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# PARTNERSHIP FOR SAFE POULTRY IN KENYA (PSPK) PROGRAM

## VALUE CHAIN ANALYSIS OF POULTRY IN ETHIOPIA

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## Acronyms

<b>CSA</b>	Central Statistical Agency
<b>DFID</b>	Department for International Development
<b>DOC</b>	Day Old Chickens
<b>EARO</b>	Ethiopian Agricultural Research Organization
<b>ETB</b>	Ethiopian Birr
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>HPAI</b>	Highly Pathogenic Avian Influenza
<b>IBD</b>	Infectious Bursal Disease (Gumboro)
<b>MoARD</b>	Ministry of Agriculture and Rural Development
<b>NGO</b>	Nongovernmental Organizations
<b>NVI</b>	National Veterinary Institution
<b>OIE</b>	Office International des Epizooties
<b>SNNPR</b>	Southern Nation and Nationality People Region
<b>TOR</b>	Terms of Reference
<b>USAID</b>	United States Agency for International Development
<b>GFDRE</b>	The Government of the Federal Democratic Republic of Ethiopia
<b>PASDEP</b>	Ethiopian Plan for Accelerated and Sustained Development to End Poverty
<b>PRA</b>	Rapid Appraisal
<b>VCA</b>	Value Chain Analysis

## **1. Introduction**

Ethiopia, in general, is endowed with a huge livestock population in Sub-Saharan Africa. It has been estimated that livestock supports the livelihoods of about 80% of the 60 million rural population (FAO 2004). In terms of poultry, 94% of the country's 34 million poultry population comprises indigenous birds, which are favored by household producers due to their perceived traits, such as their adaptability to local agro-ecological conditions, taste, low price and input requirements as compared to exotic or improved breeds. The fact that almost all of the poultry in Ethiopia comprises indigenous (i.e., local) birds reveals that the poultry subsector is strongly dominated by small-scale, household-level poultry (CSA. 2005; Alemu et al. 2008). According to Tadelle et al (2003), small-scale, village poultry production in Ethiopia contributes almost 99% of the national egg and poultry meat consumption, although this figure recently might have been changed slightly due to the emerging commercialization in peri-urban agriculture.

Similar to other African countries, small-scale, household-level poultry (also known as backyard or village-level poultry) in Ethiopia is defined as having low feed input (primarily scavenging), low input of veterinary services, almost no investment in housing and hence minimal level of biosecurity, high off-take rates, and high mortality rates. This system does not involve investments beyond the cost of the foundation stock. However, poultry subsector has the potential to emerge as a dynamic livestock subsector as the recent rise in the demand for poultry meat and eggs in fast growing urban cities and the increasing number of commercial poultry farms around urban and peri-urban areas can attest.(Gezahegn, 2009, Bush, 2006, FAO, 2008). Such trends are expected to generate rural employment opportunities in the poultry subsector. Unemployed youth from the rural and urban origins have recently started to establish micro-enterprise business centers for raising poultry to take advantage of growing markets and market demand in urban areas (Gezahegn 2009). A study conducted by IFPRI (Alemu et al. 2008) indicated that poultry is one of the potential areas to develop in the livestock subsector, primarily to create employment and generate income through reduction of risk factors. The study indicated that there would be immense potential if this subsector is to reduce the risk of disease in Ethiopia.

### **1.1 Study motivation**

With the understanding that the poultry subsector could play an important role in generating and supporting the livelihood of smallholder agriculture, Winrock International commissioned this study to assess the poultry value chain and to promote, build upon, and replicate the Kenyan experience. The major objective of the study was to map the poultry sector in the value chain and characterize actors and their linkages, and understand the role played by each stakeholder including flow of goods and services along with prices. Building upon the successful experiences learned in the Partnership for Safe Poultry in Kenya (PSPK) project, implemented by Winrock International, it is also intended to explore potentials for investment based on a market-oriented value chain model in Ethiopia.

### **1.2 Methodology**

The study is based on secondary data collection and a participatory rapid appraisal (PRA) type of investigation from field visits. Data collection instruments include:

- Primary and secondary data collections from literature and interviews
- PRA studies (primary, small-scale, commercial, backyard), officials, multiplication and research centers, Hawassa, Addis Ababa, Tigray, Oromia and Bahirdar
- Visits to FAO, Ministry of Agriculture and Rural Development (MOARD), input dealers, market centers, and other government agencies

- Analysis of constraints and opportunities identified from stakeholders ranked using simple mean values according to the magnitude of occurrence

### **1.3 Policy context and sector initiatives**

The Government of Ethiopia (GOE) has strived in the past to reduce food security and alleviate poverty. There are policy dimensions of poverty alleviation where the government has embarked upon providing a conducive environment. The Government of the Federal Democratic Republic of Ethiopia (GFDRE) has responded to poverty reduction in various ways through its sectoral strategies based on the five-year Ethiopian Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (2005-2010) framework. Poultry is considered one of the sectors that fit into the policy dimension for alleviating poverty. Although there has not been any mention of policy in explicit forms for the poultry sector, employment creation and food security through MSE development could be considered as a reflection of a conducive policy environment for the poultry sector development. In this initiative, it is currently understood that the role of government is to establish a facilitating legislative environment to support the efficient functioning and enhancing of the private investment in the poultry sector. The government provides incentives such as tax-free import of machinery investment and tax holidays for export-oriented commercial poultry production. The government provides quarantine and inspection services for the import of day old chicks (DOCs). The government program to introduce improved poultry extension service, although within the livestock sector, could also be considered as an opportunity to promote the poultry sector. Through the extension service, the government has a program to provide vaccines to control Newcastle disease free of charge. The government is also responsible for the formulation and supervision of disease control legislation and policies in accordance with OIE guidelines. Although animal health legislation has been drafted, it has not yet been approved, and the government is yet to define a poultry breeding policy. In addition to the above, the other roles expected from the government include infrastructure development, support of the establishment of breeding stock farms, poultry breeding strategy, development of regulations and legislations on quality of inputs and standards for poultry and poultry product marketing.

#### ***a. Public sector initiatives***

The policy to develop the poultry subsector is subsumed and evolved within the livestock subsector. Priorities and strategic project approaches have not been explicitly spelled out for the subsector. One of the strategies is adopting the extension approach by establishing poultry multiplication centers in different regional states. There are about seven regional poultry multiplication and distribution centers with a total annual capacity to produce about 1,236,000 DOCs and about 486,000 pullets and cocks. Such poultry multiplication centers have been established with the objective of distributing one cockerel to five hens, mainly layers, with 1:5 ratio. DOCs are imported and sometimes distributed to small-scale farmers after undergoing the hatchery process. However, the packages are difficult to manage and implement at small backyard levels, and the performance is generally very low. (Information compiled from personal communication with an extension expert from Ministry of Agriculture and Rural Development MoARD)

Another major project related to poultry is the AHIP project for disease outbreak surveillance, in response to the HPAI disease outbreak in the neighboring countries in the region. In March 2006, the GOE developed its three year AHIP Strategic Preparedness Plan. Earlier, in January 2006, a project agreement between MoARD and the UN-FAO was put in place. In the same year, US\$124 million was approved for the program. This is a significant sum, equaling almost 10% of the total Organization for Economic Co-Operation and Development OECD aid to Ethiopia in 2007 (IRIN 2006). The project's main objectives were to step up surveillance and diagnostic capacity and to respond quickly to outbreaks through containment. This project is now in its final stage.

**b. Private sector initiative: commercial producers**

There are more than 10 private, large-scale commercial poultry production farms with estimated annual production capacity of 1,500,000 chicks, all located in and around Addis Ababa, particularly in and around Debre Zeit. Unfortunately, only limited farms are operational at the present time. Some of the farms went bankrupt in 2006 and closed due to the false alarm outbreak of Avian Influenza diseases. One of the largest commercial farms, “Almaz” in DebreZeit, remains closed, as well as some of the small-scale commercial farms also in the vicinity of Addis Ababa.

Although eight of the modern poultry farms have formed a poultry farmers association, ELFORA, Alema, and Genesis are the top three largest commercial poultry farms with modern production and processing facilities and investment of more than 20 million Ethiopian Birr. Most farms import DOCs from abroad. ELFORA, established in 1997, has large-scale poultry farms at four different locations, including modern broiler processing (slaughter houses) and packing units. ELFORA produces table eggs, broiler meat, and DOCs. The slaughtering service has a capacity of 500,000 kg/year. ELFORA annually delivers around 420,000 chickens and over 34 million eggs to the markets in Addis Ababa ([www.ethiomarket.com](http://www.ethiomarket.com)).

Alema Farm, the second largest enterprise, delivers a quarter of a million broilers to Addis Ababa market every year. It has its own parent stock from Holland, as well as a feed processing plant, hatchery, slaughtering plant, cold storage, and transport facility at its sites of operation.

Genesis farm is the third most important private poultry enterprise, with over 10,000 layers and its own parent stock and hatchery. Genesis farm is also one the few sources of breeding stock and commercial feed for the modern private poultry sector and backyard farm established in 1996.

**c. International donor initiatives**

Ethiopia has very limited projects in the poultry sector supported from donor communities. The available ones are often run in combination with other projects with large NGOs as part of income generating activities for the poor at small-scale level. NGOs such as World Vision and Oxfam promote small-scale household level poultry production to help the poor to generate income, focusing particularly on women groups. However, the sustainability of some of these activities is questionable, as households combine such activities with other agricultural activities and give less attention to poultry.

