal feed in the country.

5.4 Extension services and support to the sector

Government extension service

The Ministry of Agriculture (MoA) is responsible for developing and refining the overall national agricultural and rural development strategies and policies for the country, with input from the regions and other stakeholders. Within this strategy, the Ministry of Agriculture establishes the overall national extension policy, providing financial support for the extension system and supporting the regions with training and other capacity-strengthening activities. The MoA extension service, poultry directorate, livestock Department consists of three main departments: Animal Production, Animal Health and Pastoralists.

Ethiopian Meat and Dairy Industry Development Institute (EMDIDI)

This Institute was established in 2008 with a particular focus to support the Meat and Dairy Processing sector by the government of Ethiopia. Previously, the Institute was under the ministry of Agriculture supporting activities like livestock production and marketing. Currently, It has been transferred to the ministry of Industry to support the meat Processing and export sector with a special focus including the poultry meat processing. It provides services like consultancy, training and Facilitation services for export abattoirs and chicken meat producers and processors.

Agricultural Transformation Agency (ATA)

The Ethiopian Agriculture Transformation Agency (ATA) is an initiative of the Government of Ethiopia, established in 2011. The primary aim of the Agency is to promote agricultural sector transformation by supporting existing structures of government, private sector and other non-governmental partners to address systemic bottlenecks in the system to deliver on a priority national agenda to achieve growth and food security

African Chicken Gain Programme

In November 2014, the International Livestock Research Institute (ILRI) and partners initiated a new collaboration to provide better chickens to smallholder farmers in Africa named African Chicken Genetic Gain (ACGG). 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.

ACDI-VOCA

ACDI/VOCA implements USDA's three-year Feed Enhancement for Ethiopian Development (FEED) II project, which increases livestock and poultry productivity by further developing the animal feed sector, continuing the progress made under FEED I. Project activities and approaches include

- Developing the feed ingredient supply chain and service sector
- Developing feed manufacturing enterprises
- Developing a sustainable forage production system
- Introducing and expanding feedlot (fattening), poultry, and dairy enterprises
- Promoting improved on-farm feeding practices

Ethiopian-Dutch poultry sector relations

The Dutch poultry sector has been involved in Ethiopian poultry for at least 2 decades. Besides private firms, that work on technology transfer, Dutch support in the Ethiopian poultry sector has been the establishment of the Ethiopian Poultry Producers Association (EPPA). They also supported the organization of the first poultry mission to Ethiopia in February 2011 with 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 (see www.hollandafricapoultrypartners.nl - no longer active). This in turn resulted in the establishment of the first National Poultry Training Centre 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 called Agri-Business Support Facility (ABSF), now ENTAG (Ethiopia Netherlands Trade for Agricultural Growth) facilitated the organization of a tri-annual Poultry Platform and the further support of the Ethiopian Poultry Producers Association (EPPA) in cooperation with the Dutch agri-NGO Agriterro (Boere et al, 2015).

6. Brief overview of the Enabling Environment

Rapid growth in the poultry sector is a national priority. The LMP has put forward ambitious targets to increase chicken meat production by 247% and in egg production by 828% by 2020. The GoE recognizes that an enormous increase in production is essential to close the projected national meat production-consumption gap. Therefore, the GoE has prioritized interventions to support the sector, and is currently rolling out several initiatives including: importation of exotic crossbred chickens with higher genetic potential for eggs and meat, allocation of adequate land for poultry feed production, promotion of private investments to increase the number and size of specialized commercial-scale broiler and layer units, and encouragement of private sector investment in poultry agribusinesses (ATA, 2016).

The GoE furthermore supports the poultry sector with the following:

- Ensuring that sufficient land is allocated and put into poultry feed production (especially maize and soybeans)
- Promoting private sector investments to increase the number and size of specialized commercial scale broiler and layer units
- Encouraging the private sector to invest in poultry agribusiness, especially day old chick and pullet production and meat and egg processing
- Exemption of Tax on veterinary drugs and poultry equipment, vitamin mineral pre-mix and concentrates, feed ingredients like defatted soya meal

The GoE is also very active in its support to the animal feed / fodder value chain. Table 11 below lists some of its roles as well as those of NGOs.

Table 11 Government and NGOs Role on Animal feed production.

Organization name	Role
1. MoA, Universities, EAFIA	Awareness creation on quality, productivity, utilization and sustainability of animal feed
2. Universities, TVET, research institutions, EAFIA	Adaptation of technology and knowledge on, animal nutrition and feed formulation, introduction of integrated fodder crops with food crops
3. Universities, TVET, research institutions, EAFIA, MoA	Establish strong and sustainable forage seed system, strengthen the supply of breeder seeds, recommended seed production technologies, post harvest facilities, conservation technologies to seed producers, strengthen the extension of forage development by focusing on low input integrated forage development,
4. MoA, regional state governments, NGOs	Supporting application of fertilizer and herbicides treatment, cultivating ranges land for animal feeds in the country using the under construction of ten sugar factories across the country irrigation opportunities

GoE involvement to encourage commercial feed industry includes the following:

- Promoting and providing attractive incentives (e.g. tax holidays, land) for those private investors establishing agro-industries that would help to increase availability of by products such as soya bean cake can be used as poultry feed
- Reducing multiple taxation on agro-industrial by products and promote the value addition before export
- Availing land and other inputs for forage, maize and soya production investors
- Universities and higher educational institutes are expected to produce technically and theoretical capable professionals

7. Conclusions

The poultry sector in Ethiopia is relatively manageable in terms of size and finds itself on the cusp of a probably large takeoff. This report has focused on broiler (meat) production but layers / eggs are also a profitable business. Many factors are aligned for quick growth, including growing consumption by the better-off market segments, support from projects and Government institutes, relatively developed production infrastructure especially around the major commercial production zone of Debre Zeit, veterinary services, and increasing awareness among outgrowers and smaller producers that the poultry business, when managed well, can be good business.

There are of course issues to be overcome, especially when one wants to run a professional company. These include challenging imports (of equipment for example), fragmented value chains (large companies are integrated for a good reason: they cannot rely on e.g. hatchery services by other companies), and intermittent market access due to the fasting culture in the country (although this affects the higher market segments arguably less). A main issue remains the availability of humane and professional slaughtering services, using HACCP / ISO approved methods. The investments required for doing so are currently not met by all but the largest professional poultry producers.

There is a strong relation between Ethiopia and the Netherlands, in terms of technology transfer by large Dutch poultry companies, but also through facilitation by Dutch-funded initiatives and projects. The Aid-for Trade approach of the Netherlands Embassy seems to bear fruit in this sector; a healthy and growing poultry sector in Ethiopia is certainly also a market opportunity for Dutch companies specialized in equipment production, parent stock breeding and other related business that can address the gap that is currently opening in the Ethiopian poultry sector due to its rapid development.

Last but not least, the concentrate feed business is also an interesting investment; when starting or managing a large company it is indispensable to take this into account, as feed is a major cost driver of chicken rearing.

8. Bibliography / further reading

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Downloaded from <http://www.wishh.org/wp-content/uploads/2014/09/Biruk-Yemane.pdf>

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