1. INTRODUCTION
Due to the high population growth in Africa and growing income, the demand for eggs and poultry meat has significantly increased in recent years across large parts of the continent (WHO, 2010). The consumption of poultry and eggs will increase by 200% between 2010 and 2020 for at least some countries in sub-Saharan Africa (USDA, 2013). Ethiopia, is one of the most heavily populated countries in Africa, is a huge market for poultry, despite the high level of chicken population. While chicken consumption remained low for so long at less than 1 kg per person per year (Davis, 2014), the market demand is...
increasing particularly in the Ethiopia capital Addis Ababa and many other major cities. The per capital annual poultry meat and egg consumption has been declining and estimated at the national average of close to 0.12 and 0.14 kg, respectively (USAID, 2010). In the least developed countries, the projected increase in egg consumption between 2005 and 2015 is 26%, compared with only 2.4 percent in the developed countries (Windhorst, 2008).

Ethiopian poultry population (chicken) is estimated to be about 56.87 million (CSA, 2014). Poultry contribute important socio-economic roles for food securities, generating additional cash incomes and religious/cultural reasons (Salam. 2005). In Ethiopia, Poultry (chicken) production plays a significant role in the supply of human food (eggs and meat) in rural and urban area and also as a source of income, especially to small holder farmers (Alemu et al, 2009). In Ethiopia, about 95.86% of the total national poultry products (eggs and meat) are contributed by indigenous chickens kept under village management system while the remaining 1.35% is obtained from intensively kept exotic breed of chickens and 2.79% are obtained from hybrids (CSA,2014). Poultry products offer affordable quality animal protein sources for the smallholder farm households. Rural households consume a very limited quantity of poultry products. They rank cash income as the primary purpose of village chicken production. Poultry consumption is moreover closely associated with wealth status. The poorer the household, the fewer poultry products are eaten. Chickens are not a daily food even for a better-off household. Chickens are consumed mostly during holidays. In general, poultry consumption accounts for less than 1% of the total annual food needs of farm households (Bush, 2006). Ethiopians are dependent on limited types of animals for meats due to the taboo associated culturally. Moreover, the consumption of meat and meat products has a very tidy association with religious beliefs, and are influenced by religions. The main religions of Ethiopia have their own peculiar doctrines of setting the feeding habits and customs of their followers. They influence meat products consumption through dictating the source animals that should be used or not used for food and scheduling the days of the years in periodical permeation and restriction of consumptions which in turn influences the pattern of meat consumption in the country (Semeneh, 2014). There are a number of challenges and obstacles (constraints’) limiting the processing and consumption of poultry meat and egg in Ethiopia. Therefore, a comprehensive literature review on the chickens meat and egg production, processing, consumption and constraints in the country seems to be appealing.

Objectives
a. To review the chicken meat and egg processing and consumption habit in Ethiopia
b. To review the constraints of Poultry meat consumption habit in Ethiopia

2. LITERATURE REVIEW
2.1. Chicken meat consumption in Ethiopia

Poultry meat is 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 than in rural areas. Poultry consumption is commonly high during holiday periods. FAO (2009) reported that there is a strong positive relationship between the level of income and the consumption of animal proteins. According to Daghir (2009) the current growth of poultry production and consumption makes a good case for the need and desire for future growth of the poultry industry. Dave (2007) also reported that poultry consumption is expected to grow at 2 to 3% per year. According to David (2010), chicken meat is the best source of quality protein for those who are under-nutrition in sub-Saharan Africa (SSA) and South Asia. Muchenje et al. (2001) reported that poultry provide major opportunities for increased protein production and incomes for smallholder farmers. Abedullah and Bakhsh (2007) noted that the major contribution of poultry consumption in improving per capita nutrients level is well documented. According to Windhorst (2008), an increase in poultry meat consumption for least developing countries is 26 and 2.4%, compared with only 2.4 and 1.6% in the most developed countries. FAO (2010) reported also that chicken meat is relatively healthier than others; containing low total fat and it has high desirable mono-unsaturated fats. Costa (2009) described the attributes of chicken meat to its intensively based and vertically integrated operation.
Poultry meat, as well as other meats, is a good source of high biological value protein (20-22%). Furthermore, it provides iron and zinc of high bio-availability in lower quantities than red meats, but important amounts compared with food of vegetable origin. Poultry meat has significant content of vitamins from group B such as thiamin, riboflavin, niacin and vitamin B6, although vitamin B12 content is less than in other meats. The quantity of vitamin E, pantothenic acid, folic and biotin of poultry meat is considerably low. Recent analyses have determined that in addition to vitamin D, the 25-hydroxycholecalciferol metabolite (5times more activity than calciferol) is present in meat (Ovesen et al., 2003).

The quantity of fat in poultry meat differs according to the edible portion: 2.8 g/100 g breast, 10 g/100g whole carcass, 13 g/100g thigh with skin and 70 g/100 g skin. To meet global demand by 2030, as much as 89 million tones of eggs will be required (Khalid, 2015).

