

**MCC Impact Evaluation Conference**  
**January 21, 2011**

## **Evaluating Farmer Training Programs**

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**Moderator:** Ariel BenYishay

**Panelists:** Annette Brown (3ie), Michael Carter (University of California), Kristin Penn (U.S. Department of State/Feed the Future), and Mushfiq Mobarak (Yale University)

**Ariel BenYishay:** *Why is Farmer Training Important?*

- Why does agricultural productivity remain low in the developing world?
- Leading theories: credit constraints, lack of insurance, land tenure weaknesses, imperfect information. This session addresses these potential explanations.

**Annette Brown:** *Systematic Review of the Impact of Farmer Field Schools*

[\(0:00\)](#)

<http://www.3ieimpact.org/systematicreviews/>

- Focus of review is on Farmer Field Schools
- Systematic 3ie Review: Objective is to synthesize best available evidence using Cochrane/Campbell Collaboration SR methodology
- Why and how does change occur? Requires a theory of change. In this case: Field Schools → Capacity Building → Participants (direct and indirect beneficiaries) → Adoption → Measured Impact
- Results
  - Reduced pesticide use/increased yield for program participants but not for social networks of participants
  - Revenue increases for the treated but only low quality evidence for those in their networks
  - Reduced environmental risk factors
  - Sustainability of yields after two years is not demonstrated

**Michael Carter:** *The Impact of Business Services on the Economic Well-being of Small Farmers in Nicaragua*

[\(15:00\)](#)

- Nicaragua Rural Business Program
  - Use poverty metric as opposed to yields to evaluate agricultural program impact
  - Intended to enhance technical assistance, business know-how, and market access
  - Participants self-selected into the program conditional on passing program selection criteria
- Interim Results
  - Overall effects are not significantly different from zero
  - Significant effects for upper performing quantiles only
  - Upper performing quantiles have an IRR of 14%
  - Heterogeneity is still puzzling

**Kristin Penn:** *"Impact Evaluation within Feed the Future"*

[\(38:45\)](#)

<http://www.feedthefuture.gov/monitoringevaluation.html>

- Goal is to reduce global hunger and poverty by tackling root causes
- Increase inclusive and sustainable agriculture sector growth
- Increase nutritional status for women and children
- Evaluates impact for 20 countries and 5 regional programs using cost benefit analysis
- Elizabeth Roen: Introduction to new USAID Evaluation Policy

[\(57:00\)](#)

**MCC Impact Evaluation Conference**  
**January 21, 2011**

**Mushfiq Mobarak:** *Using Social Networks to Improve Agricultural Extension Services* [\(1:02:00\)](#)

- Why are adoption rates for agricultural technology low?
  - Information failures: Don't know or don't believe the message
  - Government agricultural extension officers are often distrusted by rural farmers, rarely have farm experience, are poorly paid, and have high vacancies
- Can social networks be used to disseminate information?
  - Experimented as to whether the effects of extension officers are greater if they are extended through a member of the community, either farmers chosen to demographically represent the village or a wealthy farmer in the area
  - Preliminary results show that Peer/Lead farmer training provides a higher adoption rate of new methods

**MCC Impact Evaluation Conference  
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## **Overcoming Challenges to Ex Post Evaluations of Governance Programs**

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**Moderator:** Sophia Sahaf

**Panelists:** Erin Weiser (Weiser Consulting), Leonard Wantchekon (NYU), and Matt Sloan (Mathematica Policy Research)

**Sophia Sahaf:** *Threshold Program Background*

- Goal of threshold program is to help countries meet eligibility criteria
- 2-3 years long and managed by USAID

**Erin Weiser:** *MCC Threshold Program Ex-Post Evaluations Malawi & Zambia*

[\(0:00\)](#)

### **Malawi**

- Goal of Program: Reduce leakages in public spending and improve financial management and law enforcement rates
- Methodology and Limitations
  - Due to lack of data, qualitative, post-intervention assessment only
  - Interviews with stakeholders (over 100 conducted)
  - No baseline data and unable to determine clear causality
- Results
  - No direct impact on selection criteria (for an MCC Compact)
  - Nearly all outputs achieved, however programs might be more successful in the future if they focus on achieving fewer objectives
  - Cannot find evidence of lower public corruption
  - Number of interventions were spread thin

### **Zambia**

- Goal of Program: Combat administration corruption and lower administrative barriers to business registration
- Methodology and Limitations: Similar to Malawi's
- Results
  - Time for business registration decreased
  - Corruption prevention activities only had minor improvements, integrity committee implemented, but complaints did not increase
  - Results imply that solutions should be focused on improving current methods rather than introducing new methods

**Lessons Learned:** Threshold programs can produce results under a 2 year timeframe as long as the threshold country has political will and provides ongoing support to the program.

