

Production, marketing and challenges faced by smallholder rabbit farmers: A case of Mt Darwin, Zimbabwe

Deliwe Sylvester Tembachako¹, May Mrema², Anyway Katanha³

¹Lecturer, Zimbabwe Open University, Mashonaland Central Region, 209 Hay Road, Bindura

²Senior Lecturer, Africa University, P. O. Box 1320 Mutare

³Lecturer, Zimbabwe Open University, Mashonaland Central Region, 209 Hay Road, Bindura

Abstract: *The study focused on the production marketing of rabbits and the challenges faced by the smallholder rabbit farmers in the four wards of Mt Darwin District. The wards were purposively selected. A descriptive survey method was employed to 85 smallholder rabbit farmers identified through snowballing method. Results confirm that rabbits are kept mainly for consumption purposes, as 66% of the rabbits produced were consumed and only 34% were sold. The major challenges faced by farmers in producing and marketing rabbits were inadequate extension services, inadequate feeds, lack of markets and some religious beliefs. Farmers do not normally market their rabbits and any surplus rabbits are sold to neighbours and local markets on a willy-nilly basis, no marketing strategies are employed. There is the need for widespread awareness of the importance of rabbits by government, stakeholders and NGOs through the various media. Extension service needs to be intensified in the rabbit enterprise in the rural communities. The government and NGOs should aid the development of rabbit industry and marketing to the outside markets since the income received could help reduce poverty among smallholder farmers.*

Key Words: *rabbits, vulnerable, income security, panacea*

Date of Submission: 27-01-2017

Date of acceptance: 28-10-2017

I. Introduction

Crop production in Zimbabwe is the most common way of producing human food. A large population in Zimbabwe resides in the communal areas where they are engaged in crop production with very limited resources due to abject poverty. The diet comprises mainly of carbohydrates and plant protein. Raising of livestock is a challenge due to lack of financial resources. This resultant makes the poor resource farmer depend on plant protein, which however does not supply all the amino acids required by the body in the right proportions (Kitalyiet al, 2005). Animal protein, which has the right quantities of amino acids is thus needed. Livestock mainly kept by a few households includes cattle, sheep and goats as well as indigenous chickens. Cattle are seldom slaughtered for home consumption as they have better uses in providing draught power and selling to meet pressing financial issues such as tuition for their children and to purchase some farming inputs (Delgado, Rosegrant, Steinfeld, Ehui, and Courbois, 1999). Indigenous chickens, which most people can afford in the district, are occasionally wiped away by diseases, especially by the New Castle disease which hits the district very often.

Small livestock production such as rabbits would be ideal in these areas, in particular to curb the protein needs of the smallholder farmers. These can also be sold and the cash used for buying food (Mapiye et al 2008). In other countries, rabbit meat production and consumption is increasing as found out by FAOSTAT (2012). China is ranked the highest in consumption and raising of rabbits (European Food Safety Authority (EFSA, 2005). Other significant producers and consumers of rabbit meat in the world include Italy, France, Spain and Egypt (EFSA 2005). In Egypt, for example rabbit production, which directly involved the youth, was reported to have decreased the rate of youth migration from rural to urban areas, making it a panacea to rural livelihoods (Lukefahr, 2008). However in most developing countries such as Zimbabwe, production of rabbits is mainly for home consumption (FAO, 2001) with the exception of a few who produce for commercial purposes.

According to Ndyomugenyi and Otiengino (2013) rabbit production can be among the potential enterprises fit for smallholder farmers, both in the rural and peri-urban areas. Therefore, production of rabbits can be one of the major enterprises for food, nutrition and income security in a developing country like Zimbabwe, especially for the vulnerable poor Zimbabwean communal farmers, produce rabbits subsistently compared to other livestock. Yet rabbits are able to utilize herbage biomass more efficiently than cattle, sheep and goats (Lukefahr and Cheeke 1997). Rabbits are fed on low cost feeds using locally available forages or weeds (Mailafia, Onakapa and Owole 2010). This alone could have seen rabbit production done by almost every household, but few households are engaged in rabbit production. Studies have shown that rabbit

meat is very beneficial. Dalle -Zotte, (2004) noted that rabbit meat is a lean meat rich in proteins of a high biological value and it is characterized by high levels of essential amino-acids. It is low in fat, cholesterol, sodium and calories, (Ajala and Balogun 2004, Mailafia et al, 2010, Shaeffer, Kime and Harper 2008). Rabbit meat has become a favourite among health-conscious consumers in other parts of the world (Dalle-Zotte, 2002). Some meat consumers still shun rabbit meat due to ill information and other cultural and traditional beliefs. Despite the benefits of keeping rabbits, production of rabbits is still low in Zimbabwe. The study seeks to identify the production of rabbits in the area and marketing challenges farmers are facing.

