

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

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1

## Background

### 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 constraints for smallholders (80% of rural population)

- Limited assets & Inadequate financial services
- Restricted access to innovative technologies
- Low skills & Poor marketing systems

2

## Is Minilivestock development an alternative?

Cavies, poultry, rabbits, grass cutters are the animals of the poorest. Why these *small* cavies?: *Neglected 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

6 money going it alone Thursday August 4, 2011 DAILY NATION

### Granny is fed and clothed by rodents

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

BY BONFACE MWANGI  
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Sixty-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 Kiswahili well. Mrs Macharia, who hails from Kahuru village in Mathira East district in Nyeri 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 Kirinyaga District 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 pigs have a bigger market than rabbits. She started off with two young guinea pigs a male and a female which she bought at Sh350 each. Though she also rears rabbits, she has decided to concentrate more on the guinea pigs - known in the local language as "Tunyuri" - which according to her are very profitable. A mature guinea pig goes for Sh600 while a young one goes for Sh350 while a mature rabbit goes for Sh1,200. 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.

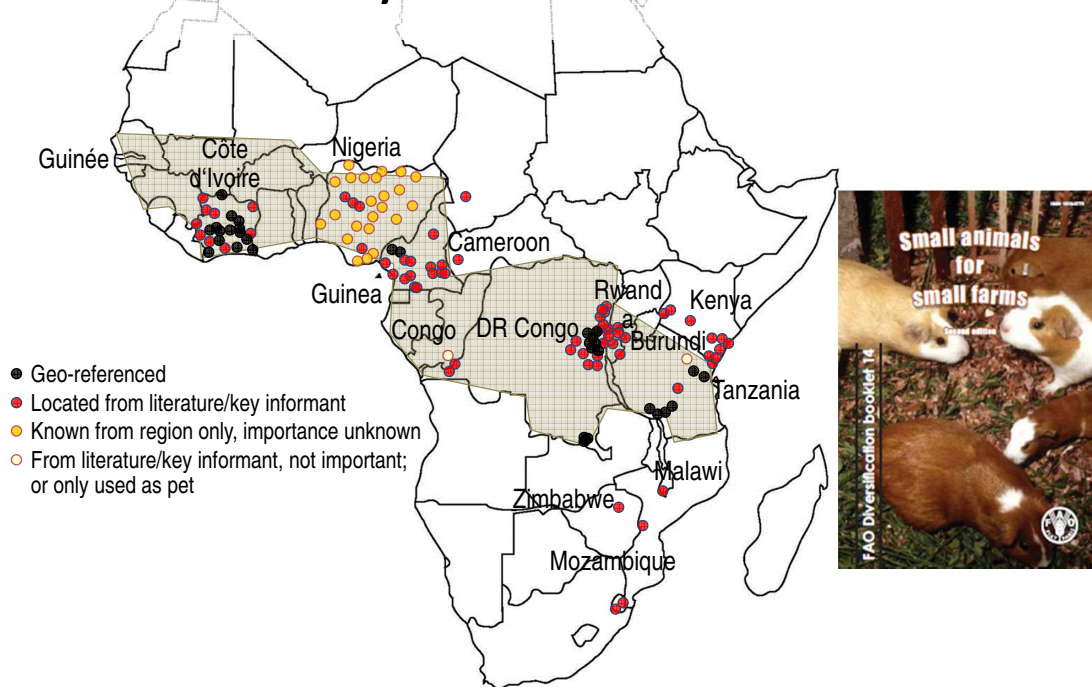
The soft-spoken old woman speaking to *Money* at her home says that since she started the business, she no longer relies on her children for financial assistance. "My children are always eager to visit me because they know that I am not a burden," Mrs Macharia says that she has become a role model and 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 Sh12,000 adding that through their sale, she has been able to construct rabbit hatches as well as pay her workers on the tea plantation.

