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Short Communication

Assessment of rabbit production value chain in South-West Nigeria

***U.E. Okpakpor[1], M.L. Adeleke[2], M. Adegbenro[3] and G.E. Onibi[3]**

[1]Department of Animal Production and Health Technology, Federal College of Agriculture, Akure, Nigeria
[2]Department of Fisheries and Aquaculture Technology, Federal University of Technology, Akure, Nigeria
[3]Department of Animal Production and Health, Federal University of Technology, Akure, Nigeria

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***Correpsonding author**
U.E. Okpakpor
estherugoch@gmail.com

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Abstract

Rabbit farming is an aspect of mini-livestock production that has the ability of increasing the income level, providing alternative livelihood and supplying animal protein for man. This study assessed the value chain of rabbit production in South West Nigeria. Both primary and secondary data were used. Interview schedule and structured questionnaire were administered on 105 respondents to get relevant information on feeding, medication and marketing of rabbits in the study area. The results showed that about 23% use a combination of concentrates, forages and kitchen waste to feed their rabbits, 34% use forages and kitchen waste, 29% use concentrates and forages, 4% use both concentrates and kitchen waste while about 2, 4 and 8% of the respondents use kitchen waste, forages and concentrates only, respectively. Majority of the respondents use poultry feed (54%) for rabbits while of the 46% who use rabbit feeds, only 37% use commercially sold rabbit feeds. Most of the farmers (53%) sell directly to the final consumers while 15 and 26% of the respondents reported activities of wholesalers and retailers, respectively. About 72% of the respondents sell live rabbit while only 21% process rabbits into meat before sales. Other by-products sold by about 8% respondents include rabbit faeces and urine. The value chain description of rabbit production in the study, therefore, exhibited all the levels of distribution chains. This study revealed that animal feed producers should be encouraged to invest into rabbit feed production to reduce the use of poultry feed in feeding rabbits.

INTRODUCTION

Value chain is the sequence of activities linked together to add value to a product. It includes series of activities involving various actors along the value chain (Andreas, 2017). A typical value chain includes input dealers, producers, processors, traders and consumers. A better knowledge of the situations along the value chain of a product is necessary to bring about improvement, create more employment and/or better recommendation for actors along the value chain of such product.

Rabbits farming, also known as cuniculture, is an aspect of mini-livestock production, which has been reported by various authors (Biobaku and Doumu, 2003; Ajala and Balogun, 2004; Oluwatusin, 2014) to have the ability of meeting up with the recommended level of animal protein intake by man, providing more income for farmers and improve agricultural productivity. Rabbit meat is a rich source of animal protein as it contains lower cholesterol when compared with other meat source (Nistor *et al.*, 2013). They are easy to rear because not so much space and capital are required when compared to other livestocks, their ability to make use of variety of forages alongside household waste as feed makes feeding cheaper while their highly prolific nature makes it easy for farmers to multiply their flock within a short period. The manure from rabbits is a good form of organic manure and has being used to improve productivity of plants (Adi *et al.*, 2020), hence can be said to be a form of organic fertilizer.

A good description of the rabbit value chain in Nigeria is important to see if there are aspects along the chain whose potentials have not being tapped and to make recommendations on how such opportunities can be tapped into, in order to make the industry better. Hence, this study was designed to shed more light on the rabbit value chain in Nigeria while analyzing the production, processing and marketing of rabbits in the study area.

MATERIALS AND METHODS

A survey was carried out among rabbit farmers in South-West Nigeria to gather information on the existing rabbit value chain in the study area. Using a multistage sampling technique of Sedgwick (2015), five States in South-West Nigeria were randomly selected for the experiment. Then, Rabbit Farmers Association in the various States were contacted through

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Extension Agents in the Agricultural Development Project (ADP) of each State. A snowball sampling technique was used to identify 25 rabbit farmers in each of the States. Information on level of rabbit production, types of feed used and challenges facing the rabbit industry was collected. Of the 125 questionnaires administered, only 105 were properly answered. Results obtained from the survey alongside one-on-one discussion with the respondents were used to depict various value chain of rabbit production in the study area.

Data Analysis

Data obtained from the survey was analyzed descriptively using SPSS package 17.

