Integrating Diverse Epistemologies

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Premise of the Study

Purpose: To examine how people in a predominantly subsistence, rain-fed agrarian society might adapt to climate change

Location: Southern Malawi

Problem: Understanding adaptation is not as easy as simply asking “what will you do if the climate changes”

Methods: Development of climate scenarios, household interviews, mapping, GPS, qualitative surveys, language testing
We have undertaken extensive work in this area since 2008 to understand livelihoods and land use patterns.

This part of the research focuses on the impact of anticipated climate changes.

We surveyed 200 households with a quantitative instrument.

Conducted in-depth focus group discussions.
Methods: Backcasting

We developed a climate profile for the past 20 years.

We then asked respondents “how did you cope with the weather in 1992” (a dry year) and 2001 (a wet year).

Respondents were next asked “what would you do if 1992 or 2001 happened more frequently in the future”?

We also asked about the intervening factors.
October through March Rainfall (mm/day)

Ned consulted these data as well as general literature on impacts to identify wet (blue arrows) and dry (red arrows) years that brought negative impacts.

Means
CRU: 5.03 mm/day
TRMM: 4.51 mm/day
NOAA FEWS: 4.06 mm/day

1991-1992 drought was a 25 year drought event
2001 famine associated with flooding in Feb/Mar 2001
1997 floods – during mid to late February

Flooding – occurs about every other year
Droughts – less frequent ….
Preliminary Findings

Households will draw upon previous coping mechanisms in the future.

For wet years (no flooding), 60.7% of households indicated that they would diversify out of maize to take advantage of the additional rainfall.

Only 33% of respondents said there was enough land to physically expand production.

For overly wet years (with flooding), households reported that they would replant and seek *ganyu* labor (labor exchanges) or look for wage employment.
Preliminary Findings

For overly dry years, households indicated they would attempt to irrigate, seek off-farm employment, *ganyu* labor and sell firewood/charcoal.

Were overly dry years to persist, the majority would not migrate out of the area, either intra-rural migration (no = 60.2%) or to major urban areas (no = 55.2%).

This contradicts the IPCC for sthn. Africa.
Challenges

This was a pilot study...we weren’t able to pursue specific topics at the level of depth we would have wished.

Translating both the language and meaning is fraught with difficulties.

Many of our direct questions did not have the same meaning nor was there a way to directly query specific concepts about the future.

The range of responses is limited, which limits statistical tests for relationships (lack of variation).