**Figure 1. NGO involved in poultry production SNNPR**



**2. Sector Level -Poultry Value Chain Analysis of Ethiopia**

Though the country has a reasonably huge livestock population, the performance of the poultry sector has been disappointing in terms of its productivity. The International Livestock Research Institute (ILRI) (2000) estimates showed that poultry meat production in Ethiopia grew on an average only by 0.34% per annum during 1985-1994, while the annual hen egg production declined by 0.39% per annum during the same period. This growth rate of poultry production is indeed much lower than that of the fast growing population. In recent years, some improvements have occurred, although the poultry sector is still characterized by low productivity. In 2006, the total of poultry meat and egg production was estimated at 53,493 and 36,624 tons, respectively (Alemu et al, 2008). This production mainly comes from rural poultry, which is based on traditional indigenous chicken farming, with backyard rearing and small flock sizes, very low inputs and outputs, and periodic devastation of the flocks by disease. Birds are owned and managed at the household level and maintained under a scavenging system, with little or



no inputs for housing, feeding, or health care. There are multifaceted dimensions, ranging from socio-cultural to economic reasons, as to why poultry is kept at a household level. Typical household flock sizes are small in number. Each flock contains birds from each age group, with an average of 7-10 mature birds per household, consisting of 2-4 adult hens, a male bird and a number of growers of various ages (Gezahegn et al, 2009). As such, systematic production and marketing of the poultry sector is absent except for the emerging commercial private farms in response to the ever growing demand for poultry products in urban Ethiopia<sup>1</sup>. However, we should make a note that the livelihoods of the poor will be impacted, not only as poultry producers but as workers and traders in the poultry supply chain.

## 2.1 Production and marketing

The poultry sector in Ethiopia in general can be categorized into three major production systems based on some selected parameters such as breed, flock size, housing, feed, health, technology, and bio-security (Alemu & Tadelle, 1997; Bush, 2006). These are village or backyard poultry production systems, small-scale semi-commercial poultry production systems, and commercial poultry production systems. According to Alamargot (1987), about 99% of the Ethiopian poultry population consists of indigenous chickens, while the remaining 1% consists of imported exotic breeds of chickens during the 1970s and 1980s. There has been an increase in the number of exotic breeds of chickens, and at present it is estimated that these make up about 2.18% of the national poultry population (CSA, 2005).

The production systems are characterized as small flocks, with minimal inputs, low outputs, and periodic devastation of the flocks by disease. Birds are owned and managed at household level, maintained under a scavenging system, with little or no inputs for housing, feeding or health care. Typical household flock sizes are small in number with each flock containing birds from each age group, with an average of 7-10 mature birds per household, consisting of 2-4 adult hens, a male bird, and a number of growers of various ages.

The four major Regional States (Oromiya, Amhara, SNNP, and Tigray) in terms of land area and human population collectively account for about 95% of the total national poultry population. Chicken rearing is not common in the lowlands of Ethiopia, i.e. Somali, Gambella, Afar, and Benishangul-Gumze regional states, which collectively own close to 3.24% of the total national chicken population. Local cultural taboos and frequent movement in the pastoral areas make the chickens less popular than other larger animals (personal communication with Gezahegn –a livestock extension expert). Oromiya region has about 34.4% of the total national chicken population and contributes 36% of the total annual national egg and poultry meat production. The region's rural areas constitute about 97.1% of the total regional chicken population while the urban areas constitute 2.9%. In Ethiopia, the importation of exotic breeds of chicken goes back to the early 1950s. Almost all of the available commercial poultry farms of the country are located specifically in Oromiya region and in the vicinity of Debre Zeit. This could be partly explained by the existence of the Debre Zeit research center which caters as a national poultry coordinating center in Ethiopia and introduces new breeds.

Production of poultry meat seems to be on a declining trend at the national level compared to the period 2003, and also compared to the population growth rate (**Table 1**). According to the United Nations (UN), the annual population growth rate for 2000–2005 is 2.46%, with the projected population for the year 2015 at 93,845,000. According to the UN (<http://www.nationsencyclopedia.com/Africa/Ethiopia-POPULATION.html>), the urban population growth rate for 2000– 2005 was 5.0%. This is a clear indication that the poultry meat demand will be more than the supply in the near foreseeable future,

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<sup>1</sup> Rapid development has been observed in the poultry sector as new commercial farms are emerging taking advantage of the newly growing demand for chicken and poultry products in major urban cities such as the capital Addis Ababa, and Debre Zeit .

given the current growth rate of production and productivity. The current urban population (CSA, 2010) is approximately 12 million, which is 16% of the total population. The trend is projected to increase by more than 5% and expected to reach 24 million in 2020. There is also clear evidence that the price of meat will increase from both small ruminants and larger animals, making these items unaffordable for the majority of poor in Ethiopia. The only meat that can be affordable to the majority of poor will be poultry meat. Hence it is important for more productivity and commercialization to take place in the poultry sector.

**Table 1. Chicken production and productivity in Ethiopia**

Year	Slaughtered (in 1000 head)	Production meat (tons)	Growth rate	Yield (Carcass weight 0.1 gm)	Population in millions	Growth rate %
2003	62700	50160		8000	69.102	
2004	58870	47096	-6.10	8000	71.037	2.8
2005	53200	42580	-9.58	8000	73.026	2.8
2006	56500	42560	-0.04	8000	75.071	2.8
2007	57800	46240	8.6	8000	77.173	2.8
2008	57800	46240		8000	79.179	2.8
2009			-100		81.238	2.6
<b>Average</b>						2.70%

Source: FAOSTAT, <http://faostat.fao.org> and International Monetary Fund - 2009 World Economic Outlook

### 2.1.1 Poultry meat consumption and livelihood

Poultry meat and eggs are relatively cheap and affordable sources of protein for most consumers, compared to other animal products such as beef. Consumption of poultry products is more common in urban areas than in rural areas. Poultry consumption is commonly high during holiday periods. The national poultry meat and eggs consumption is estimated, on an average, to be 77,000 and 69,000 tons per annum, respectively (ILRI, 2004). In the mid 1990s, the per capita egg and poultry meat consumption in Ethiopia was estimated at 57 eggs and about 2.85 kg, respectively (Alemu and Tadele, 1997). However, this figure has been declining in the face of population growth in the country (Table 2).

**Table 2. Estimated poultry consumption of meat and egg kg/per capital (2010)**

	Rural	Urban	National
<b>Poultry meat</b>	0.08	0.16	0.12
<b>Eggs</b>	-	-	0.14
<b>Population growth</b>	2.5% (85% in rural)	5% (16% in urban)	3%

This figure is very low by international standards. Currently, the price of animal products, particularly beef and lamb, has increased, especially for the urban consumers. This could have implications for poultry production and consumption in Ethiopia. A shift for lower priced meat substituting poultry meat for beef is expected in response to higher prices for beef meat. In Ethiopia, bovine meat is the most important meat product. However, this picture differs among regions. Poultry is the second most important meat in Amhara, Oromia, Tigray, and SNNPR. The highest demand and supply of poultry in Ethiopia is in the Oromia region.

**Table 3. Meat consumption projection to 2020**

	Projected Annual Growth Total Consumption (mmt) %1993-2020	Total Consumption (mmt)		Annual per Capita Consumption (kg)	
		1993	2020	1993	2020
<b>Developed Countries</b>					
<b>Beef</b>	0.4	32	36	25	26
<b>Poultry</b>	1	26	34	20	25
<b>Meat</b>	2.8	88	188	21	30
<b>Developing countries</b>					
<b>Beef</b>	2.8	22	47	5	7
<b>Poultry</b>	3.1	21	49	5	8
<b>Meat</b>	2.8	88	188	21	30
<b>Meat Production Sub-Saharan Africa</b>	3.4		11		10
<b>Meat Consumption Sub-Saharan Africa</b>	3.5		12		11

As shown in **Table 3**, meat consumption increases slightly for developing countries while the meat consumption for Sub-Saharan Africa in general remains low. Ethiopian meat consumption is even estimated to be very low by the world standard, even less than Sub-Saharan Africa. (Avery, 2004). Poultry consumption is estimated to be below 1 kg per capital. The per capital annual poultry meat and egg consumption was estimated in 2003 at the national average of close to 0.12 and 0.14 kg respectively. This figure is projected to increase in the year 2020 with the increase in income and urban population. Poultry meat production is also anticipated to increase from the current level.

Poultry production has a profound effect on the livelihoods of the majority of rural farm households. In addition, poultry production plays a socio-cultural role, particularly for rural farm households. Village poultry are important providers of eggs and meat and are valued in the religious and cultural life of society, particularly in rural areas. According to Tadele et al, 2003, poultry is kept for five major uses in the central highlands of Ethiopia: eggs for sale and home consumption; birds for sale; sacrifice (healing ceremonies); replacement; and home consumption. In some cases, farmers give live birds and eggs as a gift to visitors and relatives and as starting capital for youths and newly married women. Rural poultry have assumed a much greater role as suppliers of animal protein for both rural and urban dwellers. This is because of the recurrent droughts, disease outbreaks (Rinderpest and trypanosomiasis), and decreased grazing land, which have resulted in significantly reduced supplies of meat from cattle, sheep, and goats. Poultry is the only affordable species to be slaughtered at home by resource-poor farmers, substituting other sources of meat, due to the recent price hike of other species, which increased considerably in recent years. While the consumption of certain species such as pork is limited for religious reasons in most Ethiopian (Orthodox Christians and Muslims) households, there are no such cultural or religious taboos in relation to the consumption of poultry and poultry products. On the contrary, huge cultural value and importance are attached to chicken in some rural communities during festivals and religious ceremonies. In addition, poultry is environmentally safe, with less carbon emitting venture as compared to other larger animals.

