

Common Somali Indigenous Chicken Breeds, in Mogadishu, Somalia

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ABSTRACT

The main aim of this report is to determine the phenotypic characteristics of Somali indigenous chickens. This research is the initial stage toward a future initiative to differentiate and improve Somali local chicken breeds. There are several indigenous and exotic chicken breeds in Somalia, as well as many other hybrids of chicken; however, this study focused on indigenous breeds that differ in body form, colors, comb type, and capacity to adapt to a given environment in Somalia. The five main indigenous chicken breeds in Somalia. The first indigenous chicken (IC) is Dooro Tiyeglow (Tiyeglow chicken), they have well adapted mostly to agro-pastoral communities' regions like Bakool region and it has a remarkable beard feather, it also has a single upright comb broad. The second (IC), is Qoordiir (Naked Neck chicken), which is indigenous chicken mostly they have some tassel in the front part of its neck. The prominent plumage color is white and red stripes or red with white strips. Third (IC), is Dooro Jarray (Somali short chicken), this chicken is part of an eco-friendly chicken and is well-known for its small body size. And the common feature of this chicken is black shanks or gray-black shanks. Fourth (IC) is Dooro Buuftoy (Ovambo chickens), this chicken is considered to be smaller in size than exotic chickens, yet it comes in black and red colors. This has a strong personality and is very aggressive. The Fifth (IC) is Dooro Sawahili (Swahili chicken) this chicken is an exotic species that interbreed many local chickens, comes from many angles, has a huge body frame, and is good in egg production. The recommendation of this study is to undertake a government policy to encourage the conservation of Somalia's indigenous chicken breeds in order to prevent extinction and to make development and improvement of local chickens.

Keywords- Common, Chickens, Breeds, Characteristics, Somalia

I. INTRODUCTION

Chickens are the most common of all livestock species and can be found in almost any human-populated area. In rural areas, native chickens are commonly reared in backyards (FAO, 2010). In addition to serving as a source of meat and eggs for consumption and sale, indigenous chickens act as an investment for households (Muchadeyi, et al., 2007 and Moula, et al., 2011). The majority of these indigenous chickens are raised in an extensive or scavenging system with little or no inputs for housing, nutrition, or health care (Mtileni, et al., 2012 and Dahloun, et al., 2016). These breeds have greater disease resistance and are well adapted to local climatic conditions, diet, and management pressures (Iqbal, & Pampori, 2008 and Dahloun, et al., 2016). There has been a minimal attempt in African countries to preserve local chicken breeds or lines. Chickens are recognized to be

important economically, socially, and culturally significant to Africans, particularly those from underserved communities (Manyelo, et al., 2020).

Castillo, et al. (2021), the extinction of domestic animal breeds is occurring at an alarming rate around the world. As a result, native breed registration and preservation are critical. They also stated that the first step in an "animal conservation program" is to determine the current conservation status of the breeds in question in a specific area (Castillo, et al., 2021). In Somalia, poultry is raised mainly in free-range (extensive system) and backyard systems. Poultry is an economic source for poor families most women and unemployed young men. As estimated in 2020, the total number of domestic poultry birds living in Somalia was 3,771,000 heads (World Data Atlas, 2020).

There are no studies in Somalia that consider the characterization and identification of local chicken

breeds. This research is the initial stage towards a future initiative to differentiate and improve Somali local chicken breeds in Mogadishu, Somalia, the goal of this study, which is part of a conservation initiative, was to identify prevalent breeds of Somali indigenous native chickens. Make a list of common breeds and distinguish between them based on phenotypic differences. Furthermore, the findings of this study may be useful as a source of information for academic fields, livestock investors, governments, international nongovernmental organizations (INGOs), local nongovernmental organizations (NGOs), and poultry producers interested in conducting further research in the area.

II. LITERATURE REVIEW

Somalia has been transformed from fail state to a transitional government and into a federal government. The system of collection and documentation of livestock species and breeds was not well regulated because the ministers of both federal and state-level still did not have well-functioning of research centers. There are enormous studies have been made to publish useful information for future actions, this study followed the current Challenges of Chicken Production on Farmers In Mogadishu, Somalia, published in February this year 2022, and this study is the second which was made due to collecting and listing common indigenous chicken breeds and their characterization in Somalia.