II. Methodology

The study was carried out in Mt Darwin District, located in Mashonaland Central Province, in the Northern part of Zimbabwe. It has 34 wards, but only 4 wards which are Ward 8, 9, 17 and 36 were considered for the study. It is found in agro-ecological region IV which receives an annual rainfall between 450 and 600mm. Temperature ranges from +25⁰ Celsius to as high as 36 degrees Celsius in some parts of the District in summer. Agricultural production in the area under study is mostly subsistence being rainfall dependent except for a few selected farmers incorporated in the irrigation scheme that was established 8 years ago. The total population of the district as of the current census is 211,919 people (Central Statistics Office 2012). The study adopted a quantitative approach. Questionnaires were used to elicit information from 85 rabbits farmers who were selected using snowballing technique. Data was also analyzed using descriptive statistics and multiple regressions and results were presented in the form of tables and graphs.

III. Results

Findings on the number of rabbits, consumed and sold are shown in the table below.

Table 1: Rabbits produced sold and consumed per year.

Ward	Number Produced	Number sold	Number consumed
8	2561	736	1825
9	659	250	409
17	687	211	476
36	1858	753	1123
Total	5765	1932	3833

Results in Table 1 above show a general trend that most of the rabbits produced is consumed. Ward 8 produced more rabbits compared to all the other Wards. From a total of 5765 of rabbits produced in all the four wards, a total of 3815 (66%) were consumed with only 1958 (34%) sold.

Challenges in rabbit Production

Farmers cited a number of challenges they face in the production of rabbits and these are shown in the figure below:

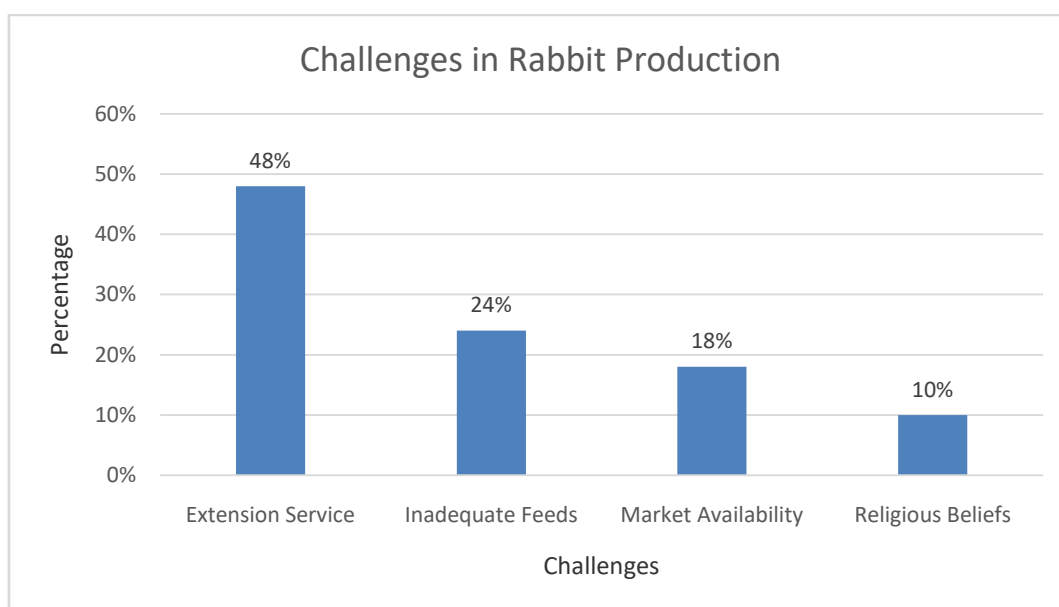


Figure 1: Challenges in rabbit production

Poor extension services were cited to be the main problem. A large percentage of the respondents (48%) noted lack of extension service in rabbit production as the main reason why rabbit production and demand is poor in the area. The extension officers do not focus on rabbits as much as they do with other livestock. This was followed by inadequate feeds (24%), unavailability of markets (18%) and religious beliefs (11%) respectively.

