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Integrating Implementation Fidelity Assessment into an Impact Evaluation of **Urban Water Infrastructure** Miguel Albornoz and Danae Roumis

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Project Overview: MCC Lesotho Metolong Dam Program and Urban and Peri-Urban Water Activity

GOAL: Improve access to quality water for domestic, commercial, and industrial consumption in lowland urban areas of Lesotho.

OUTPUTS: Water treatment works for Metolong Dam and downstream conveyance to Maseru, upgraded and rehabilitated infrastructure for urban water networks across 13 urban areas in Lesotho, new urban water network in Semonkong.

Fidelity of Implementation (FOI) Index **Components and Scoring**



Design: Does the design of the works suit function requirements? (D) 2: Yes; 1: Yes, with minor modifications; 0: Design prevents function requirements from being fully realized



Installation: Were works installed in keeping with design and equipment requirements? (I)

EXPECTED IMPACTS: Decreased water-borne illness and time spent collecting water, increased time available for productive activity and industrial employment.

TIMING: The project was implemented during MCC's Compact with Lesotho between September 2008 – September 2013. The implementation fidelity assessment was completed in 2017, prior to the design of an associated ex post impact evaluation.





4: Yes; 3: No, but remedied with minimal time/cost; 2: No, but remedied with moderate time/cost; 1: Remedy would involve major time/cost; 0: Installation has failed altogether

Operations & Maintenance: Are O&M both to standard? (O)

2: Yes, both; 1: Either O or M is to standard; 0: Neither is to standard



Funding: Are the works funded adequately, as evidenced by sufficient staffing, materials, condition of equipment/buildings, etc. (F) 2: Yes; 1: Evidence of funding shortage; 0: Evidence of severe funding shortage

OVERALL SCORE =

 $\frac{4}{3}$ *(D) + $\frac{1}{2}$ *(l) + $\frac{4}{3}$ *(O) + $\frac{4}{3}$ *(F)

Total 10 points possible. Weights adjust for different score ranges.

Role of Evaluator vs. Water Supply Expert



- Map project logic and identify role of infrastructure
- Set scope of inquiry for water supply expert
- Create FOI observation protocol to be used for scoring
- Ensure findings are intuitive for a non-technical audience
- Identify key documentation necessary to specify design and function requirements
- Pre-populate FOI protocol using existing documentation
- Complete FOI protocol using site visit, ground truthing
- Ensure findings are documented, technically defensible



Advantages for Evaluation Design

- Understand how the intervention was actually implemented \rightarrow define the 'treatment' that an impact evaluation would actually measure
- Adjust evaluation design based on degree of

Advantages for Analysis of Impacts

- Provide potential explanatory factors for levels of impact observed
- Analyze or explain variations in level of impact by degree of implementation fidelity, e.g. comparison of

Advantages for Reporting & Dissemination

- Intuitively communicate complex technical findings to non-technical stakeholders
- Allow for comparison across sites with heterogeneous treatment (each site includes a unique set of

implementation fidelity (methods, data collection approach, sample size assumptions, etc.)

Assess value of carrying out impact evaluation, based on the extent to which implementation

differed from original design

impacts between different sites

Assess differences in program implementation by

program components

infrastructure packages)

• Provide high-level FOI findings while allowing for deep-dives into specific program components for experts and non-experts alike

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