

One Approach to Organizational Learning and Community-based Inquiry: A Case Study

A collaborative and empowering journey to water & sanitation

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**Abstract**

One Approach to Organizational Learning and Community-based Inquiry: A Case Study

A collaborative and empowering journey to water & sanitation

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Considering the severity of the global water crisis and the enormous backlog of rural communities who lack access to a clean water source and basic sanitation infrastructure, it is apparent that this incredibly complex problem is one that warrants thoughtful research and implementation strategies. Economist Jeffrey Sachs notes that it is important not to underestimate the water burden, and “that at the most basic level, the key to ending extreme poverty is to enable the poorest of the poor to get a foothold on the ladder of development” (244). Water1st International is one organization that has developed a community-driven and humanistic approach to permanent solutions that respects both the vulnerability and the innovative capacity of the beneficiary communities. Water1st supports the gathering of knowledge, through research, that examines the insufficient progress toward the Millennium Development Goals by looking at the water industries current trends in an effort to tease out reasons for failure rates--a unique approach and one that supports a transformation of the water industry as a whole. This paper will address, a) one particular organization’s understanding of and approach to the overwhelming need for access to basic water and

sanitation infrastructure, and, b) the importance of leveraging insight, through informative research, to more effectively impact the water crisis. It will include my personal experience working with a research team to implement a pilot research study in Bishikiltu, Ethiopia, and will address the idea and challenges of a participatory approach in the quest for subject sensitivity and valid data.

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## **DEDICATION**

I dedicate this paper to my parents, Don & Elaine DeRuyck for their unwavering support throughout my life. And, to my never-ending source of inspiration and joy, my children, Noah, Frances, Stella, and Wyatt, and my husband, Chris.

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## ACRONYMS AND ABBREVIATIONS

|       |  |
|-------|--|
| WHO   | World Health Organization                          |
| AIDS  | Acquired Immune Deficiency Syndrome                |
| GDP   | Gross Domestic Product                             |
| MDG   | Millenium Development Goals                        |
| NGO   | Non-governmental Organization                      |
| PRA   | Participatory Rural Appraisal                      |
| PAR   | Participatory Appraisal Research                   |
| ED    | Executive Director                                 |
| USAID | United States Agency for International Development |
| PATH  | Program for Appropriate Technology in Health       |
| ASK   | Akshaynagar Pallisri Sangha                        |
| DSK   | Dushtha Shasthya Kendra                            |



# CHAPTER ONE

## INTRODUCTION

### 1-1 Presenting Problem

“We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care” (Kofi Annan, May 17, 2001).

Considering the severity of the global water crisis; that approximately 1.1 billion people lack access to clean water and 2.6 billion are without sanitation infrastructure; that an estimated 76 to 135 million people, mostly children, will die by the year 2020 as a result of water-borne illness; that water-related disease, most commonly diarrhea, is the second-largest cause of death in children under the age of five years in Africa (WHO, 2008: 86); and that African children are five times more likely to die as a result of waterborne disease than by the HIV/AIDS virus (Hemson, 2008), it is apparent that this incredibly complex problem is one that requires thoughtful research and implementation strategies. Economist Jeffrey Sachs notes that it is important not to underestimate the water burden, and “that at the most basic level, the key to ending extreme poverty is to enable the poorest of the poor to get a foothold on the ladder of development” (244). Efforts to prevent death from waterborne disease are doomed to fail without access to safe water sources and simple sanitation infrastructure, and “lack of basic sanitation indirectly inhibits the learning abilities of millions of school-aged children who are infested with intestinal worms transmitted through inadequate sanitation facilities and poor hygiene” (WHO, 2006:2). It is reasonable to assert that, for every society on earth, there exists an inextricable link between water, poverty, and access to education. “An implementation of water systems will often result in better access to education. Firstly,

children will not have to walk far every day to fetch water and, secondly, if water systems are implemented in schools that lack water facilities, children have an even greater chance to receive an education” (World Water Council, par. 10).

The need for research depicting the plight of those living in the poorest (lowest GDP) countries first became apparent to me while completing a quantitative assignment for a Statistics class during my Masters program at the University of Washington’s Evan’s School of Public Affairs. I set out to conduct a quantitative analysis of the indicators that have the greatest impacts on infant and maternal mortality rates in the “poorest” countries. I was confronted with screen after screen of almost completely blank spreadsheets, indicating “data unavailable”. It troubled me that entire populations who were desperately in need of the most basic resources did not exist or were off the radar. Over the past few years I have had the opportunity to see first hand *why* it is so difficult to capture this important data, and to explore ways by which research can be done sensitively and validly to positively impact the lives of the most disenfranchised of populations--those of illiterate and impoverished women and children.

The Millennium Development Goals (MDG’s) have pledged to decrease those living without safe drinking water and basic sanitation by half by the year 2015; they pose a huge backlog of rural people unserved with basic sanitation and safe drinking water, which calls for an intensive mobilization of resources to reduce the vast coverage gap between urban and rural populations’ (WHO, foreword, par. 2). A report co-written by the World Health Organization and Unicef states that the effort to reach the MDG drinking water target appears to be deteriorating, and that on current trends, the sanitation target will be missed by more than half a billion people. This report makes the following plea:

We call on all countries to set realistic targets, develop achievable action plans, and allocate the financial and human resources needed to bring safe drinking water and basic sanitation to their populations, in a sustainable manner, while protecting the basic needs of poor and vulnerable people. This effort must be made, not only for humanitarian reasons, but also because it is highly cost-effective, reduces health costs enormously, and is directly related to health, equity and economic growth, which are prerequisites for poverty alleviation (WHO/UNICEF, 2006).

In the paper, “Africa’s water crisis: a quarter of a billion dollars down the drain” the fundamental challenges of developing permanent community-based water solutions is discussed and the tragic state of utter disrepair and neglect of the majority of the systems in Africa is quantified. The article emphasizes that, “donors, governments and nongovernmental organizations need to realize that funding infrastructure is just part of the solution. Also important are better investments in knowledge, community-led management and government capacity to sustain water supplies. Local communities must take part in choosing and maintaining appropriate technologies, and how much they are willing or able to pay to maintain them, rather than having them imposed on them by outsiders” (Skinner, par. 8).

In contrast to development work that is imposed *on* communities with little to no community organization or involvement, Water1st International implements projects *with* communities. Marla Smith-Nilson speaks to this collaborative and empowering approach:

For us to swoop in and build a water system *for* a community it might only take us three months. To organize a community; to form water committees; to educate on the maintenance of the system; to organize work teams; to teach health education and promote behavior changes; to educate each family on the importance of investing in home latrines, this form of development takes us, on average, between twelve to eighteen months. We have found this to be an empowering and sustainable approach

to what we believe is the first line of development--access to water and sanitation. And, hopefully it will also provide a community with new networks and organizational structures that will propel them to conquer their next community-identified need (personal correspondence, Smith-Nilson: May 5, 2010).

Water1st International is one organization that has achieved a one-hundred-percent rate of success in its implementation of safe drinking water and sanitation infrastructure. They have developed a community-driven and humanistic approach to permanent solutions that respect both the vulnerability and the innovative capacity of the communities in which they are working as well as the fragility of the surrounding environment. Water1st supports the gathering of knowledge, through research, that examines the insufficient progress toward the MDG goals by looking at the water industries current trends in an effort to tease out reasons for failure rates--a unique approach and one that supports a transformation of the water industry as a whole.

This paper will address, a) one particular organization's understanding of and approach to the overwhelming need for access to basic water and sanitation infrastructure, and, b) the importance of leveraging insight, through informative research, to more effectively and efficiently impact the water crisis.

## **1-2 Method of Study, Research Strategies, and Research Questions**

I will approach the presenting problem, the challenge of impacting the water crisis through strategic implementation and informative research, via a multi-dimensional qualitative study based primarily in a case study of Water1st International, a non-governmental organization that is working to chip away at the water and sanitation crisis in India, Bangladesh,

Honduras, & Ethiopia. In the tradition of Robert Yin, I will conduct this case study of one specific organization's strategic approach, using multiple sources of information and will work to achieve a chain of evidence--that which finds explicit connections between the questions posed, the data collected, and the conclusions drawn (Yin, 1989). Yin advises that the case study investigator must have a 'methodological versatility' (1989: 103) and he believes that employing multiple methods serves to help circumnavigate issues related to establishing the construct validity and reliability of a case study (1989: 5). Considering the extraordinary complexity of circumstances related to culture, language, illiteracy, and the distance to the beneficiary communities served by Water1st, I was hard-pressed to find another method that would allow for such versatility.

Through the employment of an emancipatory lens (Rossman & Rallis, 2003), "the researcher and participants hope that the process of inquiry, action and reflection—and the knowledge it generates—will be transformative. The process and results become a source of empowerment for individuals' immediate daily lives and may affect larger oppressive social relations. The participants are not generating knowledge simply to inform or enlighten an academic community: they are collaboratively producing knowledge to improve their work and their lives" (24). An emancipatory lens seems like an appropriate position from which to analyze my data and its hoped-for uses. Paolo Freire's (1970) *web of praxis* spawns the emancipatory lens in his belief that, "the reflection and action implicit in knowledge can free practice" (24).

In *Learning in the Field*, Rossman & Rallis (2003) define qualitative research in a way that promotes a collaborative and transforming process. They note that research should *generate knowledge*, that the researcher is a conscious *learner*, that it is an ever-changing *process*, and

that it is *recursive, iterative and full of ambiguity* (3). This notion of learning in order to impact a social phenomena may not always foster a sanitized data collection process, however, it may promote the collection of valid data as the purpose and process are interrelated. Combining the philosophy of Rossman & Rallis with that of Paulo Freire serves to clarify and simplify Water1st International's research goals as both learners and collaborators. The definition of knowledge as iterative, that which builds on itself, and the research process as heuristic, a discovering experience, are significant to the process that I experienced as a member of the Water1st research team, as *data collaborators* as opposed to data collectors.

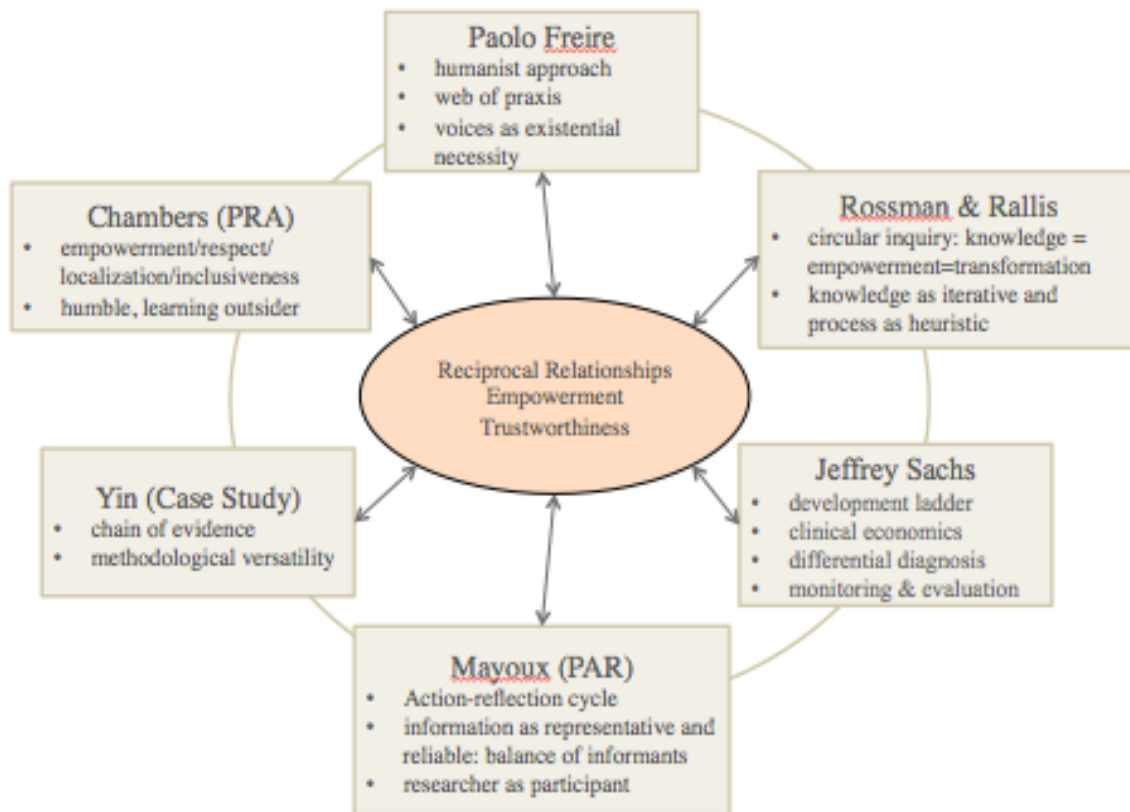
The ideas of Rossman & Rallis and Freire have been influential in forming my philosophical stance around reciprocal relationships, empowerment, and trustworthiness in development. The Participatory Rural Appraisal (PRA) method integrates similar ideas of empowerment, respect, localization, and inclusiveness and was influential specifically in the Ethiopia pilot study, and generally at the core of Water1st's organizational philosophy. The following definition of the method captures its complimentary attributes. "More an eclectic situational style (the humble, learning outsider) than a method, the Participatory Rural Appraisal is distinguished at its best by the use of local graphic representations created by the community that legitimize local knowledge and promote empowerment" (IISD, par. 1). The approach has been further legitimized by its economic impacts, "accumulated experience and evidence suggests that participatory research can greatly increase the effectiveness of dollars spent on development initiatives" (Kottak 1985, Carter 1996).