Local farm animal breeds have important socio-cultural and ecological significance, and their raising could benefit local populations while reducing the negative effects of intensive farming systems (Franzoni, et al., 2021). Over the last century, the widespread adoption of only a few highly selected varieties has resulted in the loss of most native breeds around the world (Franzoni, et al., 2021). Tabbaa, and Hassanin, (2018) investigated Factors Influencing the Morphological Characteristics of Village Chickens' Genetic Resources in the Abu Dhabi Emirate and discovered that there were numerous Village Chicken breeds (13 breeds and crossbreeds) with phenotypic variation. The morphological traits of the many breeds raised in the Abu-Dhabi Emirate reflect this phenotypic variance (Tabbaa, and Hassanin, 2018).

All across the world, ecotypes of chickens are used in rural and home farming in underdeveloped countries. There are numerous different chicken ecotypes in Somalia, each occupying a specific location. In many counties, the importance of these ecotypes in the rural economy is enormous (Magothe, et al., 2012).

Furthermore, chicken ecotypes provide the family with job security as well as food accessibility. Poultry farming can also be a source of income for unemployed youth and women (Sabry, Mohamed, and Hassen, 2021). Local ecotypes, on the other hand, have limited egg output and small mature body size (Hanssen, and Kumar, 2016 and Rudresh, et al., 2015).

The primary purpose of producing indigenous chickens is to reduce production costs and boost profits. Magothe, et al. (2012) came to the conclusion that a holistic strategy for boosting productivity without increasing production costs or causing biodiversity loss must be created. The many uses of the IC in a rural household must be considered in such a plan (Magothe, et al., 2012)

III. INDIGENOUS CHICKENS IN SOMALIA

Domestic chickens might have arrived on the African continent multiple times, meeting various sociocultural demands in various eras. But as mentioned mwacharo, et al, (2013), concluded that Asian centers of origin for African domestic chickens, including South Asia and Island Southeast Asia. Around 5,000 years ago, chickens (*Gallus gallus domesticus*) were domesticated from red Junglefowl (*Gallus gallus*) in Asia. Chickens are by far the most common and abundant domestic livestock species, showing up almost everywhere people go (Mwacharo, et al., 2013). In Ethiopia, several high-yielding chicken breeds from exotic breeds are currently available. Rhode Island Red, Fayoumi, Potchefstroom Koekoek, Sasso, Bovan Brown, Issa Brown, and Leghorn The Rhode among the breeds that are kept in varied husbandry styles (Tolasa, 2021).

There are several indigenous and exotic chicken breeds in Somalia, as well as many other hybrid chicken varieties; however, this study focused on indigenous breeds that differ in body form, colors, comb type, and capacity to adapt to a given environment or region in Somalia. Dooro Tiyeglow (Tiyeglow chicks), Dooro qoordiir (naked neck chicken), Dooro Jarray (Somali short chicken), Dooro Buuftoy (Ovambo-like chicken), Dooro Sawahili (Swahili chicken), and other indigenous chickens are among the five indigenous chickens accessible in Somalia.

Indigenous colors have different ecotypes based on their plumage color, and they come in a variety of colors like as white, red, black, and mixed colors. There are only two types of combs: single comb and rose comb. Although native chickens are valued for their ability to adapt to their surroundings, they have additional disadvantages such as low productivity and delayed growth. The five most common indigenous chicken breeds are shown below, along with their Somali names and features.

3.1 Dooro Tiyeglow (Tiyeglow chicken)

Tiyeglow chicken is indigenous chicken (hybrid origin) have characteristics of Faverolles Chickens but has no five-toed, it has a remarkable beard feather, square, and broad body, it also has a single upright comb broad. The color most red and white with red in females, the male has red, white and black or mixed color. The egg color is Light brown, with medium size.

They are dual-purpose- egg layer and meat producer, because It also broad body size that why it good for meat purpose. But meat purposes are intensively used in most regions except the Bakool region, Somalia, they have an egg-laying type, this chicken adapted to this

environment. This region is the place of common origination of this type of egg-laying and its Somali name is derived from the district Tiyeglow, Bakool region, Somalia. Sometimes known as Dooro Qaanbuul (Somali language) with respect to tassels in their neck.

