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ORIGINAL RESEARCH ARTICLE

Characterisation and needs assessment of rabbit production in Southern Kwara, Nigeria

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ABSTRACT

This study was conducted to characterise and report needs assessment of rabbit production for its improvement in southern part of Kwara in North Central Nigeria. The experimental procedures used include: field surveys, personal interviews and administration of structured questionnaires. In all, seventy-one rabbit keepers and consumers were identified across ten communities in three Local Government Areas in the study area. The questionnaire was designed to collect data on socio-economic characteristics of the respondents, awareness, management practices, production objectives, breed choice and trait preferences. Others are: keepers' rabbit mating and selection practices and available market structure with the view to assess the needs of the rabbit keepers in the study area. The results showed that, rabbit keeping cut across all educational levels with 47 % presently or had completed tertiary education. It is a secondary occupation with the primary occupation cutting across all walks of live. The household numbers ranged between 1 and 5 indicating small family sizes which is an indication of family labour. Forty-eight percent of the respondents keep their rabbit under intensive system while 72% offer non-conventional feedstuffs (forage, grass, legumes and kitchen wastes). Family consumption and sales are two major production objectives as indicated by 93% of the respondents. There is a high level of awareness of rabbit production and readiness to consume rabbit (99% of the sampled population) but a low number of actual producers. Production challenges identified include lack of forage in the dry season, troubles of daily cleaning of the hutches, unavailability of rabbit feed and lack of sustainable support from government, non-governmental organizations (NGOs) and religious organizations. The needs assessment from this study further revealed that, most keepers lack adequate knowledge about rabbit keeping and the present market situation is not satisfactory. Moreso, there is no organized marketing strategy for rabbit meat and products. It was concluded that, the development of rabbit project for this area will go a long way in making positive impact on the livelihood of the rabbit keepers. The development and introduction of white furred meat type preferably New Zealand White rabbit will be acceptable. An intervention in form of rabbit project development from government, non-governmental organizations and religious groups for capacity development of these rabbit keepers is suggested.

Keywords: Rabbit keeping, Needs assessment, Southern Kwara

INTRODUCTION

Rabbit production is an important tool in poverty alleviation in the developing countries of the world. This had been shown by many national rabbit projects in some countries in the sub-Saharan Africa. These include: National Rabbit Project in Ghana, the CECURI rabbit project of Benin Republic and the Heifer project international in Cameroon as listed by Oseni and Lukefahr (2014). These projects were targeted towards improving the local production of rabbits in these countries. Rabbits can be used for food and some other non-food purposes. For example, the skin can be used for garments in temperate countries and also in biomedical researches. Rabbits are well recognized for many other excellent attributes which had earlier been listed by many authors: (Cheeke 1986; Aduku and Olukosi 1990; Finzi 2000, and Laximi *et al*., 2009). Odeyinka *et al.* (2008) stated the rabbit is the most productive meat producing domesticated animals. Despite these, the production is in a declining trend relative to other livestock in

Nigeria.

Lebas *et al.* (1997) stated that rabbits are reared differently in specific environments and the productions help to improve family diet of the rural poor and the inflow of regular source of income. Information needed for a sustainable rabbit production project must include: production objectives, traits and breed preferences among keepers. Oseni (2008) suggested that a clientele-based research is desirable for a better adoption of research outputs from sub-Saharan Africa. This will assist in the design of appropriate rabbit development programme for a particular production environment. Therefore, the objectives of this study were to characterise rabbit production in Southern Kwara in terms of the socio-economic characteristics of the respondents, production environment, and identification of production objectives, trait preferences among the rabbit keepers and needs assessment reports for the improvement of rabbit production in Southern Kwara in the North Central Nigeria.

MATERIALS AND METHODS

Study Area

This research was carried out in three local government areas in southern Kwara. These include: Irepodun Local Government Area (LGA) Omu-Aran (6), Oro (8), Oke-Olla (1), Irebade (1), Iludu (1) and Esie (1) . Isin LGA: Edidi (15), Oke-Onigbin (7), Igbesi (1) and Ilorin (30) in Ilorin South LGA. The figures in parenthesis are the available respondents in each community. The first nine communities are largely agrarian with great prospects for rabbit production due to availability of agricultural wastes that could be recycled to feed rabbits.

