

# The "Cobaye" as an example of smallholders' livelihoods relying on small livestock in South Kivu

Brigitte L. Maass<sup>1</sup>, Wanjiku L. Chiuri<sup>2</sup>, Dieudonné Katunga Musale<sup>3</sup>, Rachel Zozo<sup>3</sup> and Michael Peters<sup>4</sup>



<sup>1</sup> CIAT, P.O. Box 30677, Nairobi, Kenya; email: b.maass@cgiar.org  
<sup>2</sup> CIAT/CIALCA, P.O. Box 6801, Kigali, Rwanda; email: w.chiuri@cgiar.org  
<sup>3</sup> CIAT/CIALCA, 6 Av. Kasongo, Commune d'Ibanda, Bukavu, DR Congo; email: katungamusale@yahoo.fr & rashzo2006@hotmail.com  
<sup>4</sup> CIAT, A.A. 6713, Cali, Colombia; email m.peters-CIAT@cgiar.org



## Background

Little is known about small livestock production in the South Kivu province of the Democratic Republic of the Congo. An assessment of livestock husbandry by a rapid diagnostic survey and a participatory rural appraisal (PRA), revealed that more participants held non-ruminant (monogastric) animals than ruminants, such as chicken, swine and "cobaye" (Fig. 1).

The frequency of *cobaye* (i.e., guinea pigs), an animal domesticated in the South American Andes, was unexpected. The importance of this species for the livelihoods of smallholder farmers in the region has subsequently been studied in more detail.



Fig. 3. Survey on livestock production in Burhale, South Kivu



Fig. 4. Participatory rural appraisal (PRA) in Miti, South Kivu

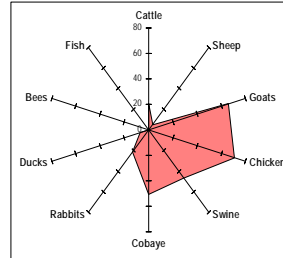


Fig. 1. Proportion (%) holding a certain livestock species of 112 participants in a diagnostic survey in South Kivu, DRC.

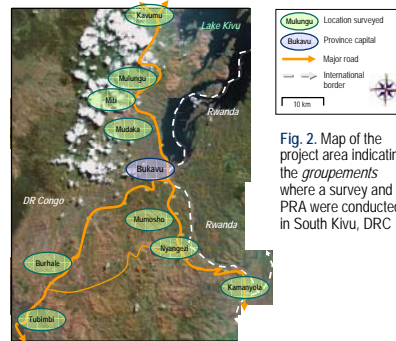


Fig. 2. Map of the project area indicating the groupements where a survey and a PRA were conducted in South Kivu, DRC

Tab. 1. Minimum assets defined in a PRA at Miti/Mulungu and Tubimbi, to belong to general wealth classes in South Kivu.

Wealth class	Miti: women	Miti: men	Tubimbi: women	Tubimbi: men
Very rich	n.a.	Cow, swine and pasture	>2 cattle (1*), >5 swine (2*)	1-2 ha land with/without cassava, >5 cattle, 0.25 ha plantains, >4 ha oil palm
Rich	n.a.	Cattle, swine	>2 swine (1*), >4 goats (2*)	0.5 ha land with cassava, 1 cattle, 1 swine, 1 goat, 5 chickens, 2 ha oil palm
Inter-medium	n.a.	Goats	1-5 rabbits, >2 chickens, >3 cobayes	30 m <sup>2</sup> cassava, neither cattle nor goats, 1 chicken / 4 cobayes
Poor	n.a.	Rabbit, cobaye	2-3 chickens, 2 cobayes	1 cassava field, 2 cobayes, 1 chicken
Very poor	n.a.	No animals	No animals	No animals

Fig. 5. Number of cobayes held per household and proportion (%) as reported by 112 participants of a survey in South Kivu.

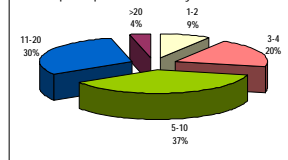


Fig. 6. Cobayes feeding on the "weed" *Galinsoga parviflora*

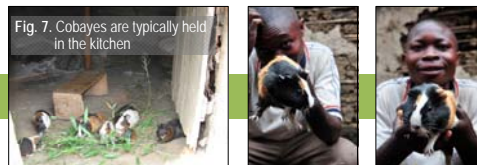


Fig. 7. Cobayes are typically held in the kitchen

## Advantages of the Cobaye

1. Help women (and children) to obtain cash income
2. Produce low-fat and high-protein meat
3. Do not compete with humans for their food
4. Grow and reproduce on a flexible diet
5. Are prolific animals
6. Adapt to a wide range of climates
7. Respond favourably to husbandry and management
8. Have a size that is easy to manage
9. Are healthy and productive animals
10. Provide security from disease and other risks

## Materials & Methods

Information was collected in South Kivu province of the DR Congo (Fig. 2).

A rapid diagnostic survey was conducted in 24 villages of 8 so-called groupements in June 2009 and Feb. 2010 (Fig. 3). A PRA was carried out in 2 groupements, Miti and Tubimbi, in March 2010 (Figs. 4). Among others during the PRA, a wealth classification was carried out. Overall more than 300 participants were included.

For this paper, data collected were analyzed with emphasis on cobaye production.

A thorough literature review on cobaye as a domestic animal helped locating information, for example: Lammers PJ et al. 2009. Reducing food insecurity in developing countries through meat production: the potential of the guinea pig (*Cavia porcellus*). Renewable Agriculture and Food Systems 24:155-162.

## Discussion

### Socio-Economics

Together with chicken, cobayes were associated with poverty, regardless of the gender group when assessing wealth classes during the PRA in Miti/Mulungu and Tubimbi. However, the poorest people in both groupements would not have any animals at all (Tab. 1).

Typically, cobayes were used to supply meat to the family and pay school fees. A cobaye may fetch about 1-2 US\$ in the market, while fees are about 2-3 US\$/month/child in primary and 5-10 US\$ in secondary school.

### Issues raised

- Participants raised the following issues regarding cobaye husbandry:
  - Predators, e.g., dogs, and theft cause loss
  - Diseases, especially diarrhea, could occur any time of the year
  - Much time is required to fetch dry season feeds for livestock in the dry season
- In addition, frequent inbreeding of cobaye herds, in-appropriate housing, and lack of hygiene need to be dealt with for improvement.

## Acknowledgements

The ready collaboration and openness in sharing their views and experiences of all the respondents to a survey and a PRA is gratefully acknowledged. Funding was provided by the Federal Ministry for Economic Cooperation and Development (BMZ), Germany through the project 'More Chicken and Pork in the Pot, and Money in Pocket: Improving Forages for Monogastric Animals with Low-income Farmers'. Neil Palmer (CIAT) provided several photos.

