

Evaluating NGOs in international water development: a case study of H2O 4 ALL

by

Stephanie Lu

A thesis

presented to the University of Waterloo

in fulfillment of the

thesis requirement for the degree of

Doctor of Philosophy

in

Public Health and Health Systems

Waterloo, Ontario, Canada, 2017

© Stephanie Lu 2017

Examining Committee Membership

The following served on the Examining Committee for this thesis. The decision of the Examining Committee is by majority vote.

External Examiner	Paul Mkandawire Associate Professor, The Institute of Interdisciplinary Studies Carleton University
Supervisor	Susan J. Elliott Professor, Department of Geography and Environmental Management with cross- appointment in School of Public Health and Health Systems University of Waterloo
Internal Members	Shannon E. Majowicz Assistant Professor, School of Public Health and Health Systems University of Waterloo Christopher M. Perlman Assistant Professor, School of Public Health and Health Systems University of Waterloo Susan Watt Professor, School of Social Work McMaster University
Internal-external Member	Carrie L. Mitchell Assistant Professor, School of Planning University of Waterloo

Author's Declaration

This thesis consists of material all of which I authored or co-authored. Please see Statement of Contributions. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Statement of Contributions

This thesis consists in part of three manuscripts that have been submitted or published.

Exceptions to sole authorship:

Chapter 3: Lu, S.K., Elliott, S.J., & Perlman, C.M. (2017). Evaluability assessment of a small NGO in water-based development. *Evaluation*, 23(2), 226-241. DOI: 10.1177/1356389017697620

Chapter 4: Lu, S.K., Elliott, S.J., Majowicz, S.E., & Perlman, C.M. An evaluation toolkit for small NGOs in water-based development. In press with *The Journal of International Development*.

Chapter 5: Lu, S.K., Elliott, S.J., & Perlman, C.M. Facilitators and barriers to evaluative thinking in small, development NGOs. Submitted to *Evaluation and Program Planning*.

As lead author of these three chapters, I was responsible for conceptualizing study design, carrying out data collection and analysis, and drafting and submitting manuscripts. My co-authors provided guidance during each step of the research and provided feedback on draft manuscripts. Dr. Susan Elliot provided significant direction and editorial assistance throughout.

Under Dr. Susan Elliott's supervision, I also prepared the remaining chapters in this thesis, which were not written for publication.

Abstract

With the introduction of the Millennium and Sustainable Development Goals, the level of sophistication required to measure the impact of international development has grown. However, evidence suggests that international non-governmental organizations (NGOs) have been slow to invest in development evaluation; instead of using evidence-based tools to enhance performance, such as logic models or benchmarks, NGOs engage in activities to demonstrate their good work (e.g., report writing, monitoring progress). In light of the current biophysical, socioeconomic, political, and human challenges that make the water-health nexus a “wicked problem,” this thesis addresses the knowledge gap in our understanding of factors that influence the measurable success of an NGO in water-based development. Using a case study design, evaluation frameworks were applied in the context of international water development. An evaluability assessment and process evaluation of the case study informed the creation of low cost evaluation tools that can be adapted and applied to other small NGOs with little or no formal evaluation training. By documenting the evaluation experience, facilitators and barriers to conducting an evaluation and embedding evaluative thinking in an NGO were also identified. As a whole, this thesis aimed to counteract the prioritization of individual projects with short-term impact. Findings support the need for theoretically grounded evaluations at the organizational level in order to address the complexity of global water needs, the diversity of individuals who lack access, civil society organizations and the constraints under which they work, and the work that remains to achieve Sustainable Development Goal 6: “Ensure availability and sustainable management of water and sanitation for all.”

Acknowledgements

For the completion of this thesis, I have first to thank my supervisor Dr. Susan Elliott. Susan, you have shaped me into the researcher and evaluator that I am today. It has been an absolute privilege to work with you over the last six years. Thank you for your guidance, unwavering enthusiasm, and support. By your example, you have taught me how to be a lifelong learner.

A sincere thank you also goes to my committee members Dr. Susan Watt, Dr. Shannon Majowicz, and Dr. Christopher Perlman. Each of you have made valuable contributions to this thesis. Thank you for sharing your expertise with me in addition to asking the tough questions. Additionally, I am grateful for the Faculty and Staff in the School of Public Health and Health Systems who have enriched my graduate school experience.

Of course this thesis would not be possible without H2O 4 ALL's participation. I have been inspired by the people behind this organization and what they do. I will cherish my memories abroad with the organization for many years to come.

Finally, a heart-felt thank you goes to my family and friends. To my friends in the GoHELP lab, you have all been wonderfully kind to me and I look forward to witnessing your future successes. To KB especially, you have been a loyal friend; I am proud to be crossing the PhD finish line with you. To my brothers and sisters in Christ from Grad Cell and KWCAC, thank you for your ongoing prayers and encouragement to always "seek the things that are above." To HC, AJ, JL, and LW, you are amazing women doing amazing things in this world. I was not kidding about starting a consulting firm together. To Greg, thanks for teaching me that, by definition, you can only have one *best* friend. I believe it's you. You are a beautiful instrument of mercy in my life. To Daddy, Mommy, and David, thank you for keeping me humble and loving me wholeheartedly.

Table Contents

Examining Committee Membership	ii
Author’s Declaration.....	iii
Statement of Contributions	iv
Abstract	v
Acknowledgements.....	vi
List of Figures	ix
List of Tables	x
List of Abbreviations	xi
Chapter One	1
Background	1
1.1 The Water-Health Nexus	1
1.2 The Global Goals and WaSH.....	4
Chapter Two.....	8
Opening Remarks.....	8
2.1 Rationale	8
2.2 Theoretical Framework.....	11
2.3 Positionality	13
Chapter 3	14
Evaluability assessment of a small NGO in water-based development	14
Overview.....	15
3.1 Introduction.....	15
3.2 Methods.....	18
3.3 Results.....	21
3.4 Discussion	35
3.5 Conclusion	36
Chapter 4	38
An evaluation toolkit for small NGOs in water-based development.....	38
Overview.....	39
4.1 Introduction.....	39
4.2 A Utilization-Focused Approach	42
4.3 Case Study: H2O 4 ALL.....	43
4.4 A Utilization-Focused Toolkit	46
4.5 Lessons Learned.....	58
4.6 Conclusion	60
Chapter Five.....	63
Facilitators and barriers to evaluative thinking in small, development NGOs.....	63
Overview.....	64

Highlights.....	64
5.1 Introduction.....	65
5.2 Methods.....	67
5.3 Results.....	71
5.4 Discussion.....	79
5.5 Lessons Learned.....	81
5.6 Conclusion	81
Chapter Six.....	83
Discussion and Conclusion	83
6.1 Summary of Key Findings	83
6.2 Discussion.....	85
6.3 Contributions.....	89
6.4 Limitations	90
6.5 Directions for Further Research.....	91
References.....	93
Appendix A: Millennium Development Goal 7	111
Appendix B: Sustainable Development Goal 6	112
Appendix C: Core Constructs of Ecosocial Theory	113
Appendix D: Key Stakeholder In-depth Interview Guide	114
Appendix E: Patton’s Utilization-Focused Evaluation.....	116
Appendix F: Semi-structured Surveys	117

List of Figures

Figure 4.1 H2O 4 ALL’s logic model.....	48
Figure 5.1 Planned approach to operationalizing evaluative thinking in a small NGO across spheres of influence	70
Figure 5.2 Barriers to evaluative thinking in a small NGO across spheres of influence	78

List of Tables

Table 3.1	Database search strategy for WaSH NGOs based in North America	22
Table 3.2	Profile of WaSH NGOs.....	23
Table 3.3	WaSH interventions or services provided by NGOs.....	24
Table 3.4	Comparison of H2O 4 ALL to other NGOs in environmental scan	25
Table 3.5	Challenges encountered while working with H2O 4 ALL.....	26
Table 3.6	Linking H2O 4 ALL’s vision and mission statement to formal documentation.....	30
Table 3.7	Proposed process evaluation plan for H2O 4 ALL	34
Table 4.1	Process evaluation plan for H2O 4 ALL.....	45
Table 4.2	WaSH project implementation checklist.....	52
Table 5.1	Potential facilitators to evaluative thinking identified by H2O 4 ALL.....	72
Table 5.2	Potential barriers to evaluative thinking identified by H2O 4 ALL.....	74

List of Abbreviations

EA	Evaluability Assessment
ED	Executive Director
JMP	Joint Monitoring Programme
LMICs	Low- and middle-income countries
MDGs	Millennium Development Goals
NGOs	Non-governmental organizations
NPOs	Non-profit organizations
ROTOM	Reach One, Touch One Ministries
SSA	Sub-Saharan Africa
SDGs	Sustainable Development Goals
UN	United Nations
WWAP	World Water Assessment Programme
WaSH	Water, sanitation, and hygiene
WHO	World Health Organization

Chapter One

Background

1.1 The Water-Health Nexus

The water-health nexus is “the interface between the biophysical system of water (ecosystem), the socioeconomic and political system of water (the hydro-social cycle), and human health” (Confalonieri & Schuster-Wallace, 2011, p. 512). Within the water-health nexus there are three “cruxes” or themes that have informed my dissertation; however, by no means are they the only ones that make the issues of water, sanitation, and hygien (WaSH) a “wicked problem.”

Water is a global health issue

Sanitation and hygiene were born out of the industrial revolution; human excreta and other wastes had to be removed from densely populated urban slums out of necessity (Rautanen et al., 2010). Urban drainage systems were also needed to protect urban environments from flooding. Because of these systems, public health improved with the rising standard of living. However, public health was secondary to economic benefits as a driver for this transition. In countries that were unaffected with the industrial revolution in the 1880s, populations have been slower to reach institutional changes in water supply and sanitation, since these changes are influenced by a country’s economic and political history. For individuals living in low- and middle-income countries (LMICs) today, particularly women and those in rural areas, lack of access to WaSH has perpetuated a cycle of poverty (WSSCC, 2006).

The physical and psychosocial health impacts of improved drinking water supply and sanitation have been well-documented. For example, in a systematic review of studies published between 1970 and 2013, high-quality piped water and sewer connections in LMICs were

associated with the greatest decrease in risk for diarrheal disease, when compared to other interventions (Wolf, 2014). With improved drinking water supply and sanitation, preventable diarrheal diseases include hepatitis A, hepatitis E, typhoid fever, malaria, dengue fever, yellow fever, schistosomiasis, and meningococcal meningitis (Watt & Chamberlain, 2011). Additionally, under-five mortality rates, caused by the consumption of unsafe water (Cheng et al., 2012), can be decreased.

With respect to psychosocial health impacts, Bisung and Elliott (2016) identified four types of stressors that are connected to a lack of access to improved drinking water supply and sanitation: 1) physical stressors (e.g., risk of injury from poorly constructed latrines), 2) financial stressors (e.g., having to buy water from vendors at a premium when reliable sources of water are absent), 3) social stressors (e.g., increased fear of sexual assault among women when collecting water or practicing open defecation), and 4) stressors related to (perceived) inequities (e.g., increased distrust and resentment against government during water shortages). Gender differences among these four types of stressors were also observed in their scoping review, with women carrying a disproportionate psychosocial burden (Bisung & Elliott, 2016).

Water is a gendered issue

When it comes to sanitation and hygiene, gender differences remain apparent. The safe removal of faecal matter and proper waste management are essential to health. Yet, it is estimated that 2.4 billion are without access to improved sanitation facilities (i.e., excreta is kept separate from human contact) and 946 million still practice open defecation (World Health Organization [WHO]/UNICEF Joint Monitoring Programme [JMP], 2015). For women without easy access to private sanitation facilities, travelling long distances and being forced to defecate in the open puts them at risk. Open defecation not only affects their safety, but also their dignity and self-

worth (World Water Assessment Programme [WWAP], 2015). Furthermore, it is a cultural norm in some LMICs for girls and women to wait until nightfall to defecate (WWAP, 2015). This is damaging to their physical and psychological health, and again, puts them at risk of sexual violence and harassment (WWAP, 2015).

Similar to sanitation, hygiene has been a low priority on the development agenda because discussing human waste and menstrual blood is taboo. Women and girls require access to basic facilities and information about the menstrual cycle, yet there is a dearth of comparable data about menstrual hygiene management (WHO/UNICEF JMP, 2015). It is estimated that at least 500 million women and girls lack access to basic facilities for menstrual hygiene management (WHO/UNICEF JMP, 2015).

Furthermore, women and children in Uganda, and many other countries, are often responsible for collecting water for their families, meaning that they may walk 2-5 km one way to collect water from a contaminated source (Watt & Chamberlain, 2011). The long distance they travel puts them at risk of sexual violence and harassment; it also limits time that could be spent in school or doing paid work (Watt & Chamberlain, 2011).

Pregnant women are also vulnerable if giving birth in a health facility that is not equipped with proper sanitation practices or safe water. In these situations, pregnant women must supply their own water when giving birth, which is likely contaminated. Contaminated water increases the number of complications during birth, the mother's and infant's risk of infection, and their chance of dying (Watt & Chamberlain, 2011). These problems are so severe that Cheng et al. (2012) found a statistically significant relationship between increased access to water and decreased under-five mortality using data for 193 countries (Cheng et al., 2012). Sanitation was

also identified as an independent contributor to child and maternal mortality outcomes (Cheng et al., 2012).

Water is a climate change issue

To complicate WaSH-related challenges further, the regions that carry the greatest physical and psychosocial burdens from lack of access to WaSH (i.e., West Asia, North Africa, and Sub-Saharan Africa) are the same regions most vulnerable to global environmental change (Karanja et al., 2011). Rising global temperatures have been linked to increased rates of diarrheal disease (Philipsborn et al., 2016). Additionally, for water, climate change will increase the likelihood of damaged infrastructure as a result of flooding, insecure water sources due to declines in rainfall and increased demand, and changes in water quality and distribution patterns (Howard et al., 2016). Similarly, sanitation services face the risk of reduced wastewater carrying capacity and damage from floods (Howard et al., 2016). As a result, the likelihood of disease outbreaks and exposure to vectors is expected to increase (Watt & Chamberlain, 2011; Alderman et al., 2012; Philipsborn et al., 2016; Howard et al., 2016). This is highly concerning as it is estimated that, as a result of global environmental change, 3-6 billion people will be living in water-stressed basins by 2050 (Karanja et al., 2011).

1.2 The Global Goals and WaSH

Millennium Development Goals

Inequalities in access to adequate water and sanitation were recognized in the introduction of Target 7.C in the United Nation's (UN's) Millennium Development Goals (MDGs) in 2000. Target 7.C aimed to "Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation" (WWAP, 2012). Target 7.C, its two corresponding

indicators (Appendix A), and the rest of the MDGs have been closely examined since 2015 to determine their influence on an international scale. A common criticism of the MDGs was that their simplicity was both a strength and weakness. On one hand, Target 7.C helped practitioners communicate their priorities (Langford & Winkler, 2013). On the other hand, Target 7.C resulted in a loss of the holistic dimensions of water (social, environmental, economic, and political) by reducing a multifaceted subject into a list of indicators, amongst other problems (Langford & Winkler, 2013).

Furthermore, efforts to reach Target 7.C fell short. Although the target for safe drinking water was successfully met in 2010, 663 million worldwide still lack access (WHO/UNICEF JMP, 2015). For sanitation, the target was missed as 2.4 billion remain without access to improved sanitation facilities (WHO/UNICEF JMP, 2015). The lowest rates of coverage are in Sub-Saharan Africa (SSA); based on recent data for 25 countries in SSA, estimated combined “improved” access to water and sanitation coverage was 20% (Roche et al., 2017). Satterthwaite (2016) suggests that this poor outcome was partially the result of setting too low a bar for “improved” or “basic” sanitation, which range from pit latrines with slabs to flush toilets with a sewer connection. Additionally, safe drinking water was measured by a household’s access to piped water, which does not guarantee that the supply is reliable or that the water is safe to drink (Satterthwaite, 2016). Overall, progress towards Target 7.C of the MDGs was poor in LMICs.

Sustainable Development Goals

As the 2015 MDG deadline approached, an international effort was made to determine what the next iteration, the Sustainable Development Goals (SDGs), should look like. Water and sanitation were reframed in the agenda for 2030 as Goal 6: “Ensure availability and sustainable management of water and sanitation for all” (UN, 2015, p. 14) (Appendix B). The number of

WaSH indicators grew from two to six in order to present a more holistic view of the issues. Hygiene was added to Goal 6, which was not part of Target 7.C. Additionally, the indicators were influenced by the 2010 resolution to “recognize the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights” (UN, 2010a, p. 2). The Human Rights to Water and Sanitation resolution encompasses rights to the access of essential services, with availability, quality/safety, physical accessibility, affordability (or economic accessibility), and acceptability as five distinct normative criteria (UN, 2010b).

There are many challenges that lie ahead in order to reach Goal 6 by 2030, including monitoring and measuring progress towards them. Baquero et al. (2016) have identified three major challenges just within the Human Rights to Water and Sanitation framework, which include measuring dimensions of both water and sanitation in the field, assessing relative importance of these dimensions while being contextually relevant, and using adequate procedures to construct a composite indicator.

Furthermore, based on SDG indicators, it is estimated that only 4% of the SSA region has coverage when “basic” access to water with collection time within 30 min, sanitation, and hygiene indicators are combined (Roche et al., 2017). This low combined coverage in SSA indicates that 921.6 million people lack access to improved water, sanitation, and hygiene (Roche et al., 2017). With the new SDG indicators, greater attention should be paid to increasing: a) handwashing facilities, particularly in rural regions (Roche et al., 2017), b) transparency in monitoring progress towards indicators (at the local level since monitoring at the national level may be too costly), and c) the engagement of multiple stakeholder groups (e.g.,

community members, local governments, civil society organizations, and donors/funders) to creating locally appropriate WaSH solutions (Satterwaithe, 2016).

Chapter Two

Opening Remarks

2.1 Rationale

Numerous civil society organizations, including international non-governmental organizations (NGOs) and not-for-profit organizations (NPOs), have made it their mission to address global WaSH needs. There are several characteristics of NGOs, specifically, that put them in a unique position to make sustainable changes in access to WaSH. For example, in a study that consulted over a hundred NGOs to understand their roles in the sanitation sector, NGOs were found to have several key strengths that allowed them to engage communities in designing locally-appropriate solutions to sanitation (Carrard et al., 2009). These strengths included their ability to deliver sanitation services to remote places within a short timeframe because of community partnerships, as well as their adaptability to meet identified needs in view of different local community and policy contexts (Carrard et al., 2009). In addition, NGOs can draw on international experiences within their network to exchange ideas (Carrard et al., 2009).

Furthermore, as intermediate level actors that sit between national government institutions and service providers, NGOs play an important role in advocating for sustainable and low cost development through mediation and collaboration with other actors in the WaSH sector (Visscher et al., 2006; Carrard et al., 2009). In a case study on sanitation in Uganda, NGOs were involved in a variety of activities; they took part in a working group with government ministries, helped a district develop their own strategic framework, and they worked with the private sector and local NGOs to support latrine construction (Visscher et al., 2006).

Nevertheless, NGOs who work in WaSH also face some unique challenges, especially small NGOs whose projects are time and budget sensitive. Small NGOs often lack the means to support development evaluation—a sub-discipline of evaluation that addresses “the profound, the complex, and the emergent areas of development” (Morra Imas & Rist, 2009, p. xv). This is concerning because without rigorous evaluation activities, we do not know if intended outcomes are being met. If not required to re-examine or reflect upon organizational goals and progress made on a regular basis, NGOs are at risk of being insular. Moreover, NGOs in development as a whole “face significant constraints and contradictions in their ability to strengthen civil society given the pressures they face to be non-political, their weak roots in society, the pressures they face to be accountable ‘upward’ to donors rather than ‘downward’ to beneficiaries, and their focus on short-term projects rather than long-term structural change” (Banks et al., 2015, p. 709).

The MDGs and SDGs are, in part, a response to this problem as they have helped push the agenda for measurement and transparency forward on an international scale, in addition to shaping priorities for WaSH. Before the introduction of the MDGs, development evaluation had been limited to individual programs and projects, given their independent causes, operations, and structures. But, by providing commonly agreed upon benchmarks for the entire development enterprise, the MDGs and SDGs have: a) shifted the main unit of account to the country level (as opposed to organization level), b) called for a coordinated approach, meaning more joint evaluations of increasing complexity, and c) moved the ownership of projects from donor agencies to the countries (Picciotto, 2007).

The MDGs and SDGs have also increased the need for complex evaluation processes that are “more comprehensive, participatory, and better adapted to society’s needs” (Picciotto, 2007, p. 520)—a huge endeavor for inexperienced NGOs to take on. NGOs are under tremendous

pressure to demonstrate that the majority of their resources are applied directly into development projects themselves, given the rising skepticism that surrounds the effectiveness of aid (Picciotto, 2012). Furthermore, the SDGs' deadline of 2030 will pose a number of new challenges to evaluation, given the interdependent nature of the SDGs and the tensions between growth, prosperity, and sustainability as desired outcomes (Heider, 2015; UN, 2015).

For NGOs to maximize their efforts in having a positive impact on WaSH-related issues, regardless of their size, evidence-informed practice is needed. The knowledge gaps in our understanding of the contextual (e.g., geography, access to markets), psychosocial (e.g., cultural identity, self-efficacy), and technological factors that influence the *measurable* success of a water-based intervention will be addressed through the following research objectives:

1. To apply Thurston & Potvin's Evaluability Assessment Framework (2003) and Patton's Utilization-Focused Evaluation Approach (2012) in the context of international water development;
2. To inform the creation of low cost evaluation tools that can be adapted and applied by small NGOs with little or no formal evaluation training; and
3. To examine facilitators and barriers to conducting evaluation of small NGOs in international water development.

The research objectives have been addressed by conducting a case study in the form of an evaluation of a small, international NGO that designs and implements water-based development projects in LMICs. Each objective corresponds to a manuscript, which are presented in Chapters 3-5. Together, they provide a rich case study that is, to my knowledge, the first organizational level evaluation of a small NGO working in water with clear usage of a guiding theory and frameworks.

2.2 Theoretical Framework

Within the water-health nexus are deep rooted problems that have led to social inequalities in health. Krieger's ecosocial theory provides a starting point to explore these problems. Krieger (1994) first called attention to the need for ecosocial theory when she critiqued the epidemiological "web of causation" model that was widely accepted at the time of her publication. Establishing ecosocial theory was a "necessary and vital" challenge, as Krieger saw it, because "...it emphasizes why epidemiologists must look first and foremost to the link between social division and disease to understand etiology and to improve the public's health, and in doing so exposes the incomplete and biased slant of epidemiologic theories reliant upon a biomedical and individualistic world-view" (Krieger, 1994, p. 899). Today the ecosocial theory is recognized in the literature as one that seeks explanations of "current and changing patterns of social inequalities in health" (Krieger, 2011, p. 213).

