# DIL Demonstration Project – Work Plan Proposal

Project Name:
Principal Investigators:

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1-- What is the technology you propose to refine? Please describe the challenges or knowledge gaps that you plan to address through your Work Plan.

Experimental social science research in developing countries has long operated within a standard paradigm in which the researcher conducts a baseline survey, delivers an intervention of interest randomly to some households but not others, and then conducts an endline survey. For all its merits, this design has several important weaknesses.  First, it cannot shed light on the longer-term impacts of the intervention.  Second, it does not allow the researcher to observe how treatment effects unfold over time (McKenzie 2011).  Third, it is static: the researcher commits to a set of questions to examine through the endline survey and cannot modify this research plan in light of new information.  Fourth, it is costly: even in phone surveys, interviewers have to conduct one-on-one surveys with respondents. Finally, it is confined in the sense that researchers are limited to asking standardized, closed-ended survey questions, and have little opportunity to truly "get into the heads" of program participants. Our proposal seeks to address these problems through innovative use of mobile phones in conducting surveys.

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2-- How does this project integrate insights from development economics (or another social science discipline) into the engineering design?

We propose to develop and implement a research protocol that addresses these issues using mobile technology.  Mobile phones are pervasive in the developing world and provide researchers with an important – but as of yet poorly understood – new platform for collecting data cheaply and dynamically.  We propose to augment an existing randomized controlled trial (RCT) currently underway in Kenya using mobile technology.  The RCT, which examines the impact of cash transfers to poor households by the nonprofit organization GiveDirectly, is structured along the traditional lines designed above.  By ensuring that representative sub-samples of both the treatment and control groups have the use of a mobile phone and designing protocols and incentives for periodic follow-up with these subjects after the traditional endline has been completed, we will be able to address the three concerns listed above. In particular, we plan to implement and test the following innovations centered around using mobile phones for surveying. In all cases, respondents will be compensated for their time using the MPesa mobile money transfer system.

1. **Long-term follow-up surveys**. Traditional RCTs test the impact of interventions 12-15 months after they occurred. The resulting findings therefore potentially overlook long-term effects. The use of mobile phone surveys will allow us to not only achieve greater cost-effectiveness in conducting long-term follow-up surveys, but also reduce attrition since the phone number is a relatively permanent way of contacting respondents.
2. **High-frequency data collection.** We will conduct high-frequency (daily) mobile phone surveys on a set of RCT participants; this will allow us to assess how the treatment effect unfolds over time.
3. **Flexible addition of questions.** In addition, high-frequency data collection via mobile phone will allow us to add additional survey questions as new evidence becomes available, making the survey less static and more flexible.
4. **Automatized surveying.** To further reduce the costs of mobile phone surveys, we will pilot *automatized* surveying, in which questions are sent to respondents by SMS, and they reply by SMS and are compensated by MPesa. Kenya is unique in that literacy levels are high even among poor respondents, text messages are widely used; thus this system has the potential to significantly streamline data collection.
5. **Thought diaries.** Finally, we will use mobile phone surveys to prompt respondents about their thoughts, both positive and negative, at different times of the day and on

repeated occasions. In contrast to traditional survey methods which are unable to elicit such temporally nuanced information, this method will allow us to construct a rich picture of respondents' mental landscape, and thus enable us to study treatment effects in a novel, creative fashion.

3-- What level of funding are you requesting for the 2013 project year? Please explain how/where the funding will be allocated (i.e. GSR/postdoc support, travel, supplies, etc). List direct costs as opposed to costs including "overhead"/IDC.

| | Unit cost | Units 2013 | Units 2014 | Total units | Cost |
|---|---|---|---|---|---|
| Research assistant (monthly) | $2,500 | 3 | 3 | 6 | $15,000 |
| Hardware (phones) | $5,000 | 1 | 0 | 1 | $5,000 |
| Survey staff (monthly) | $1,000 | 3 | 3 | 6 | $6,000 |
| Airtime (monthly) | $200 | 3 | 3 | 6 | $1,200 |
| Respondent compensation (monthly) | $500 | 3 | 3 | 6 | $3,000 |
| | | Total 2013 | Total 2014 | | Total $30,200 |
| | | $17,600 | $12,600 | | |

4-- What 6-month and 1-year deliverables can you expect to generate? Please be detailed.

We expect to deliver an assessment of subject participation in the tracking study – potentially including how participation responds to experiment variation in the amount and kind of compensation offered – within 6 months. We expect analysis of outcomes and a qualitative description of how the dynamic loop has been used to guide the interpretation of the traditional endline data within 12 months. Finally, we expect information on long-term impacts over the course of the next 2-3 years.

5-- Please provide a justification for funding this project, in the context of social and economic development. Why should USAID care to fund this research?

USAID has demonstrated a strong commitment to impact evaluation in its work. Understanding and making judicious use of the information-gathering potential of mobile phones will be crucial for maximizing the cost-effectiveness of future impact evaluation work – both decreasing the costs of learning given things as well as increasing what can be learned for a given cost.

6-- How will this project contribute new methods or insights for the nascent discipline of "Development Engineering"? What specific contributions do you anticipate within 1 year?

The project aims to develop new methods for assessing impact that are (a) cost-effective, (b) dynamic and admit course-corrections, and (c) capable of detecting longer-term changes. We will be able to assess the performance of the approach on the first two dimensions within one year and on the third dimension within 2-3 years.

7-- Who are the partner(s) on this project? Is there support for a developing country researcher's involvement?

The project will be implemented through Innovations for Poverty Action and in partnership with GiveDirectly, a nonprofit that delivers cash transfers to poor households in Kenya via M-Pesa. GiveDirectly's Kenyan board includes a Kenyan researcher, Raphael Gitau of the Tegemeo Institute, who is involved in the design and supervision of the ongoing randomized controlled

trial.