I believe that Water1st International is an example of a mature organization that has developed a thoughtful and sustainable approach to solving a crisis; therefore, it is worthwhile to critically analyze the organization's assumptions and strategies by engaging in grounded reflection that employs multiple methods of inquiry. Water1st has demonstrated a commitment to self-reflection and longitudinal research as they continue to refine their approach; efficiency, sustainability, and empowerment are paramount to the process as they support a community's procurement of water and sanitation infrastructure.

The following framework includes the most influential elements of the process of inquiry that organically formed the central philosophical stance of reciprocal relationships, empowerment, and trustworthiness. As discussed throughout this paper, Chambers and Freire stress the need for the voices of the rural poor to examine their own reality through the analysis of their own problems, the setting of their own goals, and the monitoring and evaluation of their own achievements in the spirit of the Participatory Rural Appraisal Approach (PRA). Closely related, but with an added focus on a rigorous action-reflection cycle, a continuous process that incorporates observation, analysis, monitoring, and evaluation, is Participatory Action Research (PAR), championed by Mayoux and Freire. Additionally, PAR includes the constant self-analysis of the researcher as an active participant in the process of inquiry. Rossman & Rallis support both participatory approaches with their idea of a circular process of learning that is ongoing, and Sachs with his call for a differential diagnosis based on unique beneficiary community circumstances and needs that must be defined by the community itself. Yin provides evidence that the case study method allows for the necessary methodological versatility for a subject as complex as extreme poverty.

**Figure 1**

**A Conceptual Framework for Method and Philosophical Stance**



This research unfolded through an initial field experience in Bishikiltu, Ethiopia--a pilot study that embraced a collaborative and participatory approach. Supporting methods will include:



- interviews with key informants (appendix A)
- a review of informing literature
- observations from the field (including journaling, shadowing, and reflections based on collaborative research methods included in the pilot study)
- an examination of evidence from participants and partners
- statistical evidence from the University of Washington's time allocation study
- reports from Water1st International

Additionally, the Case Study will include an analysis of the organization's approach to conducting research. By looking at inquiry through practical enactment on the ground and in the field I hope to find authentic evidence that will contribute to the rate at which safe and permanent water systems are implemented. I will set out to answer the following questions:

- 1) How does Water1st approach the water crisis?
  - 1a) What are their assumptions, strategies, and theories of action?
- 2) How can they employ data collection strategies that can provide authentic forms of evidence related to the sustainability of their approach and to the impact of their intervention?
- 3) How do they address empowerment issues?
- 4) How are they attempting to collaboratively and sensitively conduct research on the most disenfranchised of populations—those who lack access to the most basic human needs?
- 5) In what ways might their implementation and research techniques be transferrable across cultures and foci?

Table 1  
**Matrix of Methods and Research Questions**

|                 | Ques #1 | Ques #1a | Ques #2 | Ques #3 | Ques #4 | Ques #5 |
|-----------------|---------|----------|---------|---------|---------|---------|
| Documents       | X       | X        | X       | X       | X       | X       |
| Interviews      | X       | X        | X       | X       | X       | X       |
| Field Work      | X       | X        | X       | X       | X       | X       |
| Data Collection | X       | X        | X       | X       | X       | X       |
| Journals        |         |          | X       | X       | X       |         |
| Shadowing       |         |          | X       | X       | X       |         |

### 1-3 Organization of Paper

This paper is organized into five chapters. In Chapter One, *Introduction*, I begin with a conspectus of the presenting problem, the severity of the global water crisis. Next, I narrow the focus to analyze the presenting problem from the perspective of an individual organization, Water1st International, and lay out the methods of study and research questions. Lastly, I frame my personal research journey in Ethiopia to provide context for my inquiry and to shed light on the many stages, twists and turns, that this process has taken.

In Chapter Two, *A Study of Water1st International*, I undertake an in-depth analysis of one organization that has a uniquely empowering approach to the water crisis.

In Chapter Three, *Research in the Field*, I will detail my personal experience working with a research team to implement a pilot research study in Bishikiltu, Ethiopia. This chapter will address the idea and challenges of a participatory approach in the quest for subject sensitivity and validity of data. Additionally, I will include a review of literatures that have informed

the research process by providing various lenses for analysis. Lastly, I will comment on the status of the Ethiopia study and will include a synopsis of its initial findings.

In Chapter Four, *Findings: Emerging Themes Related to the Impact of Research and Self-Reflection on Water1st International*, I will tease out the main themes that emerged from the data and analysis contained in the previous chapters. Specifically, the organization's philosophy on the importance of relationship-building at every level, and *how* its commitment to research and self-reflection has been informing on many levels. In keeping with the theme of relationship-building, I will include a conceptual description of the *Accountability Forum*, a resource that sets out to increase the transparency and capacity of the water industry as a whole. This chapter will rely heavily on insight gained through interviews with the organization's Executive Director and Staff, who will serve as confirmatory sources (appendix A).

In Chapter Five, *Synthesis*, I will address how this study might be informing across cultures and foci. I will look at further questions raised and will identify limitations and lessons learned about the process that I experienced as *learner* and *collaborator*.

#### **1-4 Framing the Experience**

My “wallowing” with my data begins with an initial journal-like analysis of interactions and the participatory process:

Before I begin, I must acknowledge that the magical process of collaborative data making that occurred in the village of Bishikiltu, Ethiopia could never have happened without

standing on the shoulders of giants—the giants being Water1st International and the honest and good work that they have been doing *with* the communities in the rural Oromifia region to develop clean water and sanitation projects. The open-armed welcome, the trust, the honest feedback, and the collaboration would have taken months to establish, if at all, under normal circumstances—we had the good fortune and the honor of being immediately embraced and welcomed into these communities.

The journey began after two red-eye flights and a daylong layover in London’s Heathrow Airport. After landing in Addis Ababa at 6am, we raced through the countryside to take advantage of a full day of data collection. Or so we thought. We had plenty of survey questions and the desire to capture data from as many women participants as we could rally; after all, achieving statistical significance was an ever-looming goal.

Somewhere between the Ethiopian highway and the bumpy off-road journey to the rural village of Bishikiltu, our reality naturally shifted. As scattered women and children ran to meet our truck any thought of *data collection* disappeared. Rather, we were face to face with women who were so different and so just like us—exhausted with the burden of child rearing and anxious for an adult conversation. Sadly, they possessed the additional burdens of life-sustaining tasks; they, along with their children, walked hours each day to fetch water and firewood. The small amount of water that they did collect was contaminated and made their families sick.

Arriving in the village with Marla Smith-Nilson, Water1st International Founder and Executive Director, and whom the communities so affectionately called, *Water Mother*, was magical. We could not extract data *from* them; we needed to get to know them as fellow

human beings and mothers. We smiled, shared photos of our children, butchered a few phrases of their language, laughed, played with their children, swatted flies, and generally soaked in the environment. We departed the village that first day with absolutely no hard data. It had been a complete success.

That evening back at our hostel off the highway, we hatched a new approach. It was obvious that the traditional means of gathering data through a series of survey questions would not be effective or valid with this illiterate and mostly innumerate group of women. That is when the idea of the “coffee bean activity” began to take shape. We discussed what appeared to be the main time consuming activities in the women’s day: water collection, firewood collection, agriculture, child care, taking care of sick family members, sanitation, taking care of livestock, and social activities. We used simple drawings on cards to depict each activity and decided on fifty coffee beans that would represent the available hours in one day.

Another day and another early start over the bumpy off-roads. We could have never anticipated the magic that was to be made this day. Situated under an enormous acacia tree near the newly tapped spring in the village of Bishikiltu, we casually loitered and waited for anyone to stroll along and to be curious. Within an hour, we had approximately 30 women and children surrounding us, in complete silence. At first, they were a bit timid, but over the period of three hours, they began chatting amongst themselves and volunteering to participate in the time-allocation pilot study. With the assistance of a translator we began to inquire about their discussions. They had questions about the categories we had chosen to depict their daily activities, such as, “where is a card for marketing?” and, “we do not have any sick children in our community”. As the day progressed, the power of the group emerged, and we found ourselves fully engaged in re-developing the study design with the collaboration of the

women community members. A shift in the paradigm of *data collector* to *data collaborator* took place. We understood that our sanitized linear version of data collection would no longer be appropriate or valid. The formal lines between data collector and data provider had been shattered—thankfully.

Our research journey began anew. We set aside our agendas and expectations and opened ourselves to the participation, invitations, and voices of the women. In the spirit of collaboration, the empowerment of the community emerged.

## CHAPTER TWO

### A STUDY OF WATER1ST INTERNATIONAL

The information gathered for this chapter relies on the following methods: *interviews* with Water1st staff members, community beneficiaries, board members, donors, and the local partner organization in Ethiopia, Water Action; Water1st and Water Action *documents*; personal *observation*; and *field work*, including *data collection* gathered during my 2009 visit to water projects in Ethiopia.

Considering the approximate fifty percent rate of failure of government and non-government implemented water systems, and that this statistic has been unwavering over the past thirty years (WaterAid Sustainability Framework, screen 6) it is worthwhile to analyze one organization in the water and sanitation sector that is committed to developing permanent solutions to the water and sanitation needs of the world's poorest. Water1st has constructed 515 water systems, all are consistently monitored and functioning, and have benefitted over 63,000 people (personal correspondence, Smith-Nilson, May 5, 2010). In this chapter, I will

describe Water1st International's theories related to program philosophy, donor management, organizational structure, fundraising, implementation, and stakeholder participation.

### ***Leadership Philosophy***

The following paragraph is a paraphrased conversation with Marla Smith-Nilson, the founder and Executive Director of Water1st International. I have chosen to open this chapter with this conversation because I believe it provides an illustrious backdrop of the organization and its uniquely personal approach to the alleviation of poverty.

This journey is personal; we have forged deep relationships with our beneficiaries and our partner organizations. It is an expression of freedom, of sharing, of the love of the brotherhood. We all work better together—we come to the table wanting to find the best strategy for ending poverty. We sit in communion with our beneficiaries and our country partners; any feedback comes from a place of love and respect—not from wanting to look like the smartest person in the room—we want everyone to feel safe enough to debate and disagree for this is how we all grow. Our Partners know where we come from—a place of really wanting to help and support—we can feel this by the way they embrace us, by how motivated they are, by how they continue to welcome us. They treat us like family—they show up unannounced at the airport to say goodbye. We also show up to let them know what a good job they are doing--human beings need a pat on the back. We work on building relationships and work to figure out what motivates people--this promotes sustainability, long term success. We see this approach trickle down as we witness our partner organizations modeling this same respect to the beneficiary communities. As we continue to ask, 'what are your rights as a human being?' we gradually see outlooks change—communities see possibility and realize they do not need to be content with poverty (personal paraphrased correspondence: May 5, 2010).

Marla Smith-Nilson, in this one brief correspondence, echoes similar philosophies to those of Freire, Rossman & Rallis, and Sachs, of the need for the voices and involvement of the disenfranchised to define their reality, to examine their solutions, and to mobilize their own

valuable resources. She demonstrates an organizational core that is based first and foremost on trustworthiness, reciprocal relationships, and empowerment.