Each core construct of ecosocial theory (Appendix C) can be applied to the water-health nexus. For example, the first construct of embodiment suggests that a combination of some or all factors that contribute to water-borne diseases are physical, social, and biological in nature. "Diseases such as schistosomiasis, guinea worm, filariasis, yellow fever, river blindness, trachoma and yaws all leave marks on the body of infected persons which tell stories about their living conditions or state of access to safe water and sanitation" (Bisung & Elliott, 2014, p. 196).

In addition, pathways of embodiment, the second construct, can be used to explain how water-borne diseases vary between neighbourhoods, age groups, and ethnic groups (Bisung & Elliott, 2014). It is not coincidental that diarrheal diseases are most common in countries located in West Asia, North Africa, and SSA—regions that are vulnerable to global environmental change (Karanja et al., 2011). Global environmental change is predicted to increase the

likelihood of disease outbreaks and exposures to vectors (Watt & Chamberlain, 2011). As a result, 3-6 billion people could be living in water-stressed basins by 2050 (Karanja et al., 2011). In these regions of the world, safe removal of faecal matter and proper waste management, which are essential to health, are also lacking. It is estimated that 946 million people practice open defecation and 2.4 billion are using unimproved sanitation facilities (i.e., excreta is not kept separate from human contact) (WHO/UNICEF JMP, 2015).

With respect to the third construct—the cumulative interplay of exposure, susceptibility, and resistance across the life course—it is well-documented in the WaSH literature that both gender relations and sex-linked biology affect health and well-being. For example, pregnant women in LMICs are more susceptible to water-borne illnesses because health facilities in rural communities are rarely equipped with proper sanitation practices and the women are expected to supply their own water when giving birth (Watt & Chamberlain, 2011). Krieger (2011) states that the ecosocial approach encourages better contextualization of the health of women and men and how social class can affect similarities and differences within and across socially defined groups—an important perspective that has been largely ignored in the literature on WaSH intervention design, implementation, and evaluation.

Finally, the fourth construct of ecosocial theory—accountability and agency—brings attention to issues of power. Agency refers to institutions' and individual people's capacity to act, whereas accountability refers to their responsibility for action or lack thereof (Krieger, 2011). The accountability and agency construct was used to examine water practices in Usoma, a rural lakeshore community in Kenya (Bisung et al., 2015). In Usoma, individuals reported that structural factors such as unemployment and lack of trust in leadership were barriers to collective

action (e.g., WaSH education, community meetings) that could help them cope with water-related challenges (Bisung et al., 2015).

2.3 Positionality

Starting from a young age my parents strongly encouraged me to support causes I believe in by volunteering my time and raising donations for NGOs in my local and global community. Now, as an adult, I have a keen interest in understanding the inner workings of organizations and whether or not my donations are actually improving the health and well-being of others, particularly in low-income countries. This is the lens with which I approached my research.

Although I believe that, like me, many Canadians are interested in thinking critically about our role in international development efforts, I am aware of my biases towards NGOs like the one used in this case study. At times, it was challenging for me to approach this research from an objective standpoint, as it was my personal desire to support the NGO being evaluated. I had to consider and report on how my presence may have affected what I observed. As the evaluator, I also had to balance between establishing trustworthiness with the organization, which can be built over time, but not to an extent where prolonged involvement would affect the organization's normal functioning (Patton, 2015). Using evaluation frameworks helped me approach this research with a critical eye. Additionally, Chapter 5, where I discussed the facilitators and barriers to evaluative thinking, provided an opportunity for me to reflect upon the different motives that shaped this evaluation research.

Chapter 3

Evaluability assessment of a small NGO in water-based development

Authors: Stephanie K. Lu¹, Susan J. Elliott², Christopher M. Perlman¹

¹ School of Public Health and Health Systems, University of Waterloo

² Department of Geography and Environmental Management and School of Public Health and Health Systems (Cross-Appointed), University of Waterloo

Recommended Citation: Lu, S.K., Elliott, S.J., & Perlman, C.M. (2017). Evaluability assessment of a small NGO in water-based development. *Evaluation*, 23(2), 226-241. DOI: 10.1177/1356389017697620

Reprinted by permission of SAGE Publications.

Overview

Small non-governmental organizations working in water-based development in low and middle-income countries face unique challenges when it comes to evaluative practice. Few prioritize evaluation because they lack expertise and/or feel strongly about funding programs and not processes, given accountability to donors. To examine facilitators and barriers to evaluation in this context, we embarked on an organizational level evaluation of H2O 4 ALL, a Canadian NGO with no prior evaluation experience. We first conducted an evaluability assessment, guided by Thurston and Potvin’s framework for social change programs, to understand evaluation priorities and needs. By triangulating findings from three qualitative sources of data—an environmental scan, a document review, and in-depth interviews—we have demonstrated evaluability assessments’ applicability to water-based development and established a baseline for further research.

3.1 Introduction

The introduction of the United Nation’s Millennium Development Goals (MDGs) in 2000 ushered in a new era for the development community. Recently, in light of the new Sustainable Development Goals (SDGs), the MDGs have been under close examination to see which areas of development have reached or surpassed their goals over the last 16 years. One finding was that the simplicity of the MDGs were both a strength and weakness (Langford & Winkler, 2013)—a finding that applied to Target 7.C: “Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation” (WWAP, 2012: 11). For instance, Target 7.C helped international water, sanitation, and hygien (WaSH) practitioners communicate their priorities; however, this resulted in a loss of the holistic dimensions of water (social, environmental, economic, and political) by reducing a multifaceted subject into two

indicators (see WWAP, 2012), amongst other problems (Langford & Winkler, 2013). Although the target for safe drinking water was successfully met in 2010, 663 million worldwide still lack access, the majority of whom live in rural areas in low- and middle-income countries (LMICs) (WHO/UNICEF JMP, 2015). In addition, the sanitation target was missed as 2.4 billion remain without access to improved sanitation facilities (WHO/UNICEF JMP, 2015).

Numerous international non-governmental organizations (NGOs) and not-for-profit organizations¹ have made it their mission to address these global needs and are dedicated to continuing the effort. With “the availability and sustainable management of water and sanitation for all” as Goal 6 of the new SDGs (UN, 2015: 14), NGOs in the WaSH sector have the potential to make lasting change. For example, in a study that consulted over 100 NGOs, strengths such as community partnerships for delivering sanitation services in remote areas, and adaptability to local policy contexts, allowed NGOs to engage communities in designing locally-appropriate solutions to sanitation (Carrard et al., 2009). Furthermore, as intermediate level actors that sit between national government institutions and service providers, NGOs play an important role in advocating for sustainable and low cost development through mediation and collaboration with other actors in the WaSH sector (Visscher et al., 2006; Carrard et al., 2009).

Nevertheless, WaSH NGOs also face unique challenges, especially small organizations whose projects are time and budget sensitive. Small NGOs often lack the means to support development evaluation—a sub-discipline of evaluation that addresses “the profound, the complex, and the emergent areas of development” (Morra Imas & Rist, 2009: xv). This is concerning because without evaluation activities, we do not know if intended outcomes are being met. If not required to re-examine or reflect upon organizational goals and progress made on a regular basis, NGOs are at risk of being insular. Moreover, NGOs in development can rarely

address long-term structural change given the pressures they face to be non-political and accountable “‘upward’ to donors rather than ‘downward’ to beneficiaries” (Banks et al., 2015: 709).

The MDGs and SDGs are, in part, a response to this problem as they have helped push the agenda for measurement and transparency forward on an international scale. But the goals have also increased the need for complex evaluation processes that are “more comprehensive, participatory, and better adapted to society’s needs” (Picciotto, 2007: 520)—a huge endeavor for small and inexperienced NGOs to take on. NGOs are under tremendous pressure to demonstrate that the majority of their resources are applied directly into development projects themselves, given the rising skepticism surrounding the effectiveness of aid (Picciotto, 2012).

Therefore, in light of the evaluative challenges ahead, we examined facilitators and barriers to conducting evaluation of small NGOs undertaking water-based development projects in LMICs in order to address the unique challenges they face. To do so we have embarked on an organizational level evaluation of a small, international NGO in water-based development. Based in Ontario, Canada, H2O 4 ALL aims to address issues of WaSH through partnerships with established NGOs in LMICS. They offer expertise and support for building appropriate water-based technology (deep well drilling, borehole rehabilitation, rainwater harvesting, water purification systems) for communities and medical facilities and have implemented over 35 projects in low-income countries (in South America, West Africa, East Africa, and Southern Africa) since 2009 (H2O 4 ALL, 2016). In order to design, and eventually carry out, an evaluation that prioritizes “intended use by intended users” (Patton, 2012: 4), we first conducted an evaluability assessment (EA). H2O 4 ALL had no evaluation experience when this EA began.

From the onset we chose to evaluate H2O 4 ALL at the organizational level because it was at an expansion/growth stage from a lifecycle perspective (Srinivasan, 2007). NGOs typically transform from a single project-based entity to a vision-led professional entity through their lifecycle of growth (Srinivasan, 2007). During an NGO's expansion/growth stage, one of their biggest challenges is investing in organization development over project-based activities, which often take precedence (Srinivasan, 2007).

To guide our EA we used Thurston and Potvin's (2003: 457) framework which consists of six elements: (1) selecting an evaluability assessor; (2) identifying stakeholders; (3) identifying and assessing key documents; (4) developing the program logic model and evaluation plan; (5) reaching agreement to proceed with an evaluation; and (6) identifying and assessing time and other resources required. The framework is geared towards social change programs—those rooted in social justice and equity. Participation in the evaluation and program by key stakeholders is an important aspect of Thurston and Potvin's (2003) framework, as are furthering goals of empowerment, and meeting stakeholder needs.

3.2 Methods

To determine H2O 4 ALL's level of readiness for further evaluation and their priorities, we used three qualitative methods—an environmental scan, document review, and in-depth interviews. We chose qualitative methods for their flexibility; given the exploratory nature of the EA, open-ended questions allowed us to collect rich information (from primary and secondary sources) that was both unanticipated and meaningful to H2O 4 ALL. The purpose of using three methods was to provide multiple types of data which could provide new insights about the NGO and increase credibility via triangulation (Farmer et al., 2006; Patton, 2015). Although experimental and quasiexperimental methods are considered ideal in development evaluation, triangulation of

methods is a strategic way to combine rigor with low costness (Picciotto, 2007). Ethics clearance for this research was received through a University of Waterloo Research Ethics Committee.

We conducted an environmental scan to gain an understanding of how H2O 4 ALL fits within the WaSH sector. To select for organizations that have a similar vision and mission to H2O 4 ALL, the scan was limited to: a) water-based NGOs working in LMICs, but headquartered in North America, and b) NGOs who included as all or part of their mandate the provision of safe water, sanitation facilities, and WaSH education. Information was gathered using publically available information on NGO websites. Relevant search terms and filters were applied to large charity databases (Charity Intelligence Canada, Charity Navigator, and Canada Revenue Agency). NGOs were screened using vision and mission statements and duplicates were excluded. NGOs whose website content was not in English nor updated within the last two years were also excluded. *Google Search* was used to capture remaining NGOs who were listed as H2O 4 ALL's project partners on their website. *QSR NVivo 9* was used to facilitate thematic analysis of the data. A theme code set was created using an inductive and deductive coding strategy—the framework was based on headings of data extraction tables and relevant codes were added as they emerged.

Documents were a valuable source of data because they represented a formal description of H2O 4 ALL; if changes to H2O 4 ALL were made without documentation, these differences revealed potential sources of tension and conflict that could be investigated further (Bowen, 2009). Therefore, the first author (S. Lu) retrieved documents (meeting minutes, grant proposals, and reports) from H2O 4 ALL to examine: a) how well the Board of Director's activities, as captured in the given documents, reflected the organization's vision, mission, and impacts, and b) whether or not the mission statement could be used to develop meaningful measures. To do

this, H2O 4 ALL's mission statement was parsed into seven component themes to use as a basis for coding. Using *QSR NVivo 9*, we followed Meyer and Ward's (2014) three phases for qualitative analysis (pre-coding, conceptual and thematic categorization, and theoretical categorization). The approach not only allowed for a priori testing, but also theory expansion and development through inclusion of codes that fell outside previously determined conceptual categories (Meyer and Ward, 2014). Through this process, the first author (S. Lu) identified gaps in evidence between H2O 4 ALL's mission statement and documented activities.

In-depth interviews with each of H2O 4 ALL's Board of Directors (n=10) were conducted using a semi-structured approach; questions and probes were used to elicit program theory and evaluation priorities, as well as to understand each Board Member's role within the organization, their level of involvement, and what they viewed as short- and long-term goals, personally and for H2O 4 ALL (Appendix D). For example, Board Members were asked whether or not they thought H2O 4 ALL's vision and mission reflect what the NGO actually does. They were also asked to describe what they would put into action tomorrow, after one month, and after one year if they were Board Chair. Interviews were recorded and transcribed verbatim for subsequent thematic analysis using *QSR NVivo 9*. The data was interpreted using a template organizing style, which allowed the collected text to be easily entered into appropriate categories and then analyzed and interpreted further (Crabtree & Miller, 1999). The template was based on anticipated responses to questions (deductive reasoning), but categories were also added as they emerged from the interviews (inductive reasoning). In addition to our process for qualitative analysis and triangulation of methods, rigor was addressed through member checking. A draft report summarizing findings from the in-depth interviews was shared with Board Members with a request for feedback.

3.3 Results

For our EA we felt it important to establish a context for how H2O 4 ALL fits within the WaSH sector—this was an information need identified early on by the EA’s sponsors (i.e., H2O 4 ALL’s Board of Directors) in initial talks. Our remaining results, which should be interpreted within the given context, have been organized according to Thurston and Potvin’s (2003) framework of six elements. Additionally, we have noted where possible which results were based on agreement, partial agreement, silence, or dissonance, according to definitions from Farmer et al.’s (2006) triangulation protocol.

Establishing context on NGOs in the WaSH sector

The search strategy for the environmental scan, as shown in Table 3.1, identified 716 NGOs, 74 of which met our inclusion criteria. The first items searched on each NGO’s website were vision and mission statements. As summarized in Table 3.2, these statements distinguished NGOs whose sole focus is on issues of WaSH (n=34) from those who have multiple areas of focus for development (n=40). Additionally, approximately one third of NGOs (n=25) mentioned religious belief in their vision and mission statement as their motivation for international development. With respect to approaches, the majority of NGOs aimed to improve the lives of all people in LMICs (n=52), whereas less than one third chose to focus their interventions to meet the needs of a sub-population such as women (n=6), children (n=15), and older persons (n=1). From the vision and mission statements, it was also found that few have adopted microfinance schemes (i.e., financial support for entrepreneurs and small businesses to promote economic development) (n=10) or a partnership model (n=13) as a strategy for sustainable development. H2O 4 ALL is included in the latter category; the organization cites their long-term relationships with

established NGOs in LMICs as key to accomplishing their goals of local engagement and sustainability.

Table 3.1 Database search strategy for WaSH NGOs based in North America

Database	Search	NGOs Identified	NGOs Included
Charity Intelligence Canada	Search: 'water'	12	4
	Search: 'sanitation'	1	0
	Search: 'hygiene'	-	-
Charity Navigator (U.S.)	Search: 'water'	40	40
	Search filters: 'international', 'rated'		
	Search: 'sanitation'	14	1
	Search filters: 'rated'		
	Search: 'hygiene'	8	0
	Search filters: 'rated'		
Canada Revenue Agency	Search: 'water' AND 'sanitation' AND 'hygiene'	100	6
	Search filters: 'international', 'unrated'		
	Charity name: 'water' Charity status: 'registered'	528	13 (with H2O 4 ALL)
Google Search	Listed partners on H2O 4 ALL website	13	10
Total		716	74

As for NGOs' operating capacity, we looked at formal organizational structure and yearly revenue. The majority of NGOs had a Board of Directors (n=63), but fewer had an Advisory Board (n=11). If there was evidence of paid staff, this was coded accordingly (n=34); however, in most cases this information went unlisted (n=38). Yearly revenue was based on the most current report found, either from the NGOs' websites or from Charity Navigator's database. As shown in Table 3.2, most NGOs included fell in the highest revenue bracket (n=47), likely due to their level of international recognition.² Other notable findings related to capacity: most NGOs have had history of 21+ years (n=31); one third of NGOs were Canadian (n=22), with most headquartered in Ontario (n=13); and most have had projects in < 10 countries (n=56).

Table 3.2 Profile of WaSH NGOs

Characteristic of NGO		Number of NGOs (% of the total)	
According to mission and vision statements	Area of focus for development	WaSH is sole focus	34 (46)
		Multiple focus areas	40 (54)
	Religious motivation	Faith-based	25 (34)
		Non faith-based	49 (66)
	Target sub-population	Yes	22 (30)
		Women	6
		Children	15
		Older persons	1
		No	52 (70)
	Partnership model	Yes	13 (18)
		No	61 (82)
Microfinance schemes	Yes	10 (14)	
	No	64 (86)	
Related to operating capacity	Yearly revenue	Above \$1 million	47 (64)
		\$500-999K	2 (3)
		\$100-499K	6 (8)
		\$50-99K	4 (5)
		Under \$50K	4 (5)
		Unlisted	11 (15)
	Years NGO has been in operation	1-5	4 (5)
		6-10	14 (19)
		11-15	16 (22)
		16-20	7 (9)
		21+	31 (42)
		Unlisted	2 (3)
	Location of North American headquarters	Canada	22 (30)
		Ontario	13
		Other province	9
		U.S.	52 (70)
Number of LMICs NGO has worked in	1-5	43 (58)	
	6-10	13 (18)	
	11-20	3 (4)	
	21-30	4 (5)	
	31+	10 (14)	

With regard to the types of WaSH interventions or services provided, NGOs varied in technological choice, as shown in Table 3.3. For water treatment methods, there were multiple types of filters mentioned, with BioSand filtration being most common (n=7). In addition, approximately half of the NGOs mentioned the importance of sanitation and hygiene on their website (n=38), but evidence of interventions to support these claims was limited.

Table 3.3 WaSH interventions or services provided by NGOs

WaSH Intervention or Service Provided	Number of NGOs (% of the total)	Number of Mentions (% of the total)
Water Supply	56 (76)	89 (52)
Water well drilling		36
Pipelines		7
Hand pumps		5
Rainwater harvesting		9
Spring protection		2
Water catchment system		2
Water well repair		2
Other		9
Not specified		17
Water Treatment	26 (36)	30 (17)
BioSand filtration		7
Ceramic filtration		3
Water chlorination		4
Sawyer water filter		1
Slow sand filter		1
Other		3
Not specified		11
Sanitation and Hygiene	38 (51)	51 (30)
Latrines		15
Handwashing stations		2
Hygiene kits		1
Education and training		13
Other		7
Not specified		13
Other	2 (3)	2 (1)
Total	74* (100)	172 (100)

*This is not equal to the sum of the numbers in the column due to multiple responses

Finally, Table 3.4 shows how H2O 4 ALL compares with others. Information in the left column is based on H2O 4 ALL's website alone. Rows that have shaded grey show characteristics that H2O 4 ALL shares with the majority (i.e., more than 37) of other water-based NGOs in our environmental scan.

Table 3.4 Comparison of H2O 4 ALL to other NGOs in environmental scan

Characteristic of H2O 4 ALL	Other NGOs (N)	%
WaSH is sole focus	34/74	45.95
Non faith-based	49/74	66.22
Does not target sub-population	52/74	70.27
Partnership model	13/74	17.57
Interventions increase access to water	56/74	75.68
Interventions treat water so it is safe	26/74	35.14
Interventions do not increase access to sanitation facilities	36/74	48.65
Interventions do not include WaSH education	61/74	82.43
Yearly revenue is \$100-499K	6/74	8.11
Board of Directors	63/74	85.14
No Advisory Board	63/74	85.14
Paid staff	34/74	45.95
Canadian	22/74	29.73
Headquarters in Ontario	13/74	17.57
Projects in 6-10 countries	13/74	17.57
Does not use microfinance development methodology	64/74	86.49

Element 1: Selecting an evaluability assessor

The first author (S. Lu) conducted this EA as part of her dissertation. Walser and Trevisan (2015) wrote about the merits of having graduate students conduct EA theses and dissertations because they offer practical training experience. For H2O 4 ALL, a small NGO with low overhead, this agreement was also beneficial as it gave them access to an evaluator at low cost. To reach agreement on the EA, the first author (S. Lu) made an in-person presentation about evaluation to H2O 4 ALL's Board of Directors and Executive Director. The Board of Directors and Executive Director were unanimous in their decision to participate in the EA with the intent of proceeding with a recommended evaluation plan, process or outcome, conducted by the same graduate student over a three year period. The decided goal of this process was to embed evaluative thinking into the organization's day-to-day operations, so that they would have the capacity to carry out internal evaluation with ease in the future.

Element 2: Identifying stakeholders

To determine stakeholder priorities and the extent of their involvement in the evaluation, 10 in-depth interviews, 45 minutes in length, were conducted with each Board Member of H2O 4 ALL

from May to June 2015. Our discussion below focuses on: a) challenges Board Members encountered working with H2O 4 ALL, and b) what they wanted to learn from the evaluation—this is a sample of the qualitative data we collected through these interviews.

Challenges encountered by Board Members are summarized in Table 3.5. H2O 4 ALL’s project-based funding model had the most mentions. Board Members were concerned about H2O 4 ALL’s longevity if steady sources of funding that were not tied to specific projects could not be secured.

It’s been an organization that has operated fairly opportunistically. People have come to us with projects they want done, or have come to us with money and said “this is what we would like you to do.” So we’ve become the implementers of someone else’s project. We need to think about alternative ways of funding, because unless we can get our funding in line, and we’re not just spending all of our time and effort looking for money but can actually do some things then we’re in big trouble. – *Board Member 2*

This sentiment was in partial agreement with the reviewed documents. H2O 4 ALL had been awarded several large grants in the past which made up a large portion of their funding; these grants were tied to country and partner specific projects over a short time period.

Table 3.5 Challenges encountered while working with H2O 4 ALL

Challenge	Number of Board Members (% of the total)	Number of Mentions (% of the total)
Organizational structure	8 (20)	34 (32)
Volunteer-dependent	4 (9)	7 (7)
Power relations	4 (9)	7 (7)
Lack of resources for more paid staff	8 (20)	13 (12)
Project-based funding model	9 (22)	21 (20)
Other	8 (20)	23 (22)
Total	10* (100)	105 (100)

*This is not equal to the sum of the numbers in the column due to multiple responses

Additionally, Board Members discussed the challenges of H2O 4 ALL’s “growing pains” as an organization still in its developmental phase. Hiring more staff was seen as critical to growth:

It's not a brand new start-up, but seeing some of the growing pains, and the issues coming from that ... I've recognized that [H2O 4 ALL is] sort of in their stage of development ... I think what needs to happen is there needs to be someone who can dedicate full time to all that needs to happen in Canada and in the office so that [the Executive Director's] energy can be spent doing development work or the work on the ground.
– *Board Member 4*

Our environmental scan demonstrates partial agreement with this challenge; information about employment in WaSH NGOs was rarely apparent on websites. Out of the 74 NGO websites reviewed, only 34 provided evidence that they supported paid staff. A few NGOs specified that all their activities were volunteer-dependent (n=2), but the majority did not specify their organizational structure (n=38).