Most poultry is owned by women in smallholder farms and is often a rural woman's source of income. In these smallholder farms, poultry is produced inexpensively with very little labor, and used for food, gifts, or religious elements. The 99% of local birds that make up Ethiopia's poultry are kept as

scavenger animals. They require a minimal input and also aid in insect control around the homestead. The typical Ethiopian rural household owns four to six birds from non-crossbred, purely Ethiopian local breeds.

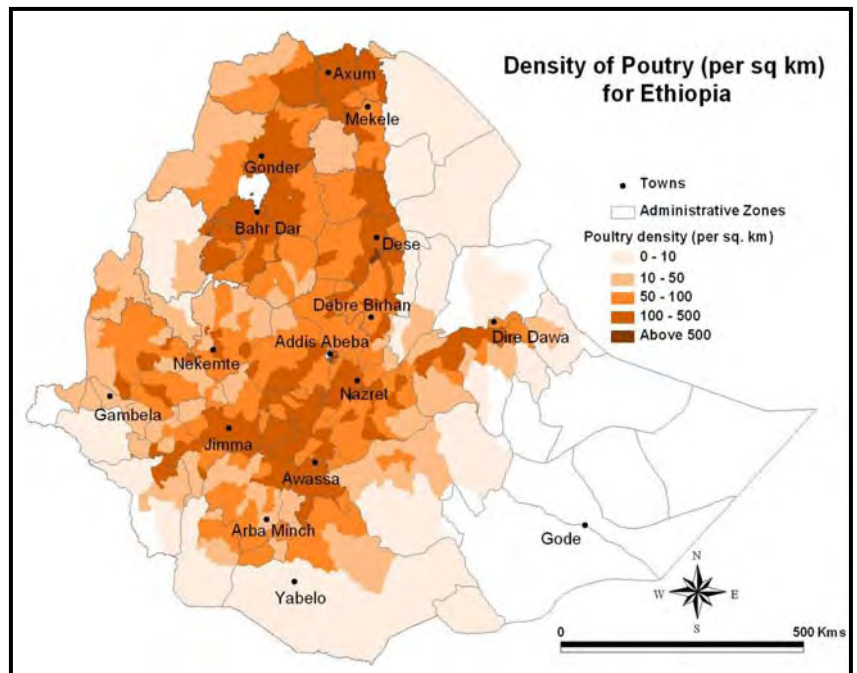
There are various economic and non-economic reasons why households keep poultry. Many owners prefer the double combs or unique colors of native birds for sacrificial purposes during certain circumstantial seasons. Some consumers prefer for gifts during time of guest visits, prestigious for guest invitation and ceremonial and cultural festivals. Some ethnic groups in Benshagul-Gumuz and NNPR pay special ceremonial activities by scarifying chickens; some also perform cultural ceremonies during reconciliation inculcating into their beliefs depending on age and color of chickens. While the poultry operation continues to grow both in smallholder farms and commercially, the small ruminant and cattle livestock markets follow set market chains, as most animals are sold from a farm to rural traders.

According to CSA, the national poultry population consists of about 42% chicks up to 8 weeks, 18% growers aged 9 to 20 weeks, and 40% adult birds of more than 20 weeks. About 31 % of the total national standing chicken population is hens of which about 16% are non layers. According to the Central Statistical Authority (2004-2005) about 98% of the total national poultry population consists of indigenous chickens, and the remaining 2% consists of the introduced exotic breeds of chickens. Most of the poultry population is concentrated in the central highlands, southern, and northern Ethiopian highlands like Tigray, Amhara and Oomia regional states. (Figure 2)

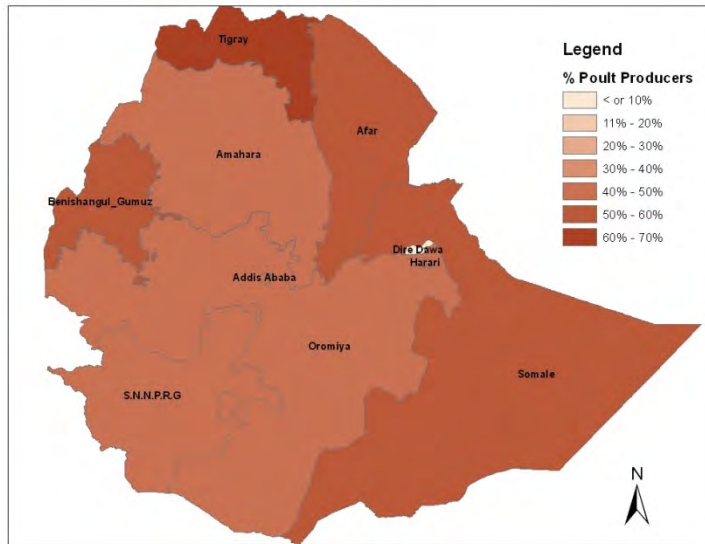
### 2.1.2 Crop production and poultry concentration

Poultry production is mostly concentrated in agro ecologies where crop production is concentrated. In general, crop and livestock production in the highlands of Ethiopia are highly integrated and mixed ones. In terms of poultry producers concentration of rural or urban distributions, 50% of all households in rural areas and 43%t of all households in urban areas keep poultry, revealing that household-level poultry production is an equally important livelihoods activity in both urban and rural areas. (Gezahegn et al; 2009). Within regions, Tigray has the highest concentration of poultry keeper households (66%), followed by Afar (60%) and Somale and Benishangul (54%). The region with the smallest proportion of poultry keeping households is Dire Dawa (11%). Figure 3 below presents the proportion of households that keep poultry across regions of Ethiopia, based on the CSA 2004/05.

Figure 2. Density of poultry in Ethiopia



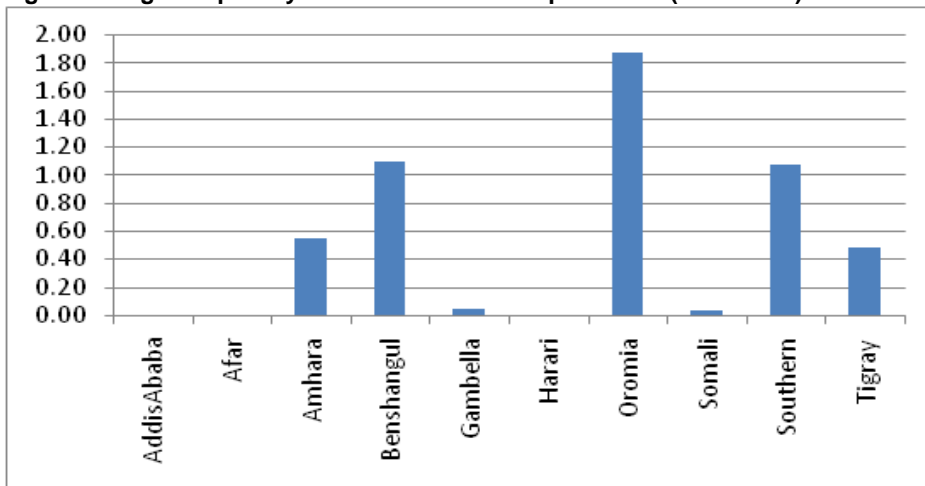
**Figure 3: Small-scale poultry production by region**



Source: HICE (2004-05), Gezahegn et al; 2009

The average flock size managed by poultry producing households at the national level is about five birds. The largest average poultry flock size is concentrated in Tigray, where households manage an average of six birds. Poultry producing households in Harari manage the smallest flocks, with an average size of 4.2 birds. The concentration of poultry also overlaps with concentration of cereals and livestock production as shown in the figure. Most of these regions produce cereals, pulses, and other grains, but the demand for animal feed is limited in maize, as maize is primarily used for human consumption.

**Figure 4. Regional poultry feed demand in Ethiopia: Maize (in 1000 mt)**



Source: Model baseline data CSA, 2004/05

**Figure 4** reveals that the regional demand for maize parallels the regional demand and supply patterns of poultry in Ethiopia, though the share of poultry feed in maize is generally insignificant in the total consumption of maize.

## 2.2 Marketing and trade

The marketing system in general is not integrated and dominated by backyard indigenous bird, often with the supply and demand based on seasonal markets. Mostly poultry is owned and operated by children or women at a small scale, and selling decisions are also made by women to meet petty cash needs in the households. Students in rural areas will make their income from poultry production based on minimum input. The price of live birds varies depending on sex, color, size, and market location, and the demand for birds is subject to seasonal variations (**Figure 5**). According to Hoyle (1992) and Kenea et al (2003), late May to early June is the opening period of the “rainy season” which coincides with

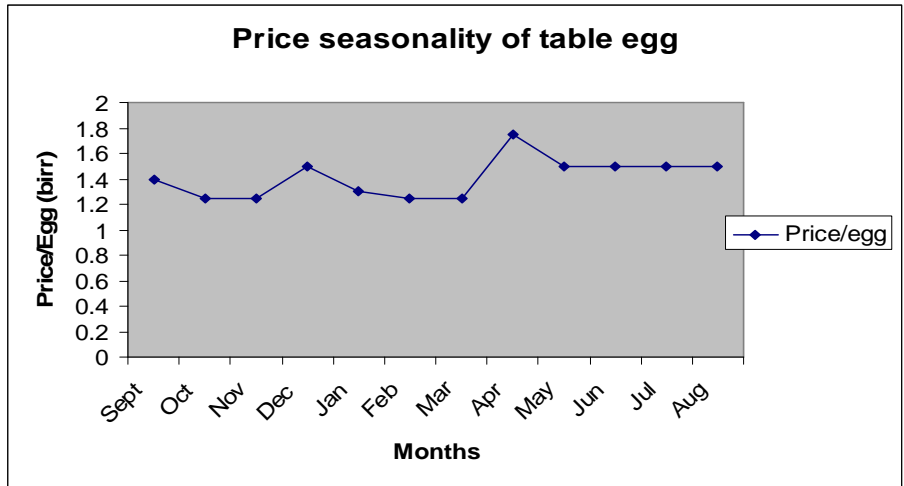
outbreaks of poultry disease. It is the critical season that food stocks go low, resulting in farmers selling all or almost all their flocks in the country. In most parts of the country, prices fall to their lowest annual level until the end of August. Prices rise for the Ethiopian New Year (September 11) and for Meskel feast (September 27). The feast which occurs in December and April also leads to price increases. The market seasonality equally holds true for table eggs. (Figure 6)

Figure 5. Prices of per live chicken



In 2007, the average price of native chicken is seen to vary from ETB 20-25, hybrid ETB 35-40, and exotic breed ETB 35-45. The price of eggs from indigenous breeds was ETB 0.75-1.00, up from ETB 0.50 to 0.60. This same level of price has increased quite recently, almost doubling from 1 ETB to 2 Birr. In general, increase in the price of poultry products has been observed the last five years. The price increase is due to increased demand for eggs and poultry meat, increased price of sheep and goat meat, and higher transport cost. Poultry production could be seen as an effective instrument of transferring wealth from the high-income urban consumers to the poor rural and peri-urban members of the community.

