

# Dairy producers' adaptability to market shocks: the case study of Bamenda, Cameroon

Jennifer Provost<sup>1\*</sup>, Gabriel Rosero<sup>2</sup>, Bernhard Brümmer<sup>2</sup>, Eva Schlecht<sup>1</sup>

<sup>1</sup>University of Kassel / Georg-August-Universität Göttingen, Animal Husbandry in the Tropics and Subtropics, Germany

<sup>2</sup>Georg-August-Universität Göttingen, Department of Agricultural Economics and Rural Development, Germany

\* corresponding author (jprovos@gwdg.de)

## Introduction

- Bamenda is the capital of the North-West region in Cameroon.
- There are Mbororo pastoral producers with local breeds of zebu cattle (Pic.1)
- There are also sedentary Grassfielders who received European dairy cattle from an American NGO (Pic.2).
- Mid-2016, the last milk factory closed.
- Some milk farmers stopped selling milk and others continued (Fig.1).
- Overall, four types of adaptation were observed (Fig. 2).
- The objective of this study is to analyze if certain determinants can predict dairy producers' level of adaptability to market shock.**

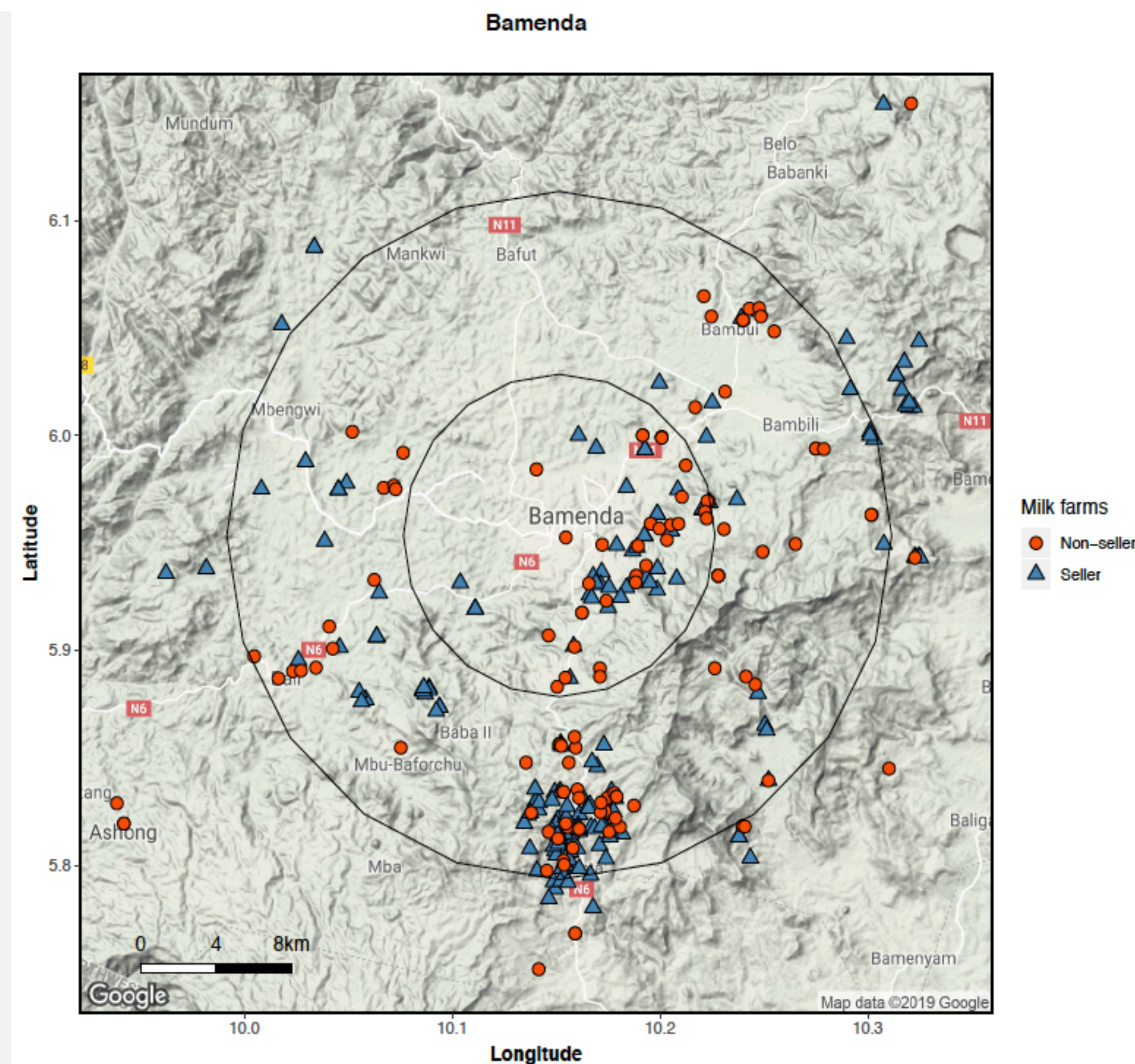


Figure 1: Map of Bamenda with GPS points of current and former milk producers. The large circles represent the urban and peri-urban limits.

## Methods

- We did household surveys (2017) in urban, peri-urban, and rural zones of Bamenda with 201 current and 123 former milk producers (Fig. 1).
- All respondents were active producers and sellers in early 2016 (pre-shock).
- Grassfielders (215 households) chose among 3 adaptation levels: Sellers, Keepers, and Quitters. A multinomial logit model (**MNL**) was applied.
