



Water in rural Rwanda: Recognizing women's pivotal role

April 2015

Prepared by:

Jenni Jung, Minahil Amin

Client: **Global Grassroots**

Advisor: **Randall Lutter**

Table of Contents

Executive Summary	1
Background	1
WSS practitioners value gender consciousness.....	2
Gender mainstreaming	3
Integrated water resource management (IWRM).....	5
Including rural locals in water program design and implementation	7
Rwandan Government and rural water supply and sanitation	9
Global Grassroots' Women-led water ventures	10
Problem Statement.....	12
Misinformed interventions	12
Misallocated resources	13
Options for Global Grassroots	18
Option 1: Coalition-Building	18
1.1 Found a backbone organization to coordinate and support WSS sector partners' activities to achieve collective impact	18
1.2 Attend conferences to disseminate knowledge and encourage method adoption among WSS service providers in Rwanda	23
Option 2: Evidence-building	26
2.1 Conduct an observational study to establish the link between women's participation in water projects and better social outcomes.	26
2.2 Conduct a field experiment to validate causal effectiveness of gender mainstreaming methods.	31
Option 3: Extend the status quo	34

Leverage Rwandan Government's momentum with IWRM, participatory processes, and gender-consciousness	34
Make Global Grassroots' impact more accessible to donors	37
Expanding or modifying impact evaluation to align with frameworks/tools that already have traction	38
Quantifying the ripple effect of gender-mainstreamed water-supply projects	44
Evaluative Criteria	47
Outcomes Matrix.....	51
Evaluation of Options 1 - 3.....	52
Evaluation of Option 1.1: Backbone organization.....	52
Evaluation of Option 1.2: Conference attendance	55
Evaluation of Option 2.1: Retrospective observational study	57
Evaluation of Option 2.2: Field experiment	58
Evaluation of Option 3: Extend the status quo	60
Recommendation	61

Abbreviations/acronyms

AfDB	African Development Bank
BCR	Benefit Cost Ratio
CIDA	Canadian International Development Agency
CLTS	Community-Led Total Sanitation
DFID	Department for International Development
DHS	Demographic and Health Survey
EDPRS	Economic Development and Poverty Reduction Strategy (2008 – 2012)
EDPRS II	Economic Development and Poverty Reduction Strategy (2013 – 2018)
EWSA	Energy Water and Sanitation Authority
GAP	Gender in Agriculture Partnership
GIIRS	Global Impact Investing Rating System (B Analytics)
GMO	Gender and Monitoring Organization (Government of Rwanda)
GPPN	Global Public Policy Network
GWA	Gender and Water Alliance
GWC	Global Water Challenge
GWP	Global Water Partnership
IDRC	International Development Research Centre
IRC	International Water and Sanitation Centre
IRIS	Impact Reporting and Investment Standards
IWRM	Integrated Water Resource Management
JMP	Joint Monitoring Programme (WHO/UNICEF)
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MIGEPROF	Ministry of Gender and Family Promotion of Rwanda
MINALOC	Ministry for Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education, Science, Technology and Research
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
MINISANTE	Ministry of Health
MPA	Methodology for Participatory Assessment
MWA - EP	Millennium Water Alliance - Ethiopia Program

NGO Non Governmental Organization
NISR National Institute of Statistics of Rwanda
PLA Participatory Learning and Action
PRA Participatory Rural Appraisal
PROWESS Promotion of the Role of Women in Water and Environmental Sanitation Services (UNDP)
QIS Qualitative Information System
RAIN Replenish Africa Initiative (Coca-Cola Foundation)
RCT Randomized controlled trial
REMA Rwanda Environment Management Authority
RRA Rapid Rural Appraisal
RURA Rwanda Utilities Regulatory Agency
SDGs Sustainable Development Goals
SROI Social Return On Investment
SWAp Sector-Wide Approach
Swedish International Development Agency (SIDA)
ToC Theory of Change
TRASI Tools and Resources for Assessing Social Impact (McKinsey & Company)
UN United Nations
UNDP United Nations Development Programme
UNEP United Nations Environment Programme
UNICEF United Nations Children's Fund
USAID United States Agency for International Development
WASH Water Sanitation and Hygiene
WfWI Women for Women International
WHO World Health Organization
WPDx Water Point Data Exchange
WSP Water and Sanitation Program (World Bank)
WSS Water Supply and Sanitation
WSS MIS Water and Sanitation -Management Information System