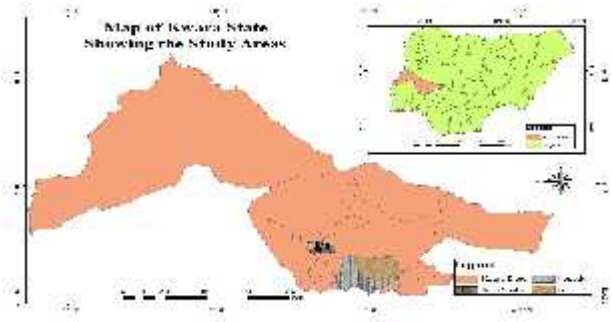

Figure 1: Map showing Southern Kwara, Nigeria

Data Analyses

Data collected were summarised using Microsoft Excel and SPSS Version 21.0 Package to interpret the socio-economic status of the respondents using frequency count, percentages and charts. The map of the study area was described with the aid of ArcGIS®10.1.

RESULTS AND DISCUSSION

Figure 1 shows the study area in the derived savannah zone of North Central Nigeria. Table 1 and Figure 2 show gender distribution among respondents indicating that males (92%) are most involved in keeping rabbit than females (8%). This is similar to the observation of Oseni *et al*. (2008) in South-western Nigeria but at variance with the report of Dairo *et al.* (2012) who reported that females were more involved in Ekiti State. This was as a result of the past government efforts targeted towards the women folk for rabbit project some years back. The result from this study indicated that rabbit development project should be targeted towards the men folk in this study area and more women should be encouraged to keep rabbits. In terms of breed preferences, Figure 3 shows that 44% of the respondents preferred the New Zealand White breed because of the white fur. This is similar to the observations of Lukefahr and Cheeke (1991) that, New Zealand White is the most common imported breed rabbits introduced to many developing countries. Figure 4 shows that rabbit keeping cut across all educational levels with highest number of respondents (47%) presently or had completed tertiary education. This suggests that, awareness of the benefits of keeping rabbit is high among the educated but less among the low level educational statuses. It is a secondary occupation with the primary occupation cutting across all walks of live (traders, farmers, civil servants, artisans and students).

Figure 5 shows that highest percentage of the respondents (61%) keep rabbits because of the palatability of the meat while Figure 6 revealed that most consumers buy rabbits for consumption from friends and neighbours. In Figure 7, results show that, keepers acquire their foundation stocks from diverse sources ranging from no preference for any source, from friends and neighbours, from general market and some from government and institutional

farms. This implies that, the establishment of rabbit breeders' or nucleus breeding colonies in the institutional farms will ameliorate the effect of unavailability of foundation stocks for rabbit farmers in this area. Most (55%) of the respondents indicate that access to credit facility is a major need for the expansion of their production (Figure 8). Figure 9 shows that, majority of the keepers sell their rabbits in the open market, some do not sell at all while others sell to foodsellers but non indicated sales to super markets and online market outlets. This indicates that, there is need to develop a meat product from rabbit meat in order to increase selling outlets of this meat. Measures taken on disease control (Figure 10) reveals that, 42% (highest percentage) of the respondents give animal medications to their rabbits. Other measures used by the respondents to prevent disease occurence include provision of good housing, good feeding management and proper sanitary management.

The housing units are made of different materials that are produced locally ranging from different combinations of wood, corrugated iron sheets, wire mesh and bamboo. This is in agreement with the report of Oseni *et al.* (2008), that reported the use of assorted materials in south-western Nigeria. This study suggests standardized materials and equipment specifically designed for rabbit production using local content for this area. Highest percentage (52 %) provided plastic container as a drinking trough, while 30% did not provide any drinking trough, 18% provided metal container/bowl as drinkers. Majority (72%) did not provide feeding trough while 24% provided plastic container as feeding trough and a few others (3 %) provided metal container/bowl and concrete container (1%). From direct observations and personal interviews, almost all the respondents throw away the feacal materials showing that, they are not recycled for any purpose (e.g gardening. There is no mating structure, some keepers are not aware of inbreeding, they mate their does with any available buck around and no definite selection programme is available. This indicates that there is need for capacity building and technical assistance in rabbit production for rabbit keepers in this environment.