**Leonard Wantchekon:** *Impact Evaluation of the Tanzania Threshold Country Program*

[\(33:00\)](#)

- Goals of Program: Reduce corruption through public procurement audits, training of Prevention & Combating of Corruption Bureau, Public Expenditure Tracking Survey Training, investigative journalist training, and Financial Intelligence Unit intervention
- Findings
  - Audits clearly affected procurement compliance

**MCC Impact Evaluation Conference  
January 21, 2011**

- No other activities had such clearly positive effects, though Public Expenditure Tracking Survey appears to have strong local support, and is being continued
- Journalist training is associated with *reduced* quality of articles
- Clearer definitions of what specific factors cause corruption will allow better measurement of corruption programs in the future
- Limitations
  - Problem of measurement is a major hindrance
  - Evaluation of outputs depends on data collection by program participants
  - Problems of identifying causal effect due to lack of randomization

**Matt Sloan:** *Rwanda Threshold Program: MCC Impact Evaluation Conference Presentation* [\(53:45\)](#)

- Goal of Program: Reduce corruption by strengthening justice sector, civic participation, civil rights, police force, and media broadcasting through 3 year projects (2008-2010)
- Methods
  - Civic participation: support for participation in local budgeting and planning in 15 randomly selected districts
  - Police force: compare communities that received and did not receive complaint boxes
  - Media: pre/post comparison
- Key Challenges
  - Data collection plans differ by activity
  - Results of the civic participation might not be accurately measured due to short period of evaluation and small number of districts (only 30 total)

**MCC Impact Evaluation Conference**  
**January 21, 2011**

**Rural Infrastructure: Impacts, Cost-Effectiveness, and Implications for Design**

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**Moderator:** Steve Anderson

**Panelists:** Maximo Torero (IFPRI), Michael Kremer (Harvard University), and Jenny Aker (Tufts University)

**Maximo Torero:** *Real Constraints in Doing Impact Evaluation of Rural Electrification* [\(0:00\)](#)

- Addresses four problems in electrification evaluations
  - Identification problem - locations of power lines are endogenous
  - Technical design difficulties that limit our ability to assign attribution
  - Deployment decisions intended to minimize engineering costs, not maximize net social benefits
  - Identifying impact pathways
- Randomizing household connection subsidies addressed the identification problem in Ethiopia
- Intervention sequencing allows for a pipeline design in El Salvador
- “Areas of Influence” modeling – models that capture the benefits of electrification – can yield greater economic benefits than simple cost-minimizing engineering approaches
- Another potential aspect for evaluation is complementarity – the assertion that multiple types of household infrastructure combined provide greater benefits
- Memorable quote: “The quality of information [delivered by ICT infrastructure] is more important than the method of delivery,” (i.e., a greater share of benefits comes from receiving useful information faster, rather than using better technology)

**Michael Kremer:** *Evaluation, Learning and Innovation: The Case of Rural Safe Water Infrastructure* [\(21:00\)](#)

- Evaluation should be used to test projects and implementation approaches in addition to accountability
- Review historical problems with rural water infrastructure investments - problems with maintenance
- Health benefits from water seem to come primarily from quality improvements; no experimental evidence of water quantity effects on health
- But willingness to pay for improved quality is quite low – perhaps most problematic for those at greatest risk
- Publicly-dispensed chlorine system makes free water treatment much cheaper to implement; public dispensing appears to promote sustainability
- The development community needs to innovate to find new models for maintenance, service, and financing costs of water infrastructure experimentation and evaluation are needed
- Memorable quotes: “Funding decisions should be based on evidence when possible” and “[Evidence from] many studies can allow us to generalize”