Executive Summary

Despite prevailing literature emphasizing the central role of indigenous women in addressing local water supply and sanitation needs, practice falls far short of espoused targets set forth by multinational organizations (UN and MDGs) or by national governments (Rwandan government and the Vision 2020). Working directly on the ground, Global Grassroots has worked in the past decade to address the needs of its primary target population - women and girls in post-conflict Africa – through incubating and supporting local women-led social initiatives. Many of Global Grassroots’ initiatives focus on providing water-supply services in rural Rwandan communities.

This APP addresses the problem facing participatory development practitioners such as Global Grassroots as they seek to create and support women-led community water programs, while acknowledging the struggles rural Rwandan women grapple with on a daily basis. Despite the fact that women are the primary users of community water infrastructure, they are frequently excluded from the design and implementation processes of water supply services programs. Compounding the problem is the fact that donors do not consider or demand metrics that capture the externalities of water projects, such as the effect of these projects on the welfare of the beneficiaries (primarily Rwandan women). This report describes options for Global Grassroots to both further its vision while better serving the water supply needs of local Rwandan women. Our final recommendation is to build statistical evidence around Global Grassroots’ gender-mainstreamed water initiatives to better inform practice, while strategically attending WSS conferences in order to build partnerships and disseminate gender-mainstreaming methods.

Background

This section first examines how global water supply and sanitation (WSS) practitioners recognize the central and multifaceted role of indigenous women in their programs. Women are 1) valuable sources of knowledge, 2) primary users, providers, and managers of water in their households, and 3) vulnerable people traditionally marginalized by existing social structures. This section goes on to introduce the main frameworks in place for improved global water programs – gender mainstreaming and Integrated Water Resource Management – and also

introduces a set of methods used by development practitioners, participatory rural appraisal (PRA) and participatory learning and action (PLA).

This section then explains rural water supply initiatives of the Rwandan government, and the role of Global Grassroots in promoting participatory development through their women-led water supply service programs.

WSS practitioners value gender consciousness

WSS practitioners recognize the “central role that women play in providing, managing and safeguarding water” – in its *Water for Life Decade 2005-2015 Report*, the United Nations recommended ensuring not only the full participation of local users, but also the equal involvement of men and women in water-related development efforts (UN-Water, 2005). In addition, the World Bank-administered Water and Sanitation Program (WSP) documented the need for integrating a gender perspective in each and every water and sanitation project (WSP, 2010). It is widely accepted that women and girls are the primary users, providers, and managers of water in their households. As such, WSS practitioners acknowledge not only the role local women have in shaping water-related programs, but also the role these programs have on the well-being of local women.

- 1) Women have valuable knowledge: Indigenous women have considerable knowledge regarding water sources, conservation, and management (UN-Water, 2005).
- 2) Water programs can transform women’s lives: Water and sanitation sector has the potential to improve the health and security of women, while freeing them to engage in social, economic, and political activities (World Bank, 2006). For instance, in eastern Uganda, women spend an average of 660 hours per year collecting water for their households, which translates into two full months of labor (UNDP, 2006).

In response to the central role of women in developing WSS programs, global WSS practitioners developed a gender-conscious approach, gender mainstreaming. Gender mainstreaming is in accordance with and adds to a larger body of literature on sustainable water management, Integrated Water Resource Management (IWRM).

