

News & Comments

**On-farm Phenotypic and Morphological
Characterization of Indigenous Chicken in
Ethiopia***Shaukat Ali Khan*

Products made from poultry are either produced commercially or in-home coops. Producers have different preferences for breeds, intensity, and sizes of operation under each system. While backyard/rural systems tend to rear indigenous breeds under extensive production systems, commercial systems encourage the creation of highly productive breeds under intensive management systems. Even though native breeds are less productive, they still contribute to the economic and cultural well-being of societies and affect the food security of households. Currently, customers are driving food production rather than producers. The bulk of native hens is found in the hands of rural residents in the rural parts of tropical and subtropical countries. Identification of populations using morphological descriptors, which can also offer useful information on the suitability of breeds for selection, constitutes the initial stage of indigenous chicken characterization. The morphological characteristics of local chickens have not yet been documented in Gambella regional state. The goal of the current study was to first describe certain qualitative and quantitative characteristics of the local hens in the Gambella regional state's chosen regions.

The study was conducted in four districts of Gambella regional state of Ethiopia namely, Abobo, Gambella Ketema Zuria, Itang and Lareas. The exploratory characterisation approach used by the FAO was used in the field survey design and data gathering process. Exotic chicken or their crosses-owning households in the area were purposefully left out of the study. To reduce the possibility of sampling chickens from the same family sharing a cock, close neighbouring households were also avoided. To gather information on the flock's traits, flock makeup, and production capabilities, a semi-structured questionnaire was created. Before beginning the primary data analysis, a preliminary data exploration method (homogeneity test, normality test, and outlier screening) was used. Discrete measurements of the qualitative morphological features were made using the Chi-square (2) test's frequency approach.

The current result is significantly higher than the results of different studies that reported 0.74 cockerels per household for the Southeastern Oromia Regional State of Ethiopia and is consistent with studies that reported 2.4 cockerels per household for the Sheka Zone, Southwestern Ethiopia. The average age of the first egg to be laid, the number of eggs in a clutch, the number of clutches per hen per year, and the number of eggs per hen per year were all provided. The new findings were likewise close to those of Pedersen, who stated that an average hen incubated 10.6 eggs, with a 73%



hatchability rate. About 600 indigenous chickens were examined for variation in qualitative features such as plumage colour, comb type, earlobe colour, head shape, and shank colour. Adult male and female mean body weights varied considerably ($p < 0.05$) between study districts. When compared to their counterparts in the Itang and Lare districts, the adult male and female chickens in Abobo and Gambella Ketema Zuria were much heavier. According to the results of the current study, all the study districts' shank length, keel bone length, and comb height have a strong correlation with body weight ratio. As a result, the diversity of morphologies and phenotypes among the native chickens suggests a chance for genetic advancement through careful selection of the native chicken genetic resources.

The research area's average flock size per family varied significantly ($p < 0.05$) between the study districts. Native chickens in the study locations were assessed for variation in qualitative features such as plumage colour, feather distribution, comb type, earlobe colour, shank feather, head form, and shank colour.

JOURNAL REFERENCE

Getachew Bekele, Gebeyehu Goshu, Aberra Melesse Wondmeneh Esatu and Taddesse Dessie, 2021. On-farm phenotypic and morphological characterization of indigenous chicken populations in Gambella Region, Ethiopia. *Int. J. Poultry Sci.*, 20: 27-38.

KEYWORDS

Indigenous chicken, linear body measurements, morphological traits, phenotypic characterization, egg production

