



Measuring and interpreting the benefits of goat keeping in tropical farm systems

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Abstract

The measurement of biological production in goat systems is discussed by reviewing existing indices for reproduction and flock productivity. On-station and on-farm data on goat production in Southwestern Nigeria are used as an illustration. It is demonstrated that the indices focusing on weaning weights per individual doe or ewe are superior for measuring the reproductive potential of meat breeds than indices based on averages of reproductive parameters. Overall flock productivity is best assessed through indices relating total inflow and outflow to the weighted average flock size. Improvements in reproduction and flock productivity indices are proposed. The benefits of the goat system are interpreted in two steps. Firstly, resources used and flock production are compared to obtain the value added, which is the total return to the land, labour and capital resources that the household uses in keeping goats. From the Southwestern Nigeria data it is concluded that the added value from goat production is low compared with the added value from crop production. Secondly, it is postulated that when financial and insurance markets are absent or ill-functioning, goat keeping provides benefits in financing and in insurance. These benefits are estimated; they appear to be a substantial proportion of the total income from goat keeping (defined as value added plus benefits in financing plus benefits in insurance). This broad perspective on income corresponds with the multiple objectives of goat keeping generally stated by farm households. The trade-off between the objectives in production, financing and in insurance are discussed, and the implications for research and for improvement policies are presented.

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...This weight was multiplied by the price of 1 kg live weight of the respective adult animals for each breed type, using data from this study. An estimation of the intangible benefits of the cattle was based on Bosman *et al.* (1997), Moll (2005)

and Moll et al. (2007), and comprised of financing and insurance benefits. The benefit of financing was estimated as: $BF = VC \times F$, where BF is the benefit of financing, VC is the total monetary value of live cattle sold on a farm in one year, and F is the financing factor....

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...Moreover, local farmers mostly sell and slaughter their animals in cases of urgent need while otherwise keeping them as livelihood insurance. This selling strategy is similarly found in other little market orientated African smallholder systems (Alary et al., 2011; Bosman et al., 1997; Weiler et al., 2014). The cost-revenue calculations proved that livestock keeping leads to positive contribution margins....

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