

## An investigation of poultry production in Fetakgomo Municipality of Sekhukhune district in Limpopo Province

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### Abstract

Poultry in rural households are found in all developing countries. They play a vital role in many poor rural households as means of providing and ensuring food security. The aim of the study was to determine the sustainability of production and production constraints of poultry farming in Fetakgomo Local Municipality. A total of thirty poultry farmers were randomly selected from 11 poultry projects and were interviewed by using a prepared questionnaire. The data were entered in Statistical Package for the Social Sciences (SPSS) software and organized in tables and figures and further described and analysed following descriptive statistics. Results show that the majority of respondents (86.7%) do not have footbaths aiming to prevent the spreading of disease. Most (87%) of farmers do not see the poultry projects being sustainable. Furthermore, 73% of farmers see the community as the main market. The paper recommends that farmers should consider looking for markets outside the community for sustainable production. Extension services should assist them in this regard. The paper recognizes the role extension services can play in promoting health in poultry houses which should encourage farmers to increase production. Extension services may provide a link between farmers and suppliers of feed, chicks, production equipment and market outlets in order to encourage sustainability. The study found that small scale poultry farming is not sustainable in its current form in the Fetakgomo Local Municipality unless different strategies are applied.

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**Keywords:** Poultry production, sustainability, small scale poultry farmers, extension services

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### Introduction

Village poultry can be found in all developing countries and play a vital role in many poor rural households as means of providing and ensuring food security. Poultry have been domesticated for thousands years; archaeological evidence suggest that domesticated chickens existed in China 8000 years ago (Alders, 2004). The broiler chicken industry is an important source of animal protein in the Limpopo Province, in comparison with cattle and pigs (Boer *et al.*, 2001). More than 80% of poultry are kept in rural areas and contribute substantially to annual egg and meat production (Sonaiya, 1999 as cited by Gueye, 1998). Most small scale farmers residing in Limpopo Province are poor (Statistics South Africa, 2001; Mpandeli, 2006). Poor farmers in South Africa are not really part of commercial agriculture. This is one of the reasons that the contribution of small scale agriculture to the GDP is still limited (Makhura, 2001).

The fast growing human population with high quality protein contributes significantly to food security, poverty alleviation and ecologically sound management of natural resources (Gueye, 2002). Poultry meat is preferred among beef and chevon. The production of poutyr is more advantageous when one compare it with beef, for example the period it takes is short and the environment in many rural areas is most favourable for producing poultry (Gueye, 1998). Family chicken keeping is a valuable asset for producers, especially in rural areas. It allows poor farmers to satisfy their unforeseen financial needs. For example, the purchase of cereals in the period of food scarcity is partly covered by income generated from the sales of the birds. Moreover, after sale or barter, family chickens contribute to acquire ruminants. Additionally, chicken meat consumption helps to cover nutritional needs of the rural populations (Mopate, Hendriks & Idriss, 1997). Small poultry holdings provide supplementary food, income and employment, and contribute to poverty alleviation in South Africa (Sonaiya, 1999).

South Africa has high unemployment rate in the rural populations of the former homelands and these areas also have a high poverty rate relative to the rest of South Africa (Vink & D'Haese, 2003). According to Rockefeller (1996), agriculture can play a role in uplifting the standard of living of the people in the former homelands. The majority of people who migrated to urban areas originally resided in rural areas. Most of the young and men and women left their home district in search of employment in mines and factories (Vink & D'Haese, 2003). Lipton (1996) found that small-scale farming has helped employ and generate income in many other developing countries. In middle income countries with economic and labour profiles similar to South Africa, agriculture account for 15 percent of the GDP and employs 25 percent of the labour force.

Poultry production provides a constant source of income and protein with a big customer demand. By the year 2000, it was expected that broiler production will reach 4000 million and 7.5 million tons of poultry feeds in the world. Many countries have initiated programs as a means of helping to bring socio-economic benefits to rural countries (Panda, 1989).