Gender mainstreaming

Gender mainstreaming is an approach that has developed in response to the problem of misinformed interventions that affect women. The UN defines gender mainstreaming as “the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels so that women and men benefit equally and inequality is not perpetuated, with the ultimate goal of achieving gender equality” (CAP-NET, GWA, 2014). Gender mainstreaming emphasizes socially-shaped gender relations, as opposed to focusing solely on women’s participation – these relations shape access to resources, participation in decision-making, and the exercise of power within households and communities. It attempts to overcome some limitations of traditional participatory approaches to development projects; without a gender-sensitive approach, participation can often be dominated by men and wealthy people (UN DAW, 2005).

In the context of water, the Global Water Partnership (GWP) defines gender mainstreaming as a strategy to include a gender perspective in operations, structures, and programs with the aim to positively affect gender equity in water use and governance at all levels (GWP, 2014). Unequal power relations place women, and especially poor women, in a disadvantaged position accessing the scarce resource of water. Key components of gender mainstreaming are collecting disaggregated data on men and women and applying gender analyses; these tools can help water sector agencies allocate their resources to better meet the needs of all members in a community (GWA, UNDP, 2006).

Researchers have begun to examine the impact of gender mainstreaming on water projects. A World Bank Review of 121 rural water supply projects found that women’s participation was strongly associated with project effectiveness and that the failure to account for gender differences was linked to failed projects. A study by the International Water and Sanitation Centre (IRC) of community water supply and sanitation projects in 88 communities in 15 countries found that projects designed and run with the full participation of women are more sustainable and effective than those that do not involve women as full partners (GWA, UNDP, 2006).

In addition to increasing the efficiency and effectiveness of water projects, gender mainstreaming also furthers sustainable development by promoting social equity and inclusion. Global Grassroots recognizes the importance of gender mainstreaming and strives to engage

women in all aspects of planning, design, implementation, and management of their water projects.

Equality between women and men (gender equality): refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration, recognizing the diversity of different groups of women and men. Gender equality is not a women's issue but should concern and fully engage men as well as women. Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centered development (UN Women, n.d.).

Gender equity is distinct from equality in that it accepts that differences exist but it establishes a process of advocating against and removing unfair and avoidable disparities (GWP, 2014)

Dublin Principle 3: Women play a central part in the provision, management, and safeguarding of water

This pivotal role of women as providers and users of water and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women's specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.

Integrated water resource management (IWRM)

Gender mainstreaming is a key component of the internationally accepted approach to efficient, equitable and sustainable development and management of the world's limited water resources known as integrated water resource management (IWRM). The process promotes the coordinated development and

management of water, land and related resources, with the goal of maximizing economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (GWP, 2010).

IWRM strategies are based on the four Dublin Principles presented at the World Summit in Rio de Janeiro in 1992, including the principles of a) participatory approach – that water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels, and b) the role of women – that women play a central part in the provision, management and safeguarding of water. The Dublin Principles prompted the development of the Global Water Partnership, which has a core role of strengthening the linkages between women and water resource management, and has thus far been a major stakeholder in facilitating research and country- and regional-level capacity-building activities for governments focusing on IWRM and gender (GWP, 2014).

IWRM acknowledges that water projects and issues disproportionately affect women and the poor. The four goals of IWRM are environmental sustainability, economic efficiency, social equity, and water governance, and gender is deeply connected to each of these goals:

