


# Human security or resilience? The role of trees for climate change adaptation in the Burkina Faso parklands

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## Background and purpose

### Aim

The aim of this study is to show how two different framings guide assessments of vulnerability and adaptive capacity to very different results. Most previous research on vulnerability framings are based on findings from different cases and/or studies. In contrast, this study is based on *one single* research project and *one single* case.

### Burkina Faso and the village of Bonogo

Our case-study, the village of Bonogo, is located in the diverse agroforestry systems referred to as the parklands, in Burkina Faso, West Africa. Bonogo is situated 30 km south of the capital Ouagadougou. The rural population are amongst the poorest and most vulnerable in the world. The parkland trees are often positioned as a decreasing resource, important for adaptation and coping in relation to abrupt changes, such as harvest failures and periods of drought.



The case study area Bonogo in Burkina Faso.

## Theory: The two framings

### Critical Human Security Framing:

- Vulnerability refers exclusively to people, asking who is most vulnerable and why?
  - Emphasizes the role of social, political and economic relations for availability of- and entitlement to resources and in shaping the responses to- and outcomes of environmental change.
  - Adaptation policies should address constraints to local response, reduce inequalities, and propose alternative development pathways.
- (based on Füssel 2007 and O'Brien et al. 2007)

### Resilience Framing:

- Vulnerability is the tendency and sensitivity of social and ecological systems to suffer harm from exposure to external stresses and shocks.
- Resilience refers to the internal adaptive capacity to absorb external disturbance and reorganize while undergoing change
- Emphasizes the role and value of local and traditional knowledge for resilience.
- Vulnerability is often defined as the antonym of resilience.

(based on Füssel 2007, O'Brien et al. 2007, Adger et al. 2009, Walker et al. 2004, Geels 2010, and Folke 2006)

## Method

The research was conducted between 2010 and 2012 in the village of Bonogo in Burkina Faso. The main body of data was collected through semi-structured interviews with households and focus-groups interviews as well as through surveys, seasonal mapping, observation, timelines, informal interviews and secondary data analysis.

## Results: The two framings guiding assessments of vulnerability and adaptation



A Critical Human Security Framing

### The importance of Trees

Acknowledges the general importance of trees for Bonogo livelihoods. Emphasizes that the role of trees is differentiated within the community and between households. Livelihood activities and wealth status decides which trees that are important for a household.