Figure 6. Seasonality of prices of table eggs



Marketing and trade seems better organized for commercial farms than traditional poultry often marketed in village settings. With commercial poultry, there is a limited external trade with some neighboring countries such as Djoubti (**Table 4**). For example, Ethiopia was able to export to Djoubti in 2006, with a total volume of 158,400 kg of poultry product, and earned US\$226,765. However, the export is also seasonal and is not sustainable. Other markets (e.g., China) are limited only to import with limited value and volume. There is huge market potential in the Middle East market; however, such markets, although geographically advantageous to Ethiopia, demand more competitive standards of quality.

**Table 4. International trade in poultry products (Ethiopia)**

Period	Trade Flow	Reporter	Partner	Commodity Description	Trade Value	Net Weight (kg)
2006	Export	Ethiopia	Djibouti	Birds eggs, in shell, fresh, preserved or cooked	228765	158400
2006	Export	Ethiopia	Italy	Birds eggs, in shell, fresh, preserved or cooked	11263	9000
2006	Import	Ethiopia	China	Pig and poultry fat, unrendered	303	46
2006	Import	Ethiopia	China	Birds eggs, in shell, fresh, preserved or cooked	1517	2840
2006	Import	Ethiopia	China	Birds eggs, other than in shell, egg yolks	113	19
2006	Import	Ethiopia	China	Egg yolks except dried	113	19
2006	Import	Ethiopia	China	Turkey meat, offal prepared or preserved, except liver	162	500
2006	Import	Ethiopia	Italy	Turkey meat, offal prepared or preserved, except liver	611	344
2006	Import	Ethiopia	China	Fowls meat and meat offal	197	71
2006	Import	Ethiopia	Japan	Fowls meat and meat offal	87	22
2006	Import	Ethiopia	Malaysia	Fowl, duck,goose, offal, prepared, preserved not liver	1259	577

Source: Alemu et al., 2009 as obtained from UN Comtrade (2006)

### 3. Poultry Value Chain Mapping

The poultry value chain involves diverse actors, from producers to consumers (**Figure 7**). The figure shows the macro-meso-micro actors involving the producers, the processors, the traders, NGOs, and the public or the government including policy drivers. The product flows include the inputs to support modern poultry farms (and, to a lesser extent, small-scale producers), the various products produced by the sector, and by-products. At a macro-level, the actors are limited since major players are predominately in the public sector, mainly from the Federal Ministry of Agriculture, regional governments, and extension service providers. Their main activity is limited to regulatory aspects of the poultry sector. At the meso-level, there are more numerous supporting actors to the sector, including the Regional Bureau of Agriculture, nongovernment organizations, cooperative agencies, research institutes including universities, and medium and small-scale enterprise development agencies. Their role is limited mainly to the provision of extension services including advisory services. Some NGOs are

instrumental in the provision of extension advisory services including input distribution for the rural poor communities.

Major actors in the poultry value chain have diverse functional roles in the sector in Ethiopia. These can be categorized for the purpose of analysis into three major categories: the backyard farmer or traditional, small scale producers, and the commercial sector, involving processors. The characteristics of each of the stakeholders and their respective roles in the poultry value chain are presented in the following sections.

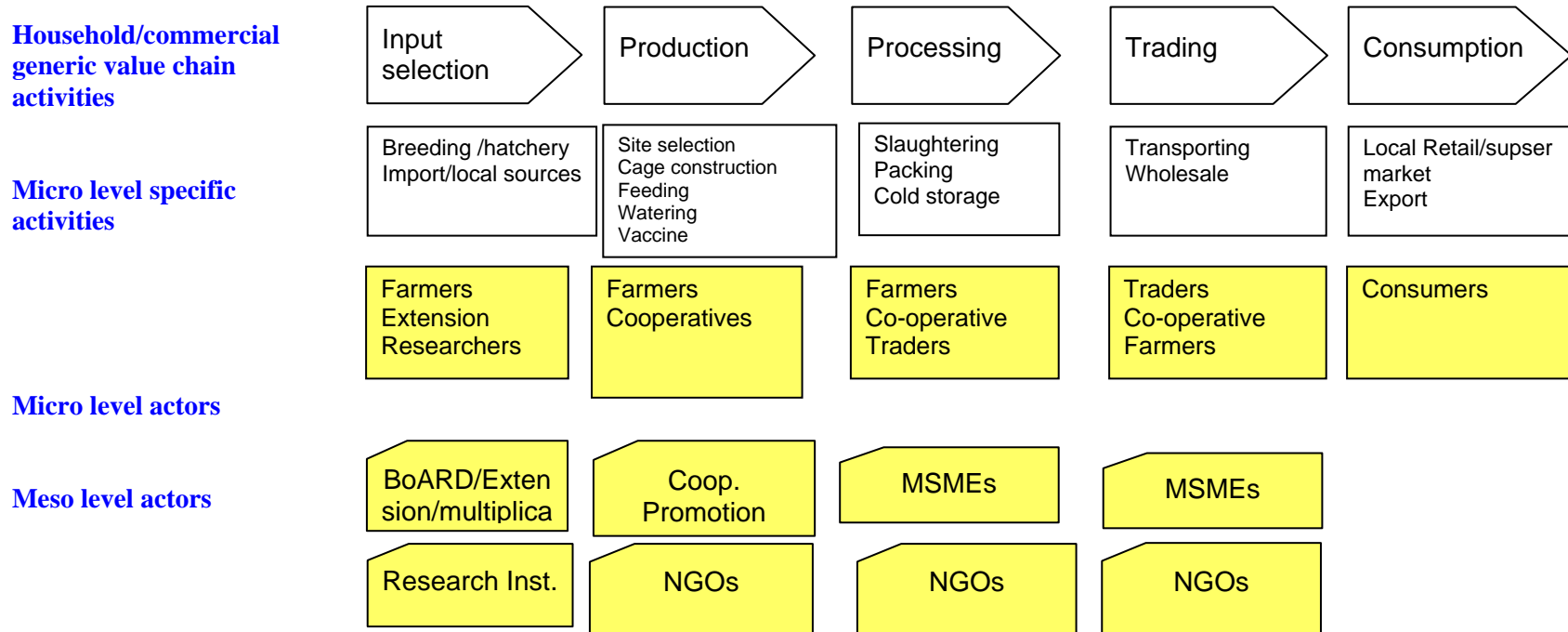
### **3.1 Small-scale/backyard**

The poultry sector in Ethiopia is generally dominated by backyard smallholders, accounting for more than 98% of the supply side in the production and marketing. Backyard poultry production is a common form of raising chicken, especially in rural settings which involve family members for use of labor input, particularly women and children. Backyard systems have smaller flock sizes averaging less than 40 scavenging birds feeding on broken grains, insects, kitchen wastes, green vegetables, leaves, and anything edible in the surrounding areas. Rural households could have as many as 40 chickens at the beginning to mitigate the impact of high mortality rates. However, they typically end up with less than 10 adult chickens due to higher mortality rate. They can be characterized by a simple chain mainly linking producers directly to consumers. Farmers in this chain sell directly to consumers or simply to village markets. Related to this chain, traders are largely called collectors in the village market. They do not use intensive production inputs. Although the traditional production system and market orientation differ across regions of Ethiopia, backyard production systems are commonly considered to be a supplementary activity to other agricultural activities, accounting for up to 20% of annual income. The value chain for traditional poultry rearing starts from input use, passes product flows, and enters final consumption through the distribution chain of traders and super markets (**Figure 8**).

Backyard poultry producers use inputs with little or minimum external inputs, which include poor quality feed, mixed cereals, sorghum, maize, wheat, and others purchased from grain processor (wofcho); local breeds sometimes combined with improved breeds obtained from extension services or neighboring farmers; often minimal veterinary services from Bureau of Agriculture; local labor; and traditional housing systems. The production system is based on scavenging by indigenous chickens left to search for their own food, scratching and picking on the ground while only small amounts of grains or kitchen leftovers were provided. The households provided overnight housing for the chickens outside the main house and cleaned the house within three to four day intervals. Such traditional poultry raising is widely common and practiced by the backyard poultry producers. The average flock size of chickens was 5-7 birds. The hen to cock ratio is 0.6 to 0.3 by which hens are relatively higher. Additional inputs include eggs collected from neighbors for hatchery purposes. Outputs are eggs and live birds of mature chickens. Eggs laid by chickens were incubated, and the rest were used by the households as food or sold. Main by-products are chicken litter used as manure for cultivation purposes of horticultural crops in home garden. Dead chickens were taken some distance away from the house for disposal and eaten up by wild animals or even domestic animals such as dogs.