**Jenny Aker:** *Information Technology: Impacts, Costs-Effectiveness and Implications for Design* [\(44:00\)](#)

- Mobile phone coverage in Africa has outpaced electrical grid coverage
- Reduces search costs and improves social networking for economic agents
- Serves as a substitute for physical capital and public goods
- Remaining questions: determinants of demands, other benefit pathways, welfare distribution
- Research suggests a link between ICT infrastructure and gains in GDP, but the evidence is unclear

**MCC Impact Evaluation Conference**  
**January 21, 2011**

- Rigorous evaluations are needed to test spillover effects (e.g., literacy) and the effects on intra-household distribution
- Memorable quote: “We learn as much from failures as we do from successes”

**MCC Impact Evaluation Conference**  
**January 21, 2011**

**Roads Evaluations: How to Reduce Roughness in Your Road Evaluation Design**

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**Moderator:** Rebecca Tunstall [\(0:00\)](#)

**Panelists:** Ariel BenYishay (MCC), Barry Deren (MCC), and John Felkner (NORC)

**Ariel BenYishay:** *Comparing Evaluations of Road Improvements: The MCC Experience* [\(3:45\)](#)

- MCC has invested \$2.3 billion in roads; roads programs consist of 33% of MCC compact expenditures
- MCC is providing the first rigorous impact evaluations of highways and secondary roads using multiple methodologies to measure impacts to improve robustness of the evaluation and to allow the comparison of different methods
- Roads Selection
  - Public consultation – ask views of public on their perception
  - Government selection – analyze where impacts are likely
  - MCC ERRs – select roads with highest impact
- Challenges
  - Project scope changes because of cost overruns and poor policy performance
  - Delays in construction
  - Changes to roll-out and/or construction strategy

**Barry Deren:** *Economic Analysis of Road Investments: HDM-IV Modeling* [\(27:00\)](#)

- Origins of HDM-IV
  - World Bank original product, but now is the responsibility of a consortium of HDM-IV Global group
  - The idea was to create a program that could examine transportation economics and look at how consumers maximize utility and firms can minimize prices
  - HDM-IV estimates user surplus
  - Used in a lot of studies to inform transport sector policies and to determine which combination of policies is best
- Implementation
  - Allows estimates of road user costs as a function of changes in road conditions
  - Can include variables such as time spent on road, fuel quality, lubricants, changes in traffic counts, trips taken, and traffic patterns, road roughness, motorized vs. non-motorized, type of tires, characteristics of road segment, weather
- Benefits of HDM-IV
  - Transparency of analysis
  - Flexible program – can examine short run, medium and long run

**John Felkner:** *Use of Geographic Information System (GIS) in NORC Infrastructure Impact Evaluation Projects* [\(45:00\)](#)

- GIS can be used to give precise measures on distance and accessibility
- Ideal for calculating travel time changes a new road will cause, and identifying the degree of effects as a function of location
- Allows for metric formulae comparing changes in travel costs and travel time
- Impacts inferred by estimating outcomes (e.g., income) as a function of extent of road improvement benefits

**MCC Impact Evaluation Conference**  
**January 21, 2011**

**Delving into Development Programs' Effects on Women: Incorporating Gender in Impact Evaluations Meaningfully and Practically**

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**Moderator:** Celeste Lemrow [\(0:00\)](#)

**Panelists:** Michelle Adato (MCC), Harold Alderman (World Bank), Nava Ashraf (Harvard University), and Agnes Quisumbing (IFPRI)

**Michelle Adato:** *Integrating Gender in MCC Impact Assessment* [\(5:00\)](#)

- Gender inequality is a significant constraint to growth
- Need to separate female-headed households from females within male-headed households when doing analysis on gender impacts
- Need for disaggregated gender impacts by economic sector
- Use household assets rather than income – a predictor of income, but more stable; influences within-household resource allocations
- Gendered indicators should be used, rather than simply disaggregating regular indicators

**Harold Alderman:** *Two Promising Areas for Impact Evaluation on Gender* [\(23:00\)](#)

- 1) Early childhood development – need to increase the role of men in child rearing
- 2) Reforming family rights
  - Customary law in Sub-Saharan Africa often grants few rights to women
  - Case studies show changes in law can impact health, fertility, etc.
- Shifting resources within a household cannot be captured by cost-benefit analysis because it is a transfer; we need to find methods to measure health and time gains within households
- Memorable quotes: “Gender analysis is not about women, it is about the interaction between men and women,” and, “Nutrition/early childhood development activities have higher rates of return than infrastructure and agriculture”