### ***Philosophy of bottom-up knowledge-building***

Water1st has developed a unique approach; they relentlessly engage in a rigorous analysis of implementation strategies and in the organization's theoretical foundation, specifically, theories related to problem, action/intervention, and sustainability goals. Throughout the implementation process they employ a bottom-up approach wherein community responsibility, women's involvement in the management of systems (through paid positions), and the overall empowerment of the community are paramount. Communities submit applications to Water1st and the local country partners. Commencement of a water project requires the formal commitment of individual households to donate labor hours, to build a home latrine, and to contribute to a regular system of payment (akin to a public utility). Every step of the project, from the preliminary community mapping to the concluding formation of water boards, is done in collaboration with local stakeholders--nurturing trust, ownership, and empowerment. Water1st understands that poverty is complex; they capitalize on the human capacity of a beneficiary community rather than on the idea that innovative technologies can trump the power of local knowledge and community organizing. The following excerpt from The Seattle Times Newspaper (2010), entitled, *Seattle forum defines technology's role in development*, sheds light on the popular misconception that innovation equates technology:

USAID Administrator, Rajiv Shah, the former Gates Foundation executive tapped by President Obama to head international development, has brought the foundation's well known focus on measuring results to the government arm responsible for more than \$20 billion in foreign aid. Shah issued a call to action to Washington State,



known for its role in technology, to contribute innovative ideas. He described a vision of the future in which science and technology, in the form of a tablet computer with an Internet connection, could help a farmer in a remote village get access to information such as market prices, and send photos of pests or diseases outside in asking for assistance. Chris Elias, chief executive of the Seattle health non-profit PATH, cautioned that it's a mistake to equate innovation with technology. "Too often we think of it in terms of the gadgetry," he said. "You can't do a C-section through a cellphone." Marla Smith-Nilson, executive director of Seattle-based Water 1st International, said she was pleasantly surprised at the forum's message, but she still wanted to hear more about developing human capacity and stronger communities. "I don't think there's any technology that is going to replace neighbors talking to neighbors about the importance of washing hands and the importance of actually using toilets," she said. "There's nothing that fits in a box on a shelf that is sold in a marketplace that is ever going to replace that kind of learning about public health and behavior change" (August 13, 2010).

While a bottom-up, community-driven approach is imperative, it does not negate the need for participation at all levels. "Commitment is important not only at the 'street-level' but at all levels through which policy passes--in cases of international commitments, this would include the regime-level, the state-level, the street-level, and all levels in between" (Brynard, 2005:18). This case study of Water1st International demonstrates that they manage and execute projects keeping in mind this fragile balance of power at all levels.

### ***Local Partner Organizations***

Water1st has longstanding relationships with local partners in each of the four countries: the Honduran partner, Cocepradil for twenty-one years; the Ethiopian partner, Water Action for seven years; the India partner, Akshaynagar Pallisri Sangha (APS) for six years; and the Bangladeshi partner, Dushtha Shasthya Kendra (DSK) for six years. It is important to note that Marla Smith-Nilson established partnerships with the Honduran and Ethiopian partners when she was a co-founder of WaterPartners, prior to her founding of Water1st International

in 2005 (personal correspondence, Anderson, November 5, 2011). Her unwavering support of Cocepradil and Water Action, even through her departure from one organization and founding of another, demonstrate the power of reciprocity and trust: the interdependent relationship begets effectiveness. ‘Lack of adequate capacity’ is a phrase often used by development professionals. “It means there is a shortage of organizations and institutions in developing nations that are capable of implementing sustainable water and sanitation projects in poor communities. The consequence is a high project failure rate” (Water1st website, par. 3). Successful local partner organizations require a consistent funding stream to retain a professional staff and regular face-to-face communication with the funding organization to assure best practices and on-going monitoring.

Each country partner is a local NGO with compatible goals to Water1st, and each has proven, over time, to work respectfully and honestly with the local communities. Local partners are committed to focusing on gender issues and on the development of key leadership roles for women (strategic report: 8). Partner selection and relationship-building have been identified as crucial strategic tasks of Water1st International. There is constant dialogue between partner organizations and staff in an ongoing effort to improve all aspects of a water and sanitation project. The following statement echoes the importance of local relationships and support as a community works to solve their own problems. “Solutions prescribed by the World Bank seldom work unless local factors and conditions are considered” (Hemson, 2008: 196).

Each organization has the freedom to experiment with implementation techniques, and to debate honestly, knowing that the Water1st staff is committed to ongoing funding (as long as all sides of the relationship are upheld) and to rigorous oversight of all projects in motion and completed. The recent difficult decision to discontinue funding to the India partner, APS,

demonstrates how seriously Water1st takes its local partner selection. During a site visit in 2009, Water1st staff discovered that APS had not been fully honest regarding the progress that had been made on funded projects. Rather than being honest, admitting that they were off schedule, and asking for help, they lied. As a result, Water1st laid down new ground rules, decreased their funding level, and took an extra follow-up trip to the region. After this probationary time, and during a subsequent visit to the region, they concluded that APS did not share a similar vision of community empowerment and hygiene education. When Water1st randomly interviewed locals and inquired, “when did you receive your hygiene education?”, the response was, “yesterday”. It became clear that APS was not operating within Water1st’s established guidelines that require a commitment to community empowerment, but rather only fulfilling the contractual requirements just in time for “inspection”. The health education program is not a one-day tutorial, but rather an ongoing education program implemented by the local partner and the hygiene committee. APS also refused to train village plumbers and required communities to rely on their outsourced assistance when a system was not functioning properly. Water1st partners are required to train community members on every aspect of system maintenance—the goal is to empower each community with the skills needed to be self-sufficient to assure that the project is a permanent solution (personal correspondence, Smith-Nilson, May 5, 2010).

Conversely, on the most recent visit to Bangladesh, the local partner, DSK, exhibited innovation that only comes from a long-term relationship with a partner NGO. Jeffery Sachs (2005) writes about the concept of *clinical economics* and stresses that there is not a standard by which all development economics can operate, and, that, complexity requires a differential diagnosis (80). Instead of a foreign investor appearing with its own innovations, DSK, who, understanding their community needs better than anyone, had the confidence, freedom, and

unwavering support of Water1st to engage in the following innovations (personal correspondence, Smith-Nilson, May 5, 2010):

- Installing reverse osmosis systems in local schools
- Inventing a portable ‘toilet on wheels’ that provides a public restroom for dense urban areas—this is a for-profit venture
- Negotiating with a large local employer, a sandblasting company, to build a water system and toilets for its employees
- Negotiating with local wealthy railroad executives, whose waste is currently piped out and draining directly into the urban slum where DSK/Water1st works
- Developing a latrine for handicap users
- Installing eco toilets
- Extending grants to a private group investing in public toilets

Sachs stresses that, “good development practice requires monitoring and evaluation, and especially a rigorous comparison of goals and outcomes” (80). The deep working relationships that Water1st has nurtured with its local partner organizations enable them to guarantee rigorous monitoring and evaluation. Additionally, Sachs stresses that, good development “requires a commitment to be thoroughly steeped in the history, ethnography, politics, and economics of any place where the professional adviser is working” (80-81). Sachs’ philosophy is shared by Water1st and demonstrated by their unwavering commitment to four regions.

### ***Impact of regional commitment***

Water1st does not allow a donation to dictate the geographic location of implementation. “International donors tend to think that success is demonstrated by working in many countries. We feel just the opposite--success is demonstrated by focus and commitment and creating an environment of constant program improvement. This approach also allows our

partner organizations to retain qualified and experienced staff and to develop long-term plans to saturate a region” (Water1st website, par. 2).

“Having projects in 25 countries looks great on an organization’s website and may appear to demonstrate the *effectiveness* of an organization, but it does not allow for the ongoing monitoring and trouble shooting of a permanent solution. Other organization’s ask, ‘how do you afford monitoring?’, well, it’s more realistic when we are only working in four regions. Our rigorous monitoring only accounts for about 3% of our annual budget--this is a huge value” (personal correspondence, Anderson, September 19, 2011). As previously mentioned, Smith-Nilson has long-standing relationships with country partners and beneficiary communities in four specific regions; Water1st has committed to maintaining a presence in each region until every last village and household has access to potable water and sanitation infrastructure. When working in a region, the team engages in the trouble-shooting of previously installed systems as well as personal household latrines. Obviously, this capacity for rigorous monitoring would not be possible if the organization was willing to hop all over the world at the request of donors.

Committing to a region indefinitely, until every village has access to water and sanitation, cultivates a deep understanding of a region’s unique challenges. An understanding of local circumstances related to gender, illiteracy, politics, environment, religion, etc. may contribute to the circumnavigation of potential barriers to success. Implementation procedures can be continuously tweaked and improved over time. Villages can collaborate on ‘best practices’ and can assist neighboring non-project communities in their fulfillment of baseline project requirements. Greater environmental, economic, education, and health impacts may be realized when an entire region experiences the benefits of gaining access to water--as opposed to a single village surrounded by those still struggling with the devastating

implications of limited and contaminated water sources. Commitment to the sustained funding of a region enables the local partner organization to establish a local field office with an experienced staff. Lastly, an organization's longstanding presence may prime an organization for the opportunity to conduct rich longitudinal research studies that may be shared and contribute to the more effective chipping away at the water crisis. Empowerment of local stakeholders occurs when a collaborative spirit is engendered through longstanding trusting relationships—trust is crucial for successful project implementation as well as for participatory research opportunities. In the words of Paolo Freire, “a real humanist can be identified more by his trust in the people, which engages him in their struggle, than by a thousand actions in their favor without that trust” (1970: 13).

Project sustainability, in other words, a permanent solution, is another outcome of regional commitment. Longevity of presence in a region allows for program analysis, consistent monitoring, and the resulting ongoing tweaking of procedures.

Marla Smith-Nilson recalls a recent example of a positive relationship with the Bangladeshi partner, DSK, stemming from a need for a new technical standard for a seal on the surface wells. Rather than offer up a solution to the problem, Water1st identified the problem and asked the local partner and beneficiary community to come up with their own solution. The problem was solved and by the next Water1st staff visit every water point in the community had an additional checklist as part of the improved maintenance system. Additionally, this collaborative process identified a need for a training program for new engineers. A senior engineer was identified and all engineers were trained in the new protocol for the surface seal of wells. This new technique was not only used on all Water1st systems, but also on other systems in the region—an example of how one organization's high standards can diffuse to

benefit the industry as a whole. Smith-Nilson feels that partner organizations are motivated because they want to do a good job and because they know the history of Water1st evaluations year after year. Lastly, she emphasizes the invaluable cross-pollination of knowledge among communities--proximity allows for face-to-face consultation and discussion of best practices (personal correspondence, Smith-Nilson, May 5, 2010).

The Honduran local partner, Cocepradil worked together with Water1st to develop a much-needed plan for watershed protection. They began by teaching the beneficiary community about the problem--explaining to community members that the watershed is connected to the water supply and that the longevity of the system relies on the protection of the surrounding forest. Solving this problem and guaranteeing that their water project would be a permanent solution, required community members to contribute to the purchase of an acre of land surrounding the spring, as well as to agree that no one can farm or live on this land. A small portion of each household's monthly water bill contributes to the cause and includes the expense of a park ranger to patrol the area. This effort demonstrates another example of the importance of regional commitment--how the poorest of the poor can organize themselves to develop a system of environmental protection.

How might an organization's long-term presence in a region cultivate a trusting stakeholder--researcher relationship that is vital to the process of appropriate and informative participatory research? How might we use research to appropriately capture and disseminate the voices of the most disenfranchised populations—those of illiterate and impoverished women? In order to strategically address the presenting problem, it is necessary to “understand” the culture in which the crisis exists. The same trusting relationships that are paramount to successful implementation and sustainability of water projects are equally as important to the research that informs them. When an organization has a long-standing humanist reputation, local

community members may be more willing to speak honestly and openly regarding their personal lives and the health of their families. They may also feel confident enough to share their thoughts on processes that can be improved without worrying about negative consequences. When a community trusts an organization, its process, and its follow-through they may be empowered to contribute to the field of knowledge to “lift up” others who are still suffering the effects of poverty and water-borne illness. Mayoux (2005) warns that effective development policy is not the result of ‘one-off extractive participatory exercises’, but that there needs to be a serious commitment to the ongoing process of dialogue—only possible with a long-term presence (27). It seems that a spirit of collaboration is nurtured when a region experiences the bottom-up development that is achieved only through the positive long-term presence of a development organization—facilitating stakeholder ownership, an awareness of crucial issues, community empowerment, and constructive shifts in an organization’s evaluation paradigm.