**Figure 7. Generic value chain mapping for poultry sector**



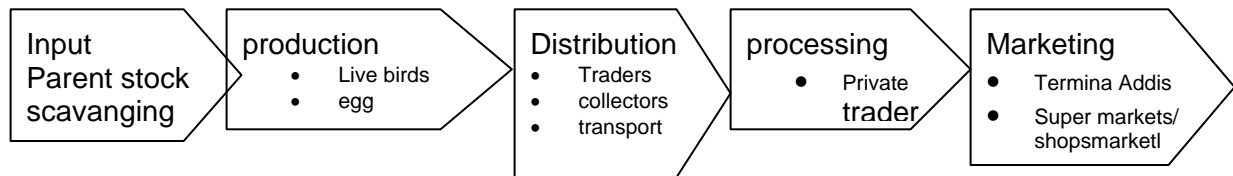
**Macro level actors**

*Regional Government, Federal Government policies and programs*

*Source: adapted from GTZ links , Gezahegn 2009*

The major outputs from traditional poultry production are live birds and eggs of different sizes often preferred by consumers.

**Figure 8. Value chain mapping of traditional poultry**



The poultry chain flow is linked to the Addis Ababa terminal market with the supply sources coming from the South, Northwest, and East Ethiopia. The total population in SNNPR is estimated close to 6.5 million. Although the regional government established four multiplication centers located in different parts of the region that distributes improved breeds for the region, still more than 95% of marketed breeds are local chickens. Through its extension service, the government provides 25 layers and 5 cockerels, with 1:5. The women associations in Yirgalem town have benefited and generated high income from modern poultry production. The chain includes major actors of broiler/layer–farmer–collectors–transporters–traders in Addis Ababa market/Hawassa market–processors (only in Addis)/the super markets, and final consumers.

The southern Ethiopia major market includes the Hawassa market as terminal market for the Southern Region. Market supply sources reported by stakeholders come from Wolyta area. Traders also supply the Addis Ababa market using Isuzus to transport. Some sources also come from Alaba and Gurage areas. Collectors with small capital are connected to traders with larger capital. Collectors also work closely with backyard producers both for egg and broilers. The northern visited market in Amhara region supplies to Bahirdar market, which could be considered as major terminal markets for the region. The Bahirdar market is the major market in terms of supply and consumer demand. The southern Amahara region supplies the Addis Ababa market and nearby major towns. Due to the emerging tourist industry and growing population in the town, there is a growing demand. However, there is no single processor observed in these urban cities.

Unlike the Amhara region, the Mekele market acts differently. The Mekele Market in Tigray is considered as the terminal market. The region is known for its poultry but backyard production system. There are small-scale intensive poultry producers in urban and peri-urban settings. The entire poultry products are consumed within the region. There is marketing of poultry products from surplus to deficit areas and marketed in major towns within Tigray. There is yet unmet demand within Mekele but no systematic market linkages. Major actors are the backyard producers, intensive small-scale producers, the Bureau of Agriculture for extension services, and multiplication centers, hotels, and restaurants.

The Addis Ababa market could be generally considered as a terminal market for live birds and poultry products. The poultry market in the terminal market of Addis Ababa is generally dominated by traders. Three major market places were identified to handle the poultry product market in Addis Ababa: Shola, Mercato, and Saris markets. The Shola market is the largest market in terms of handling volume of trade and transaction for poultry. From the group discussion, traders and consumers perceive that over 90% of the terminal poultry market transactions both in volume and value terms is handled in this market. The majority proportion of poultry marketing is handled by traders. Over 50 traders are expected to participate in the market on anyone day. Of the 50 traders, only about 10 traders are considered as large traders handling with up to 1000 Birr per market day. Small traders handle about 50 chickens per market day. The same is true for marketing of eggs. Egg collectors are predominantly the same collectors of chicken from rural markets; however, school children and women collectors are also involved in the

process. Working space and disease related to biosecurity are problems for expanding and intensifying poultry.

Chickens are often assembled from village markets by small traders/collectors and supplied to traders who finally supply the major terminal market in Addis Ababa. The producers are often backyard poultry producers owning average size of 5-10 birds requiring little input to raise. The collectors in rural areas have to assemble from the scattered producers. The birds are collected and supplied to traders. They are packed into a container - often a cage made of wood or bamboo - and some in sacks and then transported in a small Isuzu or minibus to Addis Ababa. Surprisingly, only a single processor was observed with a capacity of about 200-300 dressed chickens per peak market date. In addition, traders are involved with egg trading. The sale price in the market per table egg is 1.3, which is expected to get about 30 cent/egg - a gross profit with initial purchase price

of 1 birr per chicken. The customers are direct consumers, hotel owners, and supermarket owners, buying directly from the shop. A profit margin of 3-5 birr per dressed birds is expected by the trader when selling to supermarket. The market actors are traders, processors, and consumers. Preference is often for the local breed; exotic breeds are less preferred by consumers. The price of live birds is sometimes almost a fourth less than the price of local breed. It is estimated that more than 90% of the poultry meat and eggs supplied by the backyard poultry producers is shown below.

**Figure 9. Traders in the market**



Fertile Egg	DOC	collector	Trader/processor	(Supermarket)	Consumers
Value add/ETB	15	45-55	60 Birr/head	65 Birr/kg	70
Input Costs	2	3	2	2 Birr/kg	70
Value Added	13	50	58	63	70

The distribution of value addition depicted above shows the value addition in the backyard poultry production system. The farmer obtains the highest benefit in this simple chain, as the input use is very minimal. The productivity of the chicken is also very low.

### 3.1.1 Major constraints and opportunities

There are many challenges and constraints facing the current backyard poultry production system.

#### Constraints

Some of the constraints were identified from various stakeholders and ranked as follows:

- Economies of scale in the use of inputs (vaccines, feed, etc.) are important for intensive poultry production. Farmers often hold 5-10 chickens and make it difficult to use modern inputs for intensification. Consequently, poultry diseases often wipe out all the flocks reared by smallholder keepers under backyard system.
- Disease incidences and mortality are high, due to absence of biosecurity measures in place.
- Farmers lack market information such as where and when to sell. As a result, transaction costs are often high, particularly for farmers living far away from major road access. These farmers face less bargaining power for the market.

- There is a need for more extension support to address the following constraints:
  - Low awareness of poultry production system
  - Lack of basic input for poultry
  - Lack of electricity
  - Absence of extension manual and training provider
  - Lack of financial resources
- Farmers become wary of production and price risk factors due to disease outbreak, and are therefore compelled to undertake other diversified activities and hold only limited poultry stocks, often not more than 4-5 chickens.
- There is a need for improved feed ingredients (e.g., balancing of rations) and feed supply (including quality control and standards).
- There is a lack of DOCs.
- Farmers are affected by seasonality of markets and demand fluctuation.
- There are limited private input dealers, particularly for vaccines and feed.

### ***Opportunities***

It is equally important to note that traditional farmers have the following opportunities identified and ranked from stakeholders' discussions:

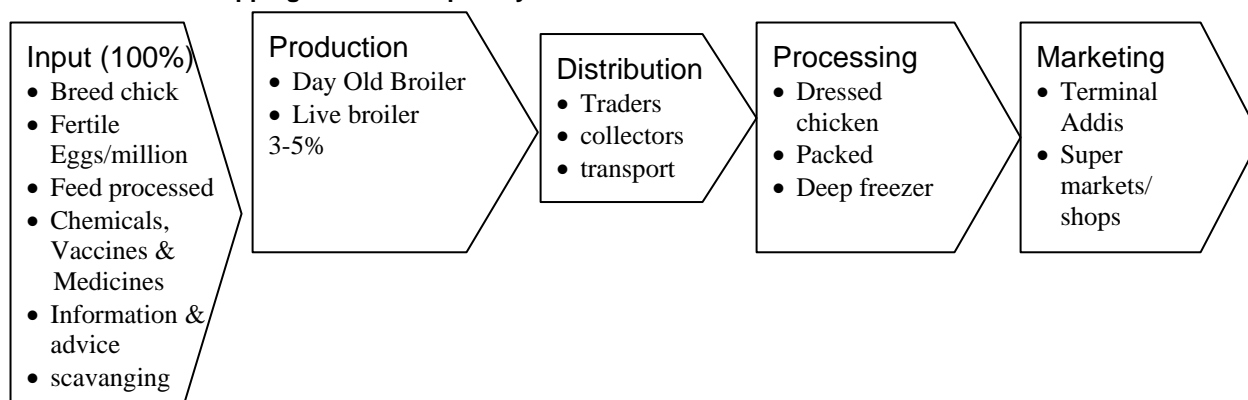
- Ever-growing market demand and population growth, as well as income growth, particularly for middle income group in urban following urbanization
- Establishment of poultry multiplication centers and poultry commercial farms in various regions of the country
- Available resources for feed production, e.g., potential maize production and soyabean for major feed ingredients
- Favorable policy of the government promoting food security and microfinance, and provision of extension services providing free vaccines and improved chickens by the government
- Environmentally safe and less carbon emission to the atmosphere (environmental concerns)

### **3.2 Commercial poultry value chain: the broiler and layer**

The commercial sector includes the layer, broiler, and small-scale semi-intensive production systems. However, when looking at the actors in the value chain of the modern commercial sector, we observe an array of producers, formal and informal traders, processors, feed millers or processors, and exporters, and small scale commercial poultry producers, as well as the public. We may also find a public-private-partnership (PPP) particularly with regard to import of input and to a lesser degree in export. Rarely found are independent transporters in the commercial poultry value chain, as producers themselves are more often simultaneously operating their own means of transport, including packaging and distribution to a limited extent linked with local manufacturers for certain packing materials like egg containers and dressing plastics (personal communication with trader, 2010). There are very limited commercial farms - not often more than a maximum of 10 farms operating in the commercial value chain.