Other challenges discussed by Board Members included the need for greater transparency within the organization and more efficient administration. Some Board Members expressed frustration with the overall lack of formal documentation and not receiving meeting minutes or agendas in a timely manner.

I think that they've done a fantastic job thus far in being able to help people, but to grow and to really take that next step I think that they need more transparent monitoring. They need to be able to create those financial goals and [determine] how we're going to get there. So if you want to grow funding and increase your revenue by x percent in order to do x number of projects, you really need to be able to articulate, 'Okay, well how are we going to increase funding? What specific measures are we going to put in place?' – *Board Member 5*

On this finding our document review showed partial agreement. Meeting minutes had been kept with a few omissions. In project reports it was unclear how the organization had prioritized its different strategic goals or how they had changed from 2012-2015. There was also no documentation about how much time or effort had been spent working towards each stated goal.

Finally, some Board Members revealed how power relations and differing priorities had created tension within the organization, namely between the previous Chair and Executive

Director. Because both positions entail many responsibilities, Board Members thought that adding more staff to the organization would help prevent burnout. For this finding there was silence from our other two methods.

With respect to what Board Members wanted to learn from the evaluation process, we have categorized our results under four broader questions. These questions influenced our proposed evaluation plan discussed in greater detail below.

Who is H2O 4 ALL relative to other WaSH NGOs? Most Board Members were unfamiliar with other NGOs working in water—an impetus for our environmental scan (Tables 1-4). Therefore, Board Members wanted to know if the partnership model was unique and sustainable. Additionally, in order for H2O 4 ALL to have a “signature,” Board Members questioned whether or not the organization should have more defined criteria for choosing where in the world it works and the kinds of projects and partnerships it forms.

Are we an effective Board of Directors? Board Members wanted to know if their “hands on” approach to the Board was beneficial to the organization. Since many have a dual role within the organization as a volunteer (helping with fundraisers, participating on project trips), they asked for more information on how they could work to their full potential, make more informed decisions, and address missing skill sets on the Board.

What should our benchmarks be? Board Members expressed that having benchmarks would be beneficial for goal-setting and marketing. Mentioned examples included having a donation break-down in dollars linked to impact.

How can we increase our funding pool to get us from being a project-based to donor-based organization? While this last question read as the most straightforward, Board Members expressed that it could be the most difficult to answer. As a starting point, Board Members

suggested that more information on where other similar organizations were getting their funding could be useful.

As for the extent of stakeholder involvement, in our EA this was limited to the Board of Directors due to resource and time constraints. However, it was determined that H2O 4 ALL's Executive Director, administrative staff, international partners, donors, volunteers, and their intended beneficiaries should be involved in future evaluation activities. To maintain stakeholder interest in the evaluation, opportunities for feedback were facilitated through three in-person presentations and a follow-up survey that accompanied the final EA report. The follow-up survey asked Board Members for their preferred level of involvement in future evaluation activities. Board Members showed interest in receiving a monthly email blast and an in-person presentation about the evaluation every four months.

Element 3: Identifying and assessing key documents

To assess key documents we identified text-based illustrations of the manifestation of H2O 4 ALL's vision and mission statements (Table 3.6). Our document review revealed that clarification is needed if the mission statement is to be translated into meaningful measures for outcome evaluation. For example, to achieve H2O 4 ALL's vision of "Safe Water for All," they should define their qualifications for *safe water* and have a process for determining where and to whom they should target their efforts. Currently, the only investigation done to explore water-related problems and community needs is a technical needs assessment that is conducted after a partnership with a local NGO has been established.

With respect to *sustainability*, H2O 4 ALL has documented examples of measures to both identify and develop sustainable projects. There is some ambiguity, however, on what constitutes a sustainable project and whether or not the term includes the long-term development of staff and

volunteers or financial sustainability. For example, in a project proposal based in Cuba, sustainability is defined as having three components: environment, maintenance, and operations. This differs from a project proposal based in Uganda where sustainability will be achieved because “the product will pay for itself ... Safe water, power for lights and recharge for phones can become revenue.”

Table 3.6 Linking H2O 4 ALL’s vision and mission statement to formal documentation

Themes and Exploratory Questions	Examples from Documentation Reviewed
1. Safe water	
-What is safe water? -Who and where is safe water needed most?	-Needs assessment to explore specific water-related problems and community needs
2. Sustainable project	
-What makes a project sustainable? -How are sustainable projects currently being identified, developed, and implemented?	-Reserving funds for project maintenance -Choosing projects and countries to work in based on fundability and scale-up possibilities -Review and approval of project briefs and potential funding sources -Needs assessment to explore project viability -Stakeholders and community leaders advocate need for safe water
3. Local engagement	
-What constitutes local engagement? -Why is local engagement important? -How is local engagement achieved?	-Public outreach events in Ontario -Intent to train local leaders in project communities to address issues of WaSH -Certified plumbers and electricians are employed to assist with installation
4. Collaboration	
-What constitutes collaboration? -Why is collaboration important? -How is collaboration achieved?	-Connecting with other NGOs, locally and internationally -Outreach to media sources and potential partners -Participation in academic settings
5. Mutual education	
-What constitutes mutual education? -Why is mutual education important? -How is mutual education achieved?	-Hiring university students for work and field term placements -Development of health & hygiene education program in collaboration with university partner -Commitment to participate in program evaluation
6. Creative design	
-What constitutes creative design? -Why is creative design important? -How is creative design achieved?	-Improvement upon conventional ceramic filter
7. Appropriate technology	
-What makes a technology appropriate? -Why is appropriate technology important? -How is appropriate technology selected?	-Needs assessment to inform technological needs -Certified laboratory testing before and after work

H2O 4 ALL's role in *local engagement* is clearer; the organization has taken steps to engage communities in their work, both locally and internationally. Locally in Oakville, Ontario, Canada, H2O 4 ALL has been an advocate for water-related issues at public outreach events, including those in elementary schools and universities. Internationally, H2O 4 ALL has trained and employed local workers to assist with projects on the ground. Similarly, H2O 4 ALL's formal documentation shows that *collaboration* is an integral part of all their projects.

H2O 4 ALL's commitment to *mutual education* is demonstrated through their participation in academic settings (e.g., lectures, workshops) and strong ties to researchers. The organization has also invested in hiring co-operative education students. The only aspect of mutual education that requires clarification is their intent to incorporate educational activities in their international projects. For example, documentation suggests that H2O 4 ALL developed a health and hygiene education program in 2012 with the United Nations University Institute for Water, Environment and Health (UNU-INWEH); however, this program is only mentioned in meeting minutes and there are no recorded outcomes of its usage. Similarly, few documents supported H2O 4 ALL's use of *creative design* and *appropriate technology*.

These gaps revealed where original intentions for the organization had not manifested in H2O 4 ALL's water-based development work itself, because of various constraints related to size (e.g., limitations of a project funded model, few staff). By identifying these gaps, H2O 4 ALL can work towards clearer definitions of their goals. After all, "the more abstract the mission is, the more difficult it is to develop meaningful measures of outcome or mission impact" (Sawhill & Williamson, 2001: 378). H2O 4 ALL is currently putting together their first Strategic Plan which will provide some needed clarity.

Element 4: Developing the program logic model and evaluation plan

The in-depth interviews were used to elicit programme theory, which will help inform the organization's program logic model. Additionally, focus groups with H2O 4 ALL's Board of Directors and Executive Director have been planned to facilitate the process. A draft logic model will be presented to focus group participants for critique as a means to discuss espoused theory (i.e., what people say they do), theory-in-use (i.e., what really happens), the discrepancies between them, and their implications (Patton 2012; Patton, 2015). (See results in Chapter 4.4.)

Other proposed evaluation activities are shown in Table 3.7. The evaluation plan includes process evaluation questions and additional activities, including: key informant interviews with H2O 4 ALL's Executive Director and Staff; participant observation of work done in H2O 4 ALL's Ontario office and abroad; online feedback surveys of H2O 4 ALL's previous and current donors and volunteers; and the design and pilot-testing of observation-based checklists for H2O 4 ALL to evaluate its water-based projects in LMICs.

Element 5: Reaching agreement to proceed with an evaluation

We have recommended that H2O 4 ALL proceed with a process evaluation to uncover *how* the organization works to achieve its mission (i.e., the organization's internal dynamics). The process evaluation will be guided by a utilization-focused evaluation framework to ensure that: a) practical questions will lead to useful and actionable answers, and b) decision making will be done under real-world constraints (Patton, 2015).

H2O 4 ALL's Board of Directors were told they are not ready to undergo an outcome evaluation, which would involve identification and measurement of H2O 4 ALL's positive contributions locally and internationally, as well as any unanticipated outcomes of their work

(i.e., the organization's impact). Better record keeping practices, a fully developed Strategic Plan, and the creation and usage of evaluation tools have been recommended to them as a result.

Although the Board of Directors remains committed to continuing with the evaluation process, not being prepared to answer outcome evaluation questions at this stage was a surprise to some, as indicated in our follow-up survey. By continuing to engage stakeholders through regular updates and in-person presentations, we hope to navigate unrealistic evaluation expectations by focusing our discussions on how H2O 4 ALL can prepare itself for outcome evaluation in the future.

Element 6: Identifying and assessing time and other resources required

Our EA took longer than anticipated, largely because H2O 4 ALL had no prior evaluation experience. That said, the resulting EA report provided a thorough overview of the organization and most of its stakeholders—a resource that did not exist prior to the EA. Since the work environment for small NGOs is comparable to a start-up company, frequent changes in organizational structure, leadership, and project priorities are to be expected. Because in-the-field adjustments will likely happen during the process evaluation, these changes may be a threat to credibility and validity. Therefore, the evaluation team must be prepared for data collection opportunities when the occasion arises. In addition, interferences to data collection should be taken into account when interpreting the data.

Table 3.7 Proposed process evaluation plan for H2O 4 ALL

Evaluation Question	Indicators	Method (Data Source)
1. Is there empirical evidence to demonstrate the contribution of small NGOs, whose vision and mission focus on WaSH, towards the MDG or SDG for water?	-Evidence of relationship (causal, associative, or through contribution analysis) between WaSH interventions, health status, and quality of life -Evidence of theories of change and evaluation practice being applied in WaSH sector	-Literature review -Environmental scan (NGO websites)
2. Are H2O 4 ALL's interventions relevant to the communities in which they work abroad?	-Degree to which WaSH interventions meet community priorities and needs -Evidence of pre-intervention assessments to understand community priorities and needs -Extent of research and evaluation activity involved in intervention design and delivery	-Literature review -Environmental scan (NGO websites) -Document Review -In-depth interviews (Board) -Observation-based checklist (WaSH project)
3. Which of H2O 4 ALL's activities contribute to the attainment of their vision and mission? Which do not?	-Extent of similarity between planned and actual activity, plus assumptions involved -Stakeholder opinion	-Document review -In-depth interviews (Board) -Focus groups (Board, ED) -Key informant interviews (ED, Staff) -Participant observation in office and abroad
4. Does H2O 4 ALL collect and/or document information that can be used to assess their work using measures that are meaningful to them (e.g., measures for water quality testing, population health, donor satisfaction)?	-Record keeping practices -Degree to which collected measures can be used in evaluation tools	-Document review -Participant observation in office and abroad -Feedback survey (donors, volunteers) -Observation-based checklist (WaSH project)
5. What resources are required to determine the sustainable impact of H2O 4 ALL's interventions on its target population? On its Board, Staff, donors, and volunteers?	-Stakeholder opinion -Level of preparedness for outcome evaluation (available funding, evaluation capacity, interest)	-Participant observation in office and abroad -In-depth interviews (Board) -Key informant interviews (ED, Staff) -Feedback survey (donors, volunteers)
6. What kind of information should H2O 4 ALL collect to increase their level of preparedness for outcome evaluation?	-Stakeholder opinion -Level of preparedness for outcome evaluation (available funding, evaluation capacity, interest) -Accessibility of indicators being used by other NGOs to determine the relationship (causal, associative, or through contribution analysis) between WaSH interventions, health status, and quality of life	-Literature review -Capacity building workshops (Board, ED) -Pilot testing of created evaluation tools -Observation-based checklist (WaSH project)

3.4 Discussion

Thurston and Potvin's (2003) EA framework is a valuable tool for guiding evaluations that can help small NGOs in WaSH work towards international goals in a constructive manner. The framework promotes participatory evaluation which is particularly important for social change programs where groups of people have different degrees of power or control (Thurston and Potvin, 2003). In this respect, our EA did not address power explicitly as our EA's primary participants were the evaluation's sponsors (i.e., H2O 4 ALL's Board of Directors). This group presented more immediate concerns about the organization's inner workings, rather than its international projects, thus shaping our EA. However, in future evaluation activities that focus on H2O 4 ALL's provision of water-based technology in low-income countries, a power analysis that includes participation, as recommended by Thurston and Potvin (2003), would be advised.

For evaluators working with small NGOs under similar constraints, we recommend using Daigneault and Jacob's (2009) framework to assess the involvement of stakeholders. Daigneault and Jacob's (2009) framework requires further work to make it a fully operational measurement tool, but we were able to use it to self-assess our work with H2O 4 ALL. For example, using the framework's three dimensions of "extent of involvement," "diversity of participants," and "control of evaluation process," it was determined that our EA had an overall score of 0.25—the minimum score for an evaluation to be considered participatory³ (Daigneault & Jacob, 2009). Even though diversity of participants proved to be a challenge for our EA given H2O 4 ALL's small size and the dual role that Board Members often play as volunteers, we anticipate an increased diversity of participants in future evaluation activities, as shown in our proposed process evaluation plan in Table 3.7. For comparison purposes, Daigneault and Jacob's (2009)

framework can be adapted to facilitate another self-assessment from the perspective of evaluator and nonevaluative stakeholders.

3.5 Conclusion

Although there are limitations to any case study, with respect to transferability, the challenges faced by H2O 4 ALL may be similar to other small NGOs in a WaSH context who lack the means to support development evaluation. The EA was a useful and low cost undertaking for understanding H2O 4 ALL and their evaluation needs before proceeding with a more comprehensive evaluation at the organizational level. Additionally, the EA established trust between the evaluator and the organization and increased buy-in from stakeholders by prioritizing their evaluation needs—factors that will support future evaluation activities. The resulting report that was given to H2O 4 ALL’s Board of Directors was well received as a baseline for evidence-informed decision-making within H2O 4 ALL.

This EA contributes to substantive knowledge in two ways; it shows how EAs can be conducted for resource-limited NGOs as a first step to encouraging evaluative thinking, and it is an example of how Thurston and Potvin’s EA framework (2003) can be applied in a WaSH context. It has been suggested that evaluators working in non-academic settings may unknowingly undervalue EAs as they are less interested in publishing (Smith, 2005). Our continued work with H2O 4 ALL aims to increase dissemination of findings through a rich case study—one that will examine facilitators and barriers to evaluation, and in turn, bring awareness of evaluation activities that are applicable to evaluators and practitioners in the WaSH sector alike.

Footnotes

1. In some countries, and for the purposes of this paper, “NGOs” and “NPOs” are used interchangeably. However, when they are not considered one and the same, the main difference is that NGOs do not allow government representatives to have membership in the organization and NPOs are exempted from income tax.
2. Small NGOs are difficult to identify. A limitation of our search is that a database such as Charity Navigator only ranks NGOs with a yearly revenue above \$1 million.
3. We self-assessed our participatory evaluation score, according to Daigneault and Jacob (2009), as 0.75 for participatory involvement, 0.25 for diversity of participants, and 0.50 for control of evaluation process. Since the overall score is based on the minimum score reached, our EA has a score of 0.25.

Chapter 4

An evaluation toolkit for small NGOs in water-based development

Authors: Stephanie K. Lu¹, Susan J. Elliott², Shannon E. Majowicz¹, Christopher M. Perlman¹

¹ School of Public Health and Health Systems, University of Waterloo

² Department of Geography and Environmental Management and School of Public Health and Health Systems (Cross-Appointed), University of Waterloo

In press with: The Journal of International Development.

Overview

Small NGOs in international development have a unique advantage when it comes to engaging communities, establishing partnerships, and advocating rights. However, studies suggest that small NGOs are disadvantaged when it comes to demonstrating evidence-based impact. Small NGOs are less likely to invest in development evaluation as they lack expertise and/or feel strongly about funding programs and not processes, given the increased demand for accountability to donors. To explore the challenge NGOs face in moving from a single project-based entity to a vision-led professional entity, we have documented the creation of low cost evaluation tools using a case study in water-based development.

4.1 Introduction

Determining the impact of international development activities has grown more complex with the introduction of the Millennium and Sustainable Development Goals. Despite good intentions, international not-for-profit organizations (NPOs)¹ and non-governmental organizations (NGOs) have the potential to worsen, rather than improve, health and wellbeing. As a result of time and budget constraints, the prioritization of individual projects with short-term impact and measurable outcomes has often led to “minimal, negligible and negligent interventions” (Hawe, 2015). In this context the use of frameworks (i.e., a set of variables that can be used to organize inquiry (Carpiano and Daley, 2006)) can be helpful in the design, implementation, and evaluation of interventions. This thinking underlines development evaluation—a sub-discipline of evaluation focused on the effectiveness of international agencies and aid programs working in low- and middle-income countries (LMICs). Development evaluation methods have been applied to problems as varied and complex as “poverty alleviation, globalization and its impacts on the poor, the consequences of global warming on weak countries, the structural inequalities of the

global financial systems, and strategies to help post-conflict countries” (Morra Imas & Rist, 2009, p. xv).

However, NGOs, particularly those that are small or community-based, have been slow to invest in evaluation (Carman, 2007) as they lack expertise and/or feel strongly about funding programs and not processes, given accountability to donors. Consequently, NGOs have been shown to engage in a variety of activities to demonstrate their good work (e.g., report writing, monitoring progress) instead of strategically using evidence-based tools to enhance performance, such as logic models or benchmarks (Carman, 2007). Additionally, the use of charity rankings and donor-prescribed reporting metrics can have unintended outcomes when important components are missed, or when practitioners and donors fail to see other possible solutions for development interventions (Cochrane & Thorton, 2016).

Development evaluation can be used to test assumptions behind development interventions and even bring NGOs’ strengths to the forefront, particularly small or “grassroots-level” NGOs that are common in water-based development. For example, in a study that consulted over a hundred NGOs to understand their role in the sanitation sector, NGOs were found to successfully engage communities in designing locally-appropriate solutions to sanitation (Carrard et al. 2009). Enabling strengths included their ability to deliver sanitation services to remote places within a short timeframe because of community partnerships, as well as their adaptability to meet identified needs in view of different local community and policy contexts (Carrard et al., 2009). Additionally, as intermediate level actors that sit between national government institutions and service providers, NGOs can advocate for sustainable and low cost development through mediation and collaboration with other actors in the water, sanitation, and hygien (WaSH) sector (Visscher et al., 2006; Carrard et al., 2009). In a case study on sanitation

in Uganda, NGOs were involved in a variety of activities; they took part in a working group with government ministries, helped a district develop their own strategic framework, and partnered with the private sector and local NGOs to support latrine construction (Visscher et al., 2006). Development evaluation provides a mechanism for identifying successful activities and identifying opportunities for improvement.

While the above examples demonstrate NGOs' strengths, examples of small NGOs having evidence-based impact are lacking. Although greater transparency in development NGOs has been positively linked to greater efficiency (Rocha Valencia et al., 2014), NGOs that are smaller and advocacy-oriented are disadvantaged when trying to meet the increased demand for accountability (Schmitz et al., 2012). Furthermore, "we know little about what nonprofits are actually doing and whether efforts toward more holistic portfolios of performance measurement are value added" (Lee & Nowell, 2015, p. 313). Evidence of measuring performance in NGOs comes from large charities (e.g., Boaten et al., 2016), but not small ones. Peer regulation initiatives have also been introduced to increase accountability amongst NGOs, with some success, but these activities have largely excluded the needs and experiences of small NGOs (Crack, 2016).

In this paper we document the creation of low cost evaluation tools for small NGOs with little or no formal evaluation training, through demonstration of a case study in water-based development. Because the majority of NGOs go through a lifecycle of growth, from a single project-based entity to a vision-led professional entity (Srinivasan, 2007), we explore: a) the point at which evaluation should become a standard operating procedure in an NGO, and b) evaluation tools that could be easily accessible and adaptable to small NGOs given their time and budget constraints.

4.2 A Utilization-Focused Approach

Our case study was guided by Patton's (2012) utilization-focused evaluation framework (Appendix E) to ensure that: 1) practical questions would lead to useful and actionable answers, and 2) decision making would be done under real-world constraints. The framework consists of 17 steps which are neither linear nor sequential, but interconnected (Patton, 2012). The interconnections and feedback loops between steps show "complex dynamics that affect any open and emergent system" (Patton, 2012, p. 13). Sociology of use forms the foundation of the framework—intended users are more likely to understand and use the evaluation if they are actively involved in the process and feel a sense of ownership (Patton, 2015). Hence, utilization-focused evaluation is based on the premise that evaluations should be judged by utility and actual use (Patton, 2012; Patton, 2015).

Liket et al. (2014) suggests that utilization-focused evaluation usage among NGOs is low because of several obstacles. Specifically, they suggest there may be conceptual confusion on choosing appropriate methods for data collection and knowing what type of data and how much of it is needed. Low usage may also be due to the fact that the utilization-focused evaluation framework is geared towards professional evaluators. Since small NGOs rarely have an internal evaluator or the budget to hire an external, they may be unfamiliar with the approach. As a result, evaluation advocacy has become part of the evaluator's role; evaluators are helping NGOs choose existing evaluation approaches to support their work (e.g., Liket et al., 2014; Adams et al., 2015). As evaluators continue to develop and adapt frameworks similar to utilization-focused evaluation for a non-professional audience, usage may increase.

4.3 Case Study: H2O 4 ALL

The unique challenges that small NGOs face when it comes to evaluation have been previously outlined, through a case study of a small NGO called H2O 4 ALL (Lu et al., 2017; Chapter 3). H2O 4 ALL was established in 2008 when its founders recognized the need for safe water and sanitation in impoverished communities, and the essential need to build partnerships with existing local organizations and communities based in LMICs to ensure a lasting impact. H2O 4 ALL has since grown to have a governing Board of Directors and two staff members. With an annual operating budget of approximately \$264,000 CAD in 2015 (CRA, 2017), the NGO offers expertise and support for building appropriate water-based technology (e.g., borehole installation and rehabilitation, water purification systems) for communities and medical facilities. The organization has completed over 35 projects in low-income countries (in South America, West Africa, East Africa, and Southern Africa), to date.