Table 2: Extension visits to rabbit farmers

Number of visits per year	Frequency	Percentage
Once	55	65
Twice	20	23
Thrice	6	7
None	4	5

Rabbit Marketing

Promotions

Marketing of any produce poses problems in communal setup. A number of factors were found by the study that determine when and how to sell rabbits. Farmers in the study area were requested to shed light on what methods they use to promote their rabbit enterprises and their responses are given in the table below:

Table 3: Different methods used to promote rabbits

Type of promotion	Frequency	Percentage
Offering discounts	3	4
Offering a free product	5	6
None	77	90

Findings from the study revealed that 4% of the farmers offered discounts and 6% free product as methods to promote their rabbits while 90% did not use any promotion.

Marketing strategies

Marketing strategies are a vital component in any business to be a success. Farmers were asked about the marketing strategies they employ in their rabbit enterprise and their responses are shown in the figure below.

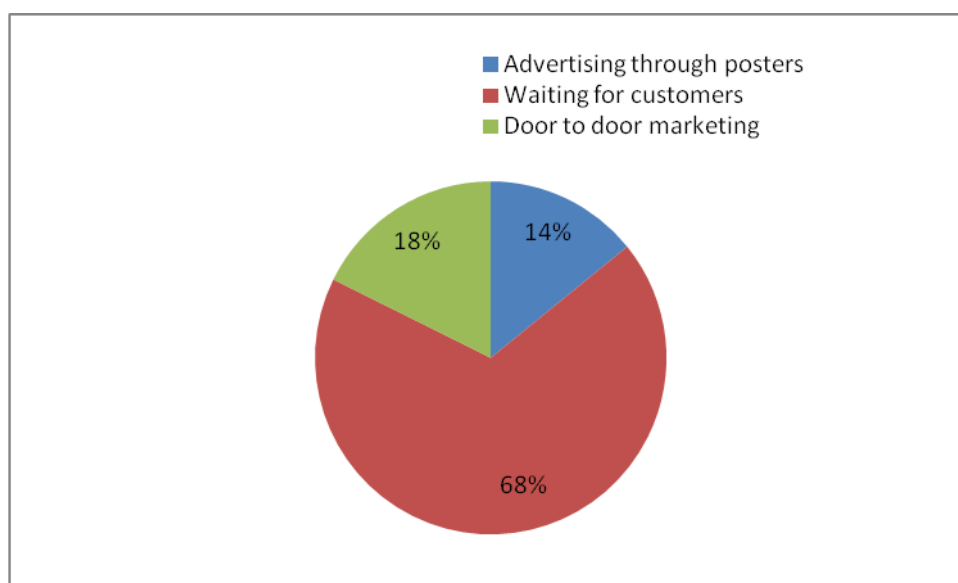


Figure 1: Strategies used in marketing rabbits

The marketing strategies used by these farmers (Figure 1) are generally not conducive to business practices as an average of 68% of respondents in the four wards indicated that they just wait for customers to come and buy rabbits at their homesteads. An average of 54% farmers in all wards indicated that the market is not available, while 46% indicated that the market is there but they have no means of reaching it due to lack of transport and information.

Table 4: Determinants for selling rabbits

Determinant	Frequency	Percentage
When rabbits are many	45	53
When rabbits are big	30	35
When one needs money	10	12

Farmers with rabbits in the area in general mainly sell rabbits when the rabbits are many (45%), when the farmers need money (10%), while 30% sell the rabbits when they are big that is when the rabbits appeared big despite the fact the rabbit they might be over the required weight to make a profit.

Exchange of rabbits for other goods

Farmers agreed that they exchange their rabbits with other goods (barter trade) due to lack of markets or their inaccessibility. The table below shows their responses.