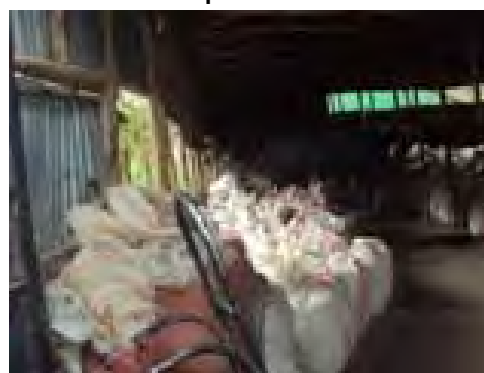
Nationally known and potential poultry farms are Debre Zeit are Elfora, followed by Alema. and Genesis farm, primarily for its layer birds. Alema farm is mainly specializes in chicken (broiler), with a broiler parent farm, layer parent farm, hatchery parent farm, and pullet farm. Consumption of processed poultry meat in Ethiopia is uncommon for most Ethiopian consumers. But nowadays, there is a growing tendency in major urban towns, and consumer demand for processed poultry meat has increased. The remaining majority of people prefer to purchase live birds, especially during holidays and special occasions. Consumption of poultry meat in restaurants, unlike other meat products like mutton, beef, etc., is unusual.

**Figure 10. Value chain mapping commercial poultry**



Major inputs employed in the production process relative to commercialized input includes parent stock DOCs from outside, fertile eggs, feed processed by the farm, laborers (both temporary and permanent), feed equipment, veterinary services (NVI and private enterprises), housing of free range types. This farm is the major source of private broiler DOCs for other commercial and small-scale broiler farms. Farms should be registered and wait sometimes, because of lack of alternative source of DOCs to be purchased. Lack of inadequate source of commercial DOCs is challenging for producers to engage in and popularize the activities, because the farm only sells extra chickens. The main outputs associated in the production practices are: DOCs, pullets, and broiler meat. There is also a litter by-product which the farm gives freely to the surrounding farmers for dairy animal feeds and as fertilizer for growing of horticultural crops. Leftovers (intestine, head, legs etc.) from processed broiler meat are used for pig feeds in the farm which was integrated with birds in the farm.

**Figure 11. Processed feed ready for sale and own consumption at Genesis farm**



Personally owned feed processing and ration formulations are another common form of inputs in all the commercial farms. Various formulation of feed are also sold for small-scale commercial producers after meeting their own needs. (Figure 11)

Over 90% of feed is purchased by small-scale commercial oriented farms. However, feed supply is not at all time sufficient to satisfy small-scale producers demand. Consequently, small-scale producers also obtain their feed supply from feed processors located in Akaki and Addis Ababa plants. In addition, informal feed processors located near the commercial farms serve as source of supply.

**Figure 12. Integrated dairy farm with poultry farm at one of the commercial farms**



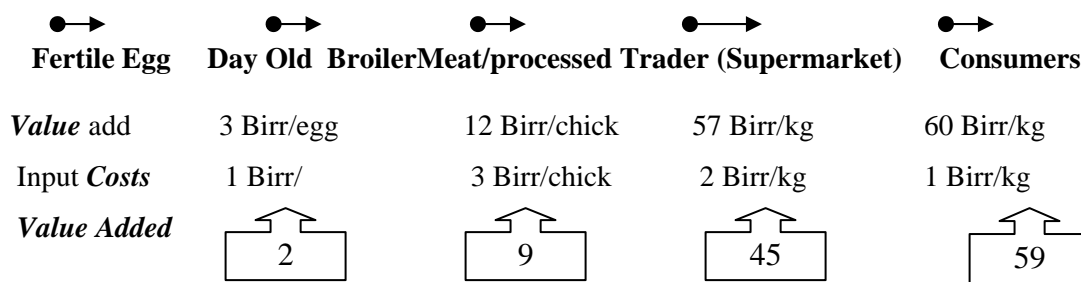
No single farm is dependent on poultry activity as the only source of income. In addition to broiler and layer production, the interviewed farms are also involved in pig, dairy, and feed processing. Main inputs for feed preparation are raw materials, maize, purchased from farmers, and traders. Poultry production comprises about 70-80% of the farms' main activities. The remaining other sideline activities integrated with the farms include dairy, vegetable production, and

feed processing etc., remaining secondary sources of activities (**Figure 12**). The diversification is important for small-scale commercial producers as this might reduce risks.

Actors in the chain are large-scale and small-scale producers, NVI or vaccines suppliers, feed processors, traders, hotels, and supermarkets. There are more than eight commercial poultry farms in the country. However, the three dominant large-scale producers in Debre Zeit are the dominant actors in the value chain, controlling both the input and output through price and information access. They are highly market dependent and have a tendency of market segmentations. The owners of the farms sell and distribute their products using their own transport to the supermarket and hotels found in Debre Zeit and Addis Ababa, with limited involvement of traders in the product chain. Products are also directly sold to individual consumers through their own shops located in major urban centers (mostly in Addis). Pricing is highly decided by Elfora, because of its large volume of products, and the other producers and traders look for it. The volume of products sold at the market usually becomes higher during religious festivals (holidays) than normal seasons. Products receive attractive prices at supermarkets, because products can be stored and compared for relative price advantages.

Value additions for commercial chain:

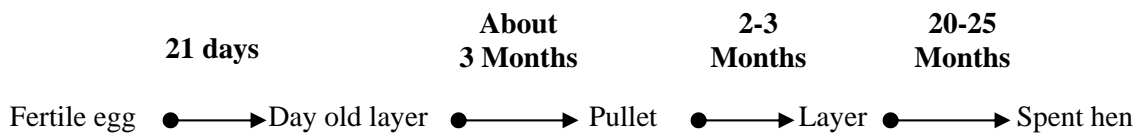
**a. Broiler chain**



As shown in the flow chart above, the highest value addition is created at processors level and at supermarket level with low level of costs of production. The total cost per broiler chick is close to 7 ETB (0.50US).

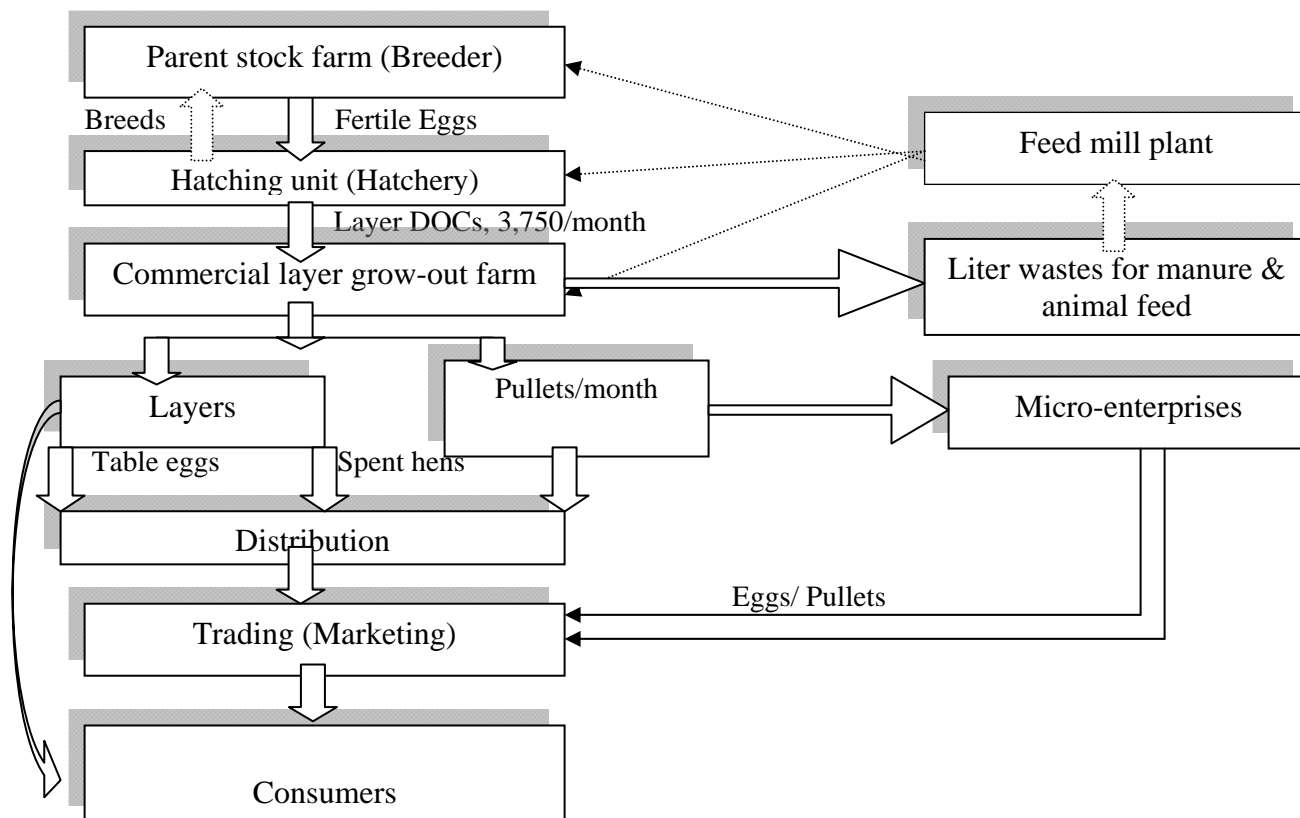
**b. Layer chain**

The production process in the layer industry follows a similar process to the broiler chain involving a hatching egg farm that provides fertile eggs to the hatchery which incubates the fertile eggs to produce DOCs. (**Figure 13**) The time required by day old layer from its fertile egg hatching to spent hen are presented below.