"Because I wanted to succeed in this business so badly, I sacrificed the only cupboard that I had in my house to serve as a hatch and kept my rodents in a basket. I have never regretted the decision as I am now able to furnish my house," she declares. Mrs Macharia says that her guinea pigs usually give birth to two or three young ones. She feeds the rodents on weeds as well as animal. She has already ordered five bee hives and three high grade pigs from her earnings. "I have to try all types of work which will make me self dependent," she says. Asked why she didn't go into the dairy cow business, Mrs Macharia responds quickly that her passion towards animals only concentrates on the smaller ones. "Smaller animals like my guinea pigs don't hold me up as a cow or sheep would do, after feeding them, I am free to do other things," she says. She adds that, apart from the money she makes from them, she loves smaller animals, none so the guinea pigs which have lovely colours.

FACTS  
Guinea pigs don't belong in the pig family and neither are they from Guinea; they originated from the Andes.  
They have an average life span of five-seven years but may live as long as nine years.

PHOTO: JOSEPH KAHARI  
Jane Wanja Macharia displays a guinea pig at her Kahuru home in Mathira.

## Domestic cavy distribution in Africa



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

## Building a team across countries & institutions



## Research Objectives

### Over whole objective:

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

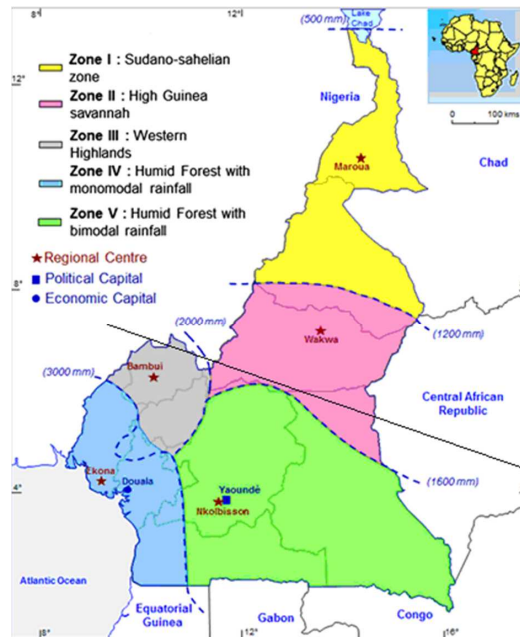
### Specific objective:

Livelihood analysis and strategy development



### Baseline survey: livelihood at Household level

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



### Field survey results



### Results

- 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

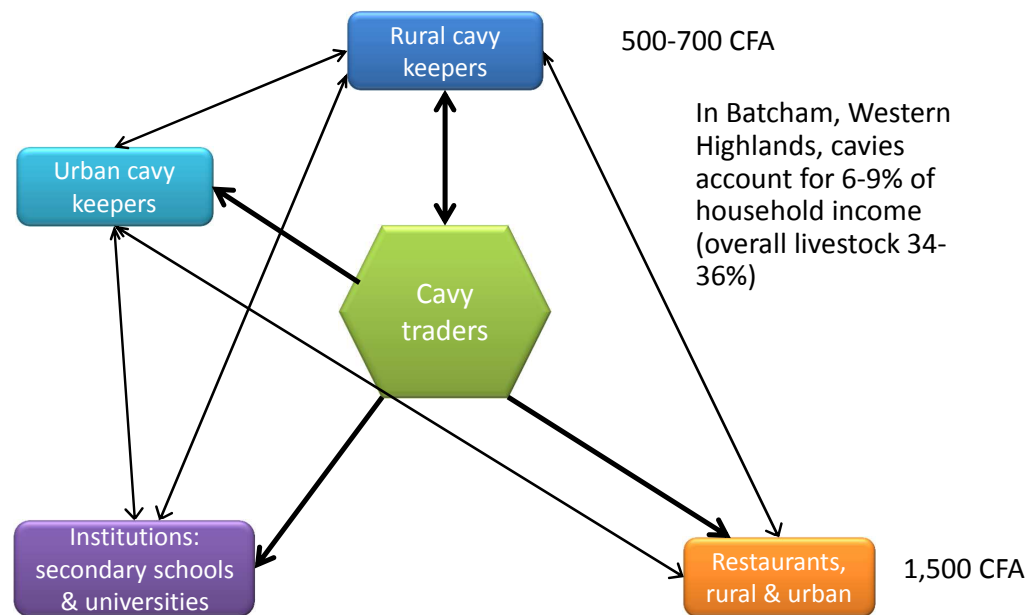
**Table 1. Main motives of keeping cavy in Cameroon**