In our evaluability assessment of H2O 4 ALL, we laid a foundation for further evaluation work and the development of indicators for performance measurement² (Lu et al., 2017; Chapter 3). The evaluability assessment helped establish trust between us and H2O 4 ALL, provided a baseline of evidence for goal-setting, and increased buy-in from stakeholders by understanding and prioritizing their evaluation needs (Lu et al., 2017; Chapter 3). Prior to this work, H2O 4 ALL had no formal evaluation experience. Their only standard practice for evaluating international projects was a short, situational analysis months before project implementation

With input from H2O 4 ALL's Executive Director and Board of Directors, Patton's (2012) framework guided our method selection through an iterative process—one method would be used to inform the next, and when questions emerged from one form of data collection, they would be resolved with additional data collection (Small, 2011). This process is reflected in

Steps 9-11 of Patton's (2012) framework where ongoing situation analysis and Theory of Change work (Step 9) are to be conducted while methods are being negotiated (Step 10) and debated (Step 11). Based on findings from the evaluability assessment of H2O 4 ALL (Lu et al., 2017; Chapter 3) and in-depth interviews with both staff members, a process evaluation plan (Table 4.1) was proposed and refined according to feedback from H2O 4 ALL's Executive Director and Board of Directors. Once the plan was finalized, we received ethics clearance through a University of Waterloo Research Ethics Committee.

Table 4.1 Process evaluation plan for H2O 4 ALL

Evaluation Question	Indicators	Method (Data Source)
1. Is there empirical evidence to demonstrate the contribution of small NGOs, whose vision and mission focus on WaSH, towards the MDG or SDG for water?	-Evidence of relationship (causal, associative, or through contribution analysis) between WaSH interventions, health status, and quality of life -Evidence of theories of change and evaluation practice being applied in WaSH sector	-Literature review -Environmental scan (NGO websites)*
2. Are H2O 4 ALL's interventions relevant to the communities in which they work abroad?	-Degree to which WaSH interventions meet community priorities and needs -Evidence of pre-intervention assessments to understand community priorities and needs -Extent of research and evaluation activity involved in intervention design and delivery	-Literature review -Environmental scan (NGO websites)* -Document Review* -In-depth interviews (Board)* -Observation-based checklist (WaSH project)
3. Which of H2O 4 ALL's activities contribute to the attainment of their vision and mission? Which do not?	-Extent of similarity between planned and actual activity, plus assumptions involved -Stakeholder opinion	-Document review* -In-depth interviews (Board)* -Focus groups (Board, ED) -Key informant interviews (ED, Staff) -Participant observation in office and abroad
4. Does H2O 4 ALL collect and/or document information that can be used to assess their work using measures that are meaningful to them (e.g., measures for water quality testing, population health, donor satisfaction)?	-Record keeping practices -Degree to which collected measures can be used in evaluation tools	-Document review* -Participant observation in office and abroad -Feedback survey (donors, volunteers) -Observation-based checklist (WaSH project)
5. What resources are required to determine the sustainable impact of H2O 4 ALL's interventions on its target population? On its Board, Staff, donors, and volunteers?	-Stakeholder opinion -Level of preparedness for outcome evaluation (available funding, evaluation capacity, interest)	-Participant observation in office and abroad -In-depth interviews (Board)* -Key informant interviews (ED, Staff) -Feedback survey (donors, volunteers)
6. What kind of information should H2O 4 ALL collect to increase their level of preparedness for outcome evaluation?	-Stakeholder opinion -Level of preparedness for outcome evaluation (available funding, evaluation capacity, interest) -Accessibility of indicators being used by other NGOs to determine the relationship (causal, associative, or through contribution analysis) between WaSH interventions, health status, and quality of life	-Literature review -Capacity building workshops (Board, ED) -Pilot testing of created evaluation tools -Observation-based checklist (WaSH project)

*Information already gathered through evaluability assessment (Lu et al., 2017; Chapter 3)

4.4 A Utilization-Focused Toolkit

Logic Model Development

In April 2016, H2O 4 ALL's Board of Directors and Executive Director participated in a 1-hour focus group to develop a logic model for the organization. We introduced logic models as a learning and management tool to help H2O 4 ALL better understand what works in the organization and why. Logic models are also useful for focusing evaluation efforts and identifying performance indicators (Gugiu and Rodriguez-Campos, 2007).

Participants were first given time to individually complete a template with one column and descriptive instruction per logic model category (e.g., "Outputs: We expect that if ongoing, these activities will lead to the following changes in the short- and long-term"). As a group, participants then shared what they included in each category and a logic model was drafted. Throughout the process, participants used H2O 4 ALL's vision and mission to guide the discussion, and were encouraged to consider what makes a goal SMART (i.e., Specific, Measurable, Action-oriented, Realistic, Timed). The group discussion was recorded and transcribed verbatim to inform a final version of the logic model (Figure 1).

The resulting logic model had a bottom-up design to reflect H2O 4 ALL's grassroots approach to change. That is, people coming together, through collaborative partnerships, to make incremental improvement towards a larger vision, such as "Safe Water for All." Another key discussion point was Strategic Planning and Governance as an Input to the organization. Both were placed at the bottom of the logic model to demonstrate their foundational role.

Focus group participants were also asked to consider influential factors (protective or risk) and assumptions that could affect the organization as depicted in the logic model. Influential factors that were identified included the United Nation's Sustainable Development

Goal 6, which is to “ensure access to water and sanitation for all” by 2030 (UN, 2016); Global Affairs Canada’s (2016) decision to make maternal, newborn and child health a top development priority; and the recognition that Canadians see personal and societal value in volunteering and charitable giving (Statistics Canada, 2016). An identified assumption about the logic model was that H2O 4 ALL’s partnership and evidence-based approach to work is both effective and unique.

In a follow-up to the 1-hour focus group, H2O 4 ALL was presented with a report about the resulting logic model, an invitation for feedback, and a set of discussion questions so that logic model development would be viewed as an ongoing task rather than a one-time activity (Gugiu and Rodriguez-Campos, 2007). To verify the logic model, discussion questions were adapted from McLaughlin and Jordan (1999). McLaughlin and Jordan’s approach (1999) involves describing program logic as hypotheses and using “if-then” statements to identify conditions under which hypotheses will be true. For example, participants were asked: “Is the logic model detailed enough to create understandings of the different elements and their interrelationships? Is the logic model complete (i.e., key elements are accounted for)?” To develop an action plan, discussion questions were adapted from Millar et al. (2001) who advocates for the use of logic models to support target-focused work. To get participants thinking about next steps, we asked them: “Is reasonable progress being made along the different paths to outcomes? What information is (or can be made) available to measure this progress?”



The provision of safe water in our project communities by identifying, developing, and implementing sustainable projects through local engagement, collaboration, mutual education, creative design, and appropriate technology

In one drop – local people know best what they need, we listen and help

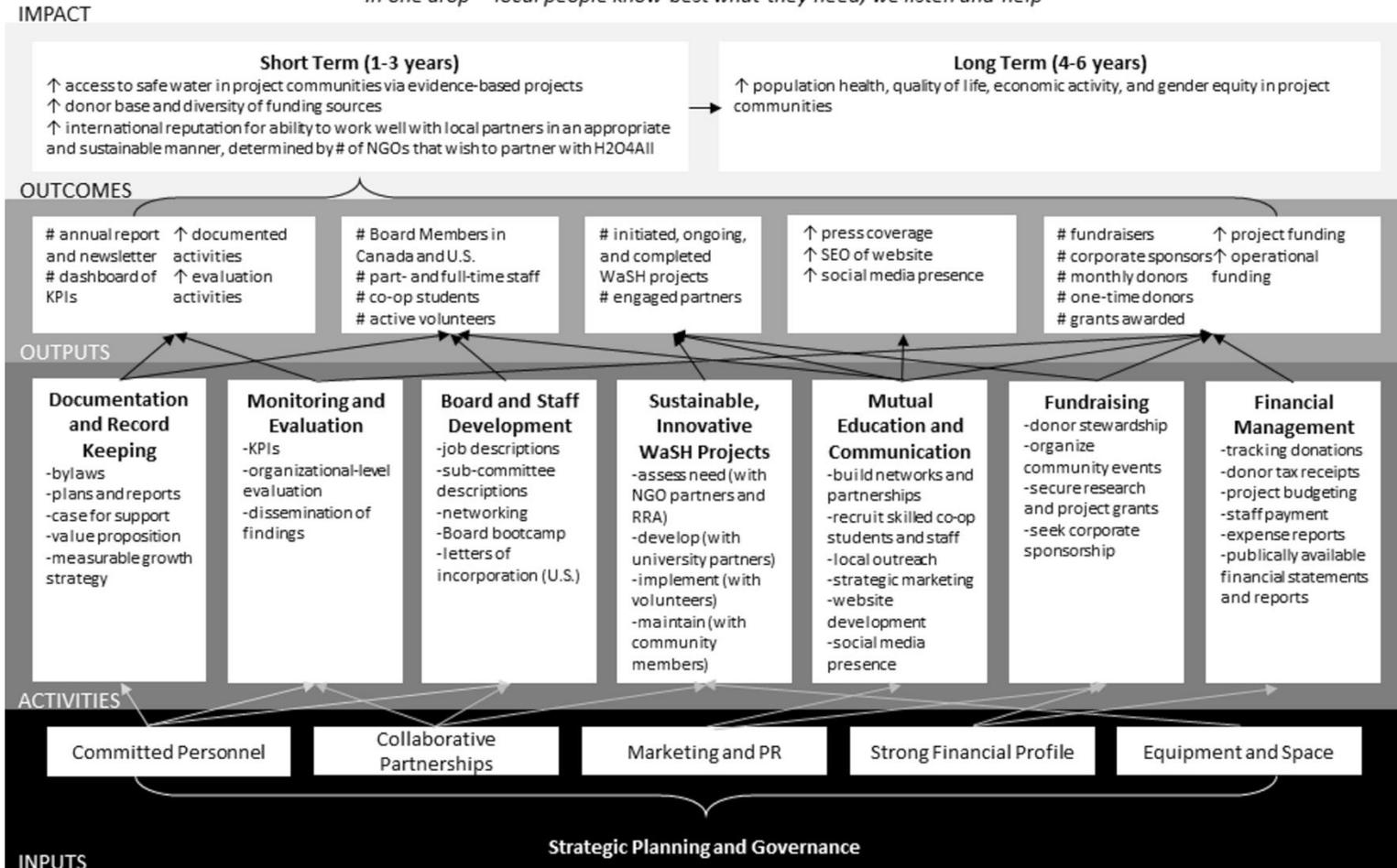


Figure 4.1 H2O 4 ALL’s logic model

Survey Development

In addition to the logic model, we created semi-structured surveys for two audiences: 1) co-operative education students³ and 2) donors and volunteers (Appendix F). The surveys took approximately 20 minutes to complete and were administered electronically using *Google Forms*.

Our response rate for the co-op survey was 56% (21/37). Respondents were students from Canadian universities and colleges who had been hired to work at H2O 4 ALL sometime between 2008 and 2016. Multiple choice questions covered their year of study and university or college program. Likert scale and open-ended explanation questions covered students' motivation for working with H2O 4 ALL, a description of their experience, the likelihood of them recommending H2O 4 ALL as a workplace to others, and areas of improvement for H2O 4 ALL as an employer.

The volunteer and donor survey was more extensive; if an individual was both a volunteer and a donor, they completed both sections. Survey questions for donors included the ease of making donations, their preferred method for making them, the frequency of donations made, their familiarity with H2O 4 ALL's vision and mission, and their familiarity with what donations went towards. Likert and open-ended explanation questions covered the likelihood of donating again, recommending H2O 4 ALL to others, their desired frequency of communication from H2O 4 ALL, and suggestions for improving the donor experience. Survey questions for volunteers included their role, a description of their experience, the likelihood of them volunteering again and recommending H2O 4 ALL to others, their desired frequency of communication from H2O 4 ALL, and suggestions for improving the volunteer experience. In the end, H2O 4 ALL did not distribute the volunteer and donor survey as planned. That is, while

a coordinated distribution effort was originally anticipated, due to competing demands, the survey was only distributed as a minor note in an organizational newsletter. As a result, there was no uptake.

Project Implementation Checklist

Before H2O 4 ALL underwent the evaluation activities presented herein, they had no means to systematically evaluate WaSH projects during or after project implementation. Any information gathered from partner organizations, community members, staff, and volunteers regarding a community's needs or a project's impact was being shared with H2O 4 ALL during casual, on-site visits, or through informal communication channels. Therefore, an observation-based checklist (Table 4.2) was created to keep H2O 4 ALL accountable to everyone a project serves, including the community members themselves, and those who supported the project financially.

Because further discussion was needed on how H2O 4 ALL has been conducting its situational analyses and how short-term and long-term impact assessments can be conducted years after project implementation, the proposed checklist was piloted on a project trip to Magoggo, Uganda in August 2016, where H2O 4 ALL installed a safe water system for an outreach centre for seniors with their partner Reach One, Touch One Ministries (ROTOM) (H2O 4 ALL, 2017). The checklist was adapted from work by UNICEF (2011) and WaterAid (2012, 2015).

In addition to completing the checklist over the course of the project trip, volunteers (N=4) who travelled to Magoggo with H2O 4 ALL were asked to respond to four questions about the checklist: 1) How many H2O 4 ALL project trips have you been on?; 2) How comfortable would you be with completing this checklist as a volunteer on an H2O 4 ALL trip?; 3) Are there any sections or questions on the checklist that are confusing or require

clarification?; and 4) Are there any sections or questions on the checklist that you think would be difficult to answer? All volunteers were confident that the checklist could be completed by a project volunteer with little or no formal evaluation training, as long as they had access to H2O 4 ALL's ground partner (e.g., a staff member from ROTOM) to help answer questions. One volunteer asked for clarification about protected versus unprotected dug wells and springs, so these definitions from WHO/UNICEF JMP (2016) were added to the checklist.

Table 4.2 WaSH project implementation checklist

PART A: PROJECT DESCRIPTION	
<i>Note: PART A can be completed prior to project implementation using publically available information from websites and reports.</i>	
Project name:	
Project partner(s):	
Project dates:	
Project location:	
<p>Project setting:</p> <p><input type="checkbox"/> Community centre Name:</p> <p>Vision and mission:</p> <p>Offered services: Management: <input type="checkbox"/> public <input type="checkbox"/> private <input type="checkbox"/> religious institution-managed Member population: ___ men ___ women ___ boys ___ girls Staff population:</p> <p><input type="checkbox"/> Health care facility Name:</p> <p>Vision and mission:</p> <p>Offered services: Management: <input type="checkbox"/> public <input type="checkbox"/> private <input type="checkbox"/> religious institution-managed Patient population: ___ men ___ women ___ boys ___ girls Staff population: ___ nurses ___ doctors ___ admin ___ other:</p> <p><input type="checkbox"/> School Name: Level: <input type="checkbox"/> primary <input type="checkbox"/> middle <input type="checkbox"/> secondary <input type="checkbox"/> mixed <input type="checkbox"/> other Management: <input type="checkbox"/> public <input type="checkbox"/> private <input type="checkbox"/> religious institution-managed Student population: ___ boys ___ girls Staff population: ___ male teachers ___ female teachers ___ male staff ___ female staff ___ other:</p> <p><input type="checkbox"/> Other:</p>	
Project cost:	
<p>Funding sources:</p> <p><input type="checkbox"/> Individual donors/fundraising activities: <input type="checkbox"/> Grant: <input type="checkbox"/> Corporate sponsorship: <input type="checkbox"/> Other:</p>	

PART B: PROJECT EVALUATION^a

Note: Not all sections of Part B will be applicable to every project. Please indicate N/A where appropriate.

1. Access to safe and affordable drinking water for all

1.1 Before project implementation, what were the main water sources? Check all that apply.

- | | |
|---|---|
| <input type="checkbox"/> Piped water | <input type="checkbox"/> Rainwater collection |
| <input type="checkbox"/> Public tap/standpipe | <input type="checkbox"/> Bottled water |
| <input type="checkbox"/> Tubewell/borehole | <input type="checkbox"/> Surface water (i.e., river, dam, lake, pond, stream, canal, irrigation channel) ^b |
| <input type="checkbox"/> Protected dug well* | <input type="checkbox"/> No water available nearby |
| <input type="checkbox"/> Unprotected dug well | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Protected spring* | |
| <input type="checkbox"/> Unprotected spring | |

* Protected dug wells are covered, and have a well lining or casing to divert spilled water.^c

* Protected springs have a “spring box” to protect against runoff, bird droppings, and animals.^c

1.2 Before project implementation, how often were the water sources functional?

During dry season:

- 5-7 days/week
- 2-4 days/week
- Less than 2 days/week

During rainy season:

- 5-7 days/week
- 2-4 days/week
- Less than 2 days/week:

1.3 What were these water sources used for? Check all that apply and indicate whether or not a particular water source was used for a specific purpose (e.g., laundry done using surface water).

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Drinking | <input type="checkbox"/> Cooking |
| <input type="checkbox"/> Handwashing | <input type="checkbox"/> Cleaning |
| <input type="checkbox"/> Anal cleansing after defecation | <input type="checkbox"/> Laundry |
| <input type="checkbox"/> Flushing or pour-flushing toilets | <input type="checkbox"/> Agriculture |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Other: |

1.4 If it was necessary for anyone to travel to a water source, how long (travel time) would it take the average person to make a round trip?

Time: _____ hours _____ minutes

1.5 If it was necessary for anyone to pay for access to a water source, how much did it cost?

Cost: \$ _____ Currency: _____ Frequency (per week, month): _____

1.6 After project implementation, what do you anticipate will be the main sources of water?

- | | |
|---|---|
| <input type="checkbox"/> Piped water | <input type="checkbox"/> Rainwater collection |
| <input type="checkbox"/> Public tap/standpipe | <input type="checkbox"/> Bottled water |
| <input type="checkbox"/> Tubewell/borehole | <input type="checkbox"/> Surface water (i.e., river, dam, lake, pond, stream, canal, irrigation channel) ² |
| <input type="checkbox"/> Protected dug well* | <input type="checkbox"/> No water available nearby |
| <input type="checkbox"/> Unprotected dug well | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Protected spring* | |
| <input type="checkbox"/> Unprotected spring | |

* Protected dug wells are covered, and have a well lining or casing to divert spilled water.^c

* Protected springs have a “spring box” to protect against runoff, bird

droppings, and animals.^c

1.7 **After** project implementation, how often do you anticipate the water sources will be functional?

- 5-7 days per week
- 2-4 days per week
- Less than 2 days per week

1.8 **After** project implementation, do you anticipate that the water sources will provide enough water (i.e., 5 litres per person per day according to WHO/UNICEF guideline standards)?

- Yes
- No
- Don't know

1.9 **After** project implementation, is it necessary to treat the water?

- Yes
Why?
- No
How is the water treated?
 - Filtration
 - Solar disinfection
 - Other:
- Sometimes
- Don't know

1.10 Are drinking water source containers in the location of the project covered?

- All
- Some
- None

2. Adequate and equitable sanitation for all, with special attention to needs of women and girls

2.1 **Before** project implementation, were there any functional (not physically broken) toilet facilities?

- Yes
 - Pit latrine, #: ____
 - Flush toilet, #: ____
 - Pour-flush toilet, #: ____
 - Composting toilet, #: ____
 - Other:
- No
- Don't know

2.2 **After** project implementation, how many functional (not physically broken) toilet facilities were there?

- Toilets designated for girls only, type: ____ #: ____
- Toilets designated for boys only, type: ____ #: ____
- Communal toilets, type: ____ #: ____

2.3 Does the project partner run any hygiene promotion programming for girls on menstrual hygiene? (Note: "hygiene promotion" builds on existing knowledge and practices whereas "hygiene education" only seeks to enhance knowledge.^d)

<input type="checkbox"/> Yes <input type="checkbox"/> Menstrual hygiene education sessions <input type="checkbox"/> Private washing facilities for cloth napkins (e.g., tap and basin inside lockable toilet stall) <input type="checkbox"/> Private disposal/incineration facilities for disposable napkins <input type="checkbox"/> Any kind of napkin distribution program <input type="checkbox"/> Other: <input type="checkbox"/> No <input type="checkbox"/> Don't know
2.4 Does the project partner run any de-worming/anti-helminth/anti-STH program? <input type="checkbox"/> Yes <input type="checkbox"/> De-worming medicine <input type="checkbox"/> Other: <input type="checkbox"/> No
3. Adequate and equitable hygiene for all, with special attention to needs of women and girls
3.1 Before project implementation, were handwashing facilities available? <input type="checkbox"/> Yes <input type="checkbox"/> Running water (from faucet or standpost) <input type="checkbox"/> Hand-poured water (from bucket or ladle) <input type="checkbox"/> Basin or bucket <input type="checkbox"/> Other: <input type="checkbox"/> No <input type="checkbox"/> Don't know
3.2 Before project implementation, were adequate hand hygiene supplies (e.g., liquid soap, single use towels/alcohol-based hand rinse) ² available at handwashing facilities? <input type="checkbox"/> All <input type="checkbox"/> Some <input type="checkbox"/> None
3.3 After project implementation, how many handwashing facilities were there? <input type="checkbox"/> Standpost, #: ____ <input type="checkbox"/> Faucet and sink, #: ____ <input type="checkbox"/> Rainwater tank with a faucet, #: ____
3.4 After project implementation, were adequate hand hygiene supplies (e.g., liquid soap, single use towels/alcohol-based hand rinse) ^b available at handwashing facilities? <input type="checkbox"/> All <input type="checkbox"/> Some <input type="checkbox"/> None

3.5 **Before** project implementation, did the project partner run any health promotion programming on hygiene?

Yes

Provide details on delivery method, timing (sporadically vs. regularly), and content covered:

No

Don't know

3.6 **After** project implementation, do you anticipate that the project partner will run any health promotion programming on hygiene?

Yes

Provide details on delivery method, timing (sporadically vs. regularly), and content covered:

No

Don't know

4. Other information needs on community health and wellbeing

4.1 Are there any sources of health-related data on the project community that can be made available to H2O 4 ALL for further evaluation purposes?

Yes

Records from partner organization, contact: _____

Records from an affiliated institution, contact: _____

Government reports, contact: _____

Other: _____

No

Don't know

This checklist was completed by:

Full name

Signature

Date

^a Adapted from UNICEF (2011).

^b Adapted from WHO/UNICEF JMP (2015).

^c Definitions from WHO/UNICEF JMP (2016).

^d Adapted from WaterAid (2012).