**Nava Ashraf:** *Gender and Development: Empowering Women in Finance and Fertility* [\(42:30\)](#)

- Use of randomized control trials to assess intra-household social factors
  - Microfinance in Philippines – new savings product increased overall savings and decision making power for women
  - Fertility in Zambia – Providing women with family planning vouchers in presence of men lowers uptake of fertility services
- Includes a mix of field experiments and qualitative methods
- Exposed differential adoption patterns and impacts based on household composition and control factors
- Men were receptive to family planning when they saw the link to maternal morbidity
- Memorable quote: “RCTs can be used to get inside the black box of the household”

**Agnes Quisumbing:** *Evaluating the Long-Term Impact of Agricultural Technologies in Bangladesh: Looking within the Household* [\(1:02:00\)](#)

- Evaluation of long-term effects of gender and nutrition in Bangladesh
- Propensity score matching with differences in differences to control for fixed unobservables
- Effect of implementation modalities on vegetable and fish technologies in Bangladesh
- Lumpy vs. divisible technologies
- Positive impact of early adoption for vegetables but negative impact of early adoption for fish (income gains are more widely spread)

**MCC Impact Evaluation Conference**  
**January 21, 2011**

- Memorable quote: “Not all situations with income and gender equality are win-win... There are trade-offs, such as cost-effectiveness vs. nutrition”

**MCC Impact Evaluation Conference**  
**January 21, 2011**

**Closeout Plenary Panel Discussion: Challenges in Impact Evaluation and Institutional Responses**

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**Moderator:** Franck Wiebe [\(0:00\)](#)

**Panelists:** Michael Kremer (Harvard University, USAID), Jack Molyneux (MCC), Arianna Legovini (World Bank), and Carol Medlin (Bill and Melinda Gates Foundation, 3ie)

**Michael Kremer:** *USAID Development Innovation Ventures* [\(3:30\)](#)

- Development Innovation Ventures (DIV) is a new USAID initiative that supports innovation with rigorous testing
- The goal is to develop new interventions and a body of evidence around them
- Examples include conditional cash transfers, mobile money, and deworming
- DIV has four main steps: (1) Proof of concept; (2) Initial scale and impact testing; (3) Scale-up; (4) Widespread adoption
- More information at [grants.gov](http://grants.gov)

**Jack Molyneux:** *IE Challenges and MCC Responses* [\(21:00\)](#)

- MCC does 10-20 evaluations every year
- ERRs provide ex ante estimate of benefits; IEs will yield ex post estimates that should improve future investment decisions
- It is possible to embed theory-based experiments in larger programs
- Need to make smarter decisions going forward. How does MCC use info to feed into better project selection?
  - Cast a wide net to ensure collection of evidence
  - Evaluations allow us to test our prior assumptions and contribute to the broader knowledge base

**Arianna Legovini:** *Development Impact Evaluation Initiative: Changing the Way Development Is Done* [\(40:00\)](#)

- Impact evaluation should be used to make programs better, rather than testing whether they work
- Impact evaluation is operational testing more than research
- We need to admit what we don't know
- Evaluations can pay for themselves if effectiveness is improved (e.g., if a \$500k evaluation leads to a solution that increases a program's benefits by \$1 million, it has paid for itself)
- We should think of results trees rather than results chains
- Impact evaluation is not an obstruction
- DIME group created in 2005 and re-launched in 2009
- DIME has completed 150 studies across all sectors
- Challenges: Trying to change development is always hard

**Carol Medlin:** *Perspectives from the Bill and Melinda Gates Foundation and International Initiative for Impact Evaluation (3ie)* [\(1:02:00\)](#)

- Investment strategy is towards impact and not impact evaluation
- Gates Foundation aims for "actionable measurement"
- They conduct evaluations at the grant, initiative and institution/strategy levels

**MCC Impact Evaluation Conference**  
**January 21, 2011**

- Challenges include the size of the mandate vs. available resources, the pace of institutional growth, and most funding going to Northern hemisphere researchers
- Gates has developed different funding windows for evaluations: developing country, thematic, and design