

Characterization of local chicken production and management systems in Babati, Tanzania



L J Marwa^{1, 2} B Lukuyu³, S H Mbaga⁴, S K Mutayoba⁴ and M Bekunda⁵
¹International Livestock Research Institute, Nairobi, Kenya
²Tanzania Livestock Research Institute
³International Livestock Research Institute, Kampala Uganda
⁴Sokoine University of Agriculture, Morogoro, Tanzania
⁵International Institute of Tropical Agriculture, Arusha, Tanzania
 Corresponding author: b.lukuyu@cgiar.org

Tropentag Sept 2016
 Tropentag, September 19-21 2016 in Vienna, Austria
 "Solidarity in a competing world — fair use of resource"

Introduction

- Majority of rural households in Tanzania like in other African countries, keep local chickens as their primary source of protein and income and they are regarded as one of the strategies for poverty alleviation
- Free range system is the dominant production system whereby the chickens depend mostly on scavangeable feed resources with some supplementation of whole grains or kitchen leftovers. The output from the local chickens in Tanzania and Africa in general is not as high as expected (Mutayoba et al, 2012 and Goromela et al 2007).
- A little is known about rural poultry productivity and the existing production systems in the Africa RISING intervention in Tanzania. ILRI is working with farmers to raise and sustain productivity of the rural poultry production systems in the Africa RISING project intervention communities.
- The aim of this study was then to obtain baseline information on the productivity and existing management systems of local chickens in villages of Babati, Tanzania for designing improved strategies for higher productivity of rural chickens.

Methodology

- Qualitative (PRA) survey and quantitative on-farm trials were conducted in Babati district
- A total of 72 farmers were involved in the PRA (40 males and 32 females) while the quantitative study involved 40 farmers in four villages (Matufa, Seloto, Sabilo and Galapo) in Babati district
- On-farm experiments were conducted from September 2015 to January 2016 in three villages (Matufa, Seloto and Galapo) to asses the performance of local strains of chickens and their crossbred under farmers' management practices.
- A total of 18 households were involved, 6 from each of the selected villages.
- A total of 352 birds of 8 weeks of age were subjected to farmers management practices.
- Parameters of studied were growth rates and mortality rates measured at the age of 8, 10, 12, 14, 16, 20 and 30 weeks.
- The daily growth rate was calculated as: $\text{Daily growth rate} = (W_2 - W_1)/t$, Where W_1 and W_2 are the initial and final weight respectively, t is interval of days between W_1 and W_2 .
- Mortality rate was calculated as the percentage of birds that died during the experimental period.

Results summary

- 97% of the rural chickens in Babati district were indigenous ones with a mean of 5 chickens per household. Chickens we predominantly kept by women.
- 53% of the village households were keeping their chickens under extensive system (Figure 1)
- Chickens are feed unbalanced feeds dominated supplemented with kitchen left-overs. Other common local feed supplements used are maize grain, maize bran and sorghum grain.
- There is poor housing for indigenous chickens. Most of chickens are kept in the kitchen and farmers' dwellings (Figure 2.)
- Baseline findings revealed high mortality rate (60%) mainly due to malnutrition, diseases, predators, and rough environmental conditions.
- Crossbred chickens experienced higher mortality than the local chickens (Figure 5)
- Crossbred chickens experienced higher body weight gain and higher maturity body weight than the local chickens (Figure 3. and. 4).

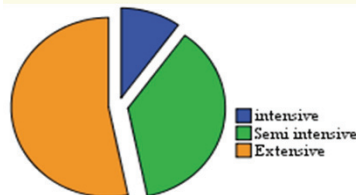


Fig 1: Rural chicken production systems

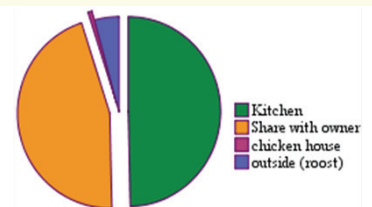


Fig.2: Housing management

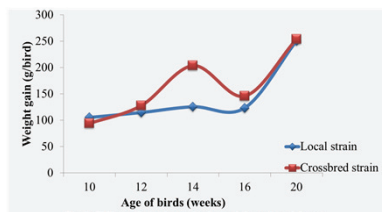


Fig 3: Effect of strain on body weight gain with age

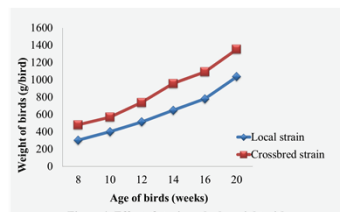


Figure 4: Effect of strain on body weight with age

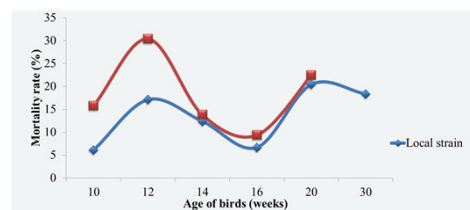


Figure 5: Effect of strain on mortality rate with age



Photo 1: Local chickens at farmers' management.

Conclusions and Recommendations

- The study revealed poor productivity and high mortality for rural chickens and their crossbred mainly due to poor nutrition, environmental stresses and diseases.
- Crossbred chickens experienced high growth rates.
- Improved nutrition, houses, and disease control is recommended to optimize income and nutrition from rural chickens

References

Goromela E H, Kwakkel R P, Versteegen M W A and Katule A M (2007). Identification characterisation and composition of scavangeable feed resources for rural poultry production in Central Tanzania. *African Journal of Agricultural Research* 2:8: 380-393

Mutayoba, S.K., Katule, A.K., Minga, U., Mtambo, M.M. and Olsen, J.E. (2012). The effect of supplementation on the performance of free range local chickens in Tanzania. *Livestock Research for Rural Development*. 24(5).



We thank all donors that globally support the our work through their contributions to the CGIAR system
 This poster is licensed for use under the Creative Commons Attribution 4.0 International Licence (September 2016)