Assembling a Performance Story

Because our process evaluation plan used multiple sources of data to answer key evaluation questions, Mayne's contribution analysis (2001, 2012) was used to assemble H2O 4 ALL's performance story. Contribution analysis addresses the problem of attribution—the difficulty that comes with determining how much influence (towards success or failure) a program has had (Mayne, 2001). Outcomes can be linked back to a program's actions based on reasonable assumptions by following Mayne's (2012) 6 step process: 1) set out cause-effect issue to be addressed; 2) develop the postulated Theory of Change and risks to it including rival explanations; 3) gather the existing evidence on the Theory of Change; 4) assemble and assess the contribution claim, and challenges to it; 5) seek out additional evidence; and 6) revise and strengthen the contribution story.

Developing a logic model for H2O 4 ALL was the first step in assembling H2O 4 ALL's performance story. The Theory of Change that underlies the model is the belief that H2O 4 ALL's partnership approach to international projects increases access to WaSH, and consequently improves health and wellbeing and overall economic development in impoverished communities (see Sauer et al. (2016) which outlines these linkages). While being mindful of the assumptions behind this theory and external factors (e.g., growing threat of climate change and its effect on WaSH (Howard et al., 2016)), Mayne's (2012) process can be used to identify areas where an organization's influence is weak. The online surveys and project implementation checklist were developed to begin collecting evidence on results. However, because uptake of these tools was limited, Mayne's process (2012) leads us to conclude that more evidence is needed before any statements about H2O 4 ALL's long-term contributions can be made.

4.5 Lessons Learned

The “expansion/growth stage” in an NGO’s lifecycle, as described by Srinivasan (2007), provides an accurate characterization of H2O 4 ALL. The NGO’s structure has grown complex in recent years due to an increase in yearly fundraising events and international projects, the management of multiple project-based grants, an expansion of the Board of Directors, and changes in staff. Although H2O 4 ALL has successfully secured several project-based grants which have allowed them to improve their water filtration technology, these grants did not support needed investment in organizational development. Organizational development includes the formalization of administrative processes, monitoring and evaluation activities, increasing staff size and opportunities for training, and introducing new systems and procedures. These activities curb the autonomy and freedom enjoyed during the “start-up stage” (Srinivasan, 2007), and yet, are essential to growth. As Srinivasan (2007, p. 196) states, “handling these sensitivities in a manner that breeds a positive work culture is a key requirement. However, the project pressures of short-term delivery and donor-driven evaluation often do not permit for a discussion on the values of the organisation.” Because H2O 4 ALL is not alone in facing these challenges as a small NGO, the evaluation tools we have created may be adapted by NGOs of similar size and financial means that work outside of water-based development.

The chosen methodology for H2O 4 ALL’s evaluation are not novel. Logic models, surveys, and checklists can be applied to a wide variety of programs and services. However, in development evaluation much of the focus has been on establishing impact through experimental designs (e.g., randomized controlled trials; Liket et al., 2014) that are unrealistic for small NGOs, given time and budget constraints. Furthermore, development evaluations are typically focused on interventions or projects in isolation, rather than in the context of a larger organizational

body. In this sense, the evaluation focused on in-office activities rather than focusing solely on their international projects. Such an approach to the evaluation provided a more comprehensive understanding of the organization's strengths and weaknesses in their processes. H2O 4 ALL's stakeholders recognized that the organization had reached a tipping point (Lu et al., 2017; Chapter 3). Since being founded in 2008, multiple projects have contributed to the organization's identity, but now H2O 4 ALL must engage with this vital question: "Are we an organization or are we a set of projects?" Srinivasan (2007, p. 189). Our created tools are simple and low cost; they have been developed with the intention of helping the organization to grow into a vision-led professional entity.

The logic model was important for establishing a vision to help guide the organization. During a focus group, participants were tasked with revisiting the organization's core values in order to articulate long-term goals, and to think practically about whether the goals were being reached. While this process helped to map out the organization's activities, we have yet to assess the organization's usage of the logic model 1-year after its development. Preliminary observations of in-office activities seem to indicate that uptake has been limited. Similarly, we have seen a slow uptake of the developed online surveys and project implementation checklist. Although we conducted an evaluability assessment to understand and prioritize user needs (Lu et al., 2017; Chapter 3) and chose Patton's (2012) utilization-focused evaluation framework to guide our negotiation of methods, a standstill in the evaluation process occurred whenever a task that depended on a staff member, such as distribution of the online survey, was not completed as planned.

Utilization-focused evaluations are to be judged based on utility and actual use; for the latter we faced a number of challenges that could be relevant to small NGOs including those

outside of water-based development. For example, when the evaluation plan was first agreed upon, as evaluators, we felt confident that we had prioritized stakeholder needs. However, our experience taught us that having commitment at multiple levels of an organization is a must. Even though H2O 4 ALL's Board of Directors was unanimous in their decision to support the evaluation, staff members were at risk of being overworked and a resistance to change was perceived. Additionally, we encountered a persistent notion that the evaluation was being done to satisfy members of the Board who had championed it. Under these circumstances, full implementation of the created evaluation tools has been limited. To address this barrier, having an internal evaluator or staff member who champions evaluation would have been an asset. Finally, for small NGOs with limited or no formal evaluation experience, it is a challenge to promote evaluation when the benefits seem less tangible or immediate. The logic model, online surveys, and project implementation checklist are examples of simple, low cost tools that can be used to collect evidence that is easily understandable to someone with little or no formal evaluation training in a short period of time. We suspect that these facilitators and barriers to evaluation may be applicable to other NGOs, as evaluation capacity building practitioners have identified similar challenges to promoting evaluative thinking (Buckley et al., 2015). In light of these lessons, our continued goal is to develop the use of low cost tools for NGOs, encourage ongoing evaluation within them, and to promote evaluation as an investment (with high return) in an NGO's sustainability.

4.6 Conclusion

Global efforts to alleviate poverty have placed increasingly high (and well-justified) demands upon international NGOs and their activities. Yet, development evaluation is an underappreciated field of work amongst them. In our paper we have applied Patton's utilization-

focused evaluation approach and contribution analysis to describe how using multiple evaluation methods can be used to transform an NGO from a single project-based entity to a vision-led professional entity, particularly a small NGO faced with time and budget constraints. Based on our case study we think it is imperative that NGOs invest in development evaluation in the “expansion/growth stage,” if not earlier in the “start-up stage” (as described by Srinivasan, 2007). Experimental designs may be best at determining causality and attribution, but for small NGOs that do not have the resources to support them, limited involvement of stakeholders, data collection, and political naivety are better addressed using multiple methods that are suited to the evaluation questions being asked (Liket et al., 2014). As we have documented above, focus groups, online surveys, and observation-based checklists are realistic methods for small NGOs to carry out. Although developing evaluation tools using a utilization-focused evaluation approach does not guarantee uptake, by understanding the unique challenges of small NGOs, these tools can ultimately encourage evaluative thinking (to be examined further in future work), when other organizational needs are perceived as more pressing.

Footnotes

1. In some countries, and for the purposes of this paper, “NGOs” and “NPOs” are used interchangeably. However, when they are not considered one and the same, the main difference is that NGOs do not allow government representatives to have membership in the organization and NPOs are exempted from income tax (Irvin, 2015).
2. Evaluations involve extensive analysis of data using specialized measures gathered at one-time, whereas performance measurement involves ongoing measurement of an organization’s performance using straightforward measures (Mayne, 2001).

3. Some academic institutions in the United States, Canada, and Australia offer students the option to enrol in a co-operative education program (or “co-op program”) as a way to gain relevant work experience while attaining a degree. Students will typically alternate between 4-month long periods of academic study and work that is relevant to their field (CAFCE, 2016).

Chapter Five

Facilitators and barriers to evaluative thinking in small, development NGOs

Authors: Stephanie K. Lu¹, Susan J. Elliott², Christopher M. Perlman¹

¹ School of Public Health and Health Systems, University of Waterloo

² Department of Geography and Environmental Management and School of Public Health and Health Systems (Cross-Appointed), University of Waterloo

Submitted to: Evaluation and Program Planning.

Overview

The Millennium and Sustainable Development Goals come with challenging implications for non-governmental organizations (NGOs) in international development and their capacity for high quality evaluation practice and evaluative thinking. NGOs are under tremendous pressure to work efficiently, be accountable to both donors and beneficiaries, and to demonstrate impact. At the same time, they must critically examine the underlying assumptions behind their work on an ongoing basis, or else the sustainability of their work becomes jeopardized. This paper highlights the practical challenges of operationalizing evaluating thinking when constrained by time and resources. By revisiting data that was collected for an evaluability assessment and process evaluation of a small NGO in water-based development, we identified potential facilitators and barriers to evaluative thinking, and where in the evaluation process they might occur. In our case study, belief in the value of evidence was a facilitator to evaluative thinking. Limited funding, overburdened staff, and a project-driven model were identified as barriers to evaluative thinking. Based on these findings we have made suggestions for evaluators working in similar contexts so that they can better anticipate potential barriers and plan for alternative strategies where necessary.

Highlights

- International development NGOs face unique barriers to evaluative thinking (ET)
- Operationalizing ET in NGOs must be an intentional process
- In our case study, belief in the value of evidence was a facilitator to ET
- Limited funding, overburdened staff, and a project-driven model were barriers to ET
- Knowing spheres of influence, potential barriers and where they occur can support ET

5.1 Introduction

Evaluative thinking is a key component of high quality evaluation practice and in building evaluation capacity within an organization. Buckley and colleagues (2015) have brought clarity to the often varied definitions of evaluative thinking, defining it as “critical thinking applied in the context of evaluation, motivated by an attitude of inquisitiveness and a belief in the value of evidence, that involves identifying assumptions, posing thoughtful questions, pursuing deeper understanding through reflection and perspective taking, and informing decisions in preparation for action” (p. 378). In essence, evaluative thinking describes a way of contemplating how we go about understanding problems, programs, or policies through evaluation, from the planning process to the delivery of action-oriented recommendations.

The introduction of the Millennium Development Goals (MDGs) in 2000 was a pivotal moment for the international development community (Sachs, 2012). In 2015, 17 new Sustainable Development Goals (SDGs), to be met by 2030, were established. The change in the SDG’s framing of international goals and targets demonstrated greater consideration for addressing gender inequality, economic development, and the root causes of poverty (Sachs, 2012). The new goals have influenced the next “wave” in evaluation history—a focus on social impact and putting values at the centre (Vedung, 2010; Picciotto, 2015). This new wave comes with new challenges for the evaluation discipline, and for development evaluation in particular.

In the past, development evaluation was limited to individual programs and projects, given their independent causes, operations, and structures. Yet, by providing commonly agreed benchmarks for the entire development enterprise, the MDGs and SDGs have: a) shifted the main unit of account to the country level (as opposed to the organization level), b) called for a coordinated approach to programs and projects, meaning more joint evaluations of increasing

complexity, and c) moved the ownership of projects from donor agencies to the developing countries (Picciotto, 2007). Consequently, the need for complex evaluation processes that are comprehensive, participatory, and adapted to society's needs (Picciotto, 2007) has increased.

The MDGs and SDGs come with challenging implications for non-governmental organizations (NGOs) and not-for-profit organizations (NPOs)¹ and their capacity for evaluative thinking. Without evaluative thinking and knowledge of development frameworks and models, NGOs are at risk of being insular; they may not recognize the underlying assumptions behind their work (Mertens, 2016) or weigh the risk of unintended consequences (Ofir, 2013). Furthermore, the sustainability of their work may be jeopardized by a lack of strategic planning or appropriate measures for determining impact. The potential consequences of unexamined work are only heightened in peace-precarious situations (Elkins, 2010), where NGOs are pressured to be non-political, limiting their ability to strengthen civil society (Banks et al., 2015).

The barriers to evaluation in NGOs are complex. For instance, given the rising skepticism that surrounds the effectiveness of aid (Picciotto, 2012), NGOs are under tremendous pressure to demonstrate that the majority of their resources are dedicated to project work over administration or fundraising efforts. This pressure to be accountable to both donors and beneficiaries can be detrimental to identifying intended outcomes, as the two audiences may have different motivations and definitions of success. The increased demand for accountability is particularly challenging for smaller, advocacy-oriented NGOs (Schmitz et al., 2012). Another source of pressure comes from government and granting agencies who run on short funding cycles, limiting NGOs to focus on short-term projects, rather than long-term structural change (Banks et al., 2015). Evaluative thinking can help NGOs, small or large, reflect upon their vision as an

organization, identify appropriate (short- and long-term) measures for their work, and make informed, action-oriented decisions.

Given these aforementioned challenges, evaluative thinking amongst NGOs in international development must be highly intentional, as thinking evaluatively is not synonymous with doing more evaluation (Archibald et al., 2016). For example, Griñó et al. (2014) demonstrated intentionality in four case studies of large NGOs in international development where evaluative thinking was embraced. For each case study the authors highlighted enabling factors to evaluative thinking. Some of these factors included having designated monitoring and evaluation (M&E) staff, establishing M&E working groups, using creative, inclusive approaches to data collection, creating forums for reflection on evaluation findings, and having pre-existing policies and strategic plans for evaluation (Griñó et al., 2014). These activities were well supported with expertise from multiple evaluation experts, international agencies, and funding.

In contrast, this paper seeks to discuss our experience with a small NGO, highlighting the practical challenges of operationalizing evaluative thinking when the NGO is constrained by time and resources. We have documented our experience as a way to identify facilitators and barriers to evaluative thinking, and where they might occur. By doing so, other evaluators working in similar contexts can anticipate potential barriers and plan for alternative strategies where necessary.

5.2 Methods

For this case study, we evaluated a small NGO that specializes in international, water-based development. H2O 4 ALL (<http://h2o4all.org/>) was established in 2008 to address the need for safe water and sanitation in impoverished communities by offering expertise and support for building appropriate water-based technology (e.g., borehole installation and rehabilitation, water

purification systems). The NGO lends their expertise through established partnerships with other local NGOs as a commitment to sustainability. The organization has completed over 35 projects in low-income countries in the Caribbean, South America, West Africa, East Africa, and South Africa. H2O 4 ALL currently has a governing Board of Directors, 1.5 full-time equivalent staff members, and an operating budget of approximately \$264,000 CAD in 2015 (CRA, 2017). The NGO had no evaluation experience prior to our work with them.

Figure 5.1 shows how we planned to operationalize evaluative thinking in H2O 4 ALL across two main spheres of influence. The first sphere of influence is the academic institution which surrounds the evaluator. The primary evaluator (S. Lu) is also a graduate student who led this project with the intent of using her experience with H2O 4 ALL as a case study. To gain formal work experience in an NGO setting, the evaluator also held a dual role as a Project Officer at H2O 4 ALL for one year, which was sponsored by a Canadian research internship program called Mitacs Accelerate. The evaluator is motivated to attain her degree, which required her to conduct and disseminate original research under the expectations of her academic institution. As a Project Officer, she is also expected to strengthen H2O 4 ALL's funding capacity by writing competitive grant applications.

The second sphere of influence consists of H2O 4 ALL's donors and funders which surrounds their Board of Directors, and Executive Director (ED) and staff. H2O 4 ALL is accountable to their donors and funders, without whom they could not exist. Therefore, H2O 4 ALL's primary motivation for undergoing evaluation is to gain evidence to support the positive contributions they have made in their project communities, and to ultimately raise more funds. Recognizing these spheres of influence helped us determine the different stakeholders involved in this project, their motivations for participation, and the flow of information that needs to

occur. This figure was informed by our initial proposal to H2O 4 ALL, conversations with their Board of Directors, and their unanimous decision to proceed with the evaluation project.

Over a two-year period, we identified H2O 4 ALL's key evaluation questions and conducted evaluation activities as part of an evaluability assessment (Lu et al., 2017; Chapter 3) and process evaluation. The activities, in the order we conducted them, are as follows:

1. Environmental scan of other water-based NGOs working in low-income countries
2. Document review of meeting minutes, grant proposals, and reports from 2008-2015
3. In-depth interviews with each of H2O 4 ALL's Board of Directors (N=10)
4. Key-informant interviews with each of H2O 4 ALL's staff (N=2)
5. Focus group with H2O 4 ALL's Board of Directors to develop a logic model
6. Development and distribution of an online survey for students who had worked at H2O 4 ALL as part of a co-operative education program
7. Development of an online survey for H2O 4 ALL's donors and volunteers
8. Pilot-testing of an observational based checklist in Uganda for evaluating H2O 4 ALL's safe water system projects
9. Non-participant observation of potential facilitators and barriers to evaluative thinking in H2O 4 ALL's office activities

We received ethics clearance for these activities through a University of Waterloo Research Ethics Committee.

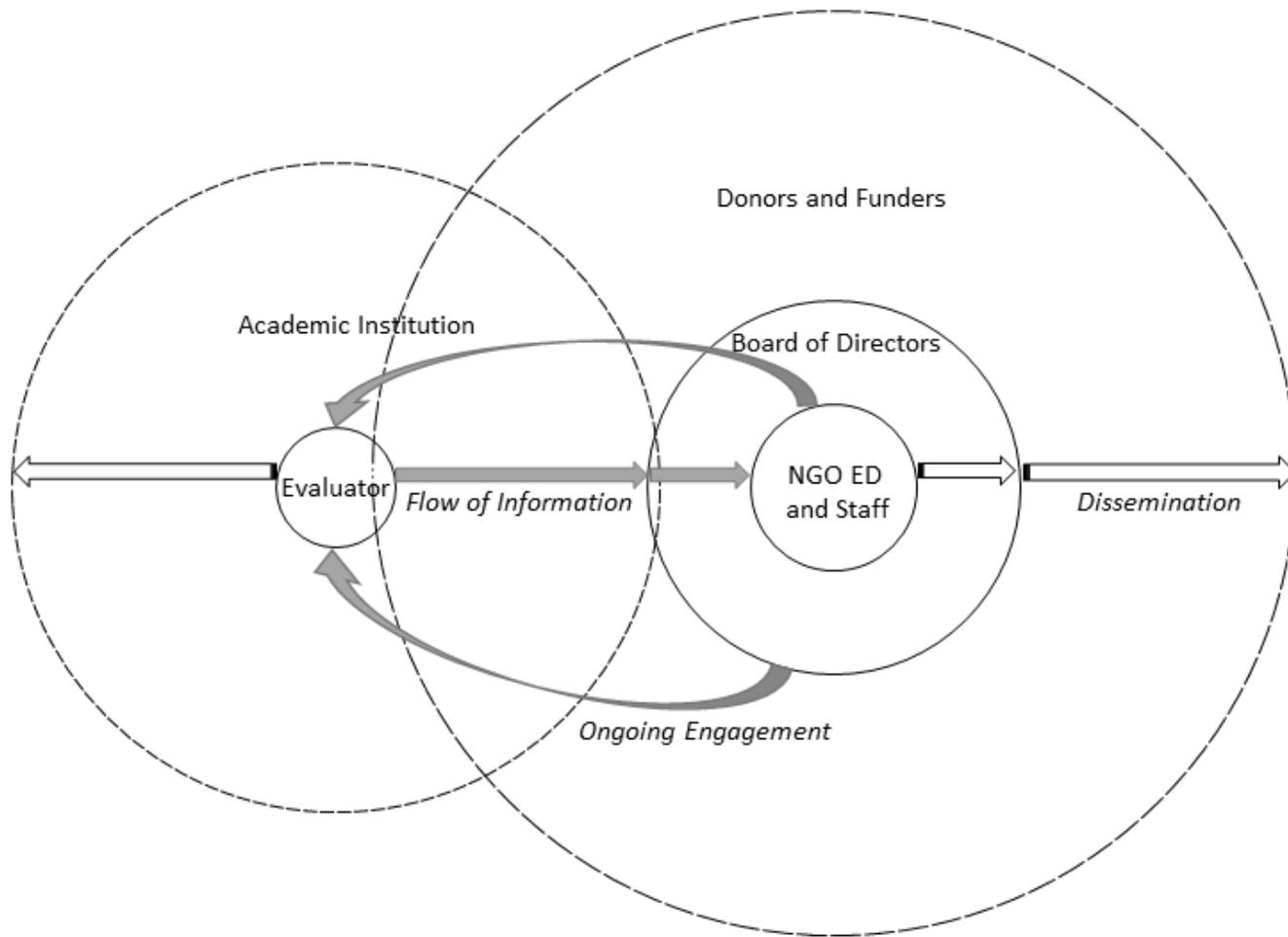


Figure 5.1 Planned approach to operationalizing evaluative thinking in a small NGO across spheres of influence

To document our experience of attempting to operationalize evaluative thinking over a two-year period, by conducting these evaluation activities using a participatory approach (i.e., Patton's (2012) utilization-focused approach), we revisited all the collected data and coded for potential facilitators and barriers to evaluative thinking. A general inductive approach to analyzing qualitative data (Thomas, 2006) allowed us to first code potential factors/themes related to evaluative thinking as they emerged from the data using *QSR NVivo 9*. Our list of potential influencing factors was then categorized into broader themes.

5.3 Results

To code for potential facilitators and barriers to evaluative thinking that were identified by H2O 4 ALL's Board of Directors and staff, we used data from evaluation activities #3-5 which resulted in 13 transcribed conversations. We have also expanded upon the most prevalent themes that emerged from these conversations using data gathered through non-participant observation (evaluation activity #9) and reflection upon our experience of implementing evaluation activities #1, 2, and 6-8.

Potential Facilitators to Evaluative Thinking

Table 5.1 summarizes the potential facilitators to evaluative thinking identified by H2O 4 ALL's Board of Directors and staff. To develop appropriate categories for the themes that emerged from the transcripts, we drew from elements of Buckley et al.'s (2015) definition of evaluative thinking. Four categories emerged from the data: Belief in the value of evidence (41% of mentions), Informing decisions in preparation for action (27% of mentions), Supportive organizational culture (17% of mentions), and Attitude of inquisitiveness (15% of mentions).