### ***Organization of a Community***

As previously mentioned, it would only take a few short months to implement a water system using a top-down approach to development—one that neither engages a community in solving its own problems nor organizes the community to implement and maintain a permanent solution. The Water1st philosophy is one of bottom-up innovation that requires the organization of the community to build and maintain their own system--taking on average twelve to eighteen months to complete. “Our projects would not be successful without the strong commitment of the people in the communities we support. They are involved in every step of the planning, implementing, and financing of their projects. Communities are also responsible for the long-term operation and maintenance of their projects; it is critical that

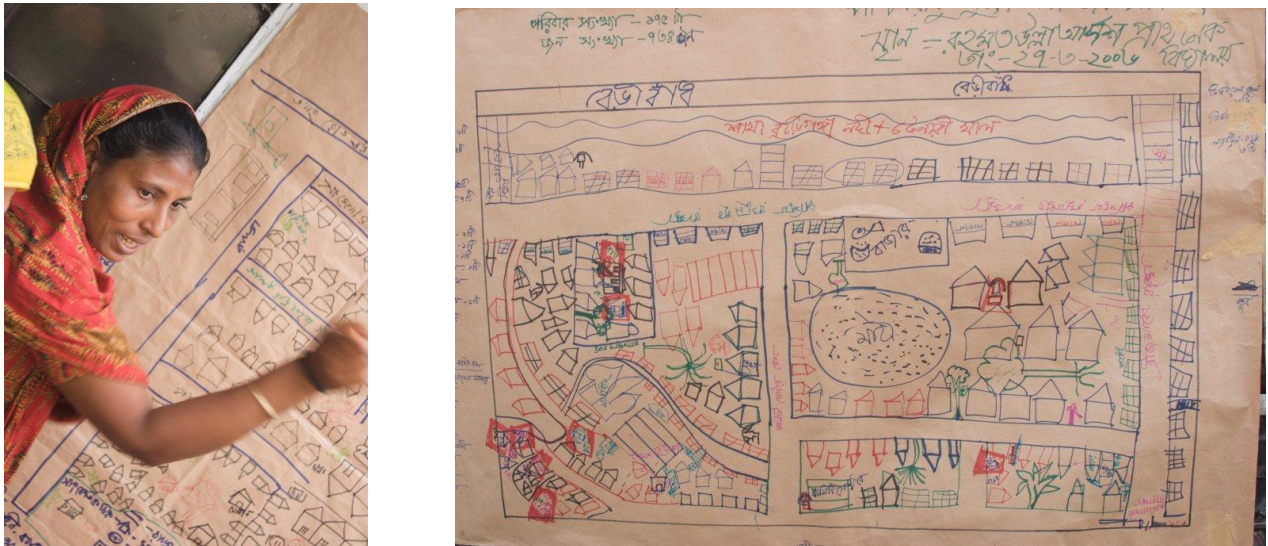


they be involved in all stages of the work (Water1st website: Community Commitment, par. 1).

- Each project begins with the establishment of a ***water committee***; this committee is elected by the community and is representative of the community. Women members are a critical component. The water committee is involved in developing and enforcing a community work schedule for construction; they work with the health promoters to facilitate the hygiene education program and they are responsible for operation and maintenance of the water system. The local partner organization provides valuable training on all aspects of the water committee's responsibilities so that each community can maintain the structures and gain the independence necessary for a permanent solution.
- The local partner organization in cooperation with the water committee conduct a baseline community survey that informs all stakeholders on the baseline characteristics of the beneficiary community. This survey captures data related to socioeconomics, water supply, sanitation, and hygiene (Appendix B).
- A ***baseline community mapping*** exercise is conducted cooperatively by the local partner organization and the water committee. This map informs the strategic placement of water points and latrines based on population dispersal and other specific community needs.

**Figure 2**

A water committee member participates in a community mapping exercise that uses simple diagrams to signify attributes of the community that are important to the water project.<sup>1</sup>



- A contractual agreement is established that requires each household to complete a certain number of **community work hours**. “Construction means carrying sand and stone for making concrete from far away river beds, digging miles of pipeline trench, and building roads for drilling rigs. This work is done entirely by hand with simple tools and is in addition to the normal daily tasks of farming and carrying water” (Water1st website: community commitment, par. 4).
- Communities are required to make a **capital investment**. The structure of this agreement varies according to country. All projects require each household to pay an affordable

<sup>1</sup> Permission to use photos has been obtained through Water1st International.

monthly water bill--this price is fairly determined by community members under the guidance of the water committee. These funds contribute to a pool that supports the ongoing maintenance of a system and to the accrual of a 'rainy day fund' to prepare for unforeseen circumstances. For households who do not have the financial means to contribute to this system, for example, there are many elderly people who live alone, the water committee establishes protocols for a service cut or even a non-payment. The India and Bangladesh projects are unique as they are structured using a water loan. Each community supports not only maintenance, but also construction costs (roughly 25%) for the system and for latrines. The repaid loan contributes to the next water project in the region and supports the revolving loan program (Water1st website: community commitment, finance: par. 6).

### ***Integrated approach--water and sanitation***

Local partner organizations are responsible for carrying out the hygiene promotion component that is required for all Water1st projects. Each project goes beyond domestic water use and assures that each family is educated on the direct impact of personal hygiene and the spread of disease. Water1st projects are concerned not only with the quality of the water available, but also with the quantity; personal hygiene practices require easy access to many gallons of water each day.

Experience has shown that knowledge is not enough. Having information can be very different from applying it. In the case of hygiene behaviors, people tend to know more than they practice. Personal contact, a variety of strategies, and time are needed in order to help motivate communities to turn their knowledge into behavior change. This is one of the many reasons why Water1st works through locally-based partner organizations: because they can make a long-term commitment to communities to work on the issues that are important to improving the health of the

community. Our local partner organization staff also understand that if the goal is to effect behavior change, the changes must be the decision of the communities and individuals involved. Sustainable solutions to any problems come when they are identified and addressed by the communities themselves and not by outsiders (Water1st website: integrated projects--hygiene promotion, par. 5).

### ***Gender empowerment***

As mentioned, each local partner organization is selected based on its commitment to gender equality and the promotion of women in leadership roles (Strategic Plan, January 2011). As the role of women and girls shifts from carrying water for the majority of their waking hours to other activities, Water1st understands the importance of providing a framework for community networking and key roles related to water project maintenance. Water1st believes in facilitating change in the lives of women and girls beyond access to water—to ending the walk and opening doors for opportunities.

One of the most crucial aspects of sustainable projects is the involvement of women. Women and girls are traditionally responsible for spending hours carrying home heavy containers of water for their families, so they benefit significantly from these water projects. Therefore, it is very important to involve them in the project and to seek advice from them about key issues such as, their knowledge about local water sources; siting of the project; hygiene issues faced by the community. Often women are involved as members of the water committee and as hygiene promoters. Sometimes this involvement is met with resistance. Having an important public role as a hygiene promoter or a water committee member enhances women's skills, gives them more confidence, and ultimately makes them stronger and more respected community members. This change is not always appreciated by all community members. Our local partner organizations are aware of this and work carefully with the community to explain the importance of the women's involvement to the success of the project; to the impact on health; and to the long-term development of the community. Once the water project is completed, it is important that women are

empowered to devote their energy to activities that continue to build a stronger community (Water1st website: involvement of women, par. 1-2).

The current time-allocation study underway in Ethiopia, a research project spawned from the Bishikiltu pilot study, captures the shift of women and girls' time away from water-related activities and hopes to discover new engagement in education-related, innovative, and economic-building ones. This University of Washington research study, under the guidance of Dr. Joe Cook, is outlined in chapter three.

### ***Monitoring***

“One tragic irony of the water crisis is the prevalence of project failures. Constructing basic water systems in developing countries may sound simple, but it is not. Project failures are generally caused by sociological factors, not technical ones, and due to inadequate follow-up most organizations are not aware of the status of their own projects” (Water1st website: project monitoring and follow-up, par. 4).

Water1st is committed to upholding a one hundred percent rate of success of all water projects--this is why they take so seriously the structures and processes that they have developed over the years. This rate of success would not be possible without the routine and systematic monitoring of all implemented water systems and household latrines. A completed project represents a permanent transformation--it is unacceptable to risk the return of a beneficiary community to the grueling and consuming collection of water from contaminated sources (personal correspondence, Smith-Nilson: May 5, 2011).

“As we have grown as an organization, each of our processes has been worked and reworked to ensure that they are the best they can be to achieve our goals. Each time we make a field visit, we evaluate our processes to guarantee that we are assessing

the right indicators, asking the right questions, and utilizing the right criteria and expectations. This important process of self-critique greatly enhances the work that we do, allowing us to serve communities cost-effectively and efficiently with successful water and sanitation projects” (Water1st website: project monitoring and follow-up, par. 13).

The organizational philosophy and transparency of Water1st should attract a group of donors who invests intelligently. The same intentional and analytical approach that they have dedicated to programming is also part of fundraising.

### ***Fundraising***

#### ***A grassroots model of support***

One major challenge of Water1st is to provide a consistent and sustainable funding stream to its international partner organizations so that they, in turn, can maintain an expert staff and run an efficient business. Twenty years of prior experience working in water and sanitation, equipped Smith-Nilson with the expertise to develop a clearly laid out business plan in 2005 that included a purposeful goal to reach a ratio of fifty percent of funds coming from grassroots sources. “Grassroots fundraising means that an organization uses a wide variety of strategies to invite as many people as possible to give donations of widely varying amounts” (Grassroot Give, par. 1). It derives its power from the development of an ordinary community of people who unite to impact a common cause. Water1st staff understood that this strategy would immediately provide diversification through thousands of donors who believed in the knowledge that Water1st has garnered, and, that these funds would arrive without restrictions. One outcome of this diversification has been steady funding levels during tough recession years—not a single program has been cut and all projects have maintained funding levels. “It also helps to have a staff who is so good at this grassroots funding approach”

(personal correspondence, Smith-Nilson: May 5, 2010). Jennifer Norling, Director of Foundation Relations and Major Gifts, discussed the intentional strategy of the grassroots model and the resulting concentric circles of donors--a model based on friends reaching out to friends. She emphasized the importance of the personal touch--of keeping donors in the loop; of offering them numerous opportunities to be engaged and educated; of making them feel a part of a community; and of thanking them over and over again (personal correspondence, Norling: May 5, 2010). Norling emphasized that she does not make fundraising decisions 'in a vacuum', but rather engages key donors and board members in the debate around fundraising opportunities and benefits.

Restricted funding sources are not compatible with the Water1st model. Smith-Nilson has witnessed how restricted funding hampers the consistent support of local partners and how it creates conflicts when making program level decisions. She believes that part of the Water1st value-add is the firm belief that, through years of experience and rigorous self-evaluation, the organization has more knowledge than the donor. "Our long-term donors have done their due-diligence and trust that we have the knowledge" (personal correspondence, Smith-Nilson: May 5, 2010). The alternative, courting major donors and/or corporate funding, at all cost, results in compromising one's organizational philosophy; both the effectiveness and the sustainability of the organization may be jeopardized. Water1st does not allow a donor to request a departure from the four regions where they currently work, nor do they accept donor-initiated parameters around the schedule of project implementation or spending. Community preparedness dictates the timing of implementation and funding (personal correspondence, Smith-Nilson, May 5, 2010).

The following is a recent example of a collaborative donor relationship. Laird Norton, a family foundation that has been a major donor to the organization for the past three years, provided funds designated specifically for capacity-building in fundraising in the spring of 2010. The assumption was that this process would focus on increasing capacity for corporate fundraising, an area identified as under-realized. After a two-hour discussion with a fundraising consultant, the group came to the conclusion that the organization is exceptional at grassroots fundraising and that they should use the capacity-building seed money to do *more* of it. Water1st has developed numerous strategies to captivate their individual donor pool. “It is our intention to provide donors with exposure to programs and to educate them in order to support a natural progression to a donor level over \$500; if we can get three hundred donors to support us at the \$500 level or more, we can make this run” (personal correspondence, Anderson, May 5, 2010).