RESULTS AND DISCUSSION

Figure 1 shows the responses of respondents on the use of medications and feed in rabbit production. The results revealed that 52% of the respondents use veterinary services when the animals were sick, 23% of the respondents carry out self-medication using drugs without consulting the veterinary personnel while 19% of the respondents used medicinal plants to take care of sick animals. The use of drugs without prescription, as practiced by some of the farmers, should be discouraged since some drugs routinely used for pet rabbits are prohibited from extra label use in animals raised for food (Jordan, 2007) because the use of such drugs or class of drugs may potentially be risky for human consumption. One major challenge with the use of medicinal plants in livestock production is that of dosage as such plants may also have some adverse effect on the animals when consumed in excess. Figure 1 also showed that respondents used kitchen wastes, forages and/or concentrates as feed either solely or in combination. The use of a variety of feed source by farmers as observed in this study could be to the advantage for farmers as a means of reducing cost of production by making use of less expensive feed resources like kitchen wastes and forages. However, there is the need to ensure the animals are offered a balanced diet meeting up with their nutritional requirement.

Figure 2 shows the types of feed used by rabbit farmers in the study area. From the results, it is observed that about 56% of the respondents use concentrates. Out of the 56% using concentrates; majority use poultry feed (54.26%) while only about 37% use commercial rabbit's feeds. These could be as a result of various factors some of which includes unavailability of the commercial rabbit feeds in feed mills and high cost of available commercial rabbit feeds (Baruwa, 2014) among others. Hence, to bring about an improvement in the productivity of these neglected species in the study area, it is important to improve the rabbit feed industry by considering ways of making available affordable pelletized rabbits feed at various animal feed sales outlet. These could reduce the rate at which rabbit farmers depend on poultry feed. The use of poultry feed for rabbit should be discouraged since crude protein, crude fiber and energy requirement of birds and rabbits differ, also continuous use of poultry feed for rabbits may