- The Mbororo'en (105 households) chose between 2 adaptation levels: Sellers and Self-consumers. A logit model (**LM**) was run.
- 16 independent variables were chosen.

## Results

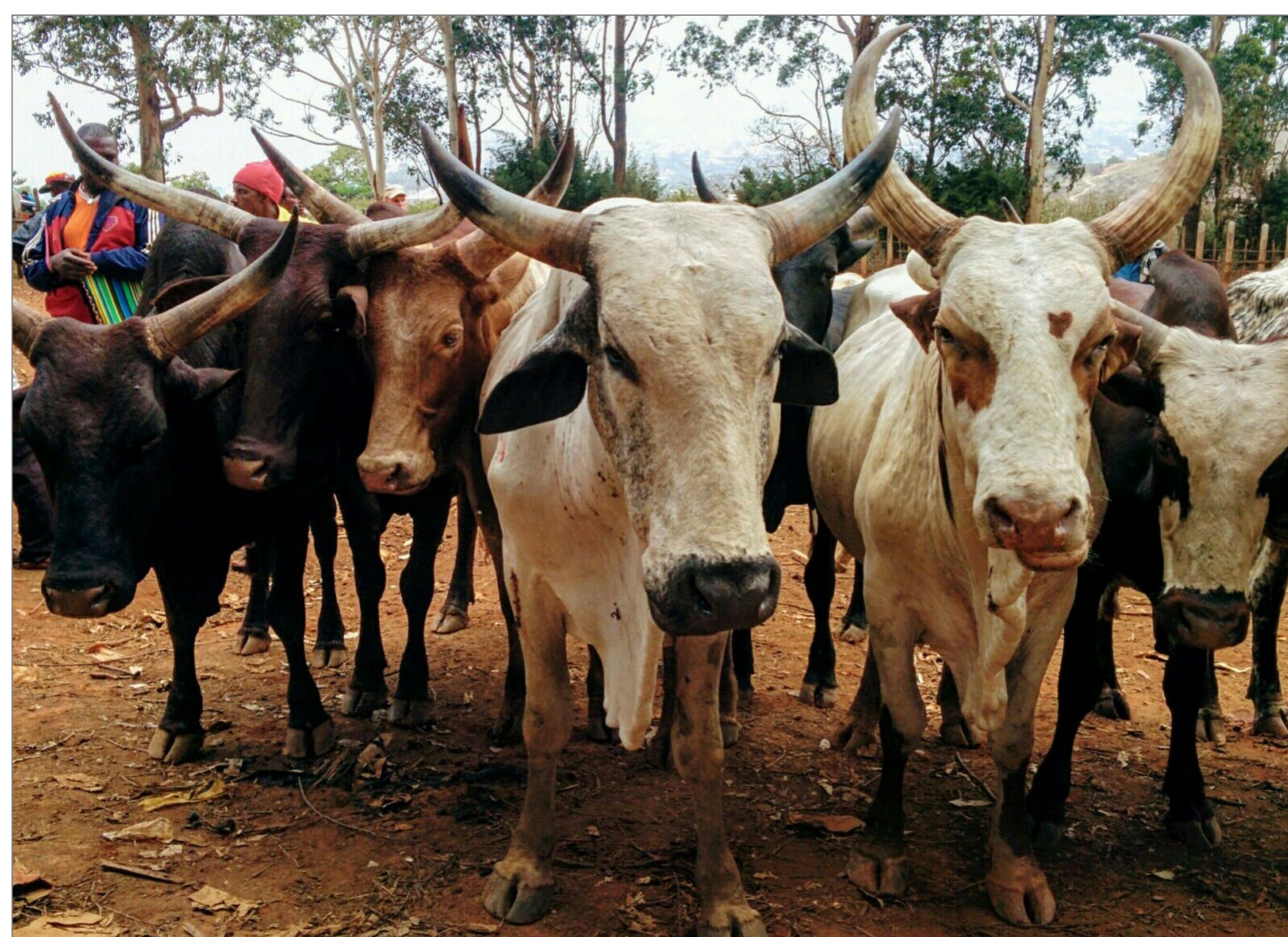
- For the **MNL**, Sellers was the reference group and Relative Risk Ratios (RRR) were used as a measure of variables' effects (Fig.3).
- When the variable's RRR is <1, it is more likely for a Grassfielder to remain a Seller.
- Producers with a land title, many children, and dairy trainings often remained Sellers.
- Grassfielders using price information and members of cooperatives often became Keepers or Quitters.
- For the **LM**, Fig.4 shows the marginal effects of each variable on Mbororo dairy producers.