Motives of keeping cavy	Cameroon (N=370)	Eastern DRC (N=250)
Cash income	33.5%	20.1%
Consumption	27.5%	64.7%
Manure	18.5%	8.4%
Company	≈0.1%	0.4%
Blood against anemia	NA	0.4%

- 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



# Cavy market chain in Cameroon



Modified from Yiva Chick Herman<sup>11</sup> (2013)

# Economic empowerment of women and youth

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

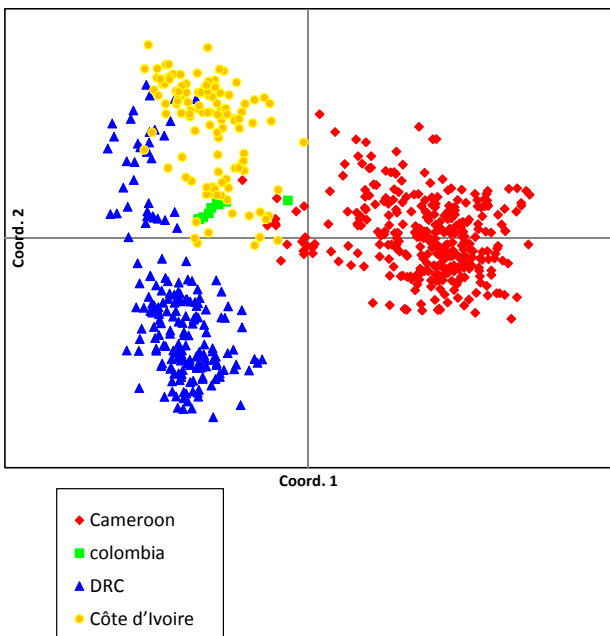




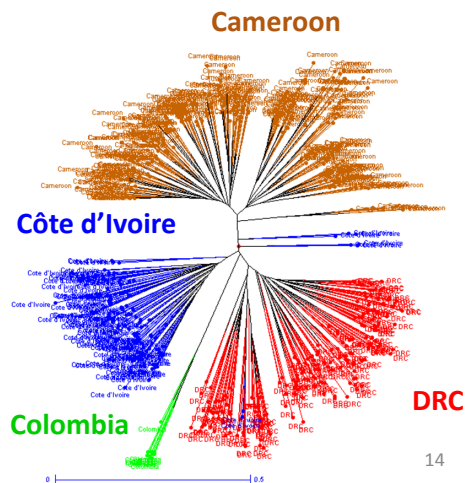
Cavy genetics: Average adult cavy live weight was 620g ( $\pm 35$ ).



To estimate the genetic variability of cavy populations, cavy biodata were collected on 475 samples from the West, Northwest, Centre and East regions. 13 polymorphic SSR markers were used to evaluate inbreeding



- Country populations cluster distinctly
- Clear genetic distinctiveness of the populations within countries



## Conclusions

- Cavyculture common across the country 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
- There is need for a balanced national breeding program and increased capacity building of farmers to address mortality rates and health issues. Rapid changes could be easily made with great impact on production, mainly through improved feeding and reproduction management.

### Next?

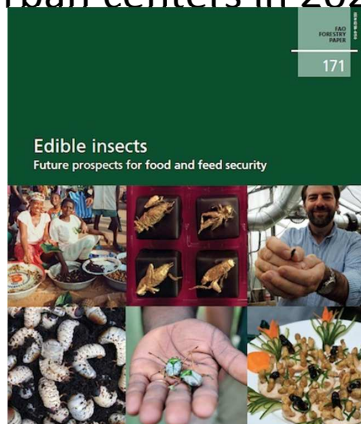
- Broaden the knowledge on cavy genetics within sub-Saharan Africa through opportunities
- Build on existing, new developed knowledge
- Network for outreach – identify potential future projects

15

## Food for the future in dvping countries – Humid tropics?



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



- Cavies are “urban-nice”... and policies “cavy-blind”?
- 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 foot print

16



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