LAB EVALUATION, RESEARCH, AND LEARNING PLAN

ADAPTIVE MANAGEMENT DEEP DIVE

SUMMER 2019 UPDATE
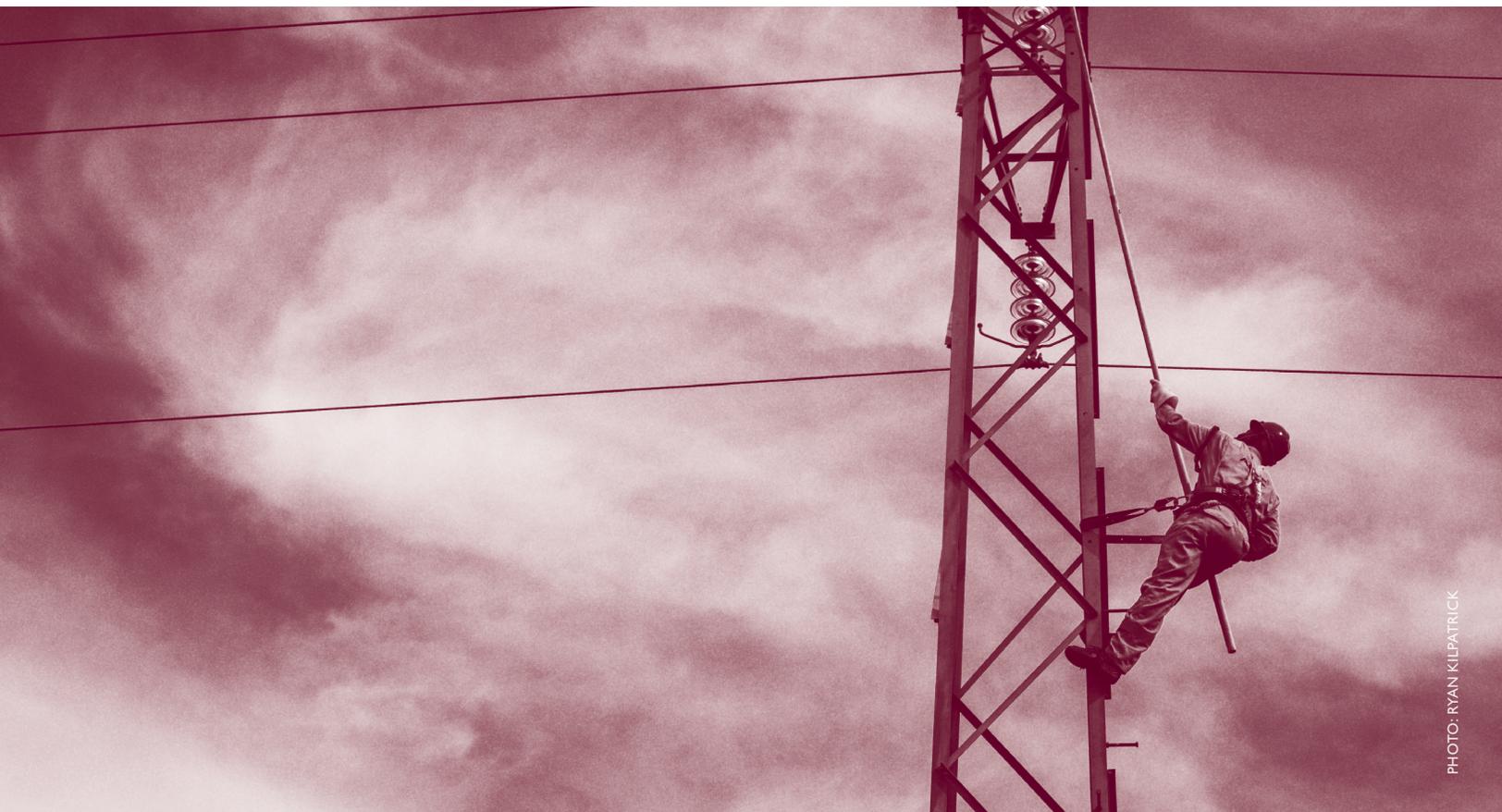
QUESTION 2

Real-Time Data for Adaptive Management (RTD4AM)

USAID FROM THE AMERICAN PEOPLE

U.S. GLOBAL DEVELOPMENT LAB

This Evidence Deep Dive *is a companion to the Question 2 Evidence Brief, produced as an output of the U.S. Global Development Lab's Evaluation, Research, and Learning (ERL) Plan - a utilization-focused learning agenda supporting evidence-informed decision making in Lab operations and science, technology, innovation, and partnerships (STIP) programming. A process and set of products, the ERL Plan facilitated Lab learning and adaptation around four bureau-wide areas of inquiry: uptake of products, services, and approaches; adaptive management tools and practices; support to awardees and partners; and sustainability of results.*

Insights from the ERL Plan are shared here as a record of emerging opportunities for evidence-based adaptation that could be acted on by USAID and other development actors. This work also contributes to the evidence base for the Agency-wide Self-Reliance Learning Agenda - an effort to support USAID as it reorients its strategies, partnership models, and program practices to achieve greater development outcomes and foster self-reliance with host country governments and our partners.

INTRODUCTION

Known barriers to adaptation can be divided into three categories:

- **Information Barriers** (e.g., not having the right information at the right time)

- **Structural/Process Barriers** (e.g., our own procure-ment policies and contract management practices)

- **Internal and External Value Barriers** (e.g., our own organizational culture and tolerance for risk, the organizational culture of our partners, or misalignment of our values to those of the beneficiaries)

This deep dive expands on the material presented in the *Question 2 Evidence Brief,* providing more robust findings, conclusions, and recommendations for specific approaches that can be used to overcome barriers to adaptive management. It answers "what", "so what", and "now what" questions for each approach:

- **How can the Lab/STIP best support Agency programming to adapt** within shifting environments?