Figure 2: The four levels of producers' adaptation after milk factory shut-down.

## Highlights

- ✓ Grassfielders who remained Sellers mostly had a land title, a larger family, and attended dairy trainings.
- ✓ Mbororo'en who remained Sellers mostly were older, with larger families, and members of a dairy cooperative.



Picture 1: Local zebus for sale at the cattle market in Bamenda.

## Results (cntd.)

- Variables with positive sign (Fig.4) helped producers to remain Sellers, those with negative value pushed producers to become Self-consumers.
- Mbororo'en who were part of a cooperative were significantly more likely to stay in the dairy market.



Picture 2: Holstein-Friesian calf grazing on Cameroonian pasture.

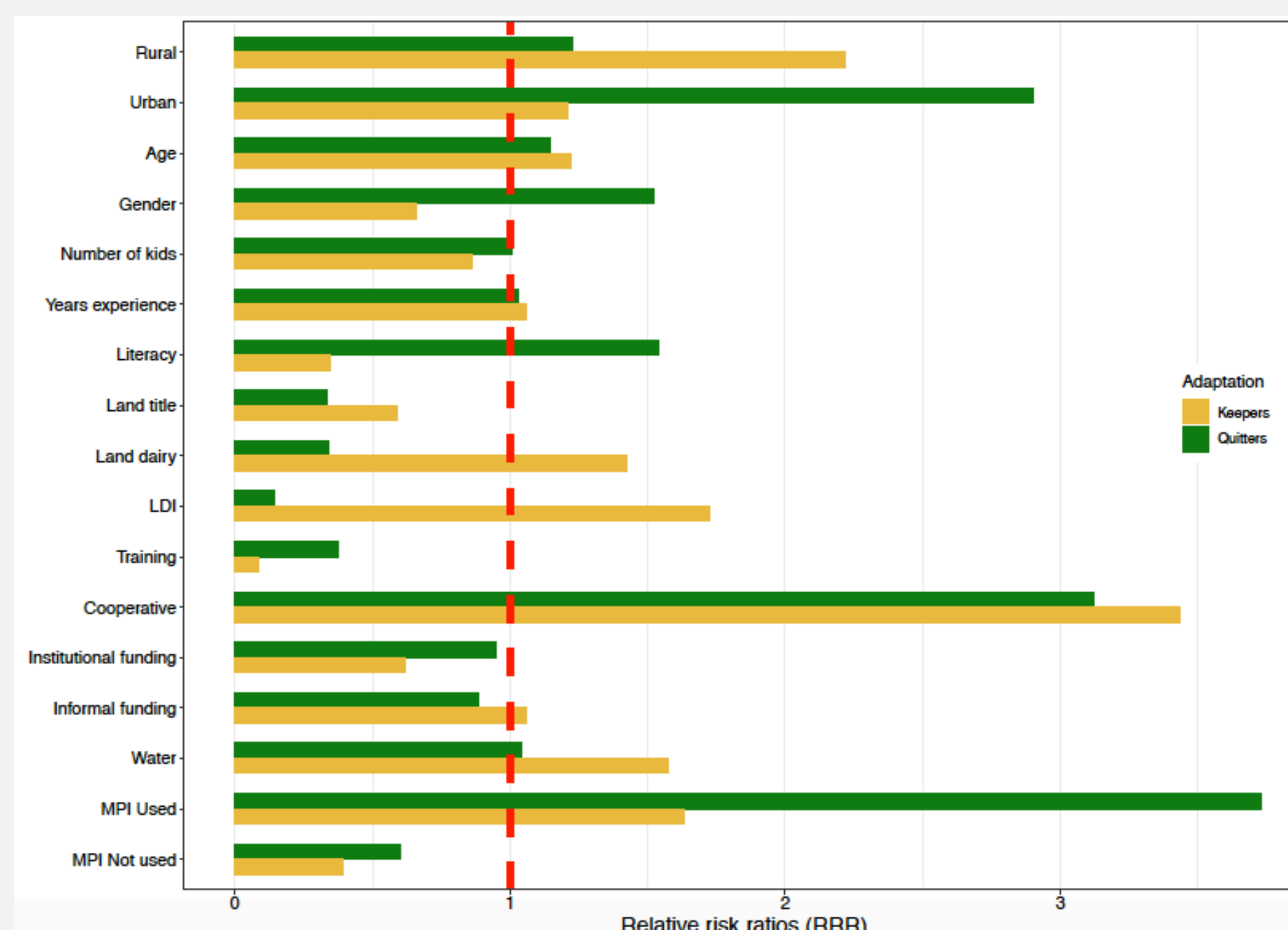


Figure 3: MNL's Relative Risk Ratios for each adaptation levels. MPI = Market Price Info, LDI = Livestock Diversity Index