### ***Donor trips***

Kirk Anderson, Director of Foundation Relations and Major Gifts, discusses the donor trip strategy, “Anyone who can afford to go on a trip will gain an understanding of the severity of the situation as well as the impact of a Water1st intervention that will *hook* them as donors for life. Additionally, they will be motivated to share their enthusiasm for the cause and the organization with others” (personal correspondence, Anderson: May 5, 2010). Norling adds, “When donors spend time in project villages and interact with beneficiaries, they become vested. Witnessing the Water1st partner relationships, the deep personal roots that Water1st has in the region, as well as the rigorous oversight of all projects, is powerful to a donor. It is an opportunity for travel that most people would never be able to experience on their own” (personal correspondence, Norling, May 5, 2010). Along with annual group Water Tours to Ethiopia, Bangladesh, Honduras, and India, the staff has also arranged for private tours for



potential large donors. At least two staff members are needed for trips, as well as the assistance of a local guide who handles the coordination of local transport. The versatility and knowledge of all staff members allows for the selection of a staff travel team based on the composition of donors. Donor travel cost is \$2500. The staff realizes that donor travel returns are big; they result in increased giving levels, long term engagement, and a deeper knowledge of the problem and the Water1st model that they can, in turn, share with other potential donors (personal correspondence, Anderson: May 5, 2010).

### ***Fundraising events***

In the spirit of the grassroots model, three main fundraising events have been developed to maintain a balance of donors: Give Water, Give Life, Water1st Beer 2<sup>nd</sup>, and Carry5. These events were developed with an understanding of the importance of donors at all giving levels, and with the intention of developing a Water1st community in Seattle as well as in the two emerging markets of San Francisco, CA, and Portland, OR. These events were developed purposefully—keeping in mind the organization’s philosophy regarding the balance between raising awareness of the cause as well as the maintenance of a cautious yet consistent funding source.

The Seattle ***Give Water, Give Life gala***, held each fall, raises approximately fifty percent of the annual budget. The gift mean has increased each year and in the past three years has increased from \$549 to \$769 (personal correspondence, Norling, November 28, 2011).

There is a suggested donation of \$150 per person and attendance relies heavily on long-term donors who purchase tables in advance at the rate of \$1500 or \$2500 and invite friends as their guests. The evening consists of a silent auction, a film that highlights beneficiary programming, and a heartfelt speech by Smith-Nilson. Marla has the rare gift of humbly and

graciously relaying the need and gratitude of beneficiaries in a way that is respectful to both beneficiaries and donors (personal correspondence, Norling, May 5, 2010).

The ***Water1st Beer2nd event***, held each spring in Seattle, is a more casual and inclusive event for donors at all giving levels. The cost of admittance is \$35 per person and includes pizza, beer, live music, and dancing. The greatest source of fundraising comes from the Hawaii raffle—raffle tickets are sold for \$25 per ticket. How has this helped to expand and sustain the grassroots community? Beyond raising funds for programming, this event promotes the goal of building community awareness and expanding a sustainable donor base at all levels. The water issue is so vast that it will not be mitigated in our lifetime—we need an informed and motivated community of all ages to carry the torch (personal correspondence, Norling, May 5, 2010).

The final act depends on our youth. ***Carry5***, held each spring in Seattle, brings the water community together as families and teams in an experiential approach to raising awareness. Each team raises funds by word of mouth and/or by developing their own fundraising page by using the fundraising site, [www.FirstGiving.com](http://www.FirstGiving.com). A festival-type atmosphere with music and face painting ensues as streams of people of all ages, donning brightly colored water1st t-shirts, walk 5 kilometers with 5 gallon jugs of water strapped on their backs. An attitude of, “we walk so that they do not have to” prevails. Awards for winning fundraising teams are presented at the conclusion of the event. This event attracts school teams and is often accompanied by a Water1st curriculum on the water crisis.

### ***Youth involvement***

Water1st is committed to raising awareness of the water crisis for young people. They have developed a Water Day curriculum for classroom teachers that includes a film, a

presentation, and various subject-specific activities that can be integrated into the subjects of Creative Writing, Math, and Science. Additionally, students are encouraged to take action by developing and participating in various fundraising endeavors. The curriculum includes a variety of fundraising projects and it provides students and teachers with the resources and support needed to carry them out. The Carry5 event is the best opportunity for youth to experience the reality of carrying heavy loads of water. They are simultaneously supported and empowered to ‘make a difference’ through the aforementioned fundraising vehicles.

### ***Expansion of grassroots market***

An extension of the Water1st community has expanded organically to include events in San Francisco and Portland. These networks grew slowly, beginning with individual meetings of interested donors. As interest grew, the staff determined that hosting an event in both cities would be worth staff time. With only four full-time staff members, each expansion decision needs to be carefully weighed in terms of costs and benefits to the organization as a whole. Norling (2010) addresses *why* expansion into other markets is important to the organization. “We did not decide to go to San Francisco—we had supporters in San Francisco say, ‘hey we would love to host an event in our community’. It was an organic and self-selected move. Our goal is donors for life—we build relationships. We have learned that entry level events always rear a dedicated few. We cannot plan for a rate of growth--we are here to support an interest—to cultivate” (personal correspondence, Norling, May 5, 2010).

In conclusion, the following USAID (2007) study emphasizes key components to sustainable water and sanitation projects. As demonstrated above, Water1st understands and employs similar strategies.

Over the past three decades, experience has shown that water and sanitation activities are most effective and sustainable when they adopt a participatory approach that (1) acts in response to genuine demand, (2) builds capacity for operation and maintenance and sharing of costs, (3) involves community members directly in all key decisions, (4) cultivates a sense of communal ownership of the project, and (5) uses appropriate technology that can be maintained at the village level. Also important are educational and participatory efforts to change behavioral practices (Chapter 16, 2).

### **CHAPTER THREE**

#### **RESEARCH IN THE FIELD**

In Chapter Three, *Research in the Field*, I will detail my personal experience working with a research team to implement a pilot research study in Bishikiltu, Ethiopia. This chapter will address the idea and challenges of a participatory approach in the quest for subject sensitivity and valid data; I will consider *how* data might be collected as well as *who* might be part of the collaborative process. Additionally, I will include informing literature that has supported the research process by providing various lenses for analysis. Lastly, I will briefly comment on the evolution of the Ethiopia study and its initial findings. I must reiterate that this pilot study would not have been possible without the *giants* on whose shoulders we arrived—Water1st International’s ongoing commitment to the Oromifia region of Ethiopia forged the deep levels of trust that were paramount to the collaborative process. “Where information is neither representative nor reliable, it is unlikely to produce policy changes which benefit poor people (Mayoux, 2005: 12).

The strong philosophical and theoretical foundation that Water1st has thoughtfully established combined with the organization’s commitment to each region has resulted in deep and mutual levels of trust between Water1st, its local partner organizations, and the

beneficiary communities. These relationships, forged over time, have created an environment that is primed for longitudinal participatory field research, complemented by other qualitative and quantitative methods. An ongoing analysis of the advantages and challenges of the participatory process will take place throughout this chapter. Dr. Joe Cook of the University of Washington's Evans School of Public Affairs commends Water1st's commitment to research. "I applaud Water1st for their role in supporting this research project--in trying to tease apart what is evidence--in trying to move beyond just going with the fluctuating conventional fads in the development sector" (J. Cook, 6.28.2011).

Why conduct research when an organization has such limited funds and staff time? Smith-Nilson (2010) speaks to the importance and relevancy of research for a development organization:

Engaging in research is part of an ongoing quest to be better and more efficient to successfully increase numbers of beneficiaries. It is also reflective of our commitment to the water industry as a whole—to not working in isolation or in competition, but sharing findings with the water community. We see so many flashy technologies that are being developed and that are making entrepreneurs a lot of money, but that are not benefiting poor people. There is a push to be 'innovative' in the water world--we believe that the innovation lies in the empowerment and organization of the community rather than in a new technology. Innovation lies in the community members own ability to solve their own challenges, beyond water, once they are supported and empowered. We cannot forget that the most impoverished environments involve barriers and challenges that someone who is not surviving in these conditions cannot grasp—a quick and ill-implemented water system cannot make a dent in these barriers. Nor can we overlook the purpose--permanent access to safe water that will impact overall health of the individual and the community. It is important to rely on the knowledge of local organizations and community members to better understand the implications of starvation, illiteracy, political strife, indigenous and religious persecution, natural disasters, etc. One lone technological innovation does not trump or overcome these factors (May 5, 2010).

Nelson Mandela poses the question, “Are we to decide the importance of issues by asking how fashionable or glamorous they are? Or by asking how seriously they affect how many?” (WHO, 2004).

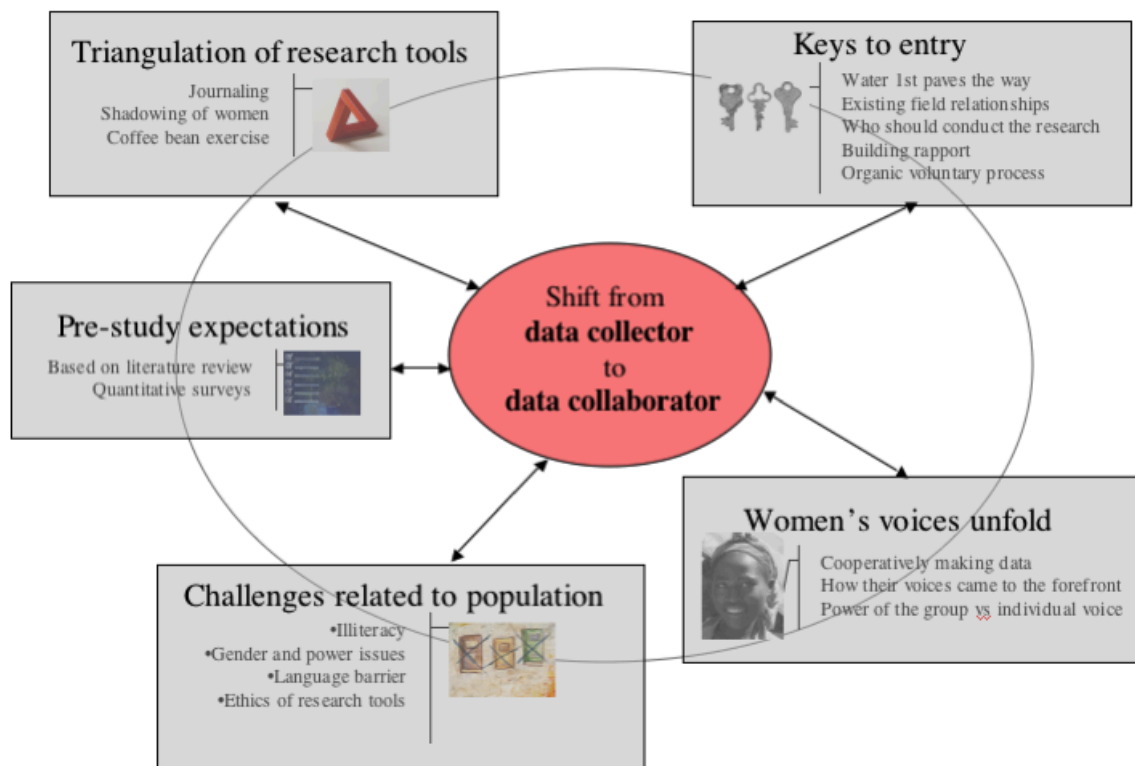
### ***Employing dialogue as a research tool***

Participatory Action Research (PAR) challenges the traditional researcher-participant relationship by conducting research *with* the population being studied rather than *on* them. Participation of the most vulnerable stakeholders increases the relevance of the questions being asked to peoples’ lives; increases the reliability of the information collected and the likelihood of identifying realistic recommendations; increases awareness and ownership of the evaluation; and increases the capacities of networks that contribute to civil society and empowerment (Mayoux, 2005: 2).

The ideology of Participatory Action Research (PAR) influenced by Paolo Freire (2000) is significant to the Bishikiltu research process in a multitude of ways. “The basic ideology of PAR is that self-conscious people, those who are currently poor and oppressed, will progressively transform their environment by their own praxis. In this process others may play a catalytic and supportive role but will not dominate” (Fals-Borda, 1991: 13). Freire’s philosophy is an important thread as it is compatible with the philosophy of Water1st. The breaking down of the vertical pattern of relationships that Freire discusses might be a worthwhile goal in sustainable development as well as in the research that informs and drives the development. Freire states, “The pedagogy of the oppressed, animated by authentic, humanist (not humanitarian) generosity, presents itself as a pedagogy of humankind” (10). He goes on to say, “A real humanist can be identified more by his trust in the people, which

engages him in their struggle, than by a thousand actions in their favor without that trust” (13). Freire refers to the need for voices, through dialogue, as an existential necessity. “If it is in speaking their word, that people, by naming the world, transform it, dialogue imposes itself as the way by which they achieve significance as human beings” (88). Open dialogue creates an opportunity to analyze and collaborate *with* local women through every step of the research process. A goal of the Ethiopia pilot study was to keep the participants’ voices, those of the women of Bishkiltu, at the center of both the inquiry and analysis.