2.2. Meat and egg Processing

As the poultry processing industry has matured, dedicated large scale plants have been built around the world. Modern dedicated poultry plants are designed to process a certain type of poultry (e.g., broilers, turkey, and duck, ratite) and include slaughtering, de-feathering, evisceration, chilling, portioning, and packaging operations specified to the type of bird processed. Steps involved in a typical poultry processing plant are illustrated below; the whole operation may vary depending on factors such as capital investment, local labor costs and availability, and processing volumes (Barbut, 2015).

2.2.2.1. Meat processing


Unloading; is receiving the birds from the crates and placing them on the shackel line. Bleeding is done by opening the blood vessels in the neck. There are several ways of cutting the blood vessels in poultry and bleed out phase can take anywhere between 2-5 min depending on bird size and type. During the process, about 35-50% of the total blood volume is removed. Scalding loosening the feathers by immersing the birds in hot water is an important step that provides for easier de-feathering. Three commonly employed scalding schemes: Soft/semi-scalding: 50-53°C for 1-3 min, used for broilers and young turkeys, Sub/medium scalding: 54-58°C for 1-2 minute, used for mature birds and hard scalding: 59-61°C for 0.75-1.5 minute, used commonly for waterfowl.

De-feathering Feather removal in modern plants is done by mechanical pickers/puckers’ equipped with rubber fingers that rub the feathers off the carcass, Electrical Stimulation is an optional treatment that can be applied after either bleeding or de-feathering to trigger muscle contraction and speed up post-mortem metabolic changes, Stunning is done to render the animal unconscious prior to slaughter and Can be done by an electrical current, gas, or by mechanical means. Chilling is used to minimize microbial growth. The most common methods used to chill poultry meat include immersion chilling in cold water, air chilling, spray chilling (intermittent water spraying), and combinations of the above (certain time in water and the rest in air).

2.3.2.2.2. Egg Processing

The objective of egg processing was to safe products, to use as an ingredient for other foods, duration of shelf-life to match expectation, convenient packaging for end users and meet local regulations in place or customer requirements. Eggs are produced for three main purposes these includes; Hatching eggs, Shell eggs for direct consumption and Shell eggs for the production of egg products. Generally, the steps of egg processing follows the following steps:- Collecting–washing–weighing–storage-sorting/candling–packing–transporting. But, it differs from country to country with their objectives.
Egg receiving (kept refrigerated at 13°C until used), usually allowed to warm to room temperature (20°C) for 12-24 hours; washing, egg candling (Remove dirty eggs, eggs with defects, leaking and broken eggs), Egg breaking (Physical separation of the shell from the edible part then into yolk, egg white or whole egg, handling, storing at less than 4°C), Homogenization (to break fat particles), pasteurization (to ensure food safety and extended shelf-life), Packaging and storage and freezing (Refrigeration <4°C or Frozen <-18°C).

3. CONSTRAINTS OF POULTRY MEAT CONSUMPTION IN ETHIOPIA

3.1 Religion

According to the belief of Ethiopian Orthodox Tewahedo Christians, the faithful must go without eating meat and dairy products to attain forgiveness of sins committed during the year, and undergo a rigorous schedule of prayers and atonement. Alike to the consumption of meat, the periods of low bird sales and consumption match with Orthodox Christians fasting; the pre-Easter fasting period which lasts about two months from February through March. The Ethiopian Orthodox Christians follow fasts in a way similar to other Orthodox Christians but with a frequency of approximately 250 days in a year (Rakesh and Tafesse, 2010). The other low sales and consumption period is during the pre-Christmas fasting period (Betru and Kawashima, 2009).

3.2 Gender

Consumption of chicken in respect to the Ethiopian people has very cultural practices, that is, the preparation process of the national dish, Doro wat, has strict traditional guidelines and gendered roles. The chicken is halal or kosher slaughtered by men after having been blessed. Killing animals is a job reserved for men but only women know how to cook it - men are not allowed into the kitchen. A ‘proper’ lady knows how to cut a chicken into 12 perfect pieces (Janet et al., 2013). According to Natasha (2011), women begin the laborious task of cleaning the carcass.

4. CONCLUSION

In Ethiopia, about 95.86% of the total national poultry products (eggs and meat) are contributed by indigenous chickens kept under village management system while the remaining 1.35% is obtained from intensively kept exotic breed of chickens and 2.79% are obtained from hybrids. The chicken meat and egg resource in Ethiopia play significant role in poverty alleviation generation additional income and religion or cultural reason. Chickens are consumed mostly during holidays. In general, poultry consumption accounts for less than 1% of the total annual food needs of farm households. The major constraints of poultry production in Ethiopia were meat and egg processing materials, prevailing disease, predators, nutrition, poor housing, weak agricultural extension service; low income level, religion and gender are also the constraints to poultry production and its meat consumption in Ethiopia.

5. RECOMMENDATION

a. Since there is no modern poultry meat & egg processing, special emphasize should be given to establish new technology in poultry meat & poultry processing technology, modern abattoirs for poultry, food testing labs with improved management and health care.

b. To increase poultry production and meat consumption, domestication of other poultry species (turkeys, ducks, geese, ostriches, guinea fowls, doves and pigeons) and solving of all the constraints is better.

c. Since poultry are highly nutritious, so the consumption behavior should not be restricted to only holidays.

d. Integration of poultry farm with other appropriate technology should be evaluated like aquaculture.
6. REFERENCE