Table 5.1 Potential facilitators to evaluative thinking identified by H2O 4 ALL

Potential Facilitator	Number of Mentions (% of the total)
Belief in the value of evidence	17 (41)
Desire for increased transparency of financials, evaluation findings	6
Desire for measurement, goal setting, benchmarks	5
Valuing partnerships with Canadian universities	3
Organizational commitment to evidence-based development	2
Valuing lessons of failure	1
Informing decisions in preparation for action	11 (27)
Desire to have structured reporting processes for different stakeholders, including international partners	7
Desire for greater efficiency with financials and human resource management	4
Supportive organizational culture	7 (17)
Committed Board of Directors and staff	6
Valuing professional relationships	1
Attitude of inquisitiveness	6 (15)
Desire to learn what makes NGO unique and how it can be improved	5
Desire to learn about evaluation	1
Total	41 (100)

In their interviews, Board Members and staff were asked to share what they saw as H2O 4 ALL’s strengths, their long-term goals for the NGO, and what they would like to learn from the evaluation project. Board Members and staff spoke highly of the people behind H2O 4 ALL and the NGO’s belief in the value of evidence—two qualities that drew many of the Board Members to the NGO in the first place:

One of the things that I’d really like to see in terms of goals is being able to do set targets for ourselves, as a Board for the next year, and really use our meetings to benchmark how we’re doing ... and then adjust accordingly... so that at the end of the year we can really see what we’ve achieved and what maybe we need to focus on next year ... I think that’s super important for the organization to be able to move forward and to be able to kind of say, ‘Listen, like here is what we’ve done’ and to really be proud of that! – Board Member

They were really receptive in terms of my involvement and input ... That for me is huge because I love to work with a group of people that like to challenge themselves and the organization that they work for to achieve new things. I think all of the Board Members are extremely passionate and motivated to do that ... It’s really apparent and as a new Board Member that really stuck out and resonated with me. – Board Member

Board Members also expressed a strong desire to gain a better understanding of the evaluation process itself, what makes H2O 4 ALL unique, and how it can be improved. Specific

suggestions were made on how transparency could be increased, how reporting processes could be introduced, and how having specific goals and benchmarks would benefit the NGO:

Things around communication, I think, could be a bit different—the way we report things to our donors, to our volunteers ... [For] most of these things we don't have any predetermined structure and I'm the type of person who, you know, even if it's a bad process, put a process in. – Board Member

I'm also really interested in the process of evaluation. How do we learn? What questions do we ask to elicit what we need to know? ... What makes us different? What are the characteristics of 'sustainable,' and if we're missing some of those, how can we insert them? – Board Member

These comments suggested that a number of individuals in the organization have already embraced evaluative thinking. They are keen to think critically about their work in preparation for action. This was verified through non-participant observation, as we saw the same, small number of individuals offering input whenever requested to. While these individuals provided an impetus for the evaluation, the barriers described below often overshadowed any momentum that was gained at the beginning of the evaluation.

Potential Barriers to Evaluative Thinking

Table 5.2 summarizes the potential barriers to evaluative thinking identified by H2O 4 ALL's Board of Directors and staff. Six categories emerged from the data: Limited funding (33% of mentions), Overburdened staff (24% of mentions), Transitioning out of the start-up stage (24% of mentions), Strain on human resource practices (9% of mentions), Unbalanced organizational structure (8% of mentions), and Negative perceptions of evaluation (1% of mentions).

Table 5.2 Potential barriers to evaluative thinking identified by H2O 4 ALL

Potential Barrier	Number of Mentions (% of the total)
Limited funding	25 (33)
Not enough funding to hire more staff	11
Competitive fundraising environment	8
Donors prioritizing new projects over human resources, administration, or maintenance	3
Project-driven funding model	3
Overburdened personnel	18 (24)
Overburdened staff	12
Volunteer dependent	5
Staff turnover	1
Transitioning out of the start-up stage	18 (24)
Lack of strategic planning	7
Slow uptake and translation of ideas to action	6
“Stuck” in development stage	5
Strain on human resource practices	7 (9)
Few mechanisms for feedback	3
Lack of orientation for new Board Members	2
Gaps in areas of expertise on Board of Directors	2
Unbalanced organizational structure	6 (8)
Reporting relationship between ED and Board of Directors	3
Large Board of Directors	3
Negative perceptions of evaluation	1 (1)
Feeling misunderstood over value of work	1
Total	75 (100)

When asked about the NGO’s main challenges, H2O 4 ALL’s Board Members and staff stressed the difficulty of raising funds to support organizational growth. Any funding the organization had applied for and received over the years was directly tied to project implementation. A staff member commented on the challenge of securing funding to maintain already existing projects:

It has been a challenge to keep funding for maintenance ... Because most people I raise money with in Canada or the U.S. are all about the glorious part of doing the project—implementing it, taking pictures, posting on social media, [seeing] everyone clapping. But then the aspect of what goes on after the 1st year, 2nd year, and into the longer periods, becomes a challenge. Because most people don’t want to know about that, other than if it’s doing well. – Staff Member

Donor and granting agencies’ disinterest in supporting operational costs or already existing projects has forced H2O 4 ALL into a project-driven model. Staff salaries, administrative fees, and operational costs have become dependent upon fundraising activities. Through non-

participant observation it became apparent that H2O 4 ALL had yet to find a way to increase the size and reliability of its donor base. Given the financial costs associated with project implementation, which leaves little support for the rest of the organization, H2O 4 ALL's current funding model is unsustainable for growth.

For example, H2O 4 ALL is limited to 1.5 full-time equivalent staff members. Though the organization is reaching its 10th year, the organization has yet to break out of its development stage. To alleviate the problem of overburdened staff, H2O 4 ALL's Board of Directors has recently grown to its largest size to date with 14 members, including members with expertise in business and marketing. As a "working Board," many Board Members are involved in sub-committees to help play a greater operational role in the organization. However, Board Members are also volunteers, creating a challenging work environment:

Generally, working with volunteers is never easy. They're volunteers—you can't make them do things that they don't want to do, make them follow instructions, or challenge them when they haven't followed through. – Board Member

H2O 4 ALL's Board Members may be highly committed to the organization's cause, but as experts in their respective fields, their dedicated time to H2O 4 ALL is not without constraints.

Additionally, having a larger Board of Directors requires more management and, at times, has complicated the staff's reporting relationship to the Board, as staff have become greatly outnumbered. Some Board Members recognized the new challenges a larger Board created:

There are so many different ways of organizing a board ... there have been trends and fads in what boards should do. I'm not yet sure that I understand the ideal board-ED relationship, for example. – Board Member

The complications of having an unbalanced organizational structure, underscore the need for H2O 4 ALL to break out of its current project-driven funding model. As described by Board

Members and staff, the project-driven funding model had become a major barrier to hiring more staff; thus, limiting the organization's overall capacity for growth.

In the beginning stages of this evaluation project, we anticipated that H2O 4 ALL's strong belief in the value of evidence would help overcome any potential barriers. There was widespread recognition that H2O 4 ALL had reached a pivotal point in its history and that the organization may have to make some significant changes to be sustainable:

[H2O 4 ALL] has the potential to break through the infancy [stage], which I still would consider us in. Maybe we're toddlers ... but [we] could be a very significant organization for years to come. There are times in the history of any organization where you have to make significant change and that's not easy to do. – Board Member

The evaluation project was designed to uncover *how* H2O 4 ALL had been operating and to provide evidence to guide any proposed changes. We also anticipated that using Patton's (2012) utilization-focused approach—to ensure that practical questions would lead to useful and actionable answers and to carry out decision making under real-world constraints—would facilitate the uptake of any evaluation tools that we created in collaboration with H2O 4 ALL. H2O 4 ALL's Board Members, ED, and staff engaged in interviews and the development of a logic model. However, little to no feedback was received on the resulting logic model report, an online survey that created for donors and volunteers, or a project implementation checklist that was pilot-tested during a project trip to Uganda. Thus, we experienced a number of barriers to the uptake of evaluation tools—a precursor to creating an evaluative culture in an organization.

Though this evaluation project began with unanimous support from Board Members and staff, we believe that the attitude of inquisitiveness was lost when the organization became overwhelmed by the level of engagement that was required of them in the evaluation process:

Generally NGOs resent the fact that they have to do any kind of evaluation of the work they've done. I mean, you're in the service of the interest of humanity ... why

would you ever have to prove that this is a good thing to do? That you're doing it well, or that you feel so misunderstood because nobody else has been down there working on the ground, where it's really hard to work and it's really quite unpleasant. That's a general sense of NGOs—they're quite beleaguered. – Board Member

It is possible that evaluation became a low priority for the organization as a whole because its benefits seemed less tangible or immediate than the benefits of pouring resources directly to fundraising activities. Failing to convince the organization that evaluation is an investment into the NGO's sustainability proved to be difficult, given that the organization had sustained itself for years without it.

Figure 5.2 provides a visual representation of the barriers encountered in this attempt to operationalize evaluative thinking. Although we had anticipated challenges to evaluation activities, such as differing sources of motivation and limited funding capacity, we had approached the project without thinking critically about strategies for mitigation. Given the level of interest and enthusiasm in evaluation that was determined by an evaluability assessment (Lu et al., 2017; Chapter 3), we did not anticipate barriers such as limited engagement of staff and the ED in the evaluation process and receiving feedback from only a few Board Members whenever feedback was requested, which became more problematic in later stages. These barriers, which occurred at each intersection between spheres of influence, resulted in a fragmented flow of information about the evaluation process and slowed the momentum needed to disseminate findings back to H2O 4 ALL and for the organization to translate these findings into action.

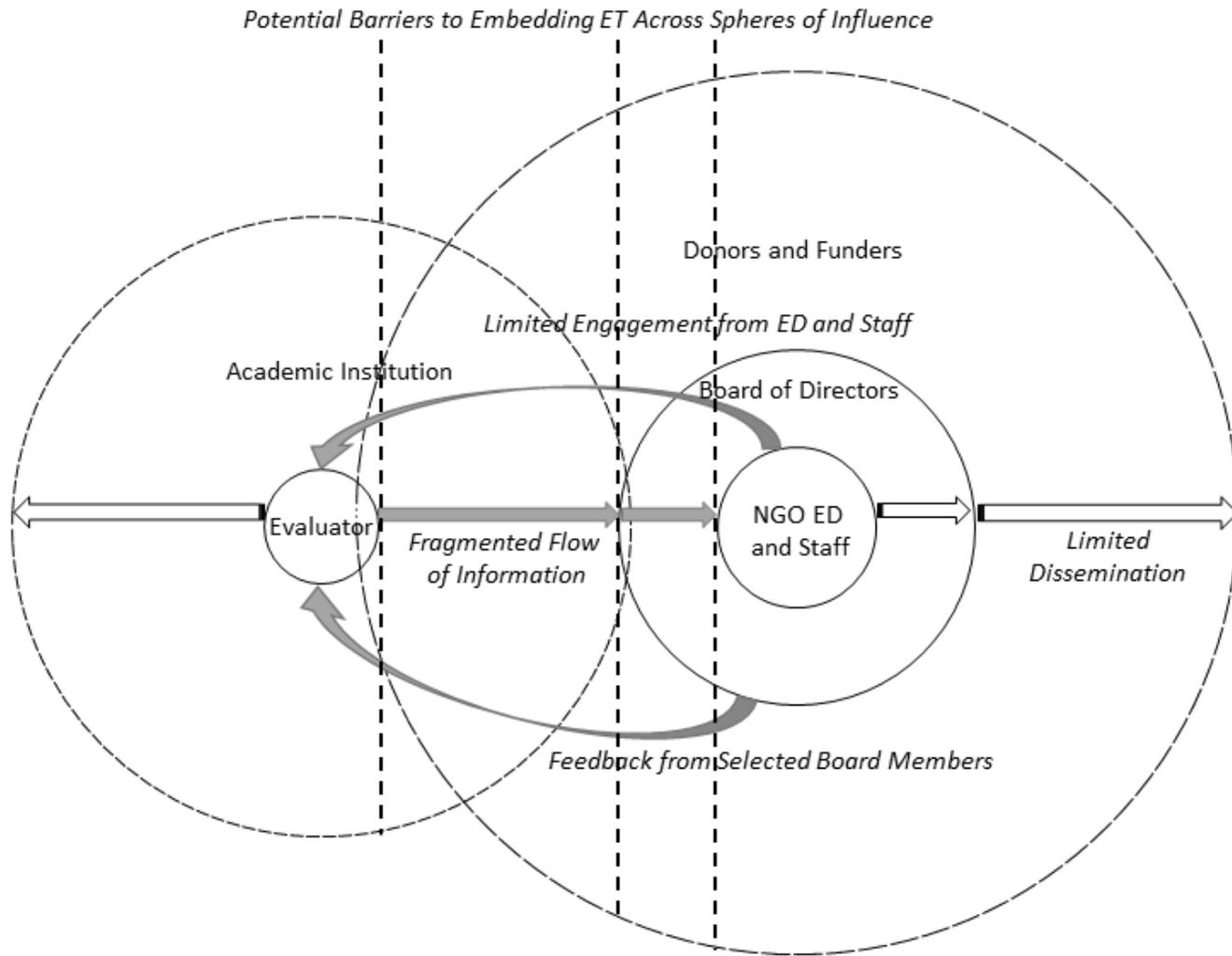


Figure 5.2 Barriers to evaluative thinking in a small NGO across spheres of influence

5.4 Discussion

We worked with a clear definition of evaluative thinking throughout this project; however, promoting evaluative thinking in a small NGO is a very complex task. The spheres of influence surrounding our primary evaluator and the NGO's ED and staff in this case study made it difficult to achieve intersectoral action—a partnership between organizations from different sectors, working together towards the same goal more effectively, efficiently, and sustainably than if alone (Glendinning et al., 2002). In short, changing organizational priorities as well as capacity on the road to evaluative thinking proved more challenging than originally anticipated.

Glendinning et al.'s (2002) model for intersectoral action identifies trust and extent of dependence as fundamental factors for joint action. For H2O 4 ALL, we observed that trust between the primary evaluator and H2O 4 ALL's ED and staff was strengthened through the evaluator's dual role as a Project Officer. In the end, however, the evaluation was commissioned by the Board of the organization, not the ED or the staff. As a result, there could have been a lack of codependency from staff and the ED on the evaluator, resulting in the inability to embed evaluative thinking in day-to-day organizational processes. This obviously had implications for engaging the ED and staff in data collection and participatory evaluation activities.

Another contributing factor to H2O 4 ALL's limited engagement could be that the NGO's organizational climate or "personality" felt threatened by the evaluation project and its ties to an academic institution. Being under observation may have hindered the NGO's openness to change, whether conscious or unconscious. Every organization is based on a set of values and assumptions that have been formed over time; when held tightly, an organization may become resistant to change or stagnant in its development (Goodman et al., 2002). Srinivasan (2007) states that NGOs at this stage in their lifecycle are vulnerable to growth. Unless organizational

structure or management is changed, a founder will become burdened with administrative details and operational problems (Srinivasan, 2007). Furthermore, most decisions will be centred on the founder who plays a key role in ensuring that the introduction of organizational procedures and processes are handled sensitively (Srinivasan, 2007).

The potential facilitators and barriers identified through this case study, and the aforementioned factors to intersectoral action, are not limited to NGOs in water-based development. NGOs are often keen to participate in an evaluation, but it is not uncommon for them to become burdened with the process. Therefore, it is unsurprising that evaluators have made similar observations in a variety of contexts, such as in the evaluation of two innovative programs for community change in the New York Area (Baker et al., 2006), through semi-structured interviews with policy makers and researchers working on health policies and programs in Australia (Huckel Schneider et al., 2016), and through discussions with staff and partners of Catholic Relief Services who participated in evaluative thinking workshops in Ethiopia and Zambia (Archibald et al., 2016).

In this case study, however, barriers such as: lack of funding to support the evaluation, limited time for stakeholders to consider evaluation work, differing motivations and conceptual separation between NGO and academic spheres, turnover in staff and Board Members, and an overall lack of knowledge or interest, were experienced simultaneously during the evaluation process, and were arguably heightened, given the unique pressures facing small NGOs in international development. In retrospect, we recognize that alternate evaluation approaches may have been better suited to our case study. For example, instead of Patton's (2012) utilization-focused approach and traditional evaluation activities such as logic model development and surveys, an appreciative inquiry approach may have increased engagement (see Preskill &

Catsambas, 2006). By focusing on an organization's strengths to ask critical questions, staff and Board Members could be empowered to learn, improve, and change.

5.5 Lessons Learned

Our efforts to operationalize evaluative thinking in a small NGO fell short of original expectations, and although there are limitations to the transferability of any case study, there are valuable lessons to be learned from our experience with H2O 4 ALL. For evaluators doing similar work, we recommend pursuing an evaluability assessment first, which can be completed in resource-limited contexts (see Lu et al., 2017; Chapter 3). Evaluators should also take care to create a detailed MOU outlining expectations from both partners, including frequency and preferred method for communication and guidelines on participating in evaluation activities and for reporting and/or publishing evaluation findings. For the Board of Directors, evaluation (or “learning time”) should be a standing item on meeting agendas for the duration of the project. Creating an evaluation sub-committee and providing opportunities to support evaluation training should also be pursued so that staff and Board Members are equally invested in the process. If an NGO is uninterested or unwilling to invest time and energy into an evaluation, then they have also sacrificed any potential benefits from evaluative thinking.

5.6 Conclusion

This case study demonstrates the challenges to operationalizing evaluative thinking in a resource-limited, and yet highly competitive setting. These findings also underscore the importance of reflective practice and the special considerations that need to be made when working with small NGOs, particularly those in international development. By acknowledging potential barriers and facilitators to evaluative thinking, prior to undertaking evaluation work, evaluators and NGOs will be better prepared to create an organizational culture where critical

thinking is applied and used to champion work that contributes to achieving the Sustainable Development Goals.

Furthermore, we encourage evaluators to consider the spheres of influence in which they work, how these shape each stakeholder's motivations (including the evaluator), and *where* potential barriers to the flow of information may arise. From our case study, we learned that different levels of investment in and knowledge of evaluation will result in different levels of engagement. Therefore, taking careful consideration of which evaluation approach to take and establishing an MOU at every point where two (or more) spheres of influence intersect, may assist in achieving intersectoral action and the intentionality that is required for evaluative thinking to be embraced within any organization.

Footnote

1. In some countries, and for the purposes of this paper, “NGOs” and “NPOs” are used interchangeably. However, when they are not considered one and the same, the main difference is that NGOs do not allow government representatives to have membership in the organization and NPOs are exempted from income tax (Irvin, 2015).

Chapter Six

Discussion and Conclusion

6.1 Summary of Key Findings

The broad aim of this thesis was to address the knowledge gaps in our understanding of the contextual, psychosocial, and technological factors that influence the success of a water-based intervention. This aim found its focus in evaluation research and practice, which led to three research objectives:

1. To apply Thurston & Potvin's Evaluability Assessment Framework (2003) and Patton's Utilization-Focused Evaluation Approach (2012) in the context of international water development;
2. To inform the creation of low cost evaluation tools that can be adapted and applied by small NGOs with little or no formal evaluation training; and
3. To examine facilitators and barriers to conducting evaluation of small NGOs in international water development.

The three substantive manuscripts (Chapters 3-5) in this thesis provided a starting point to understanding the contextual, psychosocial, and technological factors that influence *measurable* success of a water-based intervention. Through a case study of a small, international NGO that designs and implements water-based development projects in LMICs, we have shown the challenges to evaluation in light of the complexity of global water needs, the diversity of individuals who lack access, civil society organizations and the constraints under which they work, and the work that remains to achieve the global goals.

Chapter 3 addressed research objective 1 by describing the application of Thurston & Potvin's Evaluability Assessment framework (2003) to a small NGO in international water

development. The framework proved to be a useful and low cost undertaking for understanding the NGO's evaluation needs before proceeding with a more comprehensive evaluation. It facilitated the establishment of trust between the evaluator and the organization, which was essential to conducting future evaluation activities. The framework was also participatory; it guided our choice of qualitative methods (i.e., environmental scan, document review, in-depth interviews) to capture how H2O 4 ALL compares to other water-based NGOs and how its' Board Members perceived evaluation needs and priorities.

Chapter 4 met research objectives 1 and 2 by describing the application of Patton's Utilization-Focused Evaluation Approach (2012) to a process evaluation of H2O 4 ALL. The evaluation informed the creation of low cost evaluation tools such as a logic model (p. 53), online surveys (pp. 122-125), and a project implementation checklist (pp. 57-61). All three tools were created in response to identified needs from the evaluability assessment. The logic model aided in establishing a vision to guide the organization. The online surveys and project implementation checklist aided in collecting formal feedback from H2O 4 ALL's donors, volunteers, staff, community partners, and intended beneficiaries. The process evaluation also helped identify challenges to evaluation that are not limited to H2O 4 ALL. As an NGO in the "expansion/growth stage," H2O 4 ALL's structure had grown complex; however, the organizational development required to support it was often constrained by time and budget.

Finally, Chapter 5 met research objective 3 as a reflective piece on operationalizing evaluative thinking, as defined by Buckley et al. (2015). By providing a visual for key players in the evaluation project and their spheres of influence, we identified *where* a small NGO may experience facilitators and barriers to evaluation, from the perspective of stakeholders and evaluator. Chapter 5 allowed for reflection upon personal expectations for H2O 4 ALL's

evaluation and lessons learned. This example demonstrated that instilling evaluative thinking into an organization must be intentional and embraced at all levels of an organization to succeed.

6.2 Discussion

Theory of Change is an evaluation approach used to explain “how and why the program will work” (Weiss, 1995, p. 66). In doing so, an evaluation will uncover a program’s underlying assumptions. Theory of Change has been used in the development field and has become an increasingly common requirement to report on to funders of aid agencies (Valters, 2014); yet, arguably few civil society organizations have the capacity to articulate a Theory of Change, though all initiatives or programs inherently operate by one.

For many NGOs in international development, including those in water, the Theory of Change that underpins their work is similar: An unmet need is recognized by a group of actors (local, international, or both) who have the capacity to intervene. By mobilizing their resources and partnering with intended beneficiaries, a solution to the unmet need is implemented to improve the livelihood of intended beneficiaries. As a result of their work, the group of actors will also receive tangible and intangible benefits.

Valters (2014, p. 18) warns that a Theory of Change approach can be sold as a “superficial process of critical thought, where people who engage with the theories (donors as well as implementers) do not actually reflect sufficiently on how power dynamics change in practice and how local people see change happen.” This thesis was an exercise in thinking critically and reflecting upon the role of NGOs in the water-health nexus and WaSH. As discussed in the Rationale (Section 2.1), evidence suggests that NGOs have several characteristics that put them in a unique position to make sustainable changes in access to WaSH. However, in international development, “evidence” has become interchangeable with

“what works” (Valters, 2014). In this narrow discourse, an in-depth understanding of context and process may be lost when a Theory of Change becomes a way for organizations to rationalize their actions or when it is externally imposed by donors (Stein & Valters, 2012). The application of theories and frameworks (i.e., a set of variables that can be used to organize inquiry (Carpiano & Daley, 2006)) helps us to avoid this from happening.

The Application of Evaluation Frameworks

This thesis was guided by four frameworks: Krieger’s Ecosocial Theory (2011), Patton’s Utilization-Focused Evaluation Approach (2012), Thurston & Potvin’s Evaluability Assessment Framework (2003), and Buckley et al.’s definition and guiding principles for teaching evaluative thinking (2015).

Ecosocial theory helped to ground this thesis by offering a framework for thinking critically about context and process in the water-health nexus. In the Opening Remarks (Section 2.2), each core construct of ecosocial theory is linked to the water-health nexus. Construct 4, accountability and agency, was particularly relevant to this thesis. Throughout this thesis, it has been established that one of the major challenges NGO’s in international development must face is the tension between accountability to donors and accountability to intended beneficiaries. From a research perspective I also explored tensions in accountability in my role as a Project Officer at H2O 4 ALL and as an evaluator. No matter the role, accountability refers to an individual’s or institution’s responsibility for action or lack thereof (Krieger, 2011). Development evaluation provides a context-specific process for keeping other accountable. An *effective* evaluation supports an individual’s or institution’s capacity to act (i.e., have agency) within that context (Krieger, 2011).