**Figure 3**  
**Conceptual Design of the Bishikiltu Pilot Study**



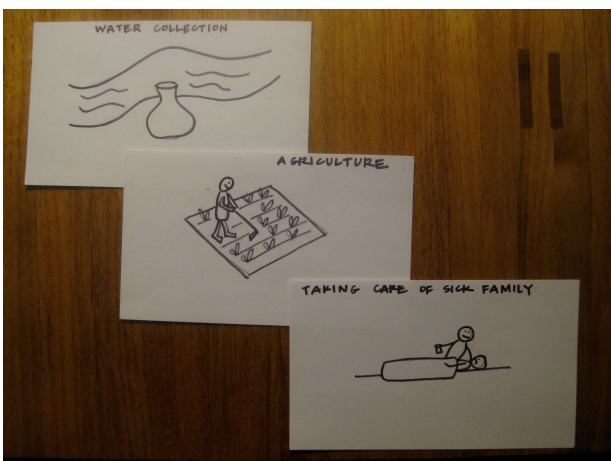
The following three research tools were collaboratively designed and adopted in the Ethiopia pilot study; all three were used with the intent to triangulate results and check validity:

- 1) *Coffee Bean Time Allocation Exercise*: Each female participant dispersed a total of fifty coffee beans, representing the total number of hours in her day, among twelve cards that depicted events that the women had identified as “relevant daily tasks”. Prior to participating, each participant answered the following personal questions related to their family and household:

- Name
- Age
- Number of children and age range of children
- Number of people residing in house
- Age at time of marriage
- Age at time of birth of first child
- Number of children who died under the age of 5
- Number of each animal owned by family (cow, goat, donkey, sheep)

**Figure 4**

The women of Bishikiltu, Ethiopia participate in the design and implementation of the coffee bean tool.



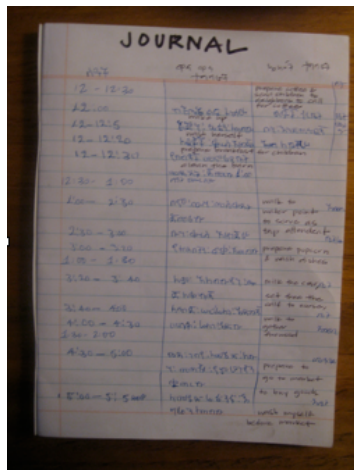


2) *Time Allocation Journal*: Seven literate women were identified and invited to participate in this journaling exercise for five days. Each thirty minutes, from the time they woke until the time they went to sleep, they recorded their primary activity, their secondary activity, and where it took place. Each was given a small clock that they kept as a gift of thanks for their participation.

**Figure 5**

#### Time-Allocation Journal

An original time allocation journal completed by a woman in Bishikiltu, Ethiopia.



1) *Shadowing*: We were invited by the women to join them on their daily quest for water. We met them at sunrise, carried water on our backs, and, with the help of an interpreter, engaged in casual conversation. The walk included mothers and daughters of all ages, beginning at what appeared to be age four. This experience shed light on the arduous nature of the walk that they made numerous times each day.

## Figure 6

### Shadowing

Women and girls of Bishikiltu, Ethiopia as they set out on one of many daily trips to collect water from unprotected sources.



### *Teasing out the Process Through Dialogue*

Without dialogue, I believe our data would have been neither representative nor valid. For example, we would have attempted to capture data related to the survey item, *time spent caring for a sick family member*, by asking the following two commonly used survey questions:

1. *In the past two weeks, how much time have you spent caring for sick family members?*
2. *Do you currently have any sick children in your household?*

Employing a more collaborative approach during the coffee bean exercise, we asked the women why no one was putting any coffee beans on the drawing that represented *time spent taking care of sick children and other family members*. After all, it seemed obvious that most of the children suffered from various skin diseases, coughs, malnutrition, and diarrhea; and there was plenty of evidence in research literature noting the prevalence of water-borne illness in areas without access to potable water and sanitation. By engaging in dialogue, we were able to initiate a conversation that helped us understand how difficult it might be to capture valid data related to the variable of *illness*. In our culture we have a completely different definition of being *sick*. In rural Ethiopia, as we discovered, diarrhea and other common water-borne illnesses related to the surrounding conditions were not considered *sick*, but rather a perpetual condition. They told us that *sick* means that someone is dying; death is obviously a sensitive matter that would be more appropriately discussed in a private forum and not under an acacia tree with many onlookers. Other dialogue-driven discoveries were related to *household chores* and *market* as categories. The women advised that the former might be more validly captured if broken into specific household-related chores, and the latter was originally unaccounted for and was added as a category, per their request. Stakeholder dialogue provided us with valuable information as we refined the data collection tools. The more we engaged in conversation with the groups of women, the more eager they were to participate in the research process--prompting the need for stakeholder participation not only during the collection phase of research but also during the design stage. Whyte (1991) states, "If the advance of science is a learning process, clearly continuous learning is more efficient than learning concentrated primarily at the initial and final stages of a project" (42). However, total participation by all stakeholders at all stages of the evaluation process is not possible, efficient, or effective. It is necessary for the researcher to assess where each level of stakeholder voice can be most directly empowering to the project and to the

community as well as to provide the necessary information for the stakeholders to make informed contributions to the participatory process. This involves strategizing: *who* participates, *how* participation is facilitated, and *when* participation takes place (Mayoux, 2005: 11).

We were able to engage the non-literate and enumerate women in the village through participation in the coffee bean and shadowing exercises. Basic diagrams assisted in our efforts to communicate across cultural and language divides. Through an interpreter, during the shadowing exercise, we engaged women in casual conversation as we walked together. We discussed that, ideally, our study would employ female translators. Mayoux (2009) advises that there should be a balance of informants--that we cannot assume it is the most disenfranchised of voices that always produce the most reliable and valuable information. Therefore, it is important to weigh the needs of the stakeholders in order not to waste their precious time just for the sake of a token participatory exercise. We concluded that, to establish a balance of informants and to address relevant sensitive topics, that the next phase of research should include individual level investigations with key stakeholders. Ideally, this additional investigation will provide another level of triangulation and crosschecking to the participatory Bishikiltu meetings.

### ***Enlightenment Through the Research Process***

What can we learn from local community members about the process and impact of a development project? Qualitative research may serve as a case to verify or enlighten from the perspective of local stakeholders. *Arriving on the shoulder of giants*, set in motion a collaborative process of information-sharing that would have otherwise been difficult to achieve, likely impossible. The reputation that preceded us, as a result of Smith-Nilson's

unwavering support of the region and humble approach to development, was vital to the data collaboration process that we experienced.

In the words of Whyte (2005), “If you acknowledge that there is something important that you don’t know, then you engage in open-minded inquiry that is likely to advance your learning” (170). The most rewarding and information-producing part of the participatory process that we experienced was a direct result of the engagement of women in dialogue that was *not* researcher-driven; we captured realities that had not been considered during the research design phase and that would likely not have been revealed through survey-driven tools. We gained critical insight into the local power structure that may contribute to the strategic navigation of interpersonal conflicts that often arise during the implementation stage. For example, a gender-based hierarchy as well as the inclusion of livestock in this hierarchy shed light on the cohabitation of family members and their livestock, and the corresponding challenges of encouraging separate living quarters. Mayoux (2005) warns that navigating the local structure of power is tricky, noting, “Power relations during the participatory consultation itself and also pervading the context in which it takes place, affect what people say and how they say it, to whom and under what circumstances” (12). A collaborative approach may reveal the unique circumstances of a region related to gender issues, illiteracy rates, political unrest, religious unrest, prejudice, and environmental challenges. Enlightenment, as a result of qualitative research, may also influence local stakeholders as they develop new interpersonal connections and perspectives. Rossman & Rallis (2003) discuss the following four perspectives that serve as lenses to help transform data into something useful during the data analysis process: instrumental, enlightenment, symbolic, and emancipatory (20). Data analysis from the *enlightenment* perspective is employed to accumulate knowledge that stakeholders can use to make well-informed policies

and decisions. Rossman and Rallis note that, “In our experience, the links between knowledge generation and utilization are seldom clear and direct” (20). Ideally, the pool of knowledge that is generated will contribute to the ‘creeping’ of new ideas and understandings that will become the background for community decision-making processes (21).

The women of Bishikiltu demonstrated *stakeholder enlightenment* as they participated in a discussion about the immediate needs of their community, subsequent to gaining access to water—they negotiated priorities related to the future *layering* of interventions.

For example, the pilot study revealed the burden of firewood collection on women’s time--this task was growing increasingly more burdensome as their walk increased as a result of deforestation. We discovered that when women were not walking for water they were walking for firewood, consequently, stripping the landscape of all trees, and prompting the immediate need for alternative fuel sources. Health-related questions revealed the problem of chronic infections that resulted from insects that dropped from the grass roofs as they slept; a conversation about the need for metal roofing ensued. Once a community experiences the positive transformations that occur as a result of community organizing, they may be empowered to take action to improve their communities in other areas. Whyte (1991) contends that the ultimate goal of the participatory research process is to stimulate community-initiated action (191). A recently completed Water1st project in one Ethiopian village resulted in the government selecting the community as a site for one of three government-funded schools that were built in the region that year. The Bangladeshi country partner, Dushtha Shasthya Kendra (DSK), subsequent to water and sanitation infrastructure, tackled the solid waste issue in their slum. Water1st provided seed funding for a solid waste push cart while the newly formed neighborhood association supported the work of a full-time garbage collector. This project has been successfully underway for over one year and serves

500 households. Each household makes a financial contribution. According to the testimony of the Water1st staff, the slum has been transformed (personal correspondence, Smith-Nilson, December 19, 2011). The next challenge in this web of enlightenment may be to explore ways that development organizations can communicate and collaborate to achieve the most effective *layering* of subsequent interventions. Mayoux (2005) adds to the participatory ‘effectiveness’ argument by stating, “Involvement of the main stakeholders in collecting information increases awareness of the issues and ownership of the evaluation process and hence likelihood of implementation of recommendations—the main stated aim of evaluations” (1-2).

### ***Community Empowerment***

Freire’s statement, “A real humanist can be identified more by his trust in the people, which engages him in their struggle, than by a thousand actions in their favor without that trust” captures the essence of the Water1st philosophy, of its “humanist” leadership and approach to development. I observed firsthand how engagement and collaboration begets trust and empowerment. The organization’s philosophy of empowerment and ownership plays out during project implementation; each village applies for a project and signs a contract committing themselves to the months of manual labor (sweat equity) necessary for digging miles of trench and building enormous stone holding tanks; each family is held responsible for constructing a household latrine; the sustainability of the project lies with the Water Boards that require a percentage of female participation, of trained maintenance workers, and of regularly collected household fees. The overall success of the project depends on the level of stakeholder commitment and the subsequent empowerment that is realized by the community. Essentially, the community has been empowered to cooperatively run their own public utility. Nicholas Kristof (2009) speaks to the importance of the empowerment of

women and to their role in development. He states, “Empowering women tends to lead to faster economic growth, which in turn tends to undermine extremism and reduce civil conflict”. According to Kristof, the result of an educated female population was an educated female workforce that contributed to the economy and undermined fundamentalists, a reduction in birthrates, the support of civil society organizations that contribute to development, and ultimately more stability in a region (238). This idea of community involvement is reiterated in the WHO study of marketing sanitation in Ethiopia (2006):

Increasing community knowledge and understanding of sanitation and its linkages to health created demand for improved services and resulted in behavior changes. Working in an integrated manner with local leaders and extension agents, and using schools as the focal points for change helped to increase access and stimulate demand (WHO, 17).

### ***Ethiopia Study Update***

The original pilot study described in this inquiry continues to expand by mounting a third wave of inquiry this summer, under the guidance of Professor Joe Cook at the Evan’s School of Public Affairs at the University of Washington.<sup>2</sup> Smith-Nilson of Water1st and its local partner, Water Action, maintain their important role in the process, as well as graduate research assistants from the Evan’s School, most notably, Yuta Masuda. The study has been supported by a University of Washington Royalty Research Grant. The following update is taken from The Sustainable Development Lecture Series, a lecture given by Dr. Cook on “The Impacts of Water Projects in Rural Ethiopia” on June 28, 2011.

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<sup>2</sup> Descriptions related to this phase of the Ethiopia study were shared with Dr. Cook in order to confirm the accuracy of the study update contained in this discussion.