Feed costs which remain the highest input cost in the production of broilers represent between 60-70% and more of the total costs of broiler production (Benyi & Habi, 1998). In South Africa poultry production is moving towards the 21<sup>st</sup> century with the potential for increased development being greater than any other sector of the agricultural industry. The small scale to medium scale or semi commercial farmer is becoming a role player that needs to be serviced by the poultry industry (Fourie, 2000). The objectives of the paper are as follows:

- To investigate the general production aspects of the poultry farmers.
- To investigate whether poultry farming is sustainable in Fetakgomo.
- To investigate the role of extension within poultry production of the small scale farmers in Fetakgomo

## Materials and methods

The research was conducted in the Fetakgomo Municipality which is situated in Sekhukhune District, about 150 kilometres South of Polokwane in the Limpopo Province. It has total area of 1,123 square kilometres with a human population of about 92,000 (Community Survey, 2007). The mean annual rainfall of the area is between 400-500 mm and the mean annual temperature ranges from a minimum of 10-12°C and that of maximum from 30-36°C

Generally, mixed crop livestock production systems are practiced in the area where sorghum is the dominant crop and smallstock are more important animals in the area. A participatory data collection approach was followed and the principle of anonymity was held among the respondents. Data was collected by using a prepared questionnaire from all eleven projects that had 30 members who were randomly selected and it covered the following areas socio economic, biological productivity, and reduction of production risks, protection of natural resources, economic viability, social acceptability and role of extension services. The data were entered in Statistical Package for the Social Sciences (SPSS) software and organized in tables and figures and further described and analysed.

## Results and discussion

### Socio economic status

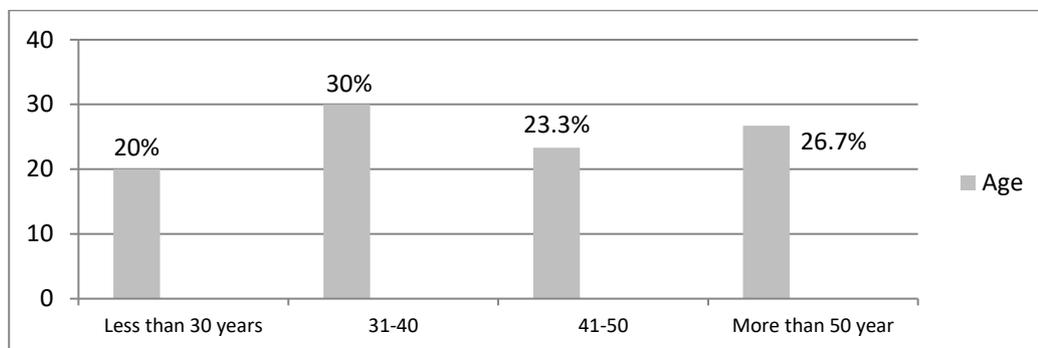
The background of the farmers were from a rural area with a limitation that neither of them could use the income from poultry alone to sustain their life. The socio economic status of farmers was observed to be not so good.

### Gender of respondents

For the study 13 poultry farmers were interviewed. Each farmer was rearing 500 chickens per cycle, and on average were having 6 cycles per year. The majority of the respondents (90%) were female while ten percent was male. This is in agreement with another study about poultry farming conducted in Gezira District of Sudan women were in the majority constituting 64% while men were only 46% (Sayda *et al.*, 2012) and also the reason behind this could be attributed to the fact that poultry keeping in most developing countries is the responsibility of women (Yami, 1997). This finding is comparable to the findings of Rangnekar & Rangnekar (1999), which indicates that in about 70% of the families he studied found that the entire operation, from feeding management to marketing, was handled by women.

**Age of poultry respondents in fetakgomo**

The dominating age distribution with 50% was within 31-40 years. This is fairly young farmers who give a balance in terms of ensuring that they represent the future farmers while the general trend in similar projects elsewhere are the aged.