Evaluations are also more likely to be effective if the evaluator can proceed knowing that the resources they need exist. Evaluability assessments help determine measurable objectives shared by key stakeholders, willingness to use evaluation findings, available resources to obtain objectives, and reasonable program structure (Trevisan, 2007). Thurston & Potvin's framework (2003) was an appropriate fit for this thesis because it is geared towards social change programs. Participation in the evaluation and program by all key stakeholders is an important aspect of the framework, in addition to furthering goals of empowerment, and meeting the needs of stakeholders. Although we found it challenging to involve multiple types of stakeholders in the process, the participatory framework helped establish context for NGOs in WaSH and it supported future evaluation activities by prioritizing stakeholder's evaluation needs.

Similarly, Patton's Utilization-Focused Evaluation Approach (2012) was chosen for its participatory focus. The framework helped to focus evaluation questions on context and process through ongoing situation analysis and attention to intended users. In its early development phase, the aim of this thesis was to examine the contextual, psychosocial, and technological factors that influence the success of a water-based intervention. We expected that having evaluations tools to provide a map for pre-determining where an NGO could have the greatest potential impact for intended beneficiaries would be the most useful for NGOs. However, in light of the already growing attention to this area, and as the case study of H2O 4 ALL unfolded, another knowledge gap was revealed. The focus of this thesis shifted to examining the contextual, psychosocial, and technological factors that influence an NGO's capacity for *measurable* success of their water-based interventions.

The utilization-focused approach puts a process behind the multiple evaluation activities that were introduced to suit H2O 4 ALL's needs. This process was further strengthened with

contribution analysis. That said, the approach and the type of methods that align well with its type of inquiry are very traditional to the evaluation field. As discussed in Chapter 5, the approach itself did not lead to behaviour changes within the organization that signify evaluative thinking.

Even though the term evaluative thinking has been used in the literature since the late 1990s, its prevalence has grown since 2013 (Buckley et al., 2015). Definitions have been varied and evaluators are still proposing new specific strategies for operationalizing it in different contexts. Buckley et al.'s (2015) definition and guiding principles were chosen to guide this thesis, since it is succinct and in agreement with past definitions of evaluative thinking.

Achieving evaluative thinking within H2O 4 ALL was not a research objective of this thesis; however, the case study provided a unique opportunity to examine facilitators and barriers to the process. Examining these specific factors, heavily shaped by context, may not have been possible if we had chosen a different approach over the case study.

Other evaluation frameworks that were considered for this research include gender-responsive, transformative, and empowerment evaluation. These participatory and collaborative approaches are distinguished by their focus on partnership between the evaluator and the program community, making them highly applicable in a development and WaSH context (Narayan, 1993; Chouinard & Cousins, 2013). They foster learning (over emphasis on accountability), evaluation capacity building, and opportunities to privilege local/indigenous knowledge (Chouinard & Cousins, 2013). However, gender-responsive, transformative, and empowerment evaluation approaches may be more suitable for evaluation at the project level, or for a more experienced evaluator, as they require a higher level of cultural competence in order to engage a diverse group of stakeholders when working abroad (Plottu & Plottu, 2011). An

evaluator working in this context must “transform from the role of judge to the role of educator, facilitator and trainer” (Chouinard & Cousins, 2013, p. 7). Therefore, the frameworks chosen for this thesis were favoured for their focus on user engagement, situational responsiveness, and utility—three important factors given the challenges small NGOs typically face.

6.3 Contributions

This thesis has made several theoretical, substantive, and methodological contributions to the existing WaSH and evaluation literature. As described in Section 6.2, this research has built upon the use of Krieger’s (1994) ecosocial theory as it applies to the water-health nexus.

Additionally, it is the first organizational level evaluation, to my knowledge, of a small NGO working in water with clear usage of guiding theory and frameworks. This thesis has documented the selection and application of three evaluation frameworks to a small NGO in water-based development with no previous evaluation experience. To my knowledge, none of these frameworks have been applied in similar contexts before. This contribution is significant, given that smaller, advocacy-oriented NGOs are disadvantaged when trying to meet the increased demand for accountability (Schmitz et al., 2012). Furthermore, the majority of evidence on supporting and teaching evaluation in NGOs comes from case studies of large charities and not small ones (Lee & Nowell, 2015). As demonstrated throughout this thesis, small NGOs have the potential to make significant contributions in water-based development; however, the potential for time and budget constraints to negatively impact their sustainability as an organization is also greater.

With respect to methodology, this thesis demonstrates how multiple methods and contribution analysis can be used in conjunction to present a convincing story of an NGO’s contributions to society based on evidence. Furthermore, chosen methods such as the

environmental scan and document review demonstrated how secondary data can be used to provide rich information, without being onerous to an NGO. The resulting logic model, online surveys, and project implementation checklist are tools that can be used by other small NGOs in WaSH, or adapted to suit other needs. These tools support the need for NGOs to collect data that is meaningful and useful to them, even in a resource-limited setting.

Finally, this case study presents a transparent account of facilitators and barriers to evaluative thinking as encountered in this case study. These “first steps” that were taken can assist readers in determining the transferability of findings to their own NGO or evaluative practice.

6.4 Limitations

The most notable limitation of this thesis is the use of a single case study to examine the factors that influence an NGO’s measurable success in water-based development. Case studies are known to produce depth of knowledge, not breadth. Therefore, evaluation findings from this research may not be generalizable in the traditional sense—the findings from my evaluation research may not be an accurate reflection of all NGOs working in water-based development. However, since it is the first evaluation, to my knowledge, to apply traditional frameworks in the context of a small NGO in water-based development, this approach provided a rich source of information to address a gap. Given the highly localized approach to research, the priority was to do justice to the specific case of H2O 4 ALL. To reiterate, some evaluation findings may not be generalizable; however, if there is enough similarity between contexts A and B, then there will be a degree of transferability of these findings to other small NGOs in international development (Lincoln & Guba, 1985).

6.5 Directions for Further Research

Given the limitations of the case study approach, the generalization of the findings to other small NGOs in international development is in question. Bates and Glennerster (2017) suggest that approaches to evidence-based policy are often misguided when detailed knowledge of a local context and global knowledge of common behavioural relationships are not seen as complementary. Evaluations add value here because they help reveal *why* things happened the way they did (i.e., mechanism). Even if one NGO's context differs from another, there is an evidence base for learning from the behaviour of others (Bates & Glennerster, 2017).

In this case study, the examination of facilitators and barriers to evaluation in a small NGO, under time and budget constraints, reveals human behaviours that are likely more generalizable than H2O 4 ALL's specific programming. Therefore, it is worthwhile to apply the same evaluation frameworks and the tools created to small NGOs with similar but different focus areas. Bates and Glennerster's (2017) theoretically informed generalizability framework could serve as a guide to decision making during this process. Theory-driven approaches to evaluation are indeed valuable as they *can* inform practices in other contexts.

A second direction for further research would be to devise a strategy for water-based NGOs to individually, then collectively, measure their contributions towards Sustainable Development Goal 6 and its associated indicators. In a systematic review of the methods used to select WaSH indicators, Schwemlein et al. (2016) provide a foundation for constructing a suite of indicators for WaSH. However, having multiple actors in WaSH agree upon a suite of indicators and then applying them consistently across multiple studies, projects, interventions, and geographic areas is another challenge. Some preliminary research has also been done on taking a crowdsourcing approach to harnessing water quality data using mobile phone

technologies (World Bank, 2016). Evidence suggests that this innovative approach is suitable for collecting large amounts of data from remote areas and it can be a tool for empowering local communities through participation (World Bank, 2016). Thus, further research on the strengths and weaknesses of using mobile phone technologies and particular WaSH indicators at multiple scales (from the household to the global level) is still needed (Schwemlein et al., 2016).

Furthermore, Thomson and Koehler (2015) have argued that indicators should be addressed by defining service levels along the service ladder, rather than treating indicators as binary. In other words, progress should be tracked even at the lower levels (e.g., “use of surface water,” to “use of unimproved water,” to “use of basic water”) *before* “use of safely managed water” is reached (Thomson & Koehler, 2015). Additionally, new technologies should be harnessed to monitor progress at a lower cost (Thomson & Koehler, 2015). NGOs, who have the advantage of adaptability and the capacity to explore the use of innovative methods, can play a leading role in responding to these two needs. Further research, could again, provide detailed knowledge of a local context that may be generalizable to others.

Finally, as stated in Chapter Five, there are few examples of how to operationalize evaluative thinking processes within NGOs. A promising area of research would be to explore how evaluative thinking has (or has not) shaped day-to-day operations among NGOs in international development. This research could inform strategies to intentionally embed evaluative thinking into a program’s processes and how incentives can be created for doing so.

References

Chapter 1

- Alderman, K., Turner, L. R., & Tong, S. (2012). Floods and human health: A systematic review. *Environment International*, 47, 37–47.
- Baquero, O. F., Gallego-Ayala, J., Giné-Garriga, R., de Palencia, A. J.-F., & Pérez-Foguet, A. (2016). The Influence of the Human Rights to Water and Sanitation Normative Content in Measuring the Level of Service. *Social Indicators Research*, (757), 1–24.
- Bisung, E., & Elliott, S. J. (2016). 'Everyone is exhausted and frustrated: exploring psychosocial impacts of the lack of access to safe water and adequate sanitation in Usoma, Kenya. *Journal of Water, Sanitation and Hygiene for Development*, washdev2016122.
- Cheng, J. J., Schuster-Wallace, C. J., Watt, S., Newbold, B. K., & Mente, A. (2012). An ecological quantification of the relationships between water, sanitation and infant, child, and maternal mortality. *Environmental Health : A Global Access Science Source*, 11, 4.
- Confalonieri, U. E., & Schuster-Wallace, C. J. (2011). Data integration at the water–health nexus. *Current Opinion in Environmental Sustainability*, 3(6), 512–516.
- Howard, G., Calow, R., Macdonald, A., & Bartram, J. (2016). Climate Change and Water and Sanitation: Likely Impacts and Emerging Trends for Action. *Annual Review of Environment and Resources*, 41(1), 253-276.
- Karanja, D., Elliott, S. J., & Gabizon, S. (2011). Community level research on water health and global change: where have we been? Where are we going? *Current Opinion in Environmental Sustainability*, 3(6), 467–470.

- Langford, M., & Winkler, I. T. (2013). Quantifying Water and Sanitation in Development Cooperation : Power or Perversity? The Power of Numbers : A Critical Review of MDG Targets for Human Development and Human Rights, (May), 1–29.
- Philipsborn, R., Ahmed, S. M., Brosi, B. J., & Levy, K. (2016). Climatic Drivers of Diarrheagenic Escherichia coli Incidence: A Systematic Review and Meta-analysis. *Journal of Infectious Diseases*, 214(1), 6–15.
- Rautanen, S.-L., Luosi, A., Nygard, H., Vuorinen, H. S., & Rajala, R. P. (2010). Sanitation, Water and Health. *Environment and History*, 16(2), 173–194.
- Roche, R., Bain, R., & Cumming, O. (2017). A long way to go – Estimates of combined water, sanitation and hygiene coverage for 25 sub-Saharan African countries. *Plos One*, 12(2), e0171783.
- Satterthwaite, D. (2016). Missing the Millennium Development Goal targets for water and sanitation in urban areas. *Environment and Urbanization*, 28(March), 1–20.
- United Nations General Assembly. (2010a). *Declaration on the right to water*. A/RES/64/292. New York: UN.
- United Nations. (2010b). *Report of the independent expert on the issue of human rights obligations related to access to safe drinking water and sanitation, Catarina de Albuquerque*. A/HRC/15/31. New York: UN.
- United Nations. (2015). A/70/L.1. Transforming our world: the 2030 Agenda for Sustainable Development. *General Assembly*. New York: UN.
- Water Supply and Sanitation Collaborative Council (WSSCC). (2006). *For Her It's the Big Issue: Putting women at the centre of water supply, sanitation and hygiene*. Geneva: WSSCC.

Watt, S., & Chamberlain, J. (2011). Water, climate change, and maternal and newborn health.

Current Opinion in Environmental Sustainability, 3(6), 491–496.

WHO/UNICEF Joint Monitoring Programme. (2015). *Progress on Sanitation and Drinking*

Water: 2015 Update and MDG Assessment. Geneva: WHO.

Wolf, J., Prüss-Ustün, A., Cumming, O., Bartram, J., Bonjour, S., Cairncross, S., ... Higgins, J.

P. T. (2014). Systematic review: Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: Systematic review and meta-regression. *Tropical Medicine and International Health*, 19(8), 928–942.

WWAP (United Nations World Water Assessment Programme). (2012). *Water and*

Sustainability: A Review of Targets, Tools and Regional Cases. Paris: UNESCO.

WWAP (United Nations World Water Assessment Programme). (2015). *The United Nations*

World Water Development Report: Water for a Sustainable World. Paris: UNESCO.

Chapter 2

- Bisung, E., & Elliott, S.J. (2014). Toward a social capital based framework for understanding the water-health nexus. *Social Science and Medicine*, *108*, 194–200.
- Bisung, E., Elliott, S.J., Abudho, B., Schuster-Wallace, C.J., & Karanja, D.M. (2015). Dreaming of toilets: using photovoice to explore knowledge, attitudes and practices around water-health linkages in rural Kenya. *Health & Place*, *31*, 208–15.
- Confalonieri, U.E.C., & Schuster-Wallace, C.J. (2011). Data integration at the water-health nexus. *Current Opinion in Environmental Sustainability*, *3*:512-516.
- Karanja, D., Elliott, S.J., & Gabizon, S. (2011). Community level research on water health and global change: where have we been? Where are we going? *Current Opinion in Environmental Sustainability*, *3*(6), 467–470.
- Krieger, N. (1994). Epidemiology and the web of causation: Has anyone seen the spider? *Social Science and Medicine*, *39*(7), 887–903.
- Krieger, N. (2011). *Epidemiology and the People's Health: Theory and Context*. New York, NY, Oxford University Press, Inc.
- Patton, M.Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Watt, S., & Chamberlain, J. (2011). Water, climate change, and maternal and newborn health. *Current Opinion in Environmental Sustainability*, *3*(6), 491–496.
- WHO/UNICEF Joint Monitoring Programme. (2015). *Progress on Sanitation and Drinking Water: 2015 Update and MDG Assessment*. Geneva: WHO.

Chapter 3

Banks, N., Hulme, D., & Edwards, M. (2015). NGOs, States, and Donors Revisited: Still Too

Close for Comfort? *World Development*, Elsevier Ltd 66: 707–718.

Bowen, G.A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative*

Research Journal 9(2): 27–40.

Carrard, N., Pedi, D., Willetts, J., & Powell, B. (2009). Non-government organisation

engagement in the sanitation sector: Opportunities to maximise benefits. *Water Science and Technology* 60(12): 3109–3119.

Crabtree, B.F., & Miller, W.L. (Eds.) (1999). *Doing Qualitative Research* (2nd ed.). Thousand

Oaks, CA: Sage Publications, Inc.

Daigneault, P., & Jacob, S. (2009). Toward Accurate Measurement of Participation. *American*

Journal of Evaluation 30(3):330–348.

Farmer, T., Robinson, K., Elliott, S.J., & Eyles, J. (2006). Developing and implementing a

triangulation protocol for qualitative health research. *Qualitative Health Research* 16(3): 377–394.

H2O 4 ALL. (2016). *Why us?* Retrieved from: <http://whyus.h2o4all.org/why-us/>

Langford, M., & Winkler, I.T. (2013). *Quantifying Water and Sanitation in Development*

Cooperation: Power or Perversity? Retrieved from: http://fxb.harvard.edu/wp-content/uploads/sites/5/2013/09/Langford-and-Winkler_Final-Working-Paper-92413.pdf

Meyer, S., & Ward, P. (2014). ‘How to’ Use Social Theory Within and Throughout Qualitative

Research in Healthcare Contexts. *Sociology Compass* 8(5): 525–539.

Morra Imas, L.G., & Rist, R. (2009). *The Road to Results*. Washington, DC: The World Bank.

- Patton, M.Q. (2012). *Essentials of utilization-focused evaluation*. Thousand Oaks, CA: Sage Publications, Inc.
- Patton, M.Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Picciotto, R. (2007). The New Environment for Development Evaluation. *American Journal of Evaluation* 28(4): 509–521.
- Picciotto, R. (2012). Experimentalism and development evaluation: Will the bubble burst? *Evaluation* 18(2): 213–229.
- Sawhill, J.C., & Williamson, D. (2001). Mission Impossible? Measuring Success in Nonprofit Organizations. *Nonprofit Management & Leadership* 11(3): 371–386.
- Smith, M.F. (2005). Evaluability assessment. In: Mathison S (ed) *Encyclopedia of Evaluation* Thousand Oaks, CA: Sage Publications, Inc., pp.136-139.
- Srinivasan, V. (2007). Understanding the human resource challenges in not-for-profit organizations from a lifecycle perspective. *Journal of Health Management* 9(2): 189-199.
- Thurston, W.E., & Potvin, L. (2003). Evaluability Assessment: A Tool for Incorporating Evaluation in Social Change Programmes. *Evaluation* 9(4): 453–469.
- WWAP (United Nations World Water Assessment Programme). (2012). *Water and Sustainability: A Review of Targets, Tools and Regional Cases*. Paris: UNESCO.
- United Nations General Assembly. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. A/70/L.1. New York: UN.
- Visscher, J.T., Uytewaal, E., & Verhagen, J. (2006). *Gaining insight into capacity development at the intermediate level. Background paper for the Symposium on Sustainable Water*

Supply and Sanitation: Strengthening Capacity for Local Governance, 26-28 September, 2006. IRC and UNESCO-IHE, Delft, The Netherlands.

Walser, T.M., & Trevisan, M.S. (2015). Evaluability Assessment Thesis and Dissertation Studies in Graduate Professional Degree Programs : Review and Recommendations. *American Journal of Evaluation*, 1-21.

WHO/UNICEF Joint Monitoring Programme. (2015). *Progress on Sanitation and Drinking Water: 2015 Update and MDG Assessment.* Geneva: WHO.

Chapter 4

- Adams, A.E., Nnawulezi, N.A., & Vandenberg, L. (2015). 'Expectations to Change' (E2C): A Participatory Method for Facilitating Stakeholder Engagement With Evaluation Findings. *American Journal of Evaluation* 36(2): 243–255.
- Boateng, A., Akamavi, R.K., & Ndoro, G. (2016). Measuring performance of non-profit organisations: Evidence from large charities. *Business Ethics* 25(1): 59–74.
- Buckley, J., Archibald, T., Hargraves, M., & Trochim, W.M. (2015). Defining and Teaching Evaluative Thinking: Insights From Research on Critical Thinking. *American Journal of Evaluation* 36(3): 375-388.
- Canada Revenue Agency. H2O 4 ALL - Quick View. Retrieved from: <http://www.cra-arc.gc.ca/ebci/haip/srch/t3010form22quickview-eng.action?r=http%3A%2F%2Fwww.cra-arc.gc.ca%3A80%2Febci%2Fhaip%2Fsrch%2Fbasicsearchresult-eng.action%3Fk%3DH2O%204%26amp%3Bs%3Dregistered%26amp%3Bp%3D1%26amp%3Bb%3Dtrue&fpe=2015-12-31&b=835269424RR0001&n=H2O%204%20ALL>
- Canadian Association for Co-operative Education (CAFCE). Co-operative Education Definition. Retrieved from: <http://www.cafce.ca/coop-defined.html>
- Carman, J.G. (2007). Evaluation Practice Among Community-Based Organizations: Research Into the Reality. *American Journal of Evaluation* 28(1): 60–75.
- Carpiano, R.M., & Daley, D.M. (2006). A Guide and Glossary on Post-Positivist Theory Building for Population Health.” *Journal of Epidemiology and Community Health* 60(7): 564–70.

- Carrard, N., Pedi, D., Willetts, J., & Powell, B. (2009). Non-government organisation engagement in the sanitation sector: Opportunities to maximise benefits. *Water Science and Technology* 60(12), 3109–3119.
- Cochrane, L., & Thorton, A. (2016). Charity Rankings: Delivering Development or Dehumanising Aid? *Journal of International Development* 28(1): 57–73.
- Crack, A. (2016). Reversing the Telescope: Evaluating NGO Peer Regulation Initiatives. *Journal of International Development* 28(1): 40-56.
- Dreibelbis, R., Winch, P.J., Leontsini, E., Hulland, K.R.S., Ram, P.K., Unicomb, L., & Luby, S.P. (2013). The Integrated Behavioural Model for Water, Sanitation, and Hygiene: a systematic review of behavioural models and a framework for designing and evaluating behaviour change interventions in infrastructure-restricted settings. *BMC Public Health* 13(1), 1015.
- H2O 4 ALL. Present Projects: Where and what we are working on in 2016. Retrieved from: [http://projects.H2O 4 ALL.org/?page_id=54](http://projects.H2O4ALL.org/?page_id=54)
- Hawe, P. (2015). Minimal, negligible and negligent interventions. *Social Science & Medicine* 138: 265-268.
- Global Affairs Canada. Thematic Priorities. Retrieved from: <http://www.international.gc.ca/development-developpement/priorities-priorites/index.aspx?lang=eng>
- Gugiu, P.C., & Rodriguez-Campos, L. (2007). Semi-structured interview protocol for constructing logic models. *Evaluation and Program Planning* 30(4), 339–350.
- Irvin, R. (2015). Nonprofit organization. In *Encyclopedia Britannica*. Retrieved from: <http://www.britannica.com/topic/nonprofit-organization>

- Lee, C., & Nowell, B. (2015). A Framework for Assessing the Performance of Nonprofit Organizations. *American Journal of Evaluation* 36(3): 299–319.
- Liket, K.C., Rey-Garcia, M., & Maas, K.E.H. (2014). Why Aren't Evaluations Working and What to Do About It: A Framework for Negotiating Meaningful Evaluation in Nonprofits. *American Journal of Evaluation* 35(2): 171–188.
- Lu, S.K., Elliott, S.J., & Perlman, C.M. (2017). Evaluability assessment of a small NGO in water-based development. *Evaluation*, 23(2), 226-241.
- Mayne, J. (2001). Addressing attribution through contribution analysis: using performance measures sensibly. *Canadian Journal of Program Evaluation* 16(1): 1–24.
- Mayne, J. (2012). Contribution analysis: Coming of age? *Evaluation* 18(3): 270–280.
- McLaughlin, J.A., Jordan, G.B. (1999). Logic models: a tool for telling your programs performance story. *Evaluation and Program Planning* 22(1): 65–72.
- Millar, A., Simeone, R.S., Carnevale, J.T. (2001). Logic models: A systems tool for performance management. *Evaluation and Program Planning* 24(1): 73–81.
- Morra Imas, L.G., & Rist, R. (2009). *The Road to Results*. The World Bank.
- Patton, M.Q. (2012). *Essentials of utilization-focused evaluation*. Sage Publications, Inc., Thousand Oaks CA.
- Patton, M.Q. (2015). The Sociological Roots of Utilization-Focused Evaluation. *The American Sociologist* 46(4): 457-462.
- Rocha Valencia, L.A., Queiruga, D., & González-Benito, J. (2014). Relationship Between Transparency and Efficiency in the Allocation of Funds in Nongovernmental Development Organizations. *Voluntas* 26(6): 2517–2535.