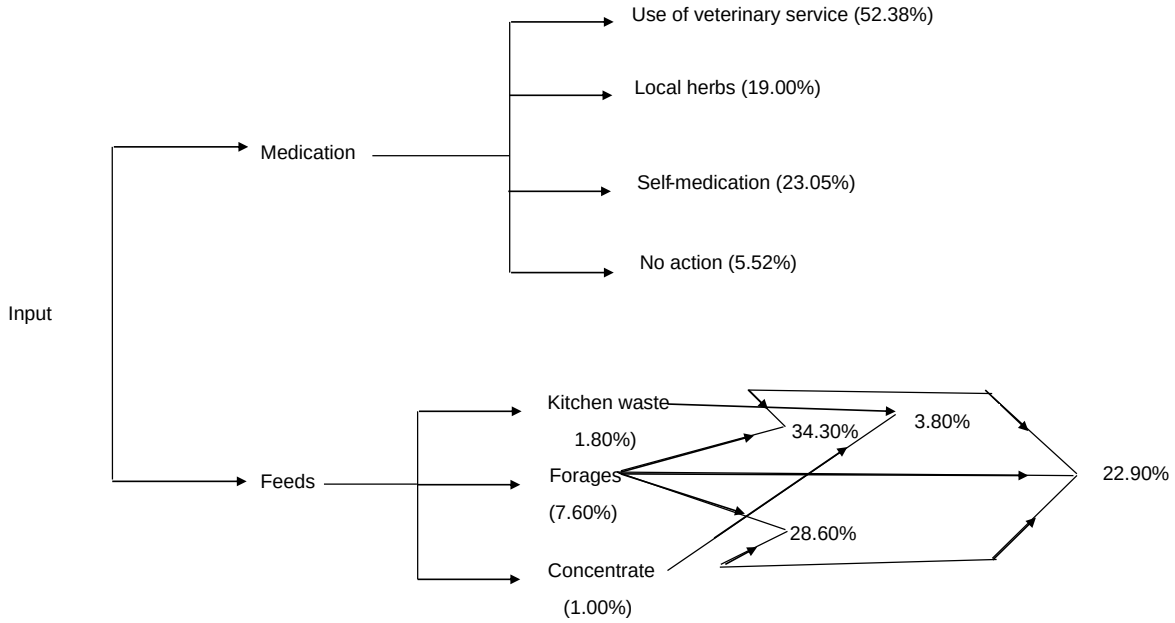

Figure 1 Use of medication and feed by respondents

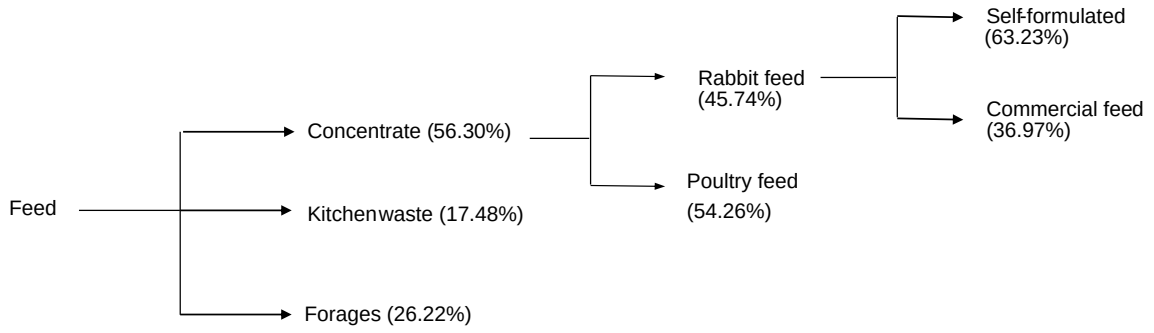

Figure 2: Type of concentrates used as feed for rabbits by respondents.

create some form of competition between the animals for the available feed which is expensive.

Figure 3 shows the product distribution channels used by rabbit farmers in the study area. The result showed that majority of the farmers (about 53%) sold directly to the final consumers while about 41% of the respondents reported the activities of middle-men in the industry. The results from this study on direct sales to consumers is in agreement with that of Baruwa (2014) whose work revealed that majority of rabbit farmers sell through individual contacts to consumers. Direct transactions between farmers and consumers could be as a result of low number of rabbit farmers, lack of organized market and the fact that rabbit farming is practiced mostly in small scale. Mitchell (2014) reported that the activities of middle men often increase price of commodity. Hence, the low activity of middle men reported could be of advantage to bring about fair trade of product for both farmers and final consumers since presence of middle men often causes an increase in the prize of commodity (Oguoma *et al.,* 2011).

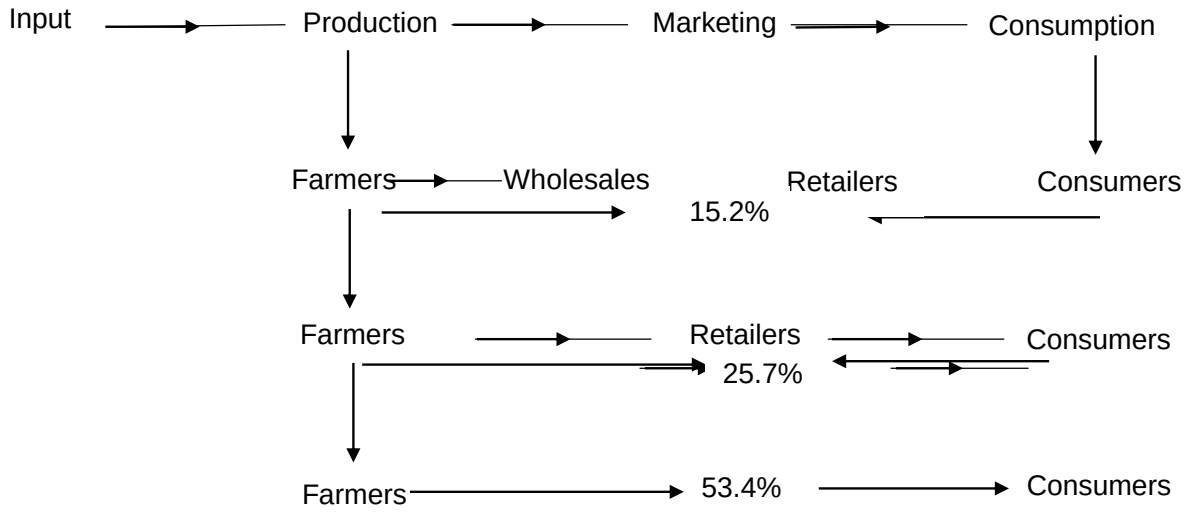

Figure 3 Rabbit product distribution channel as reported by respondents in the study area.

Figure 4 shows the various products from the rabbit industry as reported in the study area. From this result, it was observed that majority of the respondents (about 72%) sold live rabbits while only about 21% sold dressed rabbits meat which could be as a result of low demand as reported by respondents since they only process based on demand. The low demand for rabbit meat in the study area could be because rabbit meat is not as popular as chicken, beef or pork. Dairo *et al.* (2012) reported on the need to popularize rabbit meat consumption if its demand is to increase. The authors reported that this could be achieved by educating consumers on the likely benefits of rabbi meat consumption. Rabbit meat is a healthier kind of meat with high protein, low

calories, low fat and cholesterol contents. It does not have a strong flavour and can be compared to but not identical to chicken (Nistor *et al*., 2013) making it a suggested meat for individuals who has been advised to reduce feed with low caloric index.