### The importance of financial and human capital for human security

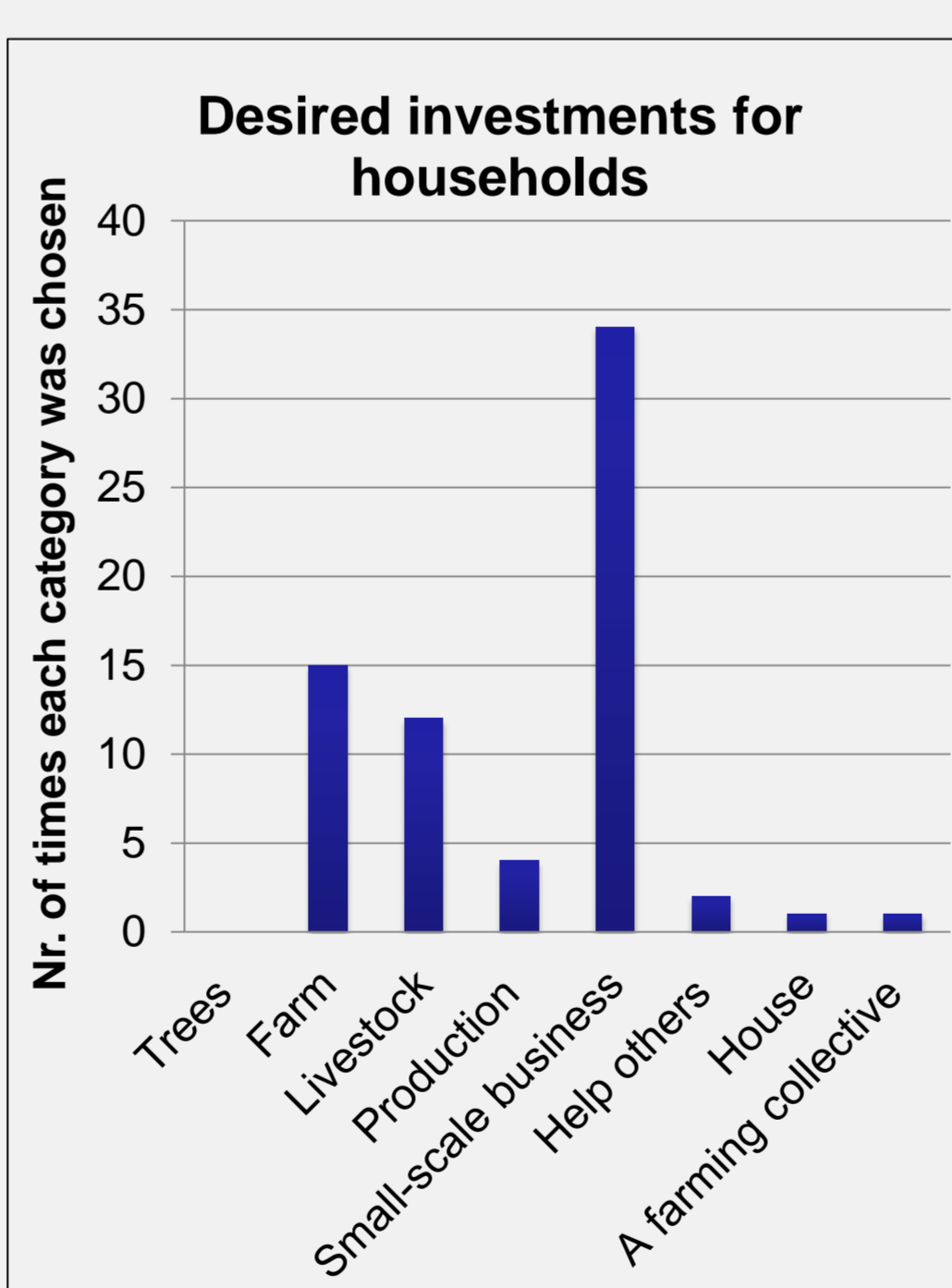
Access to trees in Bonogo is often restricted/enabled by access to financial and human capital and mediated by power relations and property rights. E.g. well-off households tend to have larger farm fields and subsequently better access to timber and NTFP's than poorer households.

### Vulnerability

A high dependence on tree resources is associated with poverty. Low economic returns from agroforestry based activities and a high dependence on a diverse agroforestry production can be viewed as a poverty trap and a driving force behind the high vulnerability to climate change in Bonogo.

### Adaptive capacity

Trees are not seen as an important source for long-term adaptation but rather as important for coping with food shortages in the short-term. Adaptive capacity in Bonogo predominantly relates to accessing opportunities outside the local community, e.g. migration, wage-labour or remittances.



Small-scale business at Bonogo market



A Resilience Framing

### The importance of Trees

Identifies trees as a key natural resource which is used by all households in Bonogo, and which is especially important for livelihood- and coping strategies for the poorest segment of the population.