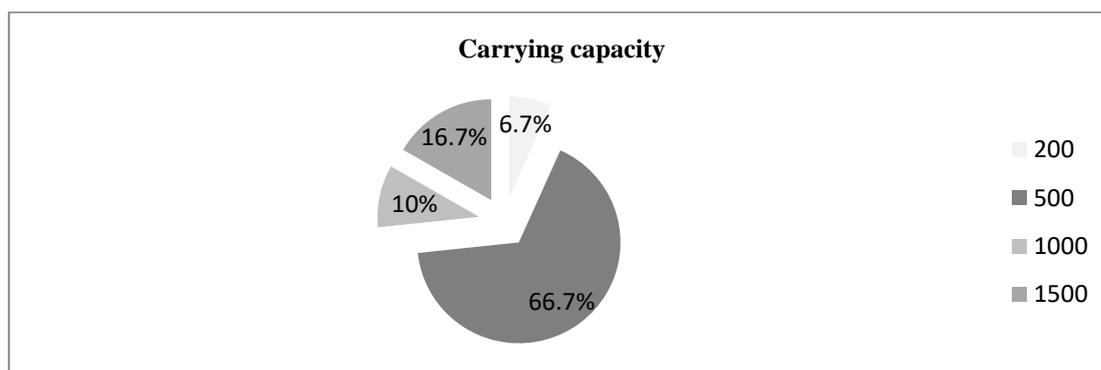


**Figure 1** Age distribution of respondents in fetakgomo

Forty three percent (43%) had secondary education. The age distribution in the projects do not follow what has been seen as a norm in all food security projects whereby they are dominated by the elderly people. This result is attributed by the fact that youth do not regard farming as employment and many desire a job in other non-agriculture base livelihood activities with higher income possibilities. Even though they do not consider subsistence agricultural activities as employment, youth are interested in agriculture if earning cash income is possible.

**Biological productivity**

The majority of the respondents 56% indicated that they have 3 houses, see Figure 2. Sixty six percent indicated that their houses have a capacity of 500 chickens.

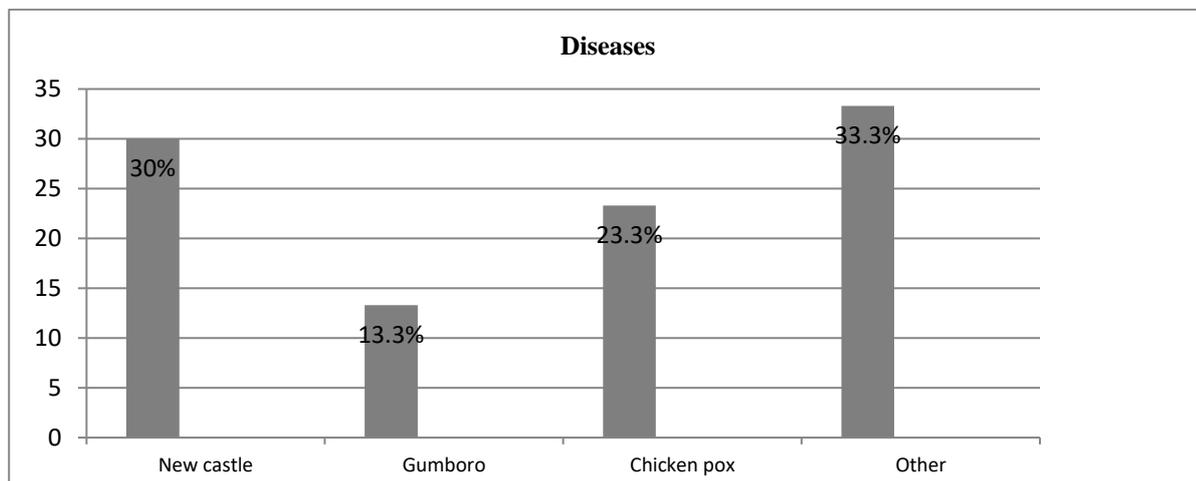


**Figure 2** Carrying capacity of poultry houses

Sixty percent of the respondents did not know the strain of their broiler. The numbers of poultry houses do not correspond with the number of beneficiaries. This situation limit productivity of the projects because few houses mean less profit and high risk of diseases for being inadequate for resting them as a way to prevent outbreak of diseases which is in line with previous findings of Surrender & Van Niekerk (2008) who found that community based income generation projects were conceptually flawed and poorly implemented of which some were poultry houses and lack of proper costing or feasibility studies led to many projects remaining forever not viable for example where a cycle is planned but could not be supported with the correct housing structures.