CONCLUSION

The findings of the study on the assessment of rabbit production value chain in South-West Nigeria revealed the need to encourage investors in the livestock feed industry to produce affordable pelletized rabbit feeds as this could help discourage the use of poultry feed as feed for

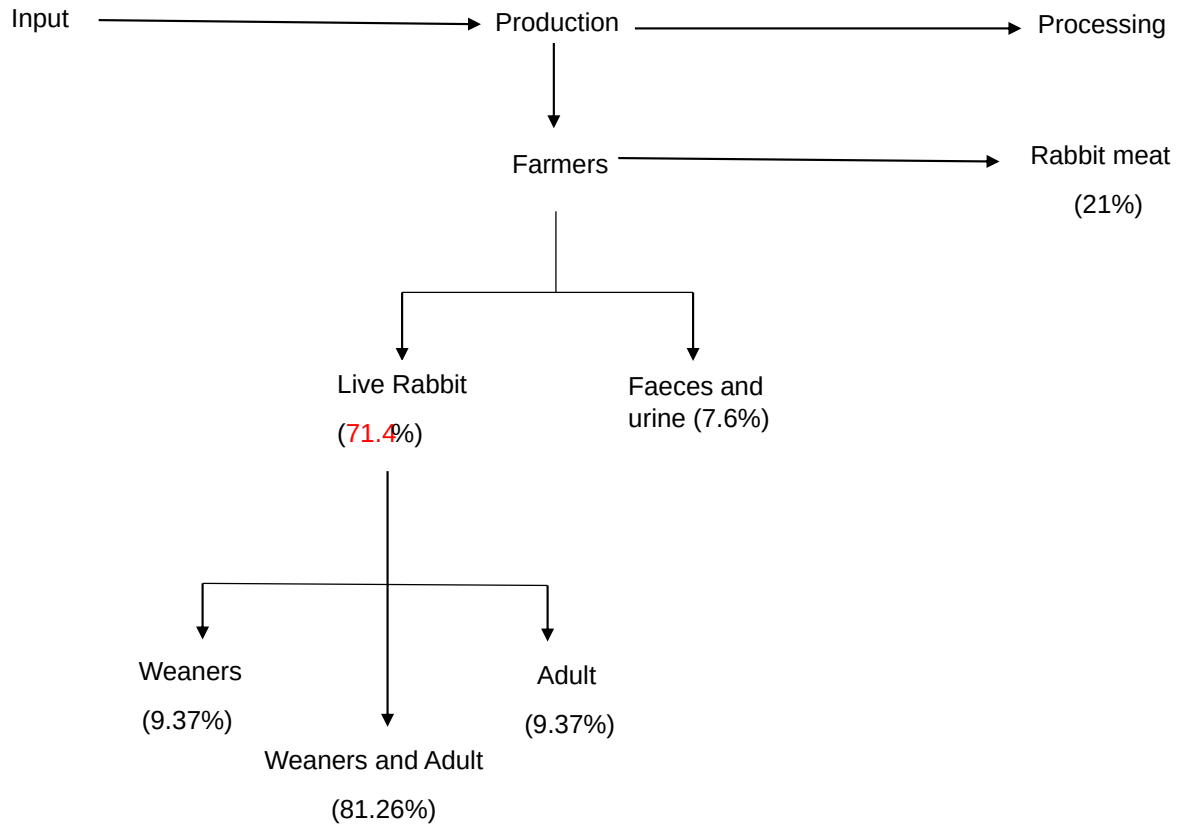

Figure 4 Flow chart showing various products sold by rabbit farmers in the study area.

It is also observed that about 8% of the respondents sold rabbit faeces and urine as by-products from the venture. Said *et al.* (2018) reported rabbit urine as an organic manure which is underutilized. Faeces and urine from rabbits (rabbit manure) has higher nitrogen content compared to other livestock (Minnich, 2015) hence, could be a good form of organic fertilizer. Tabaro *et al.* (2013) and Adi *et al.* (2020) have reported positive effects in the use of rabbit manure as organic fertilizer in fish farming and planting of vegetables. Some of the respondents commented on the use of rabbit urine as pesticides, not much information is available on this claim. Hence, there is a need for more study to ascertain the use of rabbit urine as a form of pesticide**.**

rabbits; consider conservation of forages to be used to feed rabbits during the period of scarcity of such forages, and popularize rabbit meat using various means so as to bring about an increase in its demand.

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