### Trees and the socio-ecological system

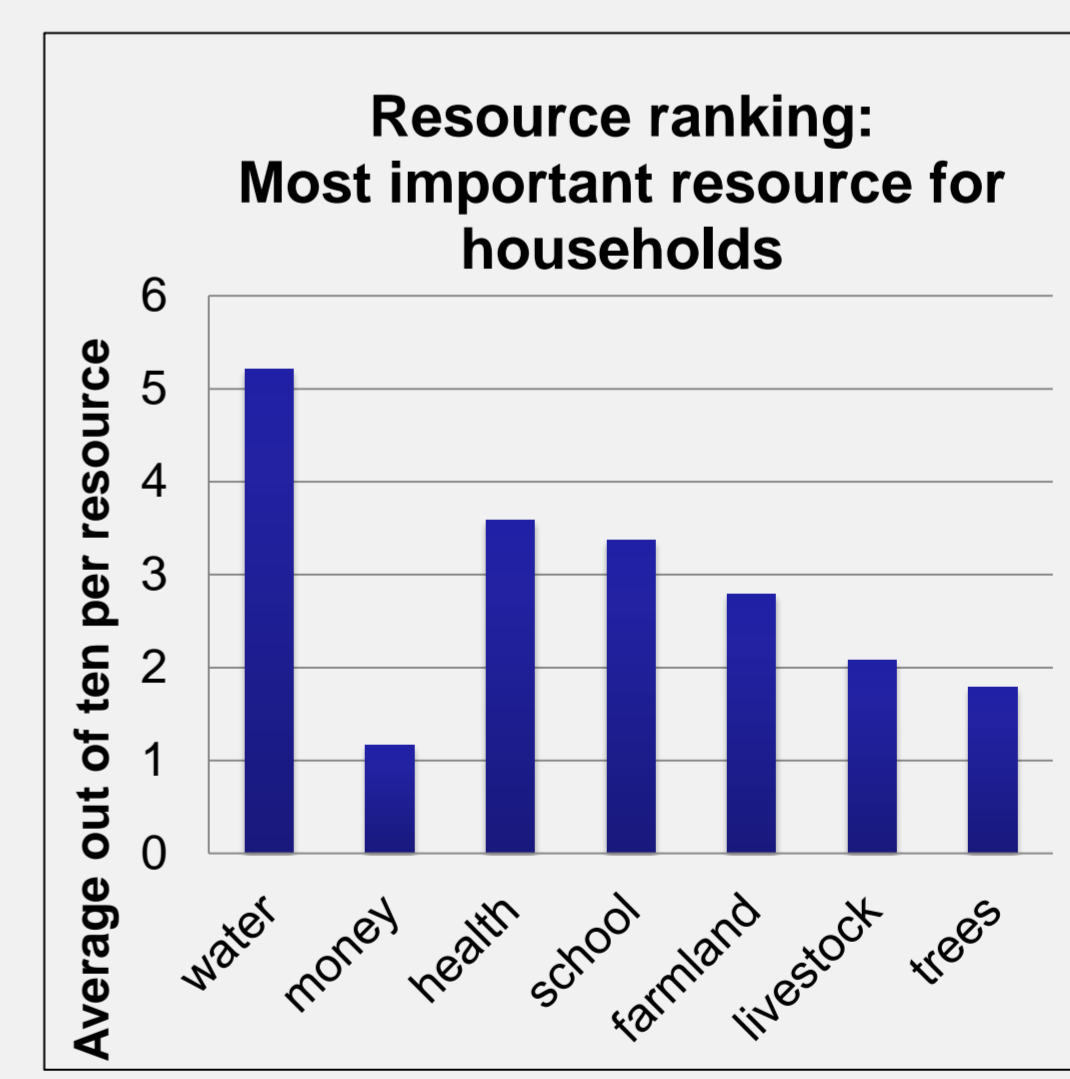
A system perspective places high value on trees in relation to other natural and non-natural resources in Bonogo, such as farmland. Emphasizes that trees are essential for regulatory services such as ground-water recharge.

### Vulnerability

Lowered resilience through decreasing tree coverage and access to NTFPs, low rate of tree generation, increased user pressure and drought is the main driving force behind increasing vulnerability to external changes such as climate change in Bonogo. In times of drought, harvest failures often coincide with less production of leaves of fruit from trees.

### Adaptive capacity

Trees are important for adaptation and coping with abrupt changes in Bonogo. Traditional customs and norms has proved important for decreasing over use of natural resources. Local knowledge ensures adaptive capacity to events such as drought, poor harvests or irregular rainfall. In particular, women in Bonogo know how to make use of natural resources in times of food shortages.



Resource ranking exercise

## Policy implications

From a human security perspective, our results strongly indicate that poverty alleviation through increased access to financial and human capital is vital for lowering the dependency on forest and water resources and subsequently increase the adaptive capacity to climate change

From a resilience perspective, maintaining the parkland system is a precondition for successful adaptation to climate change. This is as almost all of the households in our study, especially the poor, depend on trees for their livelihoods and that trees provide essential regulatory services.

Both framings point at the importance of diversification of livelihood strategies in order to increase adaptive capacity.

“*No rain means no fruit.  
If there are no trees, there is  
no water in the ground. The  
trees are holding the water*”