**Reduction of production risk**

The majority of the respondents 30% indicated that the most common disease that affect the broiler was New castle, see Figure 3. In terms of insurance of the farm, 86% indicated that they do not have it. A number of studies consulted show negligence on this aspect of insurance for an example a study conducted in Vhembe (Swatson, Tshovhote, Nesamvuni, Ranwedzi & Fourie, undated), and Makhuduthamaga in Sekhukhune (Monyela, 2007).



**Figure 3** Poultry diseases in Fetakgomo

The majority 86.7% also indicated that they do not have footbath to prevent the spread of diseases from one house to the other. (Olivier, 2004) indicated that all health measures are expected to be followed in order to minimize the incidence of diseases. The source of heating indicated by 36.7% said that they use infrared lights generated from electricity. As far as mortality is concerned the majority of respondents, 43% indicated that they it is more than 10%. No wonder the feeling that there is no profit in the projects. The majority of the respondents 63.3% said that they bury the dead chickens as a way of disposing them.

**Marketing of poultry**

Respondents were asked to indicate which market they access for their produce. The majority of respondents 73.3% said that their market is the community. This has been in contradiction with a similar study conducted in the Vhembe district where the majority of farmers 60% have complained about lack of markets for poultry. Tshitangoni *et al.*, 2010 and this was complicated by the fact that there was no signage to the project and lack of access roads when the respondents were asked to verify whether they organize for their markets or rely only on the extension services, the majority 83.3% agreed that it is the members of the projects who organize for the market not the extension officers and the distance to the market was confirmed by 73.5% of the respondents as 10 kilometres.

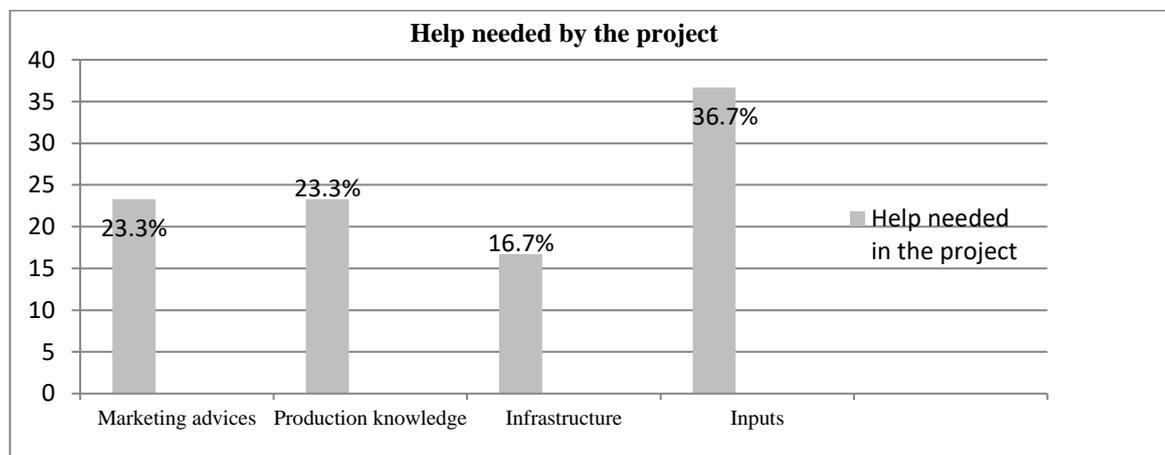


**Figure 4** Marketing of poultry

In another study the marketing issues of poultry was highlighted. Rola *et al.*, 2003 found that the common challenges faced by small scale poultry farmers was how to obtain contracts for markets as well as to penetrate formal markets. Other four challenges identified by Nel & Davies (1999) facing rural agriculture include isolation of small-scale farmers from the market, small-scale nature of production, lack of access to the levels of state assistance and market share which government previously guaranteed to white farmers and inability to compete effectively in the market. A very sensitive question was asked whether the projects were economic viable. This was raised in order to check if they are sustainable from a financial point of view. The majority of respondents 63% agreed that the projects were not viable. This is attributed by high cost of production inputs and failure of farmers to pull their resources and have a strong bargaining power.