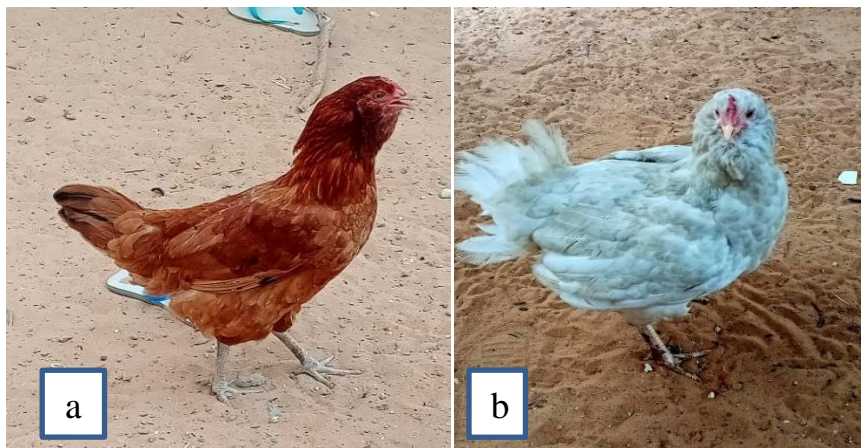


Figure 01: Dooro Tiyeglow (Tiyeglow chickens), two hens, a). The left one has dark red and b). The right has white plumage colors.

The Tiyeglow chicken has good egg production when compared to the other indigenous chicken breeds, but climate conditions have more influence on their egg productivity, while their eggs have high value in the market and the low egg production is influenced by different factors including depends on temperature and nutritional level of chickens.

The husbandry system of this type is a backyard system in urban or peri-urban places, they are well adapted mostly on the backyard system of Agro-pastoral communities regions like the Bakool regions and lower and middle Shabelle and Hiran regions.

3.2 Dooro Qoordiir (naked necked chickens)

Qoordiir (Naked Neck chicken), is indigenous chicken mostly they have some tassel in the front part of their neck as mentioned Manyelo, et al. (2020), the naked neck comes in two types exists, first is purebred which has a complete naked neck and the second type is not purebred have front part have tassel (Manyelo, et al., 2020). They

have single combs and sometimes a rose comb with large wattle. The prominent plumage color is white and red stripes or red with white stripes, it has a medium body farm of all indigenous birds, and the egg color is white and has medium size like Tiyeglow chicken.

They also are dual-purpose meat and eggs production, but eggs production purpose is more useful than meat. That means village chickens raised this type of chicken, it has average egg production annually. The naked necked chicken has a fast growth rate and stronger stand when compare Tiyeglow chicken.

The common occurred in the urban areas, not in rural areas, the backyard and small-scale farming systems are reared with semi-intensive methods. The Qoordiir (naked necked chicken) has good meat quality. Still unknown where this type of chicken entered the country, but it was assessed as related to exotic breeds imported by ex-government Mohamed Sayid Bear with the project of Agricultural Development Programmes.

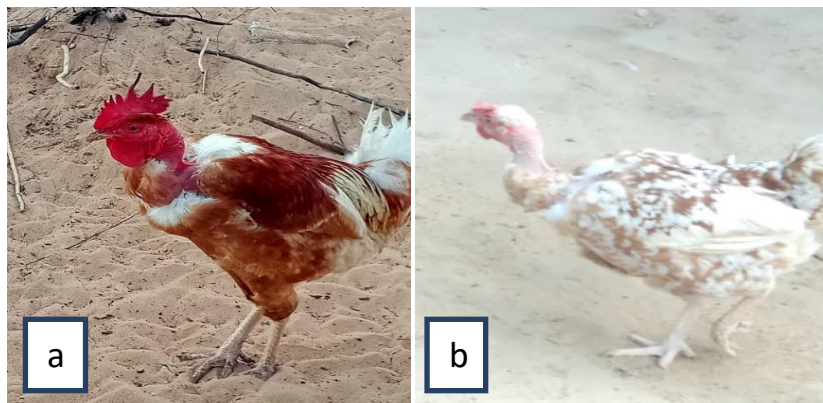


Figure 02: Dooro Qoordiir (Naked neck chickens), a). Rooster, left one has red and white strips and c). Hen right has white and brown stripes on their plumage colors.

3.3. Dooro Jarray (Somali short chicken)

This chicken is part of an eco-friendly chicken that evolved from the red jungle fowl, which has been found in every country on the planet so far. These species are well-known for their small body size and for their scavenging and waste-eating habits. These chickens are particularly tolerant of hard situations such as little feed, scarce water resources, and high temperatures. They are suitable for breeding in rural regions and free-range husbandry in cities with the use of small-scale and backyard chicken housing systems.