Table 5: Barter trade

Involvement in barter trade	Yes (%)	No (%)
Ward 8	74	26
Ward 9	56	44
Ward 17	83	17
Ward 36	80	20

Findings revealed that rabbit farmers engaged an archaic method of doing business that is, farmers exchanged rabbits for other commodities ranging from indigenous chickens, to maize, cooking oil, kitchen ware, second hand clothing and many others. In ward 8 (Nohwedza), 74% of the respondents are involved in barter trade only, while in wards 9, 17 and 36 barter exchange stood at 56%, 83% and 80% respectively. Farmers not involved in barter trade in the wards were at 25%, 44%, 17% and 20% in wards 8, 9, 17 and 36 respectively.

IV. Discussion

Rabbits, produced, sold and consumed

Production of rabbits in the District is on subsistent level, mainly for household consumption. The poor resource farmers cannot afford to produce more probably because of the financial constraints, limiting them to produce small numbers to meet their family protein needs. The market environment is not conducive to motivate producers to produce more rabbits. Selling is done when extra rabbits are produced or when the need for cash arises.

Challenges in rabbit production

Challenges in rabbit production noted in the study are lack of extension service, inadequate feeds, unavailability of markets and beliefs that prohibit consumption of rabbit meat. Extension service is vital in the promotion of smallholder projects like rabbit production. Information exchange between extension staff and farmers is vital for sustaining projects. Information exchange in this case is mainly among the farmers. Such exchange of information may not be beneficial because farmers will continue to supply each other with information that may not improve production and consumption of rabbits, Frimpong (2009). According to Odoenenem and Obine (2010), agricultural extension workers are the almost important source of information for smallholder farmers. Information exchange from extension workers to farmers helps build confidence and the courage to venture into something. Inadequate feeding was also another challenge noted in the production of

rabbits. These confines farmers to keeping small numbers of rabbits mainly for consumption only. Generally smallholder farmers are resource constrained and to find extra money to purchase supplementary feeds for rabbits is an uphill task let alone feed their families. This concurs very well with Echo, (1997), who pointed out that inadequate nutrition is a major hindrance in the production of rabbits.

Unavailability of markets also puts on hold the prosperity of a business. The target market for rabbits and their products is not well defined compared to other livestock meats and products. This was also noted by (Gono, Dube, Sichewo and Muzondiwa 2013) as they described the market for rabbit meat and products as not well formalized. Most rabbits that are produced are sold to the local villagers and friends. In their study Kpodékon, Gnimadi, Djago, Koutinhouin, Farougou (2000) noted that the sale of rabbits as perceived by the breeders showed clearly that the further away the breeders are from urban centers, the more difficult it is to find clients. The main demand for rabbits comes from urban areas, while in rural areas the focus is mainly production for own consumption by producers. Only a few butchers sell rabbit meat in this study area. This is a major problem in the production and marketing of rabbits as this results in farmers and consumers failing to realize the potential of rabbits. Beliefs among consumers are also a problem with the rabbit enterprise. Some consumers do not like eating rabbits because of cultural beliefs while others likened a rabbit to a cat especially when it has been skinned. This is in agreement with findings by Hoffman, Nkhabutlane, Schttle and Vosloo (2004), whose findings showed that some view rabbits as resembling cats causing a dislike to consume rabbits. Some may not be consuming rabbits because they believe in the Old Testament scriptures in the Bible, which say that animals without hooves should not be consumed. Rabbits do not have hooves so they might be shunned by non consumers for that. Some consumers may not like a certain food because they may have not been introduced to that particular food. This concurs with Asp (1999) who noted that people, who have never been exposed to certain foods, will register a dislike for that particular food, which explains why the market is a challenge. Findings by Lukerfahr (1998) showed that some women in Tororo District (Uganda) believed that eating a rabbit meat would make them produce children with long ears like rabbits. Closely related to this is also findings by Hoffman et al (2005) that some people believe rabbits are unclean, a deep-Christian belief found in the Old Testament in Leviticus 11:2-6: in which people were instructed to eat any land animal that has divided hoofs and that also chews the cud, but should not eat camels, badgers or rabbits as they do not have divided hoofs although they chew the cud. Thus these and other beliefs impede the production and marketing of rabbits.