### Sustainability of poultry projects

Respondents were asked on the things that they need to be assisted with during the interview Their responses are indicated in Figure 5. Few respondents (36.7%) indicated that they need to be assisted with inputs. It is the author's experience through observations that once communities are visited by someone who is seen as having authority in the organization, they tend to request for assistance.



**Figure 5** Help needed by the project

The possible reason why these projects indicated inputs is because the Limpopo Department of Agriculture and Rural Development (LDARD) has introduced a policy to provide inputs to the farmers called "Itsema/letsema. Different categories of farmers are assisted through this policy. In the case of poultry farmers they receive inputs such as day old chicks, medication, and starter feeds, whereas in the case of small holder crop farmers, they receive a once off seeds, fertilizers, and crop protection chemicals.

The sustainability of any project should be able to continue with its activities unhindered and with minimal interference. The areas of sustainability consist of ensuring that the production systems are not disturbed in terms of the supply of dayolds, and marketing outlets. These should be able to contribute to the lifespan of the project, unfortunately the study did not address the supply of day olds as inputs but was able to look into the marketing as well as looking into the acquisition of advisory services. The sustainability in terms of constant help in the area of advice was tested to see whether the continued extension advice would be necessary or not and it is discussed in the next item.

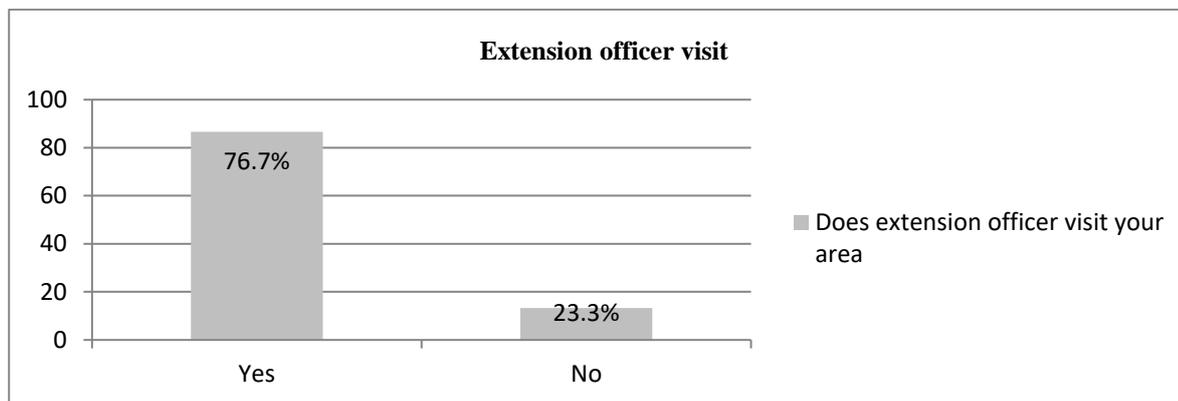
### Extension services in the projects

The study tested whether farmers were receiving extension services, their responses are indicated that 60.3% of the respondents indicated that they know the office of agriculture while 36.7% indicated that they do not know. This is not good news to the Departmental staff who are dedicated to serve these farmers. The office of Local Agriculture is in the area where the survey took place. If the area was far away one would condone the situation because some farmers may not afford the transport, but because the office is in their vicinity, one

find it difficult to agree with them because Fetakgomo have three service centres which are accessible in terms of distance to these poultry farmers.

**Visit by Extension officer to projects**

The respondents were asked whether they are visited by the extension officers, their responses are indicated in Figure 6.



**Figure 6** Extension officer’s visit to poultry farmers

The majority of respondents 76.7% agreed that they are visited by the extension officers in their projects on a regular basis for technical advice, while 23.3% indicated that the extension officer does not visit their project. One wonders why 23.3% of farmers hold a view that extension officer do not visit them. The problem may need to be investigated because most of the extension officers have been provided with subsidized motor vehicles as well as the farmer green book to improve their visibility. Small holder growth cannot be achieved without access to farmer support services. International experience has shown that, with adequate access to farmer support services which include agricultural extension, smallholder farmers can significantly increase agricultural productivity and production. For example, smallholder farmers in Zimbabwe doubled maize and cotton production in the 1980s when extension, finance and marketing services were provided (Rukuni & Eiche, 1994).