The studies title, *Measuring Time Savings from Improved Water Supply in Rural Ethiopia*, aptly describes its goals--to look at the time impacts of water projects by looking at the direct time savings; the actual water gathering, as well as the indirect time savings; time consumed by activities such as taking care of sick family members. By using thoughtfully developed research tools, the study captures how much time is spent on water-related activities; once a water project is implemented and the water source is brought closer to the home, the study examines the reallocation of time away from water-carrying. The study is being conducted in the rural villages of Bishikiltu, Kelcho Gerbi, and Tutekunche; each village originally relied on unprotected springs for water collection.

The original pilot study tools, the “coffee bean exercise” and the “time journals” were altered; I will summarize how each tool evolved and how they are currently employed in the study. I will also comment on an additional tool, the jerrycan pedometer, that was most recently piloted.

- The *macaroni method*, based on a common approach in participatory rural appraisal methods, replaced the coffee bean exercise due to the tendency for the coffee beans to roll off the pictorial cards and because macaroni pasta was still readily available. The improved method uses cards with photographs of fourteen common activities. Each respondent first chooses the cards that apply to yesterday’s activities and is given a piece of macaroni that represents a twenty-minute time period calibrated to one’s waking hours. Macaroni pieces are dispersed in proportion to how much time was spent on the activity depicted on each photo.
- The *melina method*, a novel approach tested in the 2009 pilot study for measuring time use in the form of a pictorial contemporaneous diary was honed specifically for capturing time use of illiterate and innumerate populations--in response to an identified challenge in 2009.

The same fourteen photographs that were used in the macaroni method are bound in a journal. Each participant is given a timer that beeps in thirty-minute increments and a roll of numbered stickers that correspond with each time period. When the timer beeps, the participant chooses a picture of the activity that best illustrates the past thirty minutes and places the corresponding sticker on the journal page. Rather than just using recall by asking, *how did you spend your time yesterday?*, the melina method allows for a calibrated view of time.

- *Household interviews* now incorporate fifteen enumerators hired from the local Addis Ababa University. Each household visit includes one male and one female enumerator in order for men and women to be interviewed privately--hopefully allowing for a greater level of comfort depending on the question and to whom it is asked.
- The *jerrycan pedometer*, piloted in the summer of 2010, consists of a pedometer that uses a USB to determine steps taken as well as the time of day they were taken. The pedometer captures and measures how much total time the jerrycan is in motion. The 2011 study includes a prototype developed by students in the Department of Computer Science at the University of Washington that includes a more reliable battery life as well as sensors that turn on and off according to movement.

Initial findings, using baseline data from each of the four methods, have demonstrated a shift in time allocation from before water implementation to post implementation. The results have proven to be statistically significant.

Mayoux (2005) notes that, “Equitable representation is not only a question of facilitating voices to speak, but also ensuring the voices are heard—both by each other and documented for others” (22). Her statement emphasizes not only the complexity of capturing the most disenfranchised of voices, but of the additional responsibility of making sure that these voices incite action. It appears to me that, by demonstrating a commitment to research, that Water1st understands the importance of equitable representation as well as the responsibility to incite action.

The research philosophy and approach of Water1st International compliments that of its organizational philosophy. The same theories that apply to their processes of implementation and community engagement can be identified in their approach to sensitive data collaboration. The voices of Freire, Mayoux, and Rossman & Rallis have a familiar ring as this chapter comes to a close.

## **CHAPTER FOUR**

### **THE IMPACT OF RESEARCH AND SELF-REFLECTION ON WATER1ST INTERNATIONAL**

In Chapter Four, I will tease out the main themes that emerged from the previous chapters. Including the organization’s philosophy on the importance of relationship-building at every level, and *how* its commitment to research and self-reflection has had an impact. In keeping with the theme of relationship-building, I will introduce a conceptual description of a new endeavor, the *Accountability Forum*. This chapter will rely heavily on insight gained through interviews with the organization’s Executive Director and Staff.<sup>3</sup>

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<sup>3</sup> Water1st staff serve as confirmatory sources for all organizational-related discussions.

### ***Qualitative research contributes to program, theory, & stakeholder***

It appears that research has contributed to Water1st in the following three ways: it has been *program* informative, *theoretically* informative (theories related to problem, action, intervention, and sustainability goals), and *stakeholder* informative. Study outcomes do not only serve to inform and assess process, to what is getting done, but can also contribute to an organization's ongoing self-reflection of its theories and mission. There might be a shift in an organization's 'big idea' or many shifts that occur over time as a result of rich and informative research and reflection. The collection of empirical data may support an ongoing critical analysis of the assumptions that the organization has made about *impact*, and whether or not these assumptions bear out. The U.S. Agency for International Development (USAID) speaks to the importance of on-going project analysis and monitoring:

In many technical assistance projects, follow-up receives low priority...Little time may be left to seek information on past activities, to see if the objectives really were met, to reflect on experience and to apply lessons learned (Lessons Learned, 1993).

As previously noted, Dr. Joe Cook, during his lecture at the Sustainability Forum stated, that, by engaging in research Water1st demonstrates a commitment to trying to tease apart what is evidence--to moving beyond the fluctuating conventional fads in the development sector.

### ***Relationship-building***

How are *relationships* key to the power component? Mayoux (2005) states that addressing power relationships is facilitating direct interaction between powerful stakeholders and poor people to break down the barriers of complacency, misinformation and prejudice, which are

in themselves key causes of poverty (4). Mayoux's statement emphasizes the importance of the establishment of new *relationships*--to thoughtfully facilitating interaction between all stakeholders, including non-governmental organizations, researchers, and the most vulnerable of beneficiaries. Whyte (1991) also notes the potential for participatory action research to be productive in formulating hypothesis about key relationships that need to be understood in order for practitioners and stakeholders to solve important practical problems (54). Mayoux goes on to say:

As a strategic process, building up of networks, partnerships and innovations through successive and cumulative participatory evaluations cannot only progressively increase the cost-effectiveness of evaluations over time, but also significantly contribute to the effectiveness of the development interventions being evaluated (Mayoux, 4).

Relationship-building goes beyond one single organization and its web of stakeholders. Water1st is committed to elevating the standards of the water industry as a whole to more effectively chip away at the water crisis. Considering the urgency of the water crisis as well as the limited resources available to solve the crisis, Water1st has identified a need for industry standards and has recently spearheaded the *Accountability Forum*. Water1st has personally invited all organizations with a stake in the water industry, both domestic and international, to come together to develop industry standards. Thus far, according to the latest press release, twelve organizations have signed on to participate in the inaugural meeting that will take place this December in Honduras. Once expectations are established, a third party evaluator will be hired to carry out assessments. Kirk Anderson, director of foundation relations for Water1st, explains the intent of the forum (personal correspondence, November 12, 2011):

Our intention is that this Forum approach will have multiple benefits. Implementing organizations will benefit from the exposure to other ideas and approaches--a technology transfer opportunity for the real on-the-ground personnel. The sector benefits because we will develop a common definition of the project outcomes we hope to see from an effective project and what specific tools and techniques we can use in the field to assess whether those outcomes have been attained. Funders will have an independent resource to consult to determine whether an implementing group has a track record of implementing projects that produce long-term benefits. (Anderson, 2011).

The Forum, by creating transparent networks, will ultimately strengthen relationships at every level--from the local beneficiary communities to the international organizations that implement water and sanitation projects to the individual donors who can make better informed investment choices. A successful forum will result in a more efficient chipping away at the water and sanitation crisis.

### ***Enlightenment***

Enlightenment has emerged as a theme for all stakeholders--through research and relationship-building. As mentioned in chapter one, the process of engaging in qualitative research can be collaborative and transforming (2003). Rossman & Rallis emphasize the notion of *learning* to impact a social phenomena; this *learning* can be enlightening for the researcher as well as the participant. The definition of knowledge as iterative and the research process as heuristic seem especially significant to the research process, the implementation strategy, and the organizational philosophy of Water1st International.

The next challenge in this web of enlightenment may be to explore ways in which development organizations can communicate and collaborate to achieve the most effective *layering* of subsequent interventions. Mayoux (2005) adds to the participatory 'effectiveness' argument by stating, "Involvement of the main stakeholders in collecting

information increases awareness of the issues and ownership of the evaluation process and hence likelihood of implementation of recommendations—the main stated aim of evaluations” (p. 1-2). The empowerment of a community to organize and participate in the implementation of a permanent solution to their water and sanitation needs appears to establish a *spill-over-effect* as a community transfers its problem-solving skills to other foci. As previously exemplified, beneficiary communities used their new networks to influence other community-identified needs such as deforestation, solid waste removal, and greater access to education.

### ***Empowerment***

Freire’s theories of empowerment seem to be paramount to organizations working with disenfranchised populations. The theme of empowerment emerged at every step of both the research and implementation process. Without buy-in from every stakeholder, a Water1st project could not get off the ground. The idea of an imbalance of power between organizations and beneficiaries may contribute to the daunting fifty percent failure rate of water systems. Many organizations may easily be able to execute the swift delivery of water, however, they may not as easily be able to inspire human power and innovation. Perhaps it is the combination of water *and* power that begets sustainability and subsequent community empowerment--that lifts a group of people out of the deepest levels of poverty and on to the first rung of the development ladder that Economist Jeffery Sachs describes (244).

## CHAPTER FIVE

### SYNTHESIS

“Qualitative work is about finding the synergy among the various themes and findings and making sense of them in a larger context” (personal correspondence, Plecki, November 10, 2011).

This case study addresses research in one specific context; it looks at a phenomenon, of one organization and what they do. What do we learn in the field--specifically, how does Water1st learn from the research that is gathered in the field? What role does *trustworthiness* play in striving for validity? In qualitative research, does the time spent in one environment and the trustworthiness gained by this longitudinal presence outweigh the sample size that is deemed so important to quantitative studies?

Might the participatory approach demonstrated in this case study, in both the implementation of a water and sanitation project and in the research that informs these processes, be transferrable across cultures and, on a more fundamental level, be applied to other foci in the development sector? Might it be relevant to all stakeholders--to the beneficiary communities as their newly formed networks and committees address the next layer of problem solving; to individual donors as well as larger donor agencies as this information may equip them to make better-informed decisions regarding their giving strategies; to other organizations in the water industry as they benefit from the valuable research and strategic processes; to researchers as it might provide a new lens on how to understand a phenomenon and how to



work sensitively with disenfranchised and illiterate populations; and to address other presenting policy problems in development, beyond water? The results of this inquiry suggest that many of the ideas around empowerment and collaboration may be informative.

Perhaps the case study approach will challenge the common assumptions found in development literature related to “cultural barriers” and will demonstrate an undeniable link between empowerment and sustainability, applicable to both project implementation and research. As noted, research literature suggests that sociological factors are most commonly the root of failed development projects, further demonstrating a need for community-driven projects that encourage empowerment.

This case may demonstrate the need for a thorough *differential diagnosis* when embarking on any development project. Jeffery Sachs (2005) writes about the concept of *clinical economics* and stresses that there is not one standard by which all development economics can operate, and, that, the complexity of poverty requires a differential diagnosis. He states, “Providing economic advice to others requires a profound commitment to search for the right answers, not to settle for superficial approaches. It requires a commitment to be thoroughly steeped in the history, ethnography, politics, and economics of any place where the professional adviser is working” (80-81). Additionally, he stresses that, “good development practice requires monitoring and evaluation, and especially a rigorous comparison of goals and outcomes” (80). Perhaps this case study of one organization demonstrates the progress that is realized when an organization takes seriously, and carries out with rigor, these tenets of Jeffrey Sachs.

In chapter four, I looked at the concept of an *Accountability Forum*. The need for industry standards is indicative of the lack of cohesion around the water crisis, further evidenced by the lack of progress toward the Millenium Development Goals. Perhaps the construction of collaboratively agreed-upon standards might be applied to development organizations beyond water and sanitation. Hopefully this case will serve to inform organizations and donors about the attributes of responsive and sustainable development strategies.

The conceptual framework that was initially developed to assist in the design of *how one conceptualizes a problem*, has persevered to contribute to the discussion around *implementation*, to inform *making sense of what happened*, and finally to assist in future *predictions*. The staying power of this framework leads me to believe that water is just one example of a capacity-building approach to how a community can permanently alter its fundamental assumptions of poverty and how they can engender a communal sense of agency.