Table 1. Socio-economic characteristics of rabbit keepers in southern Kwara.

Parameters	Frequency	(%)
Gender		
Male	6	92
Female	6	8
Religion		
Christianity	4	65
Islam	2	34
Occult	1	1
Pagan	-	-
Educational Status		
No formal Education	5	7
Primary Education Incomplete	2	3
Primary Education Complete	3	4
Secondary Education Incomplete	1	14
Secondary Education Complete	1	25
Tertiary Education	3	47
Occupation		
Farmer	1	21
Trader	6	9
Civil Servant	4	6
Artisan	1	17
Student	3	47

Source: Field survey.

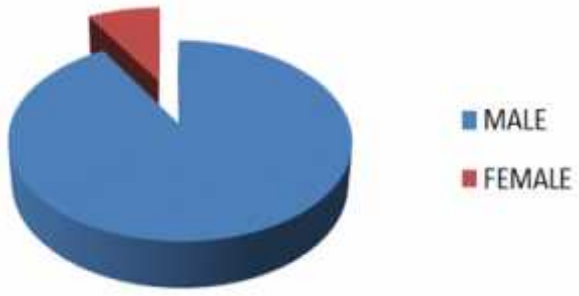

Figure 2: Gender distribution of respondents in the study area

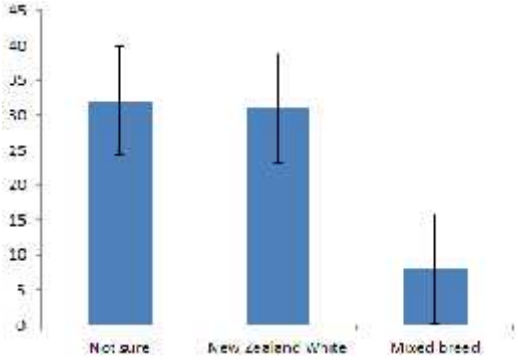

Figure 3: Breed preference among respondents

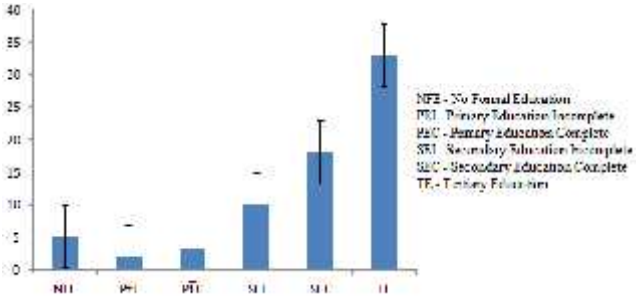

Figure 4: Educational statuses of respondents

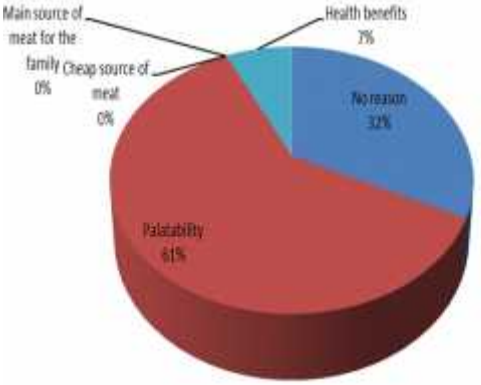

Figure 5: Reasons for consumption of rabbit

Figure 6: Point of purchase of rabbits

Figure 7: Source of acquiring foundation stock as indicated by the respondents

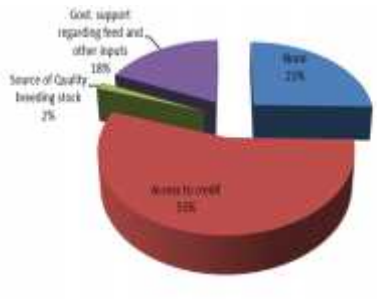

Figure 8: Needs for expansion of respondents in Rabbit production

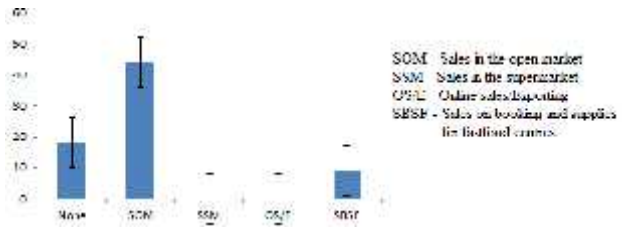

Figure 9: Market Strategy for sales of rabbits by the respondents

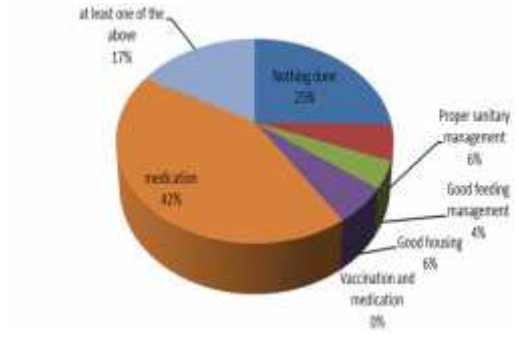

Figure 10: Measures taken against diseases by rabbit keepers in the study area

Most (76%) embark on sanitary activities (cleaning, removal of litter, washing of drinkers and feeders etc.) and few (24%) do not emback on sanitary activities. Majority (91%) of those that carry out sanitary activities clean daily and only a few (9%) of this group clean once a week. The household numbers ranged between 1 and 5 indicating small family sizes which constitute source of family labour. This implies that there is reduced family labour and this makes fetching of forage and sanitary practices burdensome on the families that keep rabbits when compared with other livestock that can be managed extensively e.g scavenging chicken, sheep and goat. Moreover, information from personal interview conducted, showed that individuals not keeping rabbit presently are not encouraged because of the constraints which include management (feeding, cleaning, health/disease control and ready source finished feed etc.). This is in agreement with the observation of Price and