**Withdrawal of the extension officer from the project**

The study further tested whether these poultry farmers have built self-reliance skills, which is a building block for sustainability of the projects. They were asked in case the extension officers are withdrawn whether the project would continue to function. Their responses are indicated in Table 1.

**Table 1** Withdrawal of the extension officer from the project

Extension officer	Respondents	Percentage
Withdrawal of extension	Yes	86.7
	No	13.3
Total	100	100

The majority of the respondents 86.7% indicated that they would have no problem if the extension practitioner is withdrawn, however 13.3% did not want the extension practitioner to be withdrawn from the projects. It is the writer's observation that this situation does not represent the correct situation, especially when taking into account that these projects were not even viable. The statement is misleading on a face value one can conclude that the extension practitioner have succeeded to put the process towards self-reliance but this would be misleading because the projects cannot function without the advice from extension advisors self-reliance work will need more work by extension advisors. More work will have to be done to influence the behaviour

of negative poultry farmers. Rogers (1982) in his book of Diffusion of Innovations called the negative farmers “laggards” or late adopters, from the study they were represented by the small percentage of 13.3% farmers.

### **Role of extension advisors**

The three items namely extension advise, help needed by the projects and the withdrawal of the extension adviser, all have a common thread which attempted to depict the role of extension in the poultry production. It is clear that they do play a big role as indicated in Figure 5. For example they provide information which help farmers. If they may be withdrawn as discussed in Table 1, farmers will be stranded of advisory services.

### **Production cost of poultry project**

The writers have indicated that poultry production provides a constant source of income. However it has been found that in broiler production feed costs remain the highest input cost which represent between 60-70% and more of the total costs of broiler productions (Benyi & Habi, 1998). It is unfortunate that the total cost of the project was not investigated because this was not the focus of the paper.

### **Conclusion and recommendations**

The study has shown that poultry farmers contribute towards food security, and help to create jobs in the area where they are situated. The socio-economic status of the farmers displayed a convincing fact that indeed women are rightly placed to serve the food security of families because an overwhelming majority of the project participants were women which account to 90 % and they were also fairly young when looking at their age bracket. Few facts have been revealed by the study, for example in terms of observing health issues in the houses it was indicated by a large majority that bacterial diseases were major problem in their project. This is important to avoid the spread of diseases. The number of poultry houses were also found to be too few to create a cycle which will ensure that there are chicken in the project all the time. More chicken can be translated to profit for the participants. Elements that create sustainability of the projects were found lacking such as creating a reliable market for the products, relying on government for inputs and the low profitability of the poultry, because members indicated that the projects do not make sufficient income. As far as extension services are concerned, it was found that some of the members of the project do not know where the local agricultural office is, this is a disturbing matter and it may point to the fact that there is poor involvement of some of the members in the running of the projects. It can be concluded that Judging from a number of factors presented, small scale poultry farming is not sustainable in its current form in Fetakgomo Municipality unless different strategies are applied.

Based upon the findings of the study in which some gaps have been identified, the following recommendations are made.

- Poultry farmers are not organised, hence find it difficult to purchase inputs, therefore they should be encouraged to establish cooperatives, because through cooperatives farmers can jointly address their common problems, for example they can jointly buy inputs in a bulk price.
- The project beneficiaries should be actively involved by the project leadership in all decision making process from initiation to implementation and they should also consult with the community leadership structures in order to ensure that the projects are not vandalized.
- The government should focus on those that are interested in farming to avoid farmers to develop dependency syndrome because the study showed that they need inputs which is a clear sign of perpetuating dependency upon the Government and it is recommended that such practice should be avoided.
- The beneficiaries should be encouraged to reinforce good practice such as working and cooperating with the local extension officer.
- Training in technical skills should help them to be spot on biosecurity measures and in financial management, such skills might lead to sustainable projects.

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## Authors' contributions

Maja compiled the initial draft, Zwane updated the following drafts and edited the document and bounced it with Van Niekerk for the final check up and corrections of the previous drafts.

## Conflict of interest declaration

We wish to confirm that there are no known conflict of interest associated with the publication of this manuscript and there has been no significant financial support for this work that could have influenced its outcome

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