Domestic cavies in Cameroon and eastern DR Congo for nutrition security and income diversification

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Malnutrition/Under nutrition
There is 20% annual increment of under nutrition since 1990.

Stunting in children under five
40% in Africa (195 Millions total in developing countries)

Main contraints for smallholders (80% of rural population)
• Limited assets & Inadequate financial services
• Restricted access to innovative technologies
• Low skills & Poor marketing systems
Background

Is Minilivestock development an alternative?

Cavies, poultry, rabbits, grass cutters are the animals of the poorest. Why these small cavies?: Non and Underutilized Species....

- Even landless can keep them
- Biologically efficient
- Produce manure
- Little starting capitals
- Easily sold or bartered
- Least targeted during crisis
- Socio-cultural value

Granny is fed and clothed by rodents

Jane Wanja Macharia went into uncharted waters and has more than enough for her pockets

BY BONIFACE MWANGI
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ixty-eight-year-old Jane Wanja Macharia was determined to become successful in life and not to depend on her children. This is despite the fact that she went up to Class Four. She, however, says that the few years she spent in school have enabled her to communicate easily since she understands and is able to speak both English and Kiwahuli well.

Mrs Macharia, who hails from Kahara village in Matathera East district in Nyori County, has ventured into the rare business of rearing guinea pigs on a section of her three-acre piece of land. Apart from rearing guinea pigs, Mrs Macharia also has fifty rabbits, several fish ponds and a tea plantation. The rabbits, fish and the ponds were financed by profits from the sale of her guinea pigs. The mother of five started her business two years ago but she had not really planned on rearing guinea pigs. She had travelled all the way to the neighbouring Kisinga area in search of rabbits of a good grade as she had heard that the rabbit business was booming in the area.

She says that she changed her mind after she came across an elderly woman who was rearing guinea pigs, who convinced her to try it. “I had planned to buy two rabbits which would later give me some offspring but I decided to try guinea pig rearing instead.” She says that she has never regretted her decision, as the guinea pig has a bigger market than rabbits. She started off with two young guinea pigs and a male and a female which she bought at Ksh50 each. Though she also rears rabbits, she has decided to concentrate more on the guinea pigs - known in the local language as ‘Tumuri’ - which according to her are very profitable. A mature guinea pig goes for Ksh500 while a young one goes for Ksh50 while a mature guinea pig goes for Ksh1,200. She says that guinea pig meat is soft, delicious and nutritious and yet it has no cholesterol.

People from all over the country go to her home in search of the small rodents. The soft-spoken old woman speaking to Money at her home says that since she started the business, she no longer relies on her children for financial assistance. “My children are always eager to visit me because they know that I am not a burden,” she says. Mrs Macharia says that she has become a role model and already more than five women her age have started the guinea pig business after getting lessons from her.

She says that on a good day, she sells guinea pigs worth Ksh2,000 adding that through her sale, she has been able to construct rabbit hッチches as well as pay her workers on the tea plantation.
Domestic cavy distribution in Africa

- Geo-referenced
- Located from literature/key informant
- Known from region only, importance unknown
- From literature/key informant, not important; or only used as pet

Shaded area of distribution after map by Ngoupayou et al. (1995)
Background

Cavies = an excellent entry point for poverty reduction and technical intervention.

CIAT monogastric project, 2009-11
Research Objectives

Over whole objective:

To improve cavy productivity based on better genetics, better husbandry practices and better markets

Specific objective:
Livelihood analysis and strategy development
Methodology

Baseline survey: livelihood at Household level

- 620 baseline questionnaires filled in DRC and CMR
- “snow ball” strategy in 82 villages for cavies’ husbandry practices and bottlenecks
- descriptive statistics analysis
Results

Field survey results (Cameroon)

- Cavies are present in 4 out of 5 agro-ecological zones => confirmation
- more than 2,000 cavy keepers surveyed (69 villages & 4 towns)
- 55% are women
- Mean flock size range is 16-20
- About 400k cavies

Field survey results (Cameroon)
Results

Field survey results (South-Kivu DRC)

- In South-Kivu (DRC) cavies are present in all Territoires
- more than 250 cavy keepers surveyed in 13 villages
- 62% were women
- Mean flock size is 16 animals
- About 500k cavies
Kalehe (N=90)

- Cattle: 57%
- Goats: 19%
- Sheep: 1%
- Swine: 3%
- Nom_esp: 4%
- Sheep: 1%

TLU = 0.645

Kabare (N=80)

- Cattle: 31%
- Goats: 31%
- Sheep: 6%
- Swine: 6%
- Nom_esp: 5%
- Chicken: 5%

TLU = 0.485

Walungu (N=80)

- Cattle: 27%
- Goats: 25%
- Swine: 25%
- Sheep: 2%
- Nom_esp: 5%
- Chicken: 3%

TLU = 0.686
### Table 1. Main motives of keeping cavies in Cameroon and South Kivu DRC

<table>
<thead>
<tr>
<th>Motives of keeping cavies</th>
<th>Cameroon (N=370)</th>
<th>Eastern DRC (N=250)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash income</td>
<td>33.5%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Consumption</td>
<td>27.5%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Manure</td>
<td>18.5%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Company</td>
<td>≈0.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Blood against anemia</td>
<td>NA</td>
<td>0.4%</td>
</tr>
</tbody>
</table>
Cavy market chain in Cameroon

Results

In Batcham, Western Highlands, cavies account for 6-9% of household income (overall livestock 34-36%)

Modified from Yiva Chick Herman (2013)
Cavy market chain in eastern DRC: Nyacibimba – Mudaka – Bukavu

Most market chains at research sites are simple and very short.

Results

Modified from Wimba Benjamin (2013)
Cultural aspects of cavies

**Cameroon**
- Tradition, ceremonial and ritual in the rural area of the Forest Zone
- New delicacy in towns
- Specialized cavy restaurants for the rich and the famous
- No cultural inhibitions

**Eastern DRC**
- Part of the gifts in marriage negotiations in Nord-Kivu
- Consumed like a snack with beer in the bars
- No cultural inhibitions
Economic empowerment of women and youth

**Cameroon**
- Large scale production by female farmers
- Sizeable business around cavy production, trade and restaurants

**Eastern DRC**
- Subsistence production and small scale trade
- Convertible rapidly – “petty cash” or a “currency” for paying teachers’ salaries or for barter trade

Cavy sales at Mugogo market

Photo by F Meutchieye
Conclusions

- Cavyculture common across the humid tropic belt with high potential of poverty alleviation or wealth creation

- Women have high access and control of cavy production

- Young people, especially teenage-boys participate in cavy production and sales

Next?

- Broaden the knowledge on cavy genetics within sub-Saharan Africa through opportunities
- Engage the scientific capacity built by the project
- Network for outreach – identify potential future projects
Food for the future in developing countries – Humid tropics?

- UN Habitat: more than 60% of population in developing countries in urban centers in 2020

- Cavies are “urban-nice”
- One of the coping strategies for climate change
- Addresses increasing urbanization in terms of animal protein
  - Healthy meat with low fat and low cholesterol levels
- Addresses dwindling land sizes for the poor
- Low carbon footprint
Acknowledgements

Project No. CSI002-GUI contributors:

• BecA-ILRI Hub-AusAID-CSIRO
• All BecA donors
• CIAT, Univ. Dschang & UEA Bukavu
• Ministries of Agriculture and Livestock,
• NGOs
• Farmers & Farmers’ Associations
• Students & field guides
• and many more ...
Acknowledgements

Thank you!!!!