All healthy DOCs are sent to layer grow-out facilities and raised for about 3 months to be pullets, for 2-3 additional months to be layers, then become spent hens within 20-25 months and ready to be sold live.

**Figure 13. Production flow diagram in the layer chain**



Breeder	Fertile egg	Day Old Layer	Pullet	Layer	Spent hen	Consumers
	● →	● →	● →	● →	● →	● →
<b>Value</b>	3.5 Birr/egg	15 Birr/chick	72 Birr/chick	85 Birr/chick		
<b>Costs Incurred</b>	1	3	7	10		
<b>Value Added</b>	2.5	8.5	50	3		

The cost of production per layer reaches close to 20 Birr (\$1.50). However, highest value addition is created at layer hen level. Pullets also add more value as they are highly demanded, followed by day old layers, and prices vary depending on the sources value in the broiler chain (Table 5).

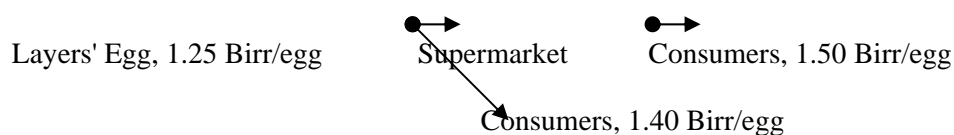
**Table 5: Current price of different age group birds**

Type of bird	Price/ ETB	Production purpose
DOCs	8-15	Egg/meat
Pullet	60- 75	Egg
Finishers	35-45	Meat

**c. Eggs value chain**

Egg production is one the major products of the commercial farms. However, here a distinction should be made between fertile eggs sold for breeding purposes and sale eggs for direct consumption. Table

eggs are commercially produced by both small-scale commercial producers and large commercial farms. Most of the egg production up to 98% is distributed in domestic markets. However, in Modjo, a single commercial producer produces and collects eggs, primarily targeted for export market unlike the other commercial farms. Only less than 1% of his produce goes to domestic market. He does minor processing, and after being packed, he directly transports and exports to the Djibouti market. The demand and design of the packing material is provided by the exporter himself and manufactured locally. The price for egg varies seasonally in the domestic markets but relatively stable for the export market. During major fasting seasons, the demand lowers by about 70-80%, and price also goes down. On the reverse, on major holidays the demand increases, and prices tend to increase almost doubling more than normal season. Only 20% of total production can be sold in the market when demand declines. Major companies like Elfora influence the market and as such there is no association for poultry sector to influence the price and input sourcing. ELFORA and Alema have market power to control and regulate the market for egg and live chicken markets in the modern farms. These commercial farms regulate the supply and demand through input prices and also type of input sold in the market as the outputs of large-scale commercial layer farms serve as major inputs for small-scale layer producers. The value addition as indicated below established either at the supermarket or consumer level.



The 25 cents/egg value added is obtained by supermarkets, in from 1.25egg and relatively (20% value addition). Direct selling to consumers adds value, 15 cents and relatively per egg almost, 12% next to supermarkets in the egg value chain.

Other products from the farm are DOCs, pullets, feeds, and finisher chickens. Most of the time, commercial layers begin laying eggs at the age of five months. The layer becomes a spent hen after two years and may be sold for 45-50 ETB during peak season or could be used for own consumption. The by- products (litter) of chickens grown under cage were used for bio-gas and compost making. Chicken litter was often used as compost organic fertilizer for cultivation of horticulture.

### 3.2.1 Major constraints and opportunities

There is no doubt that the commercial poultry production is at its infantile stage, as evidenced by the fact that it only accounts for about 1%. It is clear that the commercial poultry farm is based on all exotic blood, concentrated mainly in and around Addis Ababa, and poultry multiplication and distribution centers in different regions. There is no doubt this sector will be a vibrant for poverty reduction and transformation if supported.

#### *Constraints*

Major constraints of the sector ranked as follows

- Lack of input, particularly lack of parent stock for commercial producers
- Disease outbreak due to lack of capacity to control unexpected disease outbreak which often wipes out the flocks
- Lack of finance for poultry business
- Lack of policy on standards and quality, including major inputs and outputs
- Unavailability and high price of veterinary services
- High prices and unavailability of feed inputs



- Market fluctuations of the products
- Poor feeding habits of consumers of poultry products
- Lack of coordination and governance in the sector

### ***Opportunities***

Urbanization and growth in population are two of the potentials to increased commercialization of poultry. Moreover, new markets are emerging in the neighboring countries. Improved veterinary services in the country are also expected to create opportunities for commercial producers.

The available inputs such as maize and soybeans are major sources of inputs for the poultry sector. Ethiopia is the second largest producer of maize and soybeans in Africa, which could potentially be used for the feed industry to boost the sector and even export.

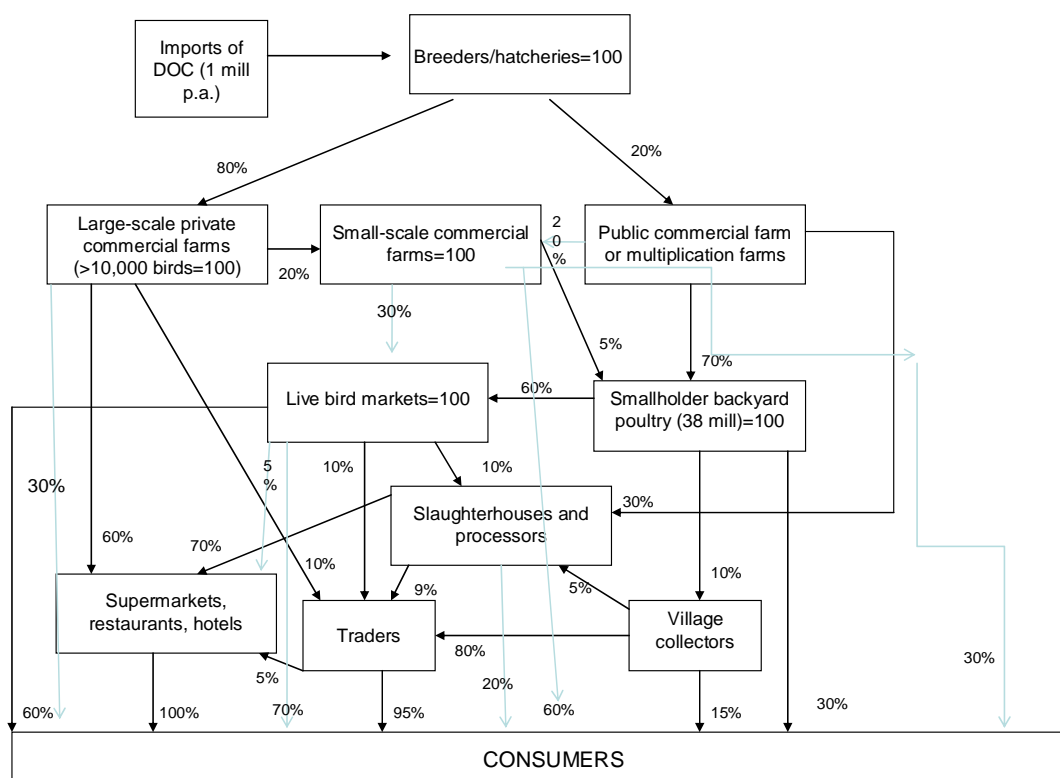
## **4. Linkages and Interactions among Actors**

The various actors and their interaction determine the mode of operation and performance of the poultry sector. It is also equally important to note that such linkages determine the growth and flow of products in the sector and govern the value chain actors. **Figure 14** shows the various players, interacting in their functional form rather than hierarchical manner. Close to a million DOCs are imported from abroad and distributed to the commercial arms. The large-scale commercial farms import inputs, and distribute after entering to hatchery processors. Over 80% of the imported DOCs (often from Holland) go to large-scale private farms and the rest to public multiplication farms and enter finally to serve as a breeding and hatchery starter. Although the backyard producer is an important dominant actor of the poultry sector, only about 5-10% of the input goes to smallholder backyard farms.

It is estimated that there are about 42 million chickens in the entire country (CSA, 2003). About 90% of poultry is derived from the backyard sector, which supplies around 38 million chickens per year. The remainder comes from the commercial sector and the emerging small-scale intensive farming system that operates in urban and peri-urban settings. The commercial farms (holding from 10,000 to 50,000 birds each) operate in the modern poultry sector in the country and serve both input suppliers and output to the market passing through various channels.

