Can a Market-Assisted Land Redistribution Program Improve the Lives of the Poor?

Evidence from Malawi

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Two (very) distinct quotes…

"Before the project we didn't have land and we looked at agriculture in a negative way…having our own land gives us hope for our children"

Focus group, Machinga

"We were just dumped here, we have to look for water in the stream by digging up the river sand. We have to share this water with animals"

The Nation newspaper ~ Malawi, July 11 2009

Organization of the presentation

1. Context & the program
2. Guiding questions
3. Mixed-methods: Challenges
4. Main results
5. Concluding remarks

Agriculture in Malawi

- 52% are poor, 85% work in agriculture….most important $ sector

- Unequal land distribution (large estates)…a problem in populated areas with 1/3 land underutilized
  - Low landholdings
  - Soil suffers from erosion, nutrient depletion

- Land reform: can be good for economic and social development in agriculture-based economies…
  - Voluntary market-based redistribution of land from larger estates to smallholders (few in SSA)
  - Limited empirical work testing impacts on the poor

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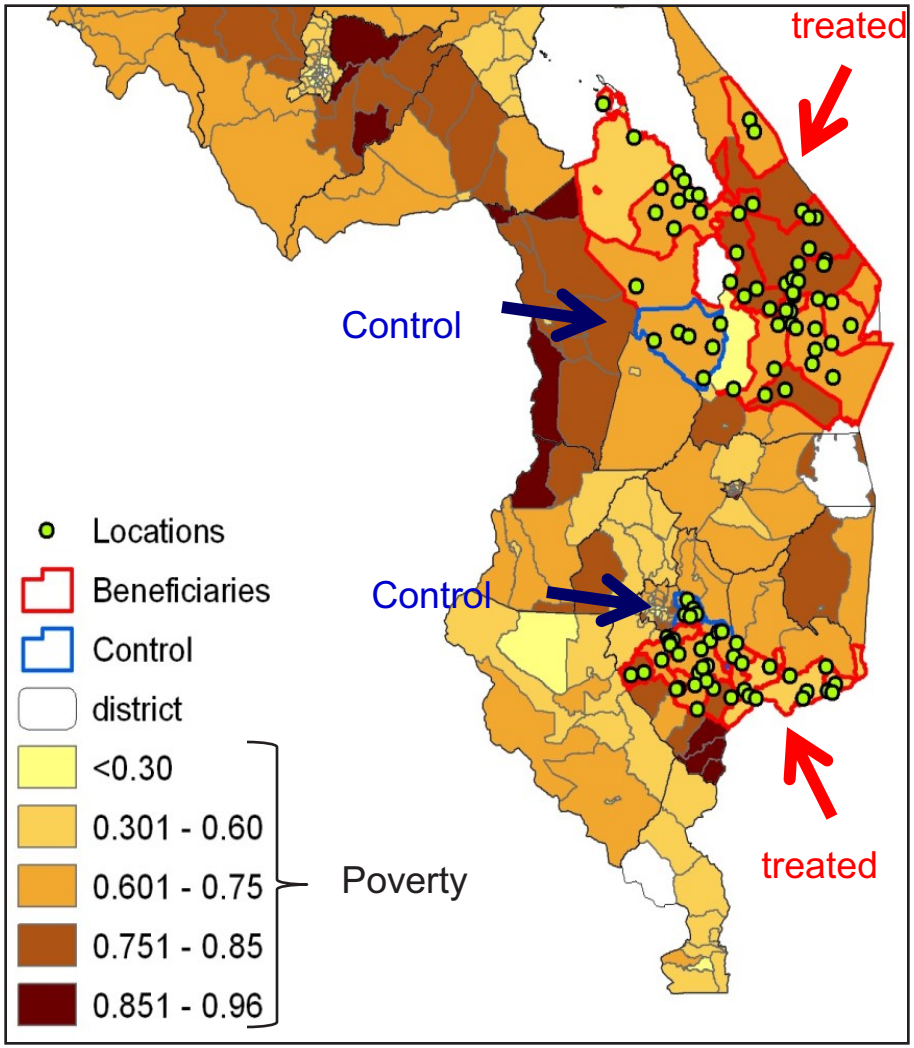
The program:

- **Market-based land exchange:** private sellers to landless or land poor farmers, government financed
- **Four pilot districts:** Mulanje*, Thyolo*, Machinga and Mangochi
- **Program span:** 2004 to 2008+
- **Two components**: 2 ha of land (including group title) and cash grants (with extension)
- **Benefits:** $1,050 cash (1/3 for land)



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Guiding questions

- PROGRAM: Does the project lead to positive impacts on agricultural and other welfare outcomes?
- TARGET: Are there differential distributional impacts (focus on gender)?
- DESIGN: Did certain aspects of the program improve (or worsen) impacts?