Goal	Description	Role of gender
Environment sustainability	Protecting ecosystems and ensuring environmental sustainability; sustaining a healthy water cycle, adequate water for nature, and less water pollution (CAP-NET, GWA, 2014)	Gender analysis reveals that women cope with disproportionate economic and other forms of fallout from floods, dam construction and water pollution (UNEP, 2005)
Economic efficiency	Allocating and managing water to maximize social and economic benefits and ensuring sustainability; developing systems for cleaner production and water reuse and recycling (CAP-NET, GWA, 2014)	Women need water to engage in economic production, including agriculture and microenterprise. Gender disparities ensure that those needs frequently go unmet, with discrepancies between men and women in land tenure, access to water, participation, resource control, capacity and skill development, marketing and commercial linkages (UNEP, 2005). Women also possess extensive knowledge on the use and management of water, which can inform decisions about efficient allocation.
Social equity	Ensuring that a fair share of water benefits and responsibilities be transmitted to women and men, poor and rich, young and old. This means fair opportunities to access, use, and control water resources, as well as equitable acceptance of responsibility for the negative side effects produced so as to avoid placing higher burdens on the poor or disadvantaged members of society (CAP-NET, GWA, 2014).	Women are responsible for supplying their households with water, an activity which is often energy and time-intensive, taking away time from other pursuits such as education or income generation. In some mountainous regions of East Africa, women spend up to 27 per cent of their caloric intake in collecting water. Women are more exposed to waterborne disease, and face an increased incidence of sexual assault when collecting water from remote areas (UNEP, 2005)

Water governance	Developing and implementing water policies, legislation and institutions and clarifying the roles of government, civil society and the private sector with respect to ownership, management and administration of water resources and services (CAP-NET, GWA, 2014)	Water planners often must choose among competing demands: industrial, agricultural and domestic. Frequently domestic needs are given lower priority and women must spend more time accessing sufficient water to meet household needs (CAP-NET, GWA, 2014). In project implementation, even in community-based projects, “men usually make the decisions, chairing the local water users’ association or water committee, for example, while women linger in the background doing the hard work, as treasurers, of collecting water fees” (UNEP, 2005).
------------------	---	--

IWRM has been endorsed at the international level by experts and leaders, but countries have lagged in implementing the strategy. The UN World Summit on Sustainable Development in 2002 called for all countries to draft IWRM and water efficiency strategies by the end of 2005. At the end of 2005 only 20 of 95 countries surveyed by the Global Water Partnership produced or significantly progressed towards such plans (Mukhtarov, 2008). A 2008 UN Water Report on the status of countries’ IWRM plans found that Rwanda had taken only initial steps to implementing IWRM (UN Water, 2008); however, since then the Rwandan Government has published several documents delineating more concrete IWRM strategies (MININFRA, 2013) (MINIRENA, 2011b). Still, there is space and a need for more grassroots initiatives that advance the tenets of IWRM.

Including rural locals in water program design and implementation

Knowledge of Locals and Participatory Development – PRA and PLA

The second IWRM principle, taking a participatory approach, has had many different manifestations. While incorporated in IWRM principles, participatory development has been promoted and developed by global development practitioners before the 1992 Rio Summit. Developed in the early 1990s, Participatory Rural Appraisal (PRA) is a set of methods and approaches to enable rural people to share, enhance, and analyze their knowledge of life and

conditions, to plan and to act on their analyses (Chambers, 1994). The origins of PRA lie in applied anthropology, field research on farming communities, and rapid rural appraisal (RRA). PRA values not only local people's knowledge, but also their analytical capabilities. PRA has been further adapted by development practitioners into other toolkits such as participatory learning and action (PLA), which is considered to be more inclusive of participants than RRA and PRA toolkits (Chamber 2007).

In terms of WSS practice, PLA methods are currently being used by water supply and sanitation stakeholders including donor agencies, government ministries, and international nonprofits (Chambers 2007). For example, one PLA toolkit in the sanitation sector, community-led total sanitation (CLTS), is now used by the World Bank and the UN to enable rural communities to end open defecation (WSP, 2007). PLA toolkits are readily available for global development practitioners, and explain in detail how to facilitate meetings, conduct participatory mapping as part of baseline assessment of a community, and also include other logistics and directions necessary to successfully using PLA toolkits (Appel et al, 2012).

On the other end of the spectrum, international agencies are also incorporating participatory development practices into their own WSS programs. The