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# **The potential of rabbit production in improving household incomes in Nankoma Sub-county, Bugiri District, Uganda**

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## **Abstract**

A study was conducted to assess the potential of rabbit production in improving household incomes in Nankoma Sub-county, Bugiri District. A total of 50 households were used for the study in five different parishes of the sub county. Data were collected using structured questions, observations, and interviews. Secondary sources of data were also reviewed.

Respondents (42%) kept between 1 and 10 rabbits while 12% respondents kept more than 30 rabbits. Rabbits were the least (3%) kept animals compared to other livestock species. The number of households who kept rabbits was higher (62%) than that (38%) which had abandoned rabbit production. Most respondents sold rabbits locally in villages (90.3%) while 6.5% respondents kept rabbits for home consumption and 3.2% sold rabbits to livestock traders. Many respondents (70%) indicated that low demand was responsible limited market for rabbits and rabbit meat. Most respondents (62%) preferred rabbit meat to other livestock meats. The majority of respondents (88%) had ever tasted rabbit meat while 22% had never tasted the meat. Out of 88% respondents who had ever tasted rabbit meat, 68.2% described meat as very delicious. Most respondents indicated that destruction of crops (68%) and inadequate market for rabbits (58%) were the major limitations to rabbit production. Most respondents preferring rabbit meat to other livestock meats was a positive signal that rabbits had the potential to generate household incomes if rabbit production value chain linkages were properly developed by the government and other stakeholders. Revitalization of the rabbit industry in Uganda calls for committed promoters who are business oriented to work with all the stakeholders along the value chain to bring the commercialization of rabbits and marketing of rabbit meat to a reality.

**Key words:** *investment, rabbit meat, revitalization, taste and preference, value chain linkages*

## **Introduction**

Livestock industry offers one of the potential agricultural areas for investment (Bendi 2011). Seventy percent of Ugandan households own livestock making livestock meat an integral part of the diet, culture and income (Okonko 2010). The major livestock species kept in Uganda include

cattle, goats, sheep, pigs, and rabbits. According to Luzobe (2011), many farmers have not widely invested in rabbit production because rabbitry enterprise is taken as pet-like and the venture referred to as children's business; lack of technical knowledge and resilience among the promoters and adopters; circulating wrong information on management and marketing; overpricing and inability to present rabbit meat leading to failure to compete in the meat market and sustain interested consumers; and predators and thieves demoralize the potential farmers to continue and expand rabbitry enterprise. Additionally, the market of rabbits in Uganda has not been exploited due to cultural tendencies, availability of other sources of animal protein, lack of knowledge especially on the utilization of rabbit and its products, and sentimental tendencies. For instance, some women in Tororo district (Uganda) believe that eating a rabbit meat would make them produce children with long ears like rabbits (Lukerfahr 1998).

Rabbit production can be among the potential enterprises fit for smallholder farmers both in the rural and peri-urban areas (Luzobe 2011). Therefore, revitalization of rabbitry can be one of the major enterprises for food, nutrition and income security in Uganda, especially for the vulnerable poor. The current population of rabbits in Uganda is not clearly known because livestock censuses exclude rabbits. However, rabbit population in 2008 was estimated at 370,000 with only 1.1% of households keeping rabbits (Luzobe 2011). Rabbits are capable of providing many similar benefits such as meat, manure and fur as other animals (Sharon 2009; Soyebo 2006). They are prolific, grow very fast, have good feed conversion efficiency, require small space to grow, offer little competition with humans for food, and have ability to convert low quality roughages into meat (Laximi et al 2009, Soyebo 2006). Rabbit production is affordable, requires relatively low investment requirements (Son et al 2008), and rabbits are inexpensive to keep compared to large animals (Angerbjorn 2004). Rabbit meat is one of the most nutritious meats, with more protein and less fat (Luzobe 2011). Despite the benefits, the potential of rabbits in Uganda has not been realized. However, there is still the opportunity for developmental projects to intervene in order to increase rabbit production in Uganda (Lukerfahr 1998).

Most hotels and restaurants hardly place rabbit meat on their menu because the meat is scarce (Nafula 2006). There is need to provide information on the potential sources of market for rabbits and their products, and creating awareness on the importance of rabbits in income generation. The information will be useful to the government and other stakeholders to develop programs aimed at increasing household incomes through rabbit production. Therefore, this study was conducted to assess the potential of rabbit production in improving household incomes in Nankoma Sub-county, Bugiri District. The other objectives were to establish the population of rabbits in relation to other livestock species; marketing of rabbits and rabbit meat; why rabbits and rabbit meat are not usually sold in markets, butchers and restaurants; taste and preferences for rabbit meat; and limitations to rabbit keeping.

## **Materials and Methods**

The data were obtained using structured questions, observations and interviews. Interview schedule and direct observation were used to collect data from fifty purposely selected rabbit farmers using Snowball sampling technique. Secondary sources of data were also reviewed especially from journal publications, on-line information, district, and sub county headquarters.

## Results and discussion

### Population of rabbits and other livestock species

Population numbers of rabbits and other livestock species are shown in the Tables 1 and 2. The majority of respondents kept 1 - 10 rabbits while the minority respondents kept more than 30 rabbits (Table 1). Rabbits were the least kept animals compared to other livestock species (Table 2). The number of households who kept rabbits was higher (62%) than that (38%) which abandoned rabbit enterprise.

The majority of respondents kept between 1 and 10 rabbits because it was the most convenient number putting into consideration the low demand (low price) of rabbits in livestock markets and butchers (Table 3). The low demand of rabbit meat was the same reason why a small number of farmers kept more than 30 rabbits. Farmers also lacked management skills (Figure 2), which resulted into rabbits destroying cultivated crops (Table 5), and this limited them to keep a few number of rabbits. Lack of management skills was manifested by unwillingness of farmers to select rabbits (enterprise selection) during training programs. Some respondents (38%) stopped rabbit keeping mainly because rabbits destroyed cultivated crops. However, 62% respondents were motivated to continue keeping rabbits because of their beauty as well as income generation. The relatively high number (62%) of rabbit keepers showed that rabbits had the potential to increase household incomes if the market for rabbit meat was streamlined.

**Table 1:** Population of rabbits

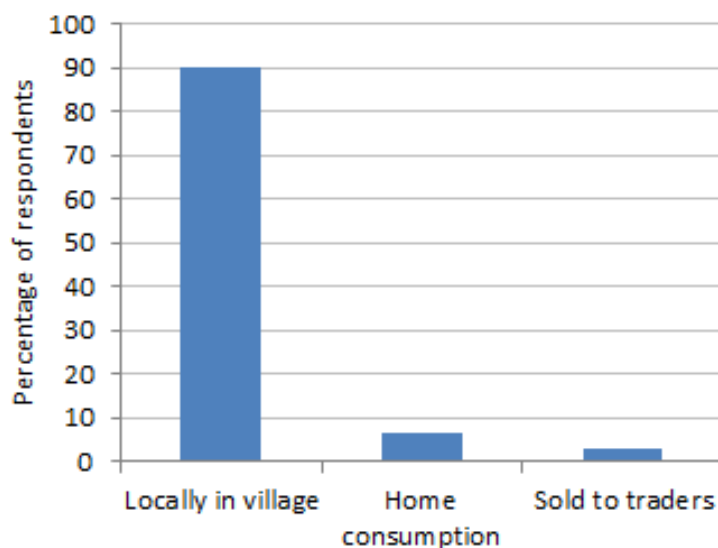
No. of rabbits	No. of households	% of households
1-10	21	42.0
11-20	10	20.0
21-30	7	14.0
31-40	6	12.0
40+	6	12.0
Total	50	100.0

**Table 2:** Population of rabbits compared to other livestock species

Animal type	No. of households	% of households
Rabbits	3	8.0
Cattle	11	22.0
Goats	42	84.0
Pigs	7	14.0
Local chickens	31	62.0
Pigeons	8	16.0

### Marketing of rabbits and rabbit meat

Most respondents sold rabbits locally in villages while very few rabbits were sold to livestock traders (Figure 1). However, some respondents kept rabbits for home consumption.



**Figure 1:** Market for rabbits and rabbit meat

The majority of farmers sold rabbits locally in villages because there was a poor market link for rabbits between farmers and potential markets outside the villages. The poor market link made it difficult for potential buyers to know where they could purchase rabbits for commercial purposes, home consumption or to start rearing. Few rabbits sold to livestock traders implied that the demand for rabbits was rather low. The demand for rabbits was low mainly because of availability of other sources of meat, and lack of knowledge among households on the exploitation of rabbits and their products. There is need to develop rabbit production value chain to link the rabbit farmers to the potential markets (buyers). Additionally, some respondents indicated that it was not traditionally accepted to sell rabbits in markets and this partly explained why many rabbit keepers sold their rabbits within villages.

### **Why rabbits and rabbit meat are not usually sold in markets, butchers and restaurants**

Many respondents indicated that low demand was responsible limited market for rabbits and rabbit meat followed by low price (Table 3).

**Table 3:** Reasons for low market rabbits and rabbit meat

Reason	No. of households	% of households
Low demand	35	70.0
Small carcass size	4	8.0
Low popularity	10	20.0
Low price	16	32.0
Not a traditional practice to sell rabbits	11	22.0

Low demand resulted into reduction in rabbits and rabbit meat prices, and this made the marketing of rabbits and rabbit meat a risky venture to undertake. Low prices discouraged rabbit farmers to rear many rabbits. Low rabbit numbers reduced household incomes, hence less profit

from rabbit production. Low demand for rabbit meat also resulted into low rabbit meat consumption, and this discouraged traders and butchers to deal in rabbits. Low rabbit consumption was possibly because of unpopularity of rabbits when compared to other livestock species (Table 2) and misconception that rabbits look-like rats.

### **Taste and preferences for rabbit meat**

Most respondents preferred rabbit meat to other livestock meats (Table 4). The majority of respondents (88%) had ever tasted rabbit meat while 22% had never tasted the meat. Out of 88% respondents who had ever tasted rabbit meat, 68.2% described rabbit meat as very delicious while 32% described the meat as just delicious. Some respondents indicated that they were encouraged to keep rabbits after tasting their meat from friends' homes.

**Table 4:** Taste and preference for rabbit meat

Meat type	No. of households	% of households
Chicken	9	18.0
Pork	3	6.0
Rabbit meat	31	62.0
Beef	2	4.0
Goat meat	3	6.0
Fish	2	4.0
Total	50	100

Most respondents preferring rabbit meat to other livestock meats was a positive signal that rabbits had the potential to generate household incomes if rabbit production value chain linkages were properly developed by different stakeholders (government and non-governmental organizations). Most respondents (68%) describing rabbit as very delicious agrees with Luzobe (2011), who reported that rabbit meat was one of the most nutritious meats.

### **Limitations to rabbit keeping**

Most respondents indicated that destruction of crops, inadequate market for rabbits, predators, and low adult participation were the major limitations to rabbit production (Table 5). Least number of respondents showed that poor management skills were responsible for limited rabbit production. Although few respondents indicated that poor management skills were not a major problem, destruction of crops was related to poor management because it was a result of lack of proper housing facilities for rabbits (Figure 2). Farmers released their rabbits to graze during the day and housed them during the night. Rabbits were vulnerable to predation by dogs and wild cats because of inadequate housing facilities. Destruction of garden crops created food insecurity and wrangles among homesteads. Poor feeding and parasite infestation were also related to poor management (Figure 2).

**Table 5:** Limitations to rabbit production

Limitation	No. of households	% of households
Inadequate market for rabbits	29	58.0
Predators	23	46.0
Barrowing	10	20.0
Destruction of crops	34	68.0
Low adult participation	22	44.0
Inbreeding	13	26.0
Parasites	12	24.0
Poor feeding	8	16.0
Poor management skills	6	12.0

Feeding rabbits could be improved by supplementing sweet potato vines with cabbage, cabbage by-products or water spinach. Cabbage by-products were found to replace up to 50% dry matter of water spinach based diets and gave better daily gain and feed conversion ratio (Binh Phuong and Khang 2008), and cabbage waste replaced 60-80% (DM basis) of para grass and gave high growth performance and better benefits (Kim Dong and Van 2008). Furthermore, water spinach, sweet potato, and malvaviscus were found to be sole diet of rabbits (Lan Phuong 2008). Fortunately, cabbage is widely grown in Bugiri district and therefore, cabbage by-products are readily available for rabbit production.

The low adult participation in rabbit keeping was because the adult people viewed rabbit production as a childish work. Therefore, rabbit keeping was left to school children, who did not have the capacity in terms of land, capital and time to invest in rabbit production. The aspects of predators and low adult participation agree with Luzobe (2011), who reported that many farmers do not invest in rabbit production because the enterprise is taken as pet-like and children's business, and predators and thieves, which demoralize potential rabbit farmers. Inbreeding resulted from failure of farmers to bring new males from outside their rabbit flocks. As a consequence, there was poor performance of rabbits in terms of low growth rates and few numbers of kits kindled.

## Conclusions

- Preference of rabbit meat to other livestock meats by most respondents was an indication that rabbits had the potential to generate household incomes if rabbit production was promoted by the government and other stakeholders.
- Revitalization of the rabbitry industry in Uganda calls for committed promoters who are business oriented to work with all the stakeholders along the rabbit production value chain to bring the commercialization of rabbitry and marketing of rabbit meat to a reality.



**Figure 2:** Rabbits not housed and feeding on sweet potato vines

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