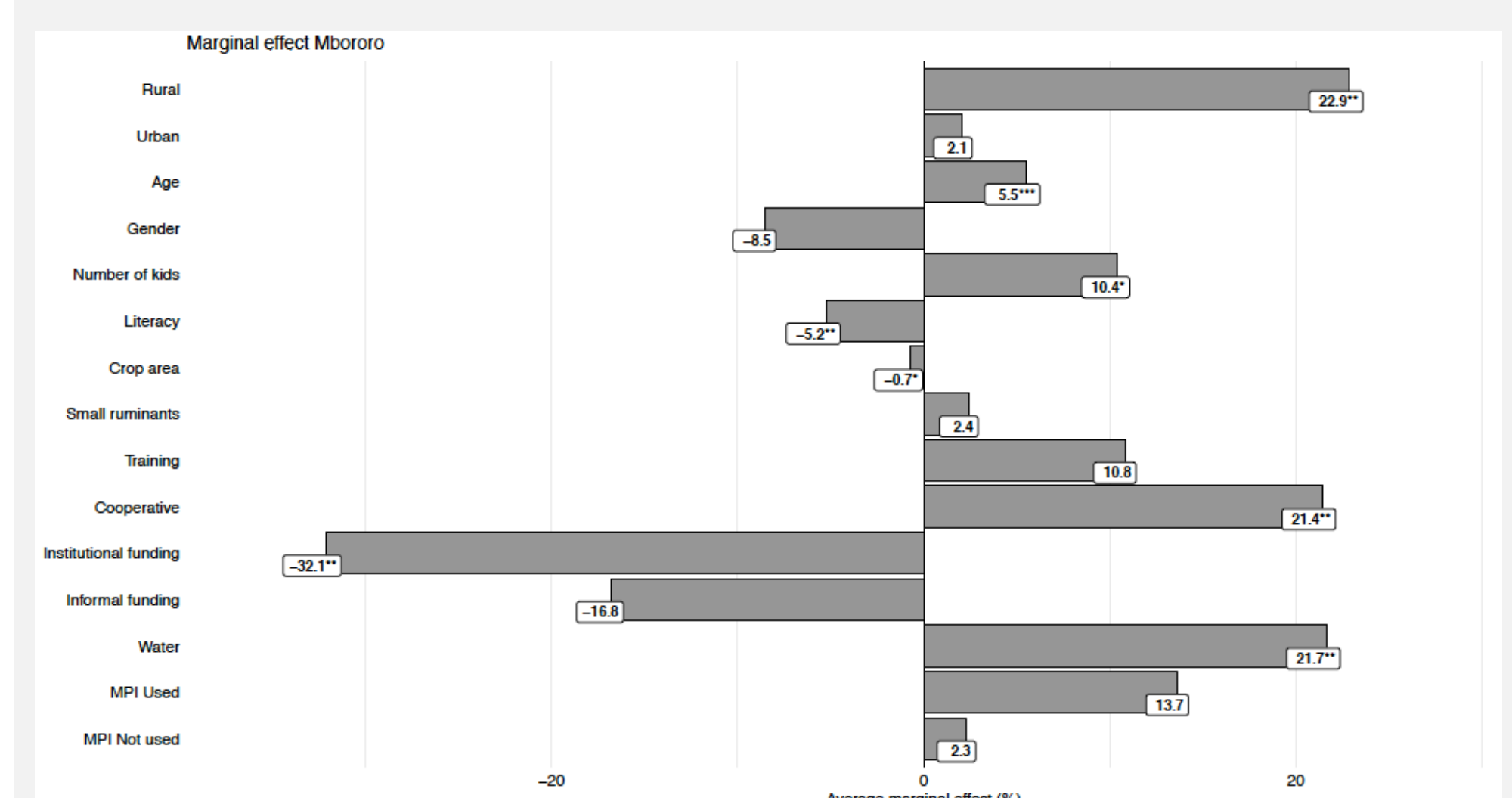
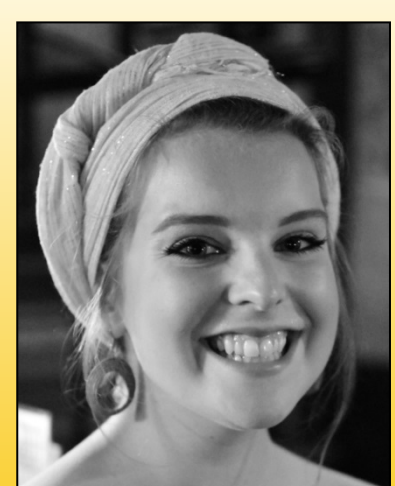


Figure 4: LM marginal effects on Mbororo's adaptability to market shock.



**Find me!**

M.Sc. Jennifer Provost

Albrecht-Thaer-Weg 3, 37075 Göttingen

Office: +49 551 39-5621

<https://www.linkedin.com/in/jennifer-provost/>

[www.urbanfoodplus.org](http://www.urbanfoodplus.org)

