

Household Vulnerability and the Demand for Commodity Insurance Schemes in Tanzania

(REPOA/World Bank/FAO)

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Project Objectives

- **The project seeks to strengthen Tanzania's capacity to undertake vulnerability analysis through a learning by doing mode as part of a wider vulnerability assessment.**
- **Project seeks to deepen the understanding of the depth and causes of household vulnerability in Tanzania**
- **Project tries to explore the potential of market based insurance schemes to alleviate vulnerability within the broader context of the interlinkages between risk and poverty.**

Specific issues to explore

- What is the degree of vulnerability of rural agricultural commodity dependent households to commodity related uncertainties (price, weather), and how does it compare with the vulnerability of non-producers of these commodities?
- What is the proportion of overall income and consumption risk that are due to idiosyncratic factors versus that which is due to covariate shocks?
- What is the market demand for commodity related insurance for these households? In other words how much are agricultural households willing to pay (WTP) for additional levels of protection from agricultural commodity related risks?
- What are the factors that explain the market based demand for commodity related insurance (such as household characteristics, etc.)?
- What is the potential total benefit from market as well as non-market based provision of commodity related insurance?
- What are the variations in the answers to the above questions across different types of rural households?

Methodologies to assess welfare benefits or WTP for farm insurance

- Direct questioning of producers, related to the literature on contingent valuation (**CV method**).
- Use of theory along with the combination of microeconomic household information, and market information to estimate indirectly the appropriate premiums (**indirect method**).
- Inference of the willingness to pay from analysis of the patterns of production and other behavior of producers (**revealed preference method**).
- **This project uses CV approach**

Methodology

- Survey 1800 households in two commodity growing regions (900 households in each) two times with a one year interval.
- Administering the survey twice to the same households with a one year interval is necessary to fully capture the dynamic aspects of vulnerability and to examine the robustness of the results over time.
- Two distinct regions are covered – a coffee growing region in the north (Kilimanjaro) and a coffee and other cash growing region in South (Ruvuma)
- To generate statistically representative results for each of these regions, at least about 900 households are necessary. The sample will include both cash crop and non-cash crop growing households to examine spill over effects.
- New survey techniques (contingent valuation of the demand for insurance) and new questionnaire modules about shocks will have to be designed.
- Secondary time series data will also be collected on prices, rainfall data, production, etc.

Expected outputs 1

- Socio-economic profile of the rural agriculture based households in the two regions.
- Profile of risk exposure of these households to covariate risks as well as idiosyncratic risks.
- Assessment of the vulnerability of households to such risks.

Expected results 2

- Estimates of the total economic benefit of providing commodity related insurance to rural households.
- Estimates of the demand for market based commodity related insurance, namely the portion of insurance that could be potentially made available to private producers through the market, and for which they would be willing to pay themselves.

Expected results 3

- Estimates of the way in which risk and consumption smoothing parameters depend on household characteristics. This may have wider implications about analyzing vulnerability and social safety nets in Tanzanian rural areas.

Sample design issues

- Need village and ward specific population and household data from 2002 census for surveyed regions
- Sample is multistage random design, but maybe done in a biased fashion to make sure commodity producing households are captured.
- Implies need to compute correctly selection probabilities. Uses results from District Integrated Agricultural Survey (DIAS) 1998/99
- Issue. How reliable are the 1998/99 DIASs? Major inconsistency was found for Same district in Kilimanjaro

Questionnaire design issues

- Major problem the correct phrasing of vulnerability questions
- Problem the proper phrasing of insurance related questions
- Answers to vulnerability and insurance related questions are state dependent.
- Should there be more emphasis on income data or expenditure consumption data?