- Sauer, M., Stuart, S., & Clemens, B. (2016). Does It Pay to Invest in Potable Water in the Developing World? Relationships Between External Financing and Economic Development in Sustainable Community-Run Integrated Projects. *Journal of International Development* 28(2): 233–242.
- Schmitz, H.P., Rago, P., & Bruno-van Vijfeijken, T. (2011). Accountability of Transnational NGOs: Aspirations vs. Practice. *Nonprofit and Voluntary Sector Quarterly* 41(6): 1175–1194.
- Small, M.L. (2011). How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature. *Annual Review of Sociology* 37(1): 57-86.
- Srinivasan, V. (2007). Understanding the human resource challenges in not-for-profit organizations from a lifecycle perspective. *Journal of Health Management* 9(2): 189–199.
- Statistics Canada. Volunteering and charitable giving in Canada. Retrieved from: <http://www.statcan.gc.ca/pub/89-652-x/89-652-x2015001-eng.htm>
- UNICEF. (2011). *WASH in Schools Monitoring Package*. Retrieved from: <http://www.washinschools.info/page/1154>
- United Nations. *Goal 6*. Retrieved from: <http://www.un.org/sustainabledevelopment/water-and-sanitation/>
- Visscher, J.T., Uytewaal, E., Verhagen, J., Da Silva Wells, C., & Adank, M. (2006). *Gaining Insight into Capacity Development at the Intermediate Level. Background paper for the Symposium on Sustainable Water Supply and Sanitation: Strengthening Capacity for Local Governance, 26-28 September, 2006*. IRC and UNESCO-IHE, Delft, The Netherlands.

WaterAid. (2012). *Hygiene framework*. WaterAid, London, UK. Retrieved from:

<http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=beaa427f-247b-455e-bbd2-2c7c4898474b>

WHO/UNICEF. (2015). *Methodological note: Proposed indicator framework for monitoring SDG targets on drinking-water, sanitation, hygiene and wastewater*. Retrieved from:

http://www.wssinfo.org/fileadmin/user_upload/resources/Methodological-note-on-monitoring-SDG-targets-for-WASH-and-wastewater_WHO-UNICEF_8October2015_Final.pdf

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. (2016). *Improved and unimproved water sources and sanitation facilities*. Retrieved from:

<http://www.wssinfo.org/definitions-methods/watsan-categories/>

Chapter 5

- Archibald, T., Sharrock, G., Buckley, J., & Cook, N. (2016). Assumptions, conjectures, and other miracles: The application of evaluative thinking to theory of change models in community development. *Evaluation and Program Planning*, 59, 119–127.
- Baker, A., Bruner, B., Sabo, K., & Cook, A. (2006). Evaluation Capacity & Evaluative Thinking in Organizations. Retrieved from:
http://www.evaluativethinking.org/docs/EvalCap_EvalThink.pdf
- Banks, N., Hulme, D., & Edwards, M. (2015). NGOs, States, and Donors Revisited: Still Too Close for Comfort? *World Development*, 66, 707–718.
- Buckley, J., Archibald, T., Hargraves, M., & Trochim, W. M. (2015). Defining and teaching evaluative thinking: Insights from research on critical thinking. *American Journal of Evaluation*, 36(3), 375–388.
- Canada Revenue Agency (CRA). H2O 4 ALL - Quick View. Retrieved from: <http://www.cra-arc.gc.ca/ebci/haip/srch/t3010form22quickview-eng.action?r=http%3A%2F%2Fwww.cra-arc.gc.ca%3A80%2Febci%2Fhaip%2Fsrch%2Fbasicsearchresult-eng.action%3Fk%3DH2O%204%26amp%3Bs%3Dregistered%26amp%3Bp%3D1%26amp%3Bb%3Dtrue&fpe=2015-12-31&b=835269424RR0001&n=H2O%204%20ALL>
- Elkins, C. (2010). Evaluating Development Interventions in Peace-Precarious Situations. *Evaluation*, 16(3), 309–321.
- Glendinning C., Powell, M., & Rummery, K. (Eds). (2002). *Partnerships, new labour and the governance of welfare*. Bristol: Policy Press.

- Steckler, A., Goodman, R., & Kegler, M.C. (2002). Mobilizing organisations for health enhancement: theories of organizational change. In K. Glanz, B.K. Rimer & F.M. Lewis (Eds.), *Health Behaviour and Health Education: Theory, Research and Practice (3rd Edition)*. San Francisco, CA: Jossey-Bass.
- Griñó, L., Levine, C., Porter, S., & Roberts, G. (2014). Embracing evaluative thinking for better outcomes: Four NGO case studies. InterAction and the Centre for Learning on Evaluation and Results for Anglophone Africa (CLEAR-AA). Retrieved from: <http://www.clear-aa.co.za/wp-content/uploads/2014/07/Evaluative-Thinking-Report.pdf>
- Huckel Schneider, C., Milat, A. J., & Moore, G. (2016). Barriers and facilitators to evaluation of health policies and programs: Policymaker and researcher perspectives. *Evaluation and Program Planning*, 58, 208–215.
- Irvin R. (2015). Nonprofit organization. In *Encyclopedia Britannica*. Retrieved from: <http://www.britannica.com/topic/nonprofit-organization>
- Lu, S. K., Elliott, S. J., & Perlman, C. M. (2017). Evaluability assessment of a small NGO in water-based development. *Evaluation*, 23(2), 226–241.
- Mertens, D. M. (2016). Assumptions at the philosophical and programmatic levels in evaluation. *Evaluation and Program Planning*, 59, 102-108.
- Ofir, Z. (2013). Strengthening Evaluation for Development. *American Journal of Evaluation*, 34(4), 582–586.
- Patton, M. Q. (2012). *Essentials of utilization-focused evaluation*. Thousand Oaks, CA: Sage Publications, Inc.
- Picciotto, R. (2007). The New Environment for Development Evaluation. *American Journal of Evaluation*, 28(4), 509–521.

- Picciotto, R. (2015). The 5th Wave: Social Impact Evaluation. *The Rockefeller Foundation Evaluation Office*. Retrieved from:
https://assets.rockefellerfoundation.org/app/uploads/20160104173530/5Waves_29.10_1.pdf
- Preskill, H., & Catsambas, T.T. (2006). *Reframing Evaluation through Appreciative Inquiry*. Thousand Oaks, CA: Sage Publications, Inc.
- Sachs, J.D. (2012). From Millennium Development Goals to Sustainable Development Goals. *The Lancet*, 379(9382), 2206-2211.
- Schmitz, H. P., Raggio, P., & Bruno-van Vijfeijken, T. (2012). Accountability of Transnational NGOs: Aspirations vs. Practice. *Nonprofit and Voluntary Sector Quarterly*, 41(6), 1175–1194.
- Srinivasan, V. (2007). Understanding the Human Resource Challenges in Not-for-profit Organisations from a Lifecycle Perspective. *Journal of Health Management*, 9(2), 189–199.
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237–246.
- Vedung, E. (2010). Four Waves of Evaluation Diffusion. *Evaluation*, 16(3), 263-277.

Chapter 6

- Bates, M.A., & Glennerster, R. (2017). *The Generalizability Puzzle*. Stanford Social Innovation Review. Leland Stanford Jr. University.
- Buckley, J., Archibald, T., Hargraves, M., & Trochim, W. M. (2015). Defining and teaching evaluative thinking: Insights from research on critical thinking. *American Journal of Evaluation*, 36(3), 375–388.
- Chouinard, J.A., & Cousins, J.B. (2013). Participatory evaluation for development: Examining research-based knowledge from within the African context. *African Evaluation Journal*, 1(1), 1-9.
- Carpiano, R.M., & Daley, D.M. (2006). A Guide and Glossary on Post-Positivist Theory Building for Population Health.” *Journal of Epidemiology and Community Health* 60(7): 564–70.
- Krieger, N. (2011). *Epidemiology and the People’s Health: Theory and Context*. New York, NY, Oxford University Press, Inc.
- Lee, C., & Nowell, B. (2015). A Framework for Assessing the Performance of Nonprofit Organizations. *American Journal of Evaluation* 36(3): 299–319.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications, Inc.
- Narayan, D. (1993). *Participatory Evaluation: Tools for Managing Change in Water and Sanitation*. Washington, DC: World Bank. Retrieved from:
<http://www.chs.ubc.ca/archives/files/Participatory%20Evaluation%20Tools%20for%20Managing%20Change%20in%20Water%20and%20Sanitation.pdf>
- Patton, M.Q. (2012). *Essentials of utilization-focused evaluation*. Thousand Oaks, CA: Sage Publications, Inc.

- Plottu, B., & Plottu, E. (2011). Participatory Evaluation: The Virtues for Public Governance, the Constraints on Implementation. *Group Decision and Negotiation*, 20(6): 805-824.
- Thomson, P., & Koehler, J. (2016). Performance-oriented Monitoring for the Water SDG – Challenges, Tensions and Opportunities. *Aquatic Procedia*, 6(0), 87–95.
- Schmitz, H. P., Raggio, P., & Bruno-van Vijfeijken, T. (2012). Accountability of Transnational NGOs: Aspirations vs. Practice. *Nonprofit and Voluntary Sector Quarterly*, 41(6), 1175–1194.
- Stein, D., & Valters, C. (2012). Understanding “Theory of Change” In International Development: A Review of Existing Knowledge. *Justice and Security Research Programme*. Retrieved from:
<http://www.lse.ac.uk/internationalDevelopment/research/JSRP/downloads/JSRP1.SteinValtersPN.pdf>
- Thurston, W.E., & Potvin, L. (2003). Evaluability Assessment: A Tool for Incorporating Evaluation in Social Change Programmes. *Evaluation* 9(4): 453–469.
- Thomson, P., & Koehler, J. (2016). Performance-oriented Monitoring for the Water SDG – Challenges, Tensions and Opportunities. *Aquatic Procedia*, 6(0), 87–95.
- Trevisan, M.S. (2007). Evaluability Assessment from 1986 to 2006. *American Journal of Evaluation*, 28(3), 290–303.
- Valters, C. (2014). Theories of Change in International Development: Communication, Learning, or Accountability? *Justice and Security Research Programme*. Retrieved from:
<http://www.lse.ac.uk/internationalDevelopment/research/JSRP/downloads/JSRP17.Valters.pdf>

- Weiss, C.H. (1995). Nothing as Practical as Good Theory: Exploring Theory-Based Evaluation for Comprehensive Community Initiatives for Children and Families. In J. Connell, A. Kubisch, L. Schorr and C. Weiss (Eds.) *New Approaches to Evaluating Community Initiatives: Concepts, Methods and Contexts*. New York: Aspen Institute.
- World Bank. (2016). *Crowdsourcing Water Quality Data: A Conceptual Framework*. Washington, DC: World Bank. Retrieved from: <http://hdl.handle.net/10986/25755>

Appendix A: Millennium Development Goal 7

Ensure environmental sustainability

Target 7.C Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation

Indicator 7.8 Proportion of population using an improved drinking water source

Indicator 7.9 Proportion of population using an improved sanitation facility

(Source: WWAP, 2012)

Appendix B: Sustainable Development Goal 6

Ensure availability and sustainable management of water and sanitation for all

- 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.b Support and strengthen the participation of local communities in improving water and sanitation management

(Source: UN, 2015)

Appendix C: Core Constructs of Ecosocial Theory

- 1 Embodiment: referring to how we literally incorporate, biologically, in societal and ecological context, the material and social world in which we live.
- 2 Pathways of embodiment: via diverse, concurrent, and interacting pathways, involving adverse exposure to social and economic deprivation, exogenous hazards (e.g., toxic substances, pathogens, and hazardous conditions), social trauma (e.g., discrimination and other forms of mental, physical, and sexual trauma), targeted marketing of harmful commodities (e.g., tobacco, alcohol, other licit and illicit drugs), inadequate or degrading health care, and degradation of ecosystems, including as linked to alienation of Indigenous populations from their lands.
- 3 Cumulative interplay of exposure, susceptibility, and resistance across the life course: referring to the importance of timing and accumulation of, plus responses to, embodied exposures involving gene expression, not simply gene frequency.
- 4 Accountability and agency: both for social disparities in health and research to explain these inequities.

(Source: Krieger, 2011, p. 214)

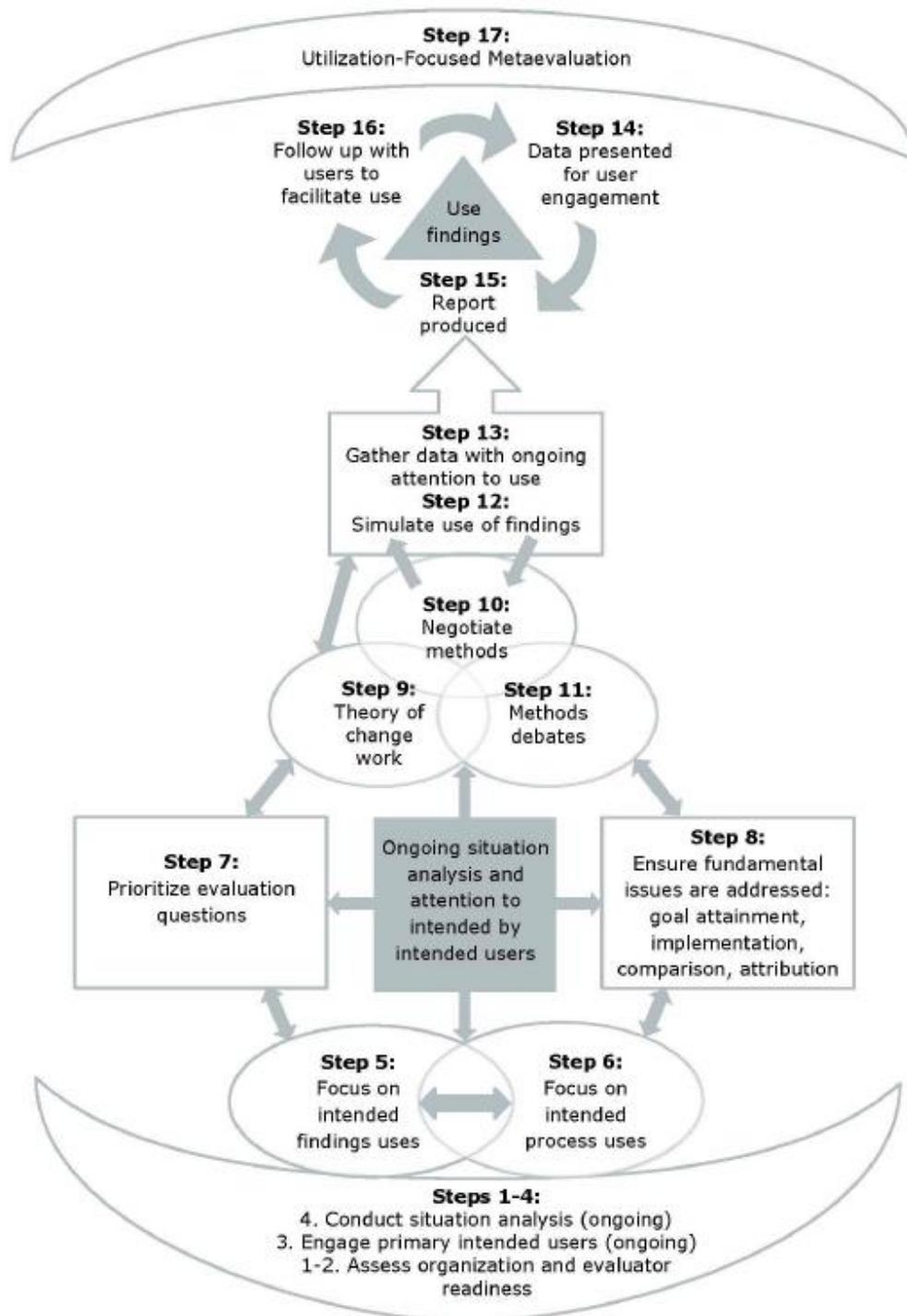
Appendix D: Key Stakeholder In-depth Interview Guide

Purposes: To understand each stakeholder’s role and level of involvement within H2O 4 ALL, what they wish to learn from the evaluation, and what they see as H2O 4 ALL’s short- and long-term goals.

Construct	Question	Probe
Stakeholder Background	What is your role in H2O 4 ALL?	Have you played more than one role?
	What responsibilities does your role entail?	What does a typical working day look like for you?
	How long have you worked with H2O 4 ALL?	
	Who introduced you to H2O 4 ALL and when?	
	What were your initial reasons for wanting to join H2O 4 ALL?	Have these reasons changed over time?
Stakeholder Experience	What previous or current jobs do you hold outside of your role in H2O 4 ALL?	
	What is now your primary motivation for your involvement in H2O 4 ALL?	
	Have you worked with an NGO prior to H2O 4 ALL?	What was that experience like? How was it the same or different to working with H2O 4 ALL?
	What kind of prior experience or special knowledge do you bring to your role in H2O 4 ALL?	
	Why are you passionate about international development/water-health/non-profit work?	
	What have been some of your biggest challenges in working with H2O 4 ALL?	Can you give me a specific example of that?
	What have been some of your most rewarding experiences in working with H2O 4 ALL?	Can you give me a specific example of that?
	Would you recommend H2O 4 ALL to friends or family members?	To work or to volunteer with? Why or why not?
Eliciting Program Theory	How familiar are you with H2O 4 ALL’s mission and vision?	What is it? Why do you think it’s worded that way?
	Do you think H2O 4 ALL’s mission and vision reflect what H2O 4 ALL actually does?	Why or why not?
	Do you think H2O 4 ALL is unique compared to other non-profits in water?	Why or why not? What does H2O 4 ALL do differently?
Goal Setting	Within your role, what are some of your short-term goals for H2O 4 ALL?	How achievable are these goals to you? Why are these goals important

		to you?
	Within your role, what are some of your long-term goals for H2O 4 ALL?	How achievable are these goals to you? Why are these goals important to you?
Evaluation priorities	What do you want to learn about H2O 4 ALL?	Is there any information you would like to know that might help you in your role? How would you prioritize these items?
	What do you think we will find from this evaluation?	What kind of findings do you expect to be positive? Negative? A mix of both?
Closing	Of all the things we discussed today, what to you is the most important? <i>Summarize purpose of study and main points. Is this an adequate summary?</i>	Do you have any final thoughts? Is there anything you'd like to add to what we've discussed today?

Appendix E: Patton's Utilization-Focused Evaluation



(Source: Patton, 2012)

Appendix F: Semi-structured Surveys

1. Co-op Student Feedback Survey

Part A: When you were a co-op student at H2O 4 ALL...

1. What year was it? (e.g, 2014)
[text box]

2. Which university or college program were you enrolled in? (e.g., Civil Engineering, Ryerson)
[text box]

3. Which year in your program were you in? (e.g., 2nd year)
[text box]

Part B: Looking back at your experience...

4. What was your motivation for working as a co-op student with H2O 4 ALL?
[text box]

5a. How would you describe your co-op experience with H2O 4 ALL?
-extremely rewarding
-very rewarding
-moderately rewarding
-not very rewarding
-not at all rewarding

5b. Why or why not? Please explain your response to 5a.
[text box]

6a. How likely are you to recommend working with H2O 4 ALL to a friend, family member, or colleague?
-extremely likely
-very likely
-moderately likely
-slightly likely
-not at all likely

6b. Why or why not? Please explain your response to 6a.
[text box]

7. Please let us know how H2O 4 ALL can improve as an employer of co-operative education students.
[text box]

Thank you for participating in H2O 4 ALL's Co-op Student Feedback Survey. Your input is extremely valuable.

2. Donor and Volunteer Feedback Survey

What is your connection to H2O 4 ALL? (Check all that apply.)

- donor
- volunteer

Please complete the following sections based on your response above.

DONOR

1a. If you selected “donor,” what kind of donations do you make?

- one time only
- monthly
- yearly
- other: [text box]

1b. What was/is your motivation for making a donation to H2O 4 ALL? (E.g., to support a friend travelling overseas with H2O 4 ALL)

[text box]

2a. How did you make your donation to H2O 4 ALL? (Check all that apply.)

- by cheque
- online
- in person
- other: [text box]

2b. How easy or difficult was the process of donation to H2O 4 ALL?

- very easy
- somewhat easy
- neither easy nor difficult
- somewhat difficult
- very difficult

3. How familiar are you with H2O 4 ALL’s vision and mission?

- extremely familiar
- very familiar
- moderately familiar
- slightly familiar
- not at all familiar

4. How familiar are you with how H2O 4 ALL used your donation?

- extremely familiar
- very familiar
- moderately familiar
- slightly familiar
- not at all familiar

5a. How likely are you to donate to H2O 4 ALL again?

- extremely likely
- very likely
- moderately likely
- slightly likely
- not at all likely

5b. Why or why not? Please explain your response to 5a.

[text box]

6a. How likely are you to recommend donating to H2O 4 ALL to a friend, family member, or colleague?

- extremely likely
- very likely
- moderately likely
- slightly likely
- not at all likely

6b. Why or why not? Please explain your response to 6a.

[text box]

7. How often do you want to hear from H2O 4 ALL about fundraising?

- once a month
- a few times a year
- other: [text box]

8. Please let us know how H2O 4 ALL can improve its donor experience.

[text box]

VOLUNTEER

1a. If you selected “volunteer,” in what capacity have you volunteered? (Check all that apply.)

- fundraising
- event planning
- project participant
 - local
 - international
- other: [text box]

1b. What was/is your motivation for volunteering with H2O 4 ALL?

[text box]

2a. How would you describe your volunteer experience with H2O 4 ALL?

- extremely rewarding
- very rewarding
- moderately rewarding

- not very rewarding
- not at all rewarding

2b. Why or why not? Please explain your response to 2a.
[text box]

3a. How likely are you to volunteer with H2O 4 ALL again?

- extremely likely
- very likely
- moderately likely
- slightly likely
- not at all likely

3b. Why or why not? Please explain your response to 3a.
[text box]

4a. How likely are you to recommend volunteering with H2O 4 ALL to a friend, family member, or colleague?

- extremely likely
- very likely
- moderately likely
- slightly likely
- not at all likely

4b. Why or why not? Please explain your response to 4a.
[text box]

5. How often do you want to hear from H2O 4 ALL about volunteer opportunities?

- once a month
- a few times a year
- other: [text box]

6. Please let us know how H2O 4 ALL can improve its volunteer experience.
[text box]

Thank you for participating in H2O 4 ALL's Volunteer and Donor Feedback Survey. Your input is extremely valuable.