

MCC Impact Evaluation Conference
January 21, 2011

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

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

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- 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”