

Workshop on Field Experiments

Njala University | Wageningen University | Columbia Center for the Study of Development Strategies

Njala University Campus, 20-24 January 2014

This five-day workshop will focus on the logic of experimentation and how it may be used to learn about the effects of social, political, and economic phenomena. The methodologies discussed here will be critical for designing impact evaluations and field experiments intended to measure the effects of policies, interventions, and programs. We will provide an introduction to important technical considerations such as randomization, statistical power, and threats to the estimation of treatment effects. Our goal is that participants will leave this workshop mindful of issues they should consider when designing, conducting, and analyzing experiments, and will have a strong basis for more advanced training in this field.

The workshop consists of a mix of lectures, presentations of research projects, and breakout sessions. Breakout sessions are organized in small groups, and are designed to allow participants to practice what they have learned and discuss the experimental design of the research presented that day. Participants will also have many chances to discuss their own research ideas or proposals for field experiments.

Teaching will be organized by Professor Macartan Humphreys (MH, Columbia University) and Professor Erwin Bulte (EB, Wageningen University) with assistance from Lindsay Dolan (LD, Columbia University), Peter van der Windt (PW, Columbia University), Maarten Voors (MV, Wageningen University) and Martha Ross (MR, Wageningen University).

Key readings are drawn from the open-access textbook:

- *Gertler et al.* Gertler, Paul J.; Martinez, Sebastian; Premand, Patrick; Rawlings, Laura B.; Vermeersch, Christel M. J.. 2011. *Impact Evaluation in Practice*. World Bank. © World Bank.

Open access text: <https://openknowledge.worldbank.org/handle/10986/2550> License: CC BY 3.0 Unported.

With some additional material drawn from:

- *Glennester et al.* Glennester, Rachel; Takavarasha, Kudzai. 2013. *Running Randomized Evaluations: A Practical Guide*. Princeton.

Open Access ancillary materials: <http://runningres.com>

Additional readings can be found in the **open access** text:

- *Khandker et al.* Khandker, Shahidur R.; Koolwal, Gayatri B.; Samad, Hussain A.. 2010. *Handbook on Impact Evaluation: Quantitative Methods and Practices*. World Bank. © World Bank.

<https://openknowledge.worldbank.org/bitstream/handle/10986/2693/520990PUB0EPI1101Official0Use0Only1.pdf?sequence=1> License: CC BY 3.0 Unported.

Some of the presentations will show some statistical simulations. Many of these are implemented using the open access statistical package **R**.

- **Open access** statistical software, **R**: www.r-project.org/

The below provides the draft program from the official welcome session (open to the public) and for the main workshop (for registered participants only). The final program will be disseminated at the workshop.

Monday, 20 January 2014: Getting Started

Morning 10am – 12am

Official welcome (Chaired by Professor Erwin Bulte, Wageningen University)

- Presentation by Abu Sesay Vice Chancellor Njala University: welcome, prayers and introductions
- Presentation by Bob Conteh, Dean of Social Science, Njala University: research at Njala University
- Presentation by Professor Macartan Humphreys (Columbia University): social science research, transparency, and international collaboration on development research
- Presentation by Professor Paul Richards (Njala University): recent research activities
- Response by Sinead Walsh (Irish Aid): from the perspective of the donor community

Afternoon 2pm-5pm

- **2 – 4 pm: Workshop introduction and causal inference (MH)**
 - Introduction, aim and content of the course
 - Research presentation #1: Demobilization Study Sierra Leone
 - The fundamental problem of causal inference and potential outcomes (Gertler et al, Chapter 3)
 - How randomization reveals average treatment effects (Gertler et al, Chapter 4: 49-55)
 - Review: [Ten Things You Need to Know About Causal Inference](http://e-gap.org/resources/guides/causality/)
<http://e-gap.org/resources/guides/causality/>
- **4 – 5 pm: Developing a proposal (MV/PW)**
 - How to go from research question to design
 - Research presentation #2: Evaluating Community Development Program "Tuungane" Study (PW)
 - Instructions on proposal assignment (to submit on Friday morning)

Tuesday, 21 January 2014 - Identification and Randomization

Morning 9am-12am

- Research presentation #3: Conservation Aid and Chiefs Study Sierra Leone (EB)
- Randomization design (MH)
 - Mechanics of replicable randomization and balance checks (Gertler et al, Chapter 4: 57-64)
 - Core assumptions of randomization: non-interference (SUTVA) and excludability
 - Types of randomization designs: access, timing, and encouragement (Gertler et al, Chapter 4: pp 55-56) and blocked and factorial design (Gertler et al, Chapter 9) (LD)
 - Block (stratified) randomization (Glennerster et al, Chapter 4.5)

Afternoon 2pm-5pm

- Breakout session (LD, MR, MV, PW)
 - Form groups
 - Problem set on randomization
 - Feedback and questions
 - Discussion of participants' research ideas 1: **Identification of Xs and Ys and randomization strategy.**

Wednesday, 22 January 2014 - Statistical power and analysis / Implementation

Morning 9am-12am

- Statistical power
 - Statistics review: standard deviation, standard error, the central limit theorem (Gertler et al, Chapter 11: pp. 175-195) (EB)
 - Power analysis (Glennerster et al, Chapter 6) (EB)
 - Analysis: Differences in means and Hypothesis Testing (Greber and Green) (MH)
 - Problem sets (MH)

Afternoon 2pm-5pm

- Breakout session (LD, MR, MV, PW)
 - Problem set on power
 - Problem set on hypothesis testing
 - Feedback and questions
 - Discussion of participants' research ideas 2: **Statistical power.**

Thursday, 23 January 2014 – Behavioral Experiments

Morning 9am-12am

- Research presentation #5: Public Goods and Corruption in Liberia (EB)
- A classification of experiments (EB)
 - Natural experiments, Framed Field experiments, Behavioral experiments, Lab experiments (TBD)
- Examples
 - Social, risk and time preferences (TBD)

Afternoon 2pm-5pm

- Breakout session (LD, MR, MV, PW)
 - Practicum on behavioral experiments, practice and analysis
 - Work on research proposal
 - Feedback on behavioral experiments and questions

Friday, 24 January 2014 - Threats to randomized experimental design

Morning 9am-12am

- **Hand in research proposal**
- Research presentation #5: Leaders in Democratic Deliberations (MH)
- Threats to randomized experimental design (MH)
 - Partial compliance: LATE and ITT (Gertler et al, pp. 64-79) (PW)
 - Spillovers (Gertler et al, pp. 123-125)
 - Attrition

Afternoon 2pm-5pm

- Implementation (MV/PW)
 - Life cycle of an experiment: implementation (Gertler et al, Chapter 10), survey instruments (Gertler et al, Chapter 12), and dangers of evaluation-driven effects
 - Forging partnerships: prospects and pitfalls
- Presentations of participants' research proposals