- **What does this mean for us** (in the Lab/at USAID/ as development practitioners more broadly)?

- Given this information, **what should we do going forward?**

APPROACH: REAL-TIME DATA FOR ADAPTIVE MANAGEMENT

Real-time data for adaptive management (RTD4AM) is the use of real-time data collection and analysis to help decision makers respond quickly in uncertainty or complex, changing environments and adapt their approach to the situation. Information, often digital information, is delivered immediately after collection with no or very small delays, typically in the order of milliseconds. In the development context, this might be better envisioned as "right-time" data, in which information may not be transmitted instantaneously, but certainly within a timeframe that facilitates use.

RTD4AM FINDINGS – WHAT DO WE KNOW?

- Real-time data systems can generate data that directly informs immediate operational adaptations to specific "case- based" challenges faced by frontline workers. These adaptations can happen more or less at the point the system is used.

- Real-time data systems can provide data that, when aggregated in meaningful and comparable ways, provide useful inputs into strategic dialogue and discussions as part of a broader strategic information management system.

- Real-time data initiatives can open individual and collective space to explore the wider implications of the system for other related areas of development policy and practice.

- Real-time data systems can generate data that, in combination with other data and information sources, informs higher-level tactical adaptation decisions about resource allocation, individual and organizational performance management, rollout of initiatives, and progress of specific interventions.

- A common pitfall in RTD4AM design is to emphasize data collection over analysis and use, which can result in collecting performance and reporting data, rather than data that will inform adaptations.

- RTD4AM is an approach that has benefited from robust implementation research by USAID and others. For more in-depth findings and practical guidance on when, where, and how to implement a RTD4AM approach, please see: Paper-to-Mobile Data Collection: A Manual – 2018, USAID.

RTD4AM CONCLUSIONS – SO WHAT?

- RTD4AM is well-suited for filling information gaps in which primary data exists in the system but is not readily available to decision-makers.

- Contexts in which there are relatively high levels of digital infrastructure and digital literacy are enablers for RTD4AM. However, RTD4AM has been successfully implemented in contexts which lack these characteristics (e.g., Ebola recovery programming); they do require a larger investment of time, resources, and technical expertise.

- RTD4AM can also generate primary data, but as with many adaptive management approaches is best used in complement with other data sources.

RTD4AM APPLIED TO AN INFORMATION BARRIER FOR URBAN RESILIENCE

PROBLEM: Jakarta experiences severe flooding on an annual basis. Locating instances of flooding used to be very time consuming, requiring responders in different parts of the city to collect information manually, followed by centralized processing and analysis.

SOLUTION: PetaJakarta comprises a digital mapping tool that allows users to see flooding events across the city in real time. The system combines different kinds of data from social media, citizen reporting, government flood alerts, and physical sensor data to provide an integrated source of information for decision making by residents, local and national agencies, and international responders. The data is collected, validated, and relayed in real-time, and the entire system — the map, the software, and the actual data — is shared openly, enabling integration into different decision-making systems and protocols.

OUTCOME: PetaJakarta has recently been integrated into the Jakarta Emergency Management Services, and a new platform, PetaBencana, has been developed for use in Java. The American Federal Communications Commission recently recommended PetaJakarta as a model for crowdsourcing real-time disaster response information in the United States.

RTD4AM APPLIED TO AN INFORMATION BARRIER (CONTINUED)

CHALLENGES/CAVEATS: Data were generated by community members through social media platforms accessed through smart phones. However, less than 50 percent of urban dwellers in Jakarta have access to a smartphone. Additionally, people who engaged with the social media platform, either to submit data or access result, incurred data costs. Consequently, poor and vulnerable groups were very unlikely to contribute data and consequently were not represented on the flood warning maps created by the system in real-time. This is likely to have negatively affected the representativeness of the data.

The activities as described above were not USAID-funded, but PetaBencana, which replaced PetaJakarta, did later receive USAID funding. For more, see Bridging Real-Time Data and Adaptive Management: Case Study Report

RTD4AM RECOMMENDATIONS – NOW WHAT?

Our review of the evidence suggests that the Agency and other development actors should consider the following:

- Conduct data use assessments during the design phase to understand how RTD4AM could be beneficial. Assessments should examine: 1) what are the most pressing issues with data utility, 2) what primary data already exist in the system, 3) what digital systems already exist to support RTD4AM, and 4) who are the end users of the data and what are their needs.

- Resource appropriately for analysis and use of real-time data. Decision-makers at different levels of program management are likely to require different types of information to inform adaptation. At higher strategic levels, more sophisticated data analysis that also explores historical trends, compares between sites, or includes sub-sample analysis might be desirable, but often goes well beyond the resources typically invested in real-time data systems.

- Design RTD4AM outputs with end-users in mind. Web-based dashboards can be a powerful visual advocacy tool, they are often less useful for decision-makers who do not have time, interest or the required data literacy to engage with the dashboards. At community-level, low-tech dissemination strategies (e.g., simple color-coded tables) might be more effective in informing adaptive decision-making than dashboards, emails or social media dissemination.

- Invest in stakeholder mapping and participatory design of real-time data systems at the outset. Real-time data systems built without the necessary stakeholder buy-in often cease to exist or are highly ineffective.