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“Development on the margin”

## Characterisation of Performance Traits and Management Practices of Omani Local Chickens

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### Abstract

A characterisation of local chicken types and their mostly rural production systems is beneficial for designing and implementing development and conservation programs. In Oman, conservation programs for local breeds of different livestock species are currently started. This study was conducted to identify the socio-economic conditions and management practices of small-scale chicken keepers and to evaluate the birds' production traits. Using a structured questionnaire, data were collected in 163 households from 18 villages distributed across Oman's six major agro-ecological zones (Musandam, Batinah Coast, Northern Hajar, Eastern Hajar, Eastern Coast, Dhofar). Purposes of keeping local chickens were egg production (68.8%) and income generation (31.2%). Flock size averaged 23.6 (SD 8.33) chickens per household with 4.8 hens per one cock. Clutch size was 13.6 eggs (SD 2.47) and annual egg production was 71 (SD 7.25) per hen. Egg hatchability was 88.1% (SD 5.87) and annual chicken mortality across all age and sex categories was 16.3% (SD 1.37). Predators were a major cause of loss for 56.5% of the respondents, 30% reported health problems, mainly respiratory and mucosal diseases (18.2%). The main selection criteria adopted by farmers were egg production per clutch and body size. Chickens were mostly owned by adult women and children (76.8%). The majority of chicken owners had no knowledge of modern chicken management and breeding (69.1%), whereas 30.9% had received instructions from extension agents. All family members and even hired labour were involved in chicken management. Free-range scavenging dominated (79.7%), and only 20.3% households purchased supplement feed for their chickens. Females and children mostly took care of daily feeding, watering and egg collection (74.4%). Adult males and hired laborers were responsible for slaughtering chicken (86.3%) and maintenance of the chicken house (88.8%), which in most cases (76.9%) was made from local materials such as straw, palm leaves and mud bricks. Logistic regression analysis showed that literacy of chicken owners was related ( $p < 0.05$ ) with better feeding, housing, and health care of the chickens. Improving the productive traits of the local chicken types and the specific knowledge and skills of their owners can effectively advance chicken production in rural areas of Oman.

**Keywords:** Egg production, livestock conservation, rural smallholders, scavenging system, task division