The Dooro Jarray (Somali short chicken) has rustic and disease-resistant. It also has similar characteristics to Castellana Negra, from Spanish indigenous chicken breeds have characteristics of black color on their plumage and good egg-laying breed, rustic and disease-resistant (González Ariza, et al., 2021). But

this breed is smaller than those groups, it has two common plumage colors black with white stripes and red, the other available color would be white with black stripes, the egg size is very small with white color, and the common feature of this chicken is black shanks or gray-black shanks. But it is a good egg layer in term of productivity, and also have a less brooding period when compared to other indigenous chickens like Tiyeglow and Qoordiir chickens.

Dooro Jarray (Somali short chicken) is the first chicken raised in backyard systems in Mogadishu, some poor families were able to generate cash by collecting and selling their eggs. Because they have adapted to free scavenging and swift movement in the wild, this chicken does not do well in an intense system. This short chicken may be found across Somalia, and it is also raised by pastoral and Agro-pastoral communities.



Figure 03: Dooro Jarray (Somali short chicken), two hens, a). The left one has light brown and white strips. b). the right one has a Black and brown neck with white spots on its plumage colors.

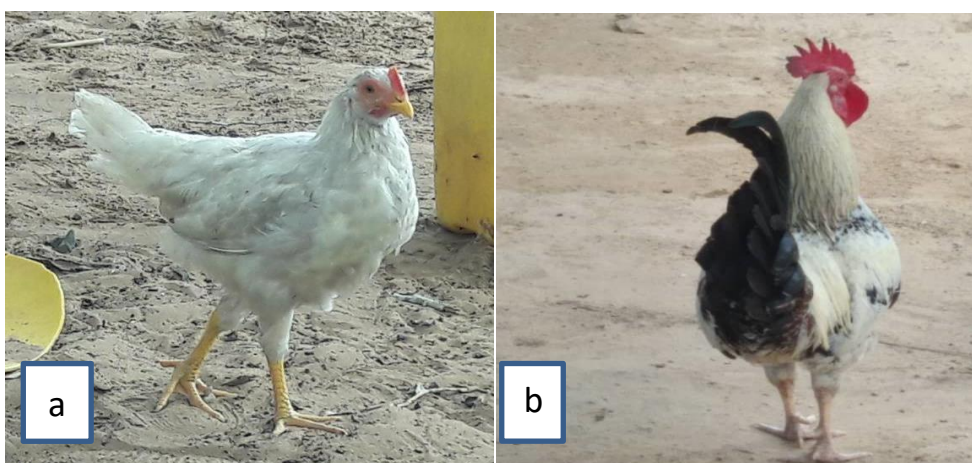


Figure 04: Dooro Buuftoy (Ovambo like chicken), a). Hen with white color, b). Rooster with white and black strips color and single comb, c). Rooster with mixed black and white color and Rose comb, d). Hen with Reddish with brown bell color.

3.4. Dooro Buuftoy (Ovambo like chicken)

It's one of the chickens raised in the area. It is abundant in villages but rare in urban cities. This chicken

is considered to be a smaller size than exotic chickens, yet it comes in black and red colors, with redder appearing in white on occasion. It's also known for its yellow or

golden-orange or white shanks that don't have feathers. Its egg seems slightly larger than that of a short chicken. Her eggs are white, and she has a red short single comb as a female and a large single or Rose comb as a male.

Dooro Buuftoy has a strong personality and is very aggressive, especially when caring for her chicks. It is derived from the Somali name (Buuftoy) which is a fighter who is strong enough to fight against attacks.

It is known to be dual-purpose, but it is very useful for raising eggs (Manyelo, et al., 2020). As a result, they have the same type of Ovambo chicken from Namibia's northern region and Africa's Ovamboland, also known as Bantustan (Manyelo, et al., 2020). It includes chickens that can fly a short distance and climb to the top of trees when confronted with something they are frightened of (Mengesha M, Tamir B, Dessie T, 2008a).

3.5. Dooro Sawahili (Swahili chicken)

This chicken is an exotic species that interbreed many local chickens, comes from many angles, has a huge body frame, and is good in egg production domestics in

Mogadishu, Somalia's capital city, and nearby regions such as the Lower and Middle Shabelle regions.