### ***Limitations***

There are several limitations to this study. Firstly, I must acknowledge that I have been involved with Water1st as a founding board member and volunteer since the organization's inception in 2005. Studying one's own context adds an additional challenge for qualitative research (Merriam, 1998). I attempted to maintain a critical perspective and was aware of my personal bias during every stage of the process. This same limitation extends to Water1st and the research they conduct in the field—they are insiders and outsiders at the same time—they are directly involved with the organization and with the research that informs their processes. The University of Washington has adopted the study and serves as an impartial filter to this process while the Accountability Forum, with multiple members, may accelerate the

transparency and shared ownership of best practices by the water industry as a whole—both of these layers may help circumnavigate the conflicts of interest related to studying ones own context.

One must consider the tensions that exist within the water industry in response to an urgent need'. Some organizations and donors might argue that a directive, top-down approach to system implementation is a more efficient response to the rate at which systems are needed. There may be two sides to an argument related to a return on investment (ROI) when investing in a differentiation of solutions. Without a universal definition of sustainability, project rates and returns may be recorded dissimilarly by organizations. The way in which an organization conceptualizes sustainability determines how they measure success.

There is a tension between technology-focused solutions and those focused on the human capacity of a beneficiary community--between top-down innovation and the innovations of those living in the environment. What combination of intervention strategies improves the overall health of a community for the long run? We cannot forget that adaptation takes time, and that technology cannot always leapfrog the community-building component.

Finally, it cannot be assumed that the participatory process is not rife with limitations. The design, collaboration, and analysis phase of the process should be strategically and thoughtfully executed. Participation at the community level will inevitably encounter issues of power—one cannot assume that a participatory approach circumnavigates inequality or power relationships. Mayoux warns that 'bottom-up' initiatives have the potential to further marginalize disenfranchised groups if local inequalities are ignored (Mayoux, p. 11).

### ***Where do I go from here?***

With the ultimate goal being a more effective use of limited resources, how might donor orientation be altered to influence the process of development?

Data analysis from the *enlightenment* perspective is employed to accumulate knowledge that stakeholders can use to make well-informed policies and decisions. Rossman and Rallis note that, “In our experience, the links between knowledge generation and utilization are seldom clear and direct” (p. 20). Ideally, the pool of knowledge that is generated will contribute to the ‘creeping’ of new ideas and understandings that will become the background for community decision-making processes (p. 21). The next challenge in this web of enlightenment may be to explore ways by which development organizations can communicate and collaborate to achieve the most effective *layering* of subsequent interventions. Perhaps the idea of the Accountability Forum can be expanded to include a repository of ‘open source’ development where ideas and resources are shared. Open access to information, organized by region, might provide a level of transparency and knowledge-sharing that increases the subsequent layering of development projects and that encourages a more efficient use of scarce resources. Parallel ideas around transparency are being addressed in health metrics—the collaboration of various groups looking at metrics and transparency might result in a universal understanding of the importance of metrics in development, of the corresponding best practices that influence them, and the ways in which they might impact the return on investment in development. Perhaps the original theoretical framework, with trustworthiness, reciprocal relationships, and empowerment at its core, might finally be influential in predicting the capacity for future organizational learning and outcomes.

## **APPENDIX A**

### **Sample of Interview Questions**

#### ***Interview questions related to organizational theory and process:***

*Interviewees: Marla-Smith Nilson (Founder/Executive Director), Kirk Anderson (Director of Foundation Relations and Major Gifts)*

*To what do you attribute the success of Water1st?*

*What do you believe explains the success you have achieved related to the sustainability of projects?*

*What are some of the major over-arching challenges/demands that still exist?*

*How has the idea of “empowerment” impacted your work?*

*To what do you attribute the ability of your organization to work across cultures?*

*How has the research journey impacted the organization?*

*What is learnable from the data collection experience?*

*Has the organization’s approach to implementation shifted as a result of the research process and/or outcomes?*

*Have the organization’s core assumptions/philosophies been altered/shifted?*

*What are some of the major over-arching challenges/demands, relating to research, that still exist?*

*How has the idea of “empowerment” impacted the data collection process?*

*To what extent do you feel the research tools you have developed can work across cultures?*

#### ***Interview questions related to the research process:***

*Interviewees: (Marla Smith-Nilson, Joe Cook & Mary Kay Gugerty (Professors, University of Washington, Evan’s School of Public Affairs), Yuta Masuda, Research Assistant*

*How did the original tools evolve?*

*What was your approach?*

*How did the community participants respond to you?*

*What were the major “lessons learned”?*

*How will you further modify the process and the tools for your next visit during the summer of 2010?*

*What major challenges/barriers still exist and how will you attempt to overcome them?*

*Were there any unintended outcomes of the process?*

**APPENDIX B**  
**Water Action Baseline Community Survey**

**WATER ACTION**

**Socio Economic, Water Supply, Sanitation and Hygiene Baseline Survey**

**Questionnaire**

Questionnaire No. \_\_\_\_\_  
Name of kebele \_\_\_\_\_  
Name of got \_\_\_\_\_

**I. General Background Information**

Name of interviewee in the HH \_\_\_\_\_  
Age \_\_\_\_\_  
Sex \_\_\_\_\_  
Marital Status: a. Single    b. Married    c. Divorced    d. Widowed    e. Separate  
Education:    a. Illiterate    b. Literate  
If literate maximum grade completed \_\_\_\_\_

**II. Household Information**

1. Family size: a. Male \_\_\_\_\_ b. Female \_\_\_\_\_ c. total \_\_\_\_\_ (note: including interviewee)
2. Religion: a. Christian \_\_\_\_\_ b. Muslim \_\_\_\_\_ c. traditional \_\_\_\_\_ d. other (specify \_\_\_\_\_)
3. Occupation: a. farmer \_\_\_\_\_ b. Merchant \_\_\_\_\_ c. Daily laborer \_\_\_\_\_ d. Gov't worker \_\_\_\_\_  
e. other (specify) \_\_\_\_\_
4. No of <5 children: a. male \_\_\_\_\_ b. female \_\_\_\_\_

5. Current schooling status of the household members (from age of 6 to 30 years)

| Sex | Current schooling |        |       | School dropout |        |       |
|-----|-------------------|--------|-------|----------------|--------|-------|
|     | Male              | Female | Total | Male           | Female | Total |
| No  |                   |        |       |                |        |       |

6. Literacy level (age of 10 and above)

| Sex | Illiterate |        |       | Literate(write & read) |        |       |
|-----|------------|--------|-------|------------------------|--------|-------|
|     | Male       | Female | Total | Male                   | Female | Total |
| No  |            |        |       |                        |        |       |

7. Reason for not attending school (if any)

- a. School problem
- b. Economic Problem
- b. Health Problem
- c. Lack of awareness about the importance of school by the family
- d. Need of child labor for fetching water
- e. Need of child labor of agricultural activities
- f. Fear of abduction (for girls)
- g. Other (specify) \_\_\_\_\_

8. Reason for school dropout /missing (if any)

- a. School problem
- b. Economic Problem
- c. Health problem
- d. Lack of awareness about the importance of school by the family
- e. Need of child labor for fetching water
- f. Need of child labor of agricultural activities
- g. Fear of abduction (for girls)
- h. Other (specify) \_\_\_\_\_

9. Annual estimate income of the family (in birr) \_\_\_\_\_

10. Sources of income of the family; mention in order of importance.

- a. Crop \_\_\_\_\_
- b. Livestock \_\_\_\_\_
- c. Petty trade \_\_\_\_\_
- d. Daily labor \_\_\_\_\_
- e. Remittance \_\_\_\_\_
- f. Other (specify) \_\_\_\_\_

11. Type of farming the household is practicing

- a. Crop only
- b. Animal husbandry only
- b. Mixed (both crop and animal)

12. Average land-holding \_\_\_\_\_ hectares

13. Can you produce sufficient grain to meet annual food requirement of your family

members.

- a. Yes
- b. No

14. For how long you can produce (months) \_\_\_\_\_

15. What are the coping mechanisms of the family when facing critical food shortage?



- a. Sale asset (animal and other assets) (specify) \_\_\_\_\_
- b. Shift food to less quality preferred \_\_\_\_\_
- c. Receiving credit (Specify) \_\_\_\_\_
- d. Other coping mechanisms (Specify) \_\_\_\_\_

### III. Water Related Information

1. What is your main source of water for drinking during the rainy season?
  - b. Runoff
  - c. River
  - d. Spring (status)
  - e. Pond
  - f. Well (status)
  - g. Other (specify) \_\_\_\_\_
2. What is your main source of water for drinking during the dry season?
  - a. River
  - b. Spring (status)
  - c. Pond
  - d. Well (status)
  - e. Other (specify) \_\_\_\_\_
3. Do you use separate water sources for different purposes (for drinking, cooking, cloth washing and bathing)?
  - a. Yes
  - b. No
4. If yes, why?
  - a. Search for better quality
  - b. Saving fetching time
  - c. Saving different sources for different purpose
  - d. Other (specify) \_\_\_\_\_
5. Time spent to travel (forth & back) and to wait to fetch water from your main source during different seasons?

| Sources | Dry Season  |              | Rainy season |              |
|---------|-------------|--------------|--------------|--------------|
|         | Travel time | Waiting time | Travel time  | Waiting time |
| Runoff  |             |              |              |              |
| Spring  |             |              |              |              |
| River   |             |              |              |              |
| Pond    |             |              |              |              |
| Lake    |             |              |              |              |
| HDW     |             |              |              |              |

6. Frequency of travel to fetch water per day for all households' purpose.

| Seasons      | Per-day | Per week |
|--------------|---------|----------|
| Dry season   |         |          |
| Rainy season |         |          |

7. Of the household members who is primarily responsible for fetching water during dry season? (Provide more elaboration as needed)

- a. Mother
- b. Father
- c. Boy
- d. Girl

a. Of the household members, who is primarily responsible for fetching water during rainy season? (Provide more elaboration as needed)

- b. Mother
- c. Girl
- c. Father
- d. Boy

9. Container used for fetching water during rainy season

- a. Pot (20-25 liters)
- c. Jerry can (20 liters)
- b. Pot (15-20 liters)
- d. Jerry can (10 liters)

10. Do you have donkey for water fetching?

- a. Yes
- b. no

11. Means of transport used to fetch water during different seasons

| Seasons | Own Donkey | Borrow Donkey | Rent Donkey | Ones donkey on Water Sharing approach | Back of human |
|---------|------------|---------------|-------------|---------------------------------------|---------------|
| Rainy   |            |               |             |                                       |               |
| Dry     |            |               |             |                                       |               |

12. Daily water consumption by household (litters)

| Number of members of household | Daily water consumption (litters) |              |
|--------------------------------|-----------------------------------|--------------|
|                                | Dry season                        | Rainy season |
|                                |                                   |              |

13. Do you pay for water a. Yes b. No

14. If yes, how much per month? \_\_\_\_\_

15. Who collects the money? \_\_\_\_\_

16. Are you willing to pay for water? a. Yes b. No

17. If yes, what would be your capacity per month? Birr \_\_\_\_\_

18. What would be your source of money to pay?

19. Water storage practices;
- a. For how long do you store? \_\_\_\_\_
  - b. In what container? \_\_\_\_\_

20. Please list down water related problems;

- a. Accidents \_\_\_\_\_
- b. Harassment/violence \_\_\_\_\_
- c. Any stories \_\_\_\_\_

### **Hygiene and sanitation Related information**

#### **IV. Safe Food & Water Management**

1. Handling of food and water containers at home
  - a. Good = clean, kept off floor, narrow neck container and covered,
  - b. Fair = relatively clean, narrow neck container and covered,
  - c. Poor = some what clean, kept on floor, wide mouth containers & not covered
  - d. Worst = dirty, not covered, wide mouth containers & kept any were
2. Method used to wash water containers
  - a. Water only
  - b. Use detergent
  - c. Use local detergent
  - d. Other (specify) \_\_\_\_\_
3. Who often takes water from drinking containers? (Mother, girl, boy, father)  
\_\_\_\_\_
4. How do you remove water from drinking water container?
  - a. Dipping                      b. pouring                      c. others (specify)
5. When was your water containers washed last?
  - a. Today \_\_\_\_\_ b. yesterday \_\_\_\_\_ c. before yesterday \_\_\_\_\_ d. a week ago \_\_\_\_\_
6. Who is the **main** food preparer in this household? \_\_\_\_\_

9. Was any thing (else) given to treat the diarrhca? a. yes \_\_\_\_\_ b. no \_\_\_\_\_
10. If yes, what was it? \_\_\_\_\_

Name of enumerator \_\_\_\_\_ Date \_\_\_\_\_

Signature \_\_\_\_\_

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## VITA

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