

# Kenya Agricultural Productivity Project

Evaluation design

# Objectives

- Support generation, dissemination and adoption of agricultural technology
- Main objective of the evaluation is to look at the effectiveness of different extension methods and delivery systems in dissemination and adoption

# Interventions

- 4 types of extension methods:
  - Farmer field schools
  - Focal area approach
  - Mobile extension teams
  - Group approach
- 2 types of delivery systems
  - Public
  - Private

# Evaluation questions

- What is the impact of extension versus no extension?
- What is the impact of different methods?
- What is the impact of different delivery systems?

# Proposed outcome indicators

- Farmer knowledge of extension services
- Technology knowledge of farmers
- Technology adoption of farmers
- Yields
- Household welfare (expenditure)

# beneficiaries

- Smallholder farmer households in the 20 pilot districts

# How are beneficiaries selected

- Of the 20 districts:
  - 6 are arid/semi-arid, and will receive mobile extension
  - 14 represent high potential areas and were selected across agro-ecological zones and province. At least two districts were selected per province

# Available data

- OED/TEGMEO – 1982 T&V survey 600 hhs nationally representative
- TEGMEO ag panel 1987, 1989, 2000, 2004? 1500 hhs nationally representative
- CBS budget survey, now in field
- Arid lands project baseline, hh survey 2004 (done by CBS)

# Evaluation design

- Treatment in 20 districts,
- Within each district there are 4 divisions, and each division has 5 locations
- Strategy:
  - 6 arid districts receive mobile as treatment
  - randomly allocate across remaining 56 divisions all 3 other types of extension
  - within divisions: randomly select 1 location in to receive intervention

# Public/private provision

- 2 possible strategies
  1. Estimate suitability of private provision, based on observables. Define critical value, and then provide private to those above critical value.
  2. Randomly assign private/public across all divisions.

# Basic estimation

$$Y_{it} = \pi X_{it} + \beta_0 D_{it} + \beta_1 T_{it} + \beta_2 D * T + \varepsilon$$

Where X is control vars

D is a measure of distance to treatment (instrumented by the center of the treatment location)

T is treatment dummy

Thus – Beta zero is the spillover effects

and treatment effects are Beta one + Beta 2

We can measure distance in both geographical and social space

# Public/private estimation

- 2 approaches
  1. Use 2 equations separate versions of the basic eqn
  2. Use combined equation where (if used) discrimination rule enters into interaction with treatment

# sample

- Around 30-40 random households per division
- Total of 2400-3200
- Overlap if possible with existing data sources (depends on their sampling strategy)

# Project timeline

- Extension intervention starts officially in Nov 2005, but is not expected to be implemented until march 2006
- Baseline survey to run Jan/Feb 2006
- Expected implementation through 2008/2009
- Follow-up in Jan/Feb 2009

# Budget

- Currently available: \$250,000 project funds
- Possible increase from within project and also SIDA
- Not a major concern