Small-scale farms supply about 60% of their production direct to consumers and another 30% to live bird markets where biosecurity measures are nearly nonexistent. In the live bird market, many stakeholders, mainly traders and farmers, interact and transact sale of live birds. Live bird markets are dominated by supplies from backyard producers, who supply 60% of their production (nearly 23 million birds) to such markets and another 30% (11.4 million birds) direct to consumers. Collectors play a relatively small role in the chain but serve as an intermediary between traders and farmers. Collectors obtain about 10% of backyard producers' production, of which half goes to traders and the other half either directly to consumers or to processors. Traders are likewise a relatively small player in the poultry value chain. Only 12% of sales from live bird markets are wholesaled via traders. More than 90% of traders are concentrated around the central markets in the vicinity of major urban cities. Slaughterhouses and processors also have a limited role in the poultry chain: large commercial farms tend to be vertically integrated and own their own processing facilities, while local consumption patterns favor live birds over processed ones. The majority of birds (85%) that are handled by slaughterhouses and processors are sold to supermarkets, restaurants, and hotels. In general the linkages are very loose, often spontaneous without any formal or contract agreement being made. Some of the markets are opportunistic markets, targeting a certain market season or occasion like in major festivals.

**Figure 14. Flow and interaction among actors**



## 5. Poultry Investment Potentials and Intervention Points

It is clear that most of the production and marketing of poultry is dominated by the backyard system. It is also important to note that the emerging modern commercial farms play a very important role in revitalizing the entire industry; however, strategic intervention is required along the value chain to bring meaningful impact on the poultry sector by involving all relevant actors. Focusing on the backyard sector alone will not bring changes to the livelihood and transformation of poverty.

- It is apparent that the traditional poultry production system is important for the development of the sector. Focus on the traditional backyard farming thereby supporting input providers is necessary for sustainable poultry production. It is also necessary to provide knowledge, training, and identify potential farmers who are willing and ready to work with intensive, medium-level commercial poultry. It is also clear that improving one of the value chain actors and investing on quality input, provision of technologies, develop safe poultry thereby reducing risks, establish biosecurity measures, improve market linkages, and creation of consumer awareness forges strong growth in the subsector. Priority could be given in areas with better infrastructure services, such as markets, electricity supply, transport, etc. In this regard, farmers could be clustered in farmer groups or cooperatives, in peri-urban or rural settings so that farmers could intensify and enjoy economies of scale with a minimum set up of 100 chickens per farmer.
- The sector could increase competitiveness by focusing on and establishing partnerships with small-scale producers and farmers; government entities; collectors at village/market level; feed millers and input suppliers, etc; processors; and financial institutions.
- The current extension service has to change its approach to be able to provide small farmers up to 50-100 DOCs or chickens so that farmers' groups could enjoy economies of scale for input use,

biosecurity measures, and marketing. Establish a successful farmers' group with strong farmer-to-farmer linkages with model farmers those intensifying poultry production. A practical manual to assist business-oriented production at the small-scale level should be prepared in the local language and made available to the farmers. Business Development Service (BDS) providers should be employed and deployed in the area of training and input provision. Encourage private BDS providers in the area of vet services, feed processors, and financial services.

- Producers would benefit from training and assistance in establishing a production calendar, as well as linkages to input providers and processors.
- Market development and linkages are very critical points of intervention in the value chain development. To establish strong linkages between village level collectors, traders, and producers, and final processors and final consumers exploring and revitalizing the market opportunities would be a vital avenue to achieve efficient poultry production. Provision of training for collectors and traders along the market chain will improve the current production system, thereby reducing marketing risks.
- Marketing can be improved by introducing contract enforcement in order to reduce market risk and price volatility created through seasonality demand and supply. In some areas, small-scale producers are denied market opportunities by way of traders collusion so that producers lose or are compelled to reduce prices and lose opportunities (e.g, after processing or slaughtering and dressing broiler meat). It is also important to explore the possibility of establishing live bird collection centers with market access, in which case collectors should formally link to producers with market information in place. It is also important to establish linkages with the export markets.
- Efforts should be made to promote linkages with input dealers for efficient supply of vaccines, feed processors and DOCs. Standard and quality control are requisites to support poultry production.
- Financial services should be established, including business orientation servicing the poultry intensification for a minimum of broilers or layers small-scale producers. It is also important to promote or solicit credit to assist private input suppliers, producers, and traders. The credit should be facilitated through business-oriented project venture types of commercial production and financial models.
- Strong public private partnerships with government could help promote policy dialogue and improve investment in poultry sector.
- Efforts should be made to strengthen producers' associations, focusing on champions within the value chain.
- Strong biosecurity standards and a policy for standards and quality should be established and implemented.

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## **Annex A: Terms of Reference (TOR) for Value Chain Analyses of Poultry Industries in Ethiopia, Tanzania, and Uganda**

Winrock International (WI) has been commissioned to conduct value chain analyses of the poultry industries in Ethiopia, Tanzania and Uganda. The purpose of the studies is to complement the recently completed poultry value chain study in Kenya and provide a snap shot of the opportunities in the poultry subsector in East Africa. The project manager, Dr. Bonface Kaberia, met with the international consultant, Gregory Sullivan, to discuss and draft a TOR for each country national to undertake the work. The objective is to have a uniform approach that is compatible in all the countries. The key to each country study is for the national consultant to address the following components.

### **Market Outlook for Poultry to 2020 (1 day)**

- Collect recent publications on demand of poultry and eggs in each country
- Per capita consumption of poultry and eggs in 2010 and use to project demand in 2020 based on growth in general population and urbanization
- Any other pertinent data on demand drivers in each country (income, relative prices of stitute meats and changing life styles)

### **Supply Outlook (2 days)**

- Key poultry production regions in each country based on density of poultry populations (include maps)
- Cereal and oilseed production in key regions can be overlaid with bird density to identify key production areas for interventions and investments
- FAOSTAT historical data could be collected on production and consumption.

### **Trade in Poultry, Eggs and Meat (1 day)**

- Statistics on imports and exports of live birds, DOC, eggs and meat to include domestic, regional and international trade from 2002 to 2009
- Key domestic live bird markets and how they link production of poultry by rural households to key consumer markets (overlay on map with production areas) (secondary and terminal markets)
- Maps of the country showing the density of poultry, grain supplies, and key markets

### **Enabling Environment (2 days)**

Understand each government's current policies which contribute or hinder the competitiveness of the industry in each country. Person will need to interview a few key public and private sector stakeholders.

- Import policy on poultry meat and taxes on poultry equipment and other inputs
- Credits or subsidies to feed millers, hatcheries, producers, and marketing agents
- Government projects that support the industry, e.g. health, production, etc.

### **Value Chain Mapping (6 days including field interviews)**



Describe key channels for poultry and eggs from input delivery, farm production, distribution, processing, and consumption

- Identify key actors at each stage, e.g. numbers of participants, volume of sales
- Identify and rank constraints faced by key actors which contribute or hinder the competitiveness of the industry in each country
- Identify and rank key actors' opportunities for contributing to competitiveness of the industry

**Price Mark-ups along the Value Chain (2 days – visits to markets and interview traders in both major urban markets and major rural markets)**

Price of poultry and eggs at each stage of the value chain for live poultry (1.2 kg live bird) and eggs (plate of 30 eggs or one egg)

- Farm gate price (cost of production plus gross profit margin)/bird or egg
- First market (village market) (Collectors cost plus profit margin)/bird or egg
- Secondary market (rural) (Collectors cost plus profit margin)/bird or egg
- Wholesale Terminal market (urban – Addis Ababa, Kampala, Dar es Salaam)/bird or egg
- Retail price cost (cost of processing plus profit margin)/kg of meat or egg
- Hotel-Restaurant-Institutional (cost of processing plus profit margin/kg of meat or egg)

**Supporting Projects for the Poultry Industry (2 days – interviews with key government officials and representatives of donor agencies)**

- Public sector projects (name, costs of project and time frame with a brief description)
- Private sector projects (name, cost of project and time frame with a brief description) (Commercial producers)
- International donor projects (name, cost of project and time frame with a brief description)

**Interventions and Investments (3 days)**

- USAID is generally interested in knowing what the possible interventions that would positively impact the development of the poultry industry in each country
- Interventions that would positively impact on smallholder involvement in contributing towards the competitiveness of the industry in each country

Total number of days for national consultant = 19 days

## Annex B: List of actors interviewed for poultry value chain PRA

### Site 1 - Debre zeit

No	Region	Organization	Persons interviewed	Address
1	Addis Ababa	Shola market	Sintayehu /processor	0911-124411
2		Legatafo multiplication farm	Mekonnen /director	0911-695213
3		MOARD/Extension	Gezahegn Tadesse	0911-674692
4	DebreZeit /Oromia			
5	Small scale broiler/hatchery	FGD Producer	Fanaye Eshetu biru Abraham Abeham Simegn Teshome Genet Endale Genzeb ketema	0911- 209266 0912- 229645 0911- 485212 0912- 164428 0911- 938171 0910- 248503
6	Back yards	Individual producers	Alemu Tessema	0911-385652
7	Milers	Akaki feed processing industry (AFPI)	Bisrat W/mariyam	011 434 0112
8	Traders	Henok & Alemshet	Henok & Alemshet	
<b>1</b>	<b>SNNPR-Hawassa</b>		<b>Ato Abebaw</b>	
2		Multiplication Center)	Negussie Negash	0916823352
3		Extension MOARD	Ato Ergete W/Semayat	0462206367
4		NGO	Addis Hiwot develp	
		Individuals	Producers/traders	
<b>Amhara</b>				
1		Bureau of Agriculture	Befekadu Solomon	0911 10 81 10/0115525011
2	Comm. Layers (medium level)	Individual farm	Tiruneh Gebeyehu	
3				
4	Backyards	Individual producers		
<b>5</b>	<b>Tigray</b>			
		Tigray Berux of Agriculture/vet	Dr. Legesse Gebru	0914760680
		Vet. Officer	Dr. Girmay G/Selassie	0914720038
		Extension officer	Bisrat W.Gabriel	0914760647
		Head of livestock regulatory department	Gebregziabher Hagos	0344413379
		Markets and individuals contacted	Mekele markets	Different locations