Challenges
Mixed Methods Approach

Challenges….

- Program started over 5 years ago
- Ex-post challenge: imperfect evaluation design
  - Survey data: sampling and timing not optimal
  - Qualitative information focused on small sample
- Other factors can influence results: economy, policy

Dealing with them….

- Ensure survey data is usable
- Ensure the proper counterfactual is identified
- Contextualize information “Black Box”

QUALITATIVE

GOAL TO UNDERSTAND THE CONTEXT, BEFORE, DURING AND AT COMPLETION

- Derive and validate quantitative approach or "identification strategy"
  - When, how, who, why…?? targeting, implementation, other relevant non-project factors
- Sampling followed a random sample of surveyed communities
- Instruments followed a similar set up as HH survey focusing on agricultural information and services
- Informants were selected to represent a wide set of stakeholders in treatment and control districts

QUANTITATIVE

QUANTITATIVE: **GOAL IS TO FIND THE RIGHT COUNTERFACTUAL**

- Household survey data (850), baseline and two follow-ups
- Comparison tests show groups are similar but need to improve so…
  - We use a “matching” technique to find the appropriate control from the non-treated districts
  - Several econometric tests to ensure groups are comparable

Estimation strategy

- Propensity Score Matching ~ (Epanechnikov kernel, with common support and a 0.05 bandwidth, is used; procedure assigns weights)
- Land ownership was NOT the only targeting criteria, poverty status mattered as
- Baseline tests (t-tests) show comparability before the program
- DD approach for all except well-being variables (follow up survey)

$$Y_{h,t} - Y_{h,t-1} = \alpha + \beta_1(treat_{h,t}) + \delta(maize_{h,t-1}) + \gamma(fert\_sub_{h,t}) + X_{h,t-1} + \varepsilon_{h,t} \quad (1)$$

$$Y_{h,t} - Y_{h,t-1} = \alpha + \beta_1(treat_{h,t}) + \beta_2(treat_{h,t} * movedfar_{h,t}) + \beta_3(treat_{h,t} * female_{h,t-1}) + \delta(maize_{h,t-1}) + \gamma(fert\_sub_{h,t}) + X_{h,t-1} + \varepsilon_{h,t} \quad (2)$$

$$Y_{h,t} - Y_{h,t-1} = \alpha + \beta_1(treat_{h,t}) + \beta_2(treat_{h,t} * maize_{h,t-1}) + \delta(maize_{h,t-1}) + \gamma(fert\_sub_{h,t}) + X_{h,t-1} + \varepsilon_{h,t} \quad (3)$$

- Controls: farming experience (kilograms of maize at BL), national fertilizer subsidy program (previous agricultural season), other (household size, primary schooling, gender of household head, age and age squared of head)

Results

Agricultural impacts

Imapacts on Agriculture	Positive	Non-positive
Access to land	✚	
Size of cultivable land	✚	
Formal title	✚	
Production	✚	
Labor Productivity (Land productivity +)		◎
Value of crops	✚	
Productive assets: Female	✚	
Productive assets: Male		◎

Why no *labor* productivity impacts?

- Land productivity VERY LIKELY positive
- Water infrastructure was not appropriate
- Extension services not wide spread
- Higher price of inputs (more difficult for beneficiaries due to other factors, e.g. fertilizer)
- Limited knowledge of and access to local markets "remoteness"

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Welfare impacts

Imapacts on Welfare	Positive	Non-positive
Income/expenditure	NA	NA
Food security: Plenty season	+	
Food security: Lean season		−
Consumption assets: Female	+	
Consumption assets: Male		−
Perception of income	+	
Perception of income: Moved far		−
Perception of welfare	+	
Perception of welfare: Moved far		−

Why did food security not improve?

- Overestimation of initial bumper harvest
- Farmers forced to sell output to make profits, unreliable market prices
- No outside income generation opportunities (like piece work)

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Differential impacts

Why does distance matter?

- Disadvantages in land identification & negotiation
- Remote areas with limited access to social services
- New economic environment
- Tribal differences: Lomwe & Yao
- Social networks and support systems

Conclusion

- PROGRAM IMPACTS: Mixed results, positive for all except for labor productivity and food security…these are likely to improve with time (& experience)
- TARGETING: Female headed households fared no different except in cultivating “cash crops” (worse off) and acquiring assets (better off)
- DESIGN: Distance matters!!
- EVALUATION: Context matters!! Knowing why is crucial…$30 million pilot project merits careful evaluation before scale-up

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THANK YOU…QUESTIONS?

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http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1494831