This breed's plumage comes in a variety of colors, including full red or white with black or brown stripes. It features a huge comb (can be Rose and Single) in males and a short pea comb in females, as well as white shanks, and enormous eggs when compared to other local chickens. It works well in both a backyard and an intensive system. Since the breakdown of Somalia's central government in 1991, a community in Mogadishu has been raising this chicken.

So, the agricultural development programs of ex-Somalia President Mohamed Sayid Bare are thought to have originated. There are breeds of chicken that occur in the area but do not have distinct names; they are also known as American chickens and are good for meat, but they share the same characteristics as the Dooro Sawahili (Swahili chicken). There is a need for greater classification based on physical and genetic characteristics.

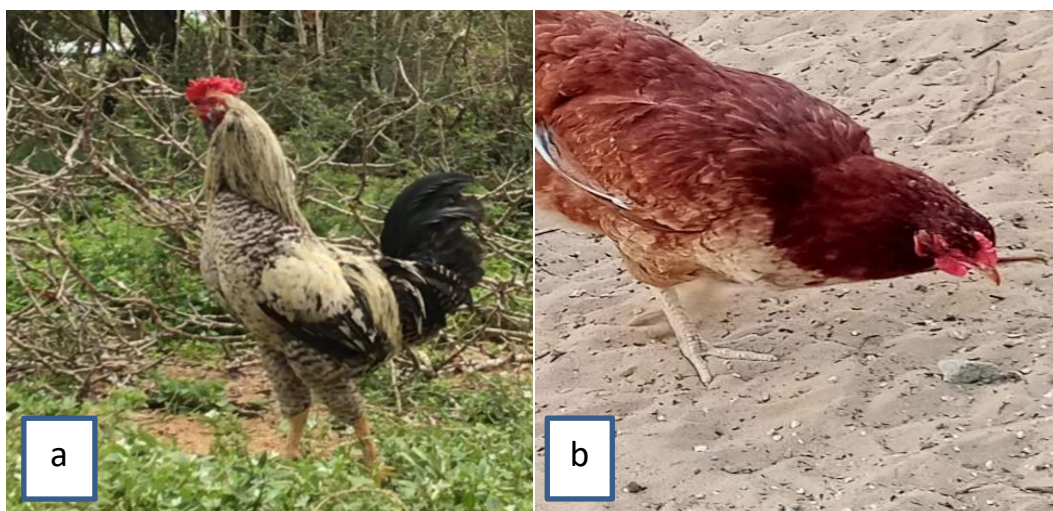


Figure 05. Dooro Sawahili (Swahili chicken). a). Rooster with mixed black and white color and Rose comb, b). Hen with Reddish with brown bell color.

3.6. Other available chicken breeds

In Somalia, there are many other different breeds of indigenous chickens but not mentioned here according to fewer resources and short time. The missing breeds can include Door Sharaxley (indigenous Venda chickens) and Dooro American (exotic Barred Plymouth Rock-like chickens). But the Door Sharaxley (indigenous Venda chickens) have mixed white and black colors on their plumage. Not available purebred or pure stock, it is distributed in different places and different breeds.

physical characteristics in Somalia, The main aim of this study determine the phenotypic appearance of Somali indigenous chickens and the study also identified five major local breeds including Dooro Tiyeglow (Tiyeglow chickens), Dooro qoordiir (naked neck chicken), Dooro Jarry (Somali short chicken), Dooro Buuftoy (Ovambo like chicken) and Dooro Sawahili (Swahili chickens) and other indigenous chickens but not mentioned in here according to less resource and short time. The missing breeds can include Door Sharaxley (indigenous Venda chickens) and Dooro American (exotic Barred Plymouth Rock-like chickens) and make a comparison to the African breeds and other world breeds.

IV. CONCLUSION AND RECOMMENDATION

This report has provided an insightful into the current Somalia indigenous chicken breeds and their



Figure 06: Dooro American (Exotic breeds), a). Rooster with black color and b). Hen with brown color with light brown.

This study also mentioned two of the local breeds are exotics breeds like Dooro Sawahili (Swahili chicken) and Dooro American. The recommendation of this study is to undertake a government policy to encourage the conservation of Somalia's indigenous chicken breeds in order to prevent extinction and to make development and improvement of local chickens by creating breeding centers and awareness programs for effective management of local chicken breeds and make further study concerning about the determination phenotypic and genetic variation of indigenous chicken and discover other missing breeds in this study.

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