Regier (1982) that, in areas where the traditional scavenger method of animal husbandry has been practiced, a fundamental change in attitudes through educational process should take place for rabbit production to be succesful. Caging and regular feeding of the animals is foreign and can be burdensome to the rabbit keepers. This could have been the reason for the declining trend of rabbit production in this environment.

Many (38 %) have been keeping rabbits for 3-4 years while 37 % started rearing rabbit within 1-2 years, 11% had been into rabbit production for 5-6 years. Only a few (<1 year, 7-8 years, 9-10 years, 11above) had frequencies (2%, 1%, 1%, 1%) respectively indicating that most keepers lack adequate knowledge about rabbit keeping. Nine percent do not have experience yet because they are just rearing it for the first time. In all, there is an indication that most keepers in this area are in-experienced in rabbit production. Majority (88%) of rabbit keepers take it as a part time enterprise, while a few (12 %) take rabbit keeping as full time business enterprise. Many (72%) did not enjoy any support scheme on rabbit farming, while few (28%) did enjoy Government support scheme. Most respondents (85%) indicated interest in purchasing rabbit meat if it is made available in the market. There is no established market spot and value-chain for rabbit products (meat and skin) in the study area.

CONCLUSIONS

It was concluded that, the production objectives of rabbit in the study area is mostly for family consumption and for sales to augment family income. None of the non-governmental organizations in agriclture and religious groups assissted in the areas of promoting rabbit production and capacity development of these rabbit keepers. The needs assessment showed that, there is need for concerted efforts by the rabbit scientists to design appropriate developmental rabbit programme to include production, management and breeding schemes and product development from rabbit meat for improved rabbit production in the study area. This will alleviate poverty and improve food security among families that keep rabbits in southern Kwara.

CONFLICT OF INTEREST

The authors hereby declare that there is no conflict of interest.

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