Promotions

There is not much promotional activity done by the rabbit farmers in the marketing of rabbits. This might be because their production is mainly focused on consumption; they only sell when a need for money arises. This lack of promotion of their rabbits might also be as a result of the market itself which is mainly dominated by locals who are also resource poor and prefer to exchange the rabbits with other products like second hand clothing, maize grain and other products. This is because money is difficult to come by and agricultural production in the area is mainly subsistent and rainfall dependent which is not adequate for them to make production that brings meaningful revenues. Promotion of products has been noted by (Bruce and Bessant, 2002; Kotler, 2003) as being key contributors to success of business enterprise.

Markets and marketing strategies

When a product is not advertised, chances are that the product will not penetrate the market and customers will not know anything about it and thus the product will fail. Just waiting for customers to come and buy on their own is not enough to promote rabbit sale and production. This could be a problem with the expansion of rabbits as customers are not informed about certain characteristics pertaining to the product or where to find rabbits for sale, in this case rabbits, where to find them and what they cost. Rabbits belong to the class of white meat and as such when people are informed about its attributes, they would eventually like the meat and thus buy it. Findings by Cooper and Chifamba, (2009), showed that when a product is marketed well, consumers will eventually try it and finally accept it. This was in reference to the so called "soya meat" a product from soya beans, which became a household necessity in the economic hardships of 2007-2008 period for most families in Zimbabwe as it became a substitute for other foods. Cooper et al (2009) concurs with Osemeke, (2012), who noted that advertising is the key to a successful enterprise. Osemeke (2012) also noted that the advertisement should not be limited, but must be exercised through wide spectra of media in order for one to exploit a larger market, a fact which is lagging behind for the farmers in the study area.

Exchange of rabbits for other goods

Barter trading in the area could be as a result, of inability of customers to pay cash due to low incomes and the sources of income which is mainly from the surplus of crop produced. Crop production is low due to inadequate rainfall as well as lack of farming inputs. As a result, customers resort to offering goods such as indigenous chickens, maize grain, cooking oil, kitchen ware, second hand clothing and other for them to get the rabbits. Barter trade is an archaic marketing strategy posing problems in equivalency of exchanging

commodities. Products for which rabbits are exchanged are mainly for consumptive purposes and as a result, there is no revenue that is pumped back into the project to enable it to expand. If farmers resort to current ways of marketing, the number of rabbits sold per year would increase. This kind of approach does not promote the increased rabbit production as farmers are not able to actually equate the monetary value of rabbits and the things they exchange rabbits with, worse still most of these farmers would not be able reimburse the enterprise.

V. Conclusion and recommendations

Rabbit production is mainly done for consumption purposes. Producers are facing hardships in getting support from the extension services. There is also lack of markets in the rural areas as a result there is more of barter exchange taking place. Feeds are not enough to expand rabbit production as generally the economic situation in rural areas is prohibitive. Religious beliefs are an impediment to the production and marketing of rabbits. Government, NGOs and other stakeholders to educate communities on the importance of rabbits and to remove negative beliefs surrounding the consumption of rabbits through awareness campaigns using different media. Extension services should intensify information dissemination on rabbits to farmers and help in the identification of markets through increased meetings, trainings and workshops on rabbit production and marketing for local and foreign markets. Government should help in the development of industries and sourcing of markets outside its borders through partnerships with NGOs and other interested parties worldwide to improve rabbit production and marketing.

VI. References

- [1] Ajala M.K. and Balogun J.K. (2004). Economics of rabbit production in Zaria. Kaduna State. *Tropical Journal. Animal Science* Volume 7 Issue 1:1-10
 - [2] Asp.E.H. (1999). Factors affecting food decisions made by individual consumers. *Food policy* 24
 - [3] Volume 2 Issue 3:287-294.
 - [4] Bruce, M and Bessant, J. (2002). *Design in Business: Strategic Innovation through Design*. Harlow, UK: Pearson Education Limited.
 - [5] Central Statics Office Zimbabwe 2012
 - [6] Cooper R.G. and Chifamba J. (2009). The nutritional intake of undergraduate at the University Of Zimbabwe College Of Health Sciences. *Division of Physiology: Birmingham*. Volume 11 Issue 1: 35-39
 - [7] DalleZotte, A.D. (2002). Perception of rabbit meat quality and major factors influencing the rabbit carcass and meat quality. *Livestock Production Science*. Volume 75 Issue 1:11-32
 - [8] Delgado, C., Rosegrant, M., Steinfeld, H., Ehui, S. and Courbois, C. (1999). *Livestock to 2020: The Next Food Revolution*. International Food Policy Research Institute. Food and Agriculture and Environment Discussion Paper 28. Washington DC.
 - [9] The EFSA Journal. (2005). "The Impact of the current housing and husbandry systems on the health and welfare of farmed domestic rabbits." 267, 1-31
 - [10] Food and Agriculture Organization of the United Nations. (2000).
 - [11] FAO Agriculture Series. No. 32. Rome
 - [12] FAOSTAT (2012). Food and Agricultural Organization statistical database. Available at:
 - [13] <http://faostat3.fao.org/faostat-gateway/go/to/download/Q/QL/E> Last accessed 01/25/17
 - [14] Frimpong J. (2009). A guide to domestic rabbit breeding in Ghana, The farmer's husbandry manual, Nungua Livestock Breeding Station.
 - [15] Gono R.K., Dube J, Sichewo P.R, Muzondiwa J.V (2013). Constraints and Opportunities to Rabbit Production in Zimbabwe: A Case Study of the Midlands Province, Zimbabwe. *International Journal of Science and Research (IJSR)* Volume 2 Issue 9.
 - [16] Hoffman L. C., Nkhabutlane P., Schtltle De W. and Vosloo C. (2004). Factors affecting the purchasing of rabbit meat: A study of ethnic groups in the Western Cape. Volume 32 pp 26-35
 - [17] Kitanyi, A., Mtenga, L., Morton, J., McLeod, A., Thornton, P., Dorward, A., Saadullah, M. (2005). Why keep livestock if you are poor? in: E. Owen, A Kitanyi, N. Jayasuriya and T. Smith (eds) *Livestock and Wealth Creation. Improving the husbandry of animals kept by resource-poor people in developing countries* (Nottingham: Nottingham University Press), pp.13-27.
 - [18] Kotler, Philip (2003). *Marketing Management*, 11th ed. Upper Saddle River, NJ: Prentice Hall, Inc.
 - [19] Kpodékon M., Gnimadi A., Djago Y., Koutinhoun B., Farougou S. (1998). Rabbit production and network in Benin. *Journal of the World Rabbit Science Association*, Volume 8, supplement 1 pages 89-95
 - [20] Lukefahr S.D (2008). Role of organic rabbit farming for poverty alleviation Department of Animal and Wildlife Sciences, MSC 228, Texas A and M University, Kingsville, TX, USA, MEKARN MSc 2008-10; Mini-projects.
 - [21] Mailafia S., Onakapa M.M. and Owole O.E. (2010). Problems and prospects of rabbit production in Nigeria. *Review. Bayero Journal of pure and applied sciences* volume 3 Issue 2.
 - [22] Mapiye C., M. Mwale, F. Mupangwa, M. Chimonyo, R. Foti and M. J. Mutenje, (2008). A Research Review of Village Chicken Production, Constraints and Opportunities in Zimbabwe.
 - [23] Morekij.C and Seabo D.(2011). Current status, challenges and opportunities of rabbit production in Botswana. *Online journal of animal and feed research* Volume 2, Issue 2: 177-181
 - [24] Ndyomugenyi E K and Otiengino O D. (2013). The potential of rabbit production in improving household incomes in Nankoma Sub-county, Bugiri District, Uganda. *Livestock Research for rural development*. Vol. 25(8) Department of Livestock and Pastures Science, Faculty of Science and Agriculture, University of Fort Hare, South Africa.
 - [25] Osemeke, M. (2012). *Entrepreneurial Development and Interventionist Agencies in Nigeria*. University of Benin. Edo state. Nigeria. Accessed at ijbssnet.com/journals/vol-3-no-8-special-issue-April-2012/29.pdf. On the 7th of December 2013
 - [26] Shaeffer R., Kime Lynn F. and Harper J. K. (2008). *Agricultural alternatives: rabbit production*, The Pennsylvania State University.
- Deliwe Sylvester Tembchako. "Production, marketing and challenges faced by smallholder rabbit farmers: A case of Mt Darwin, Zimbabwe." *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, vol. 10, no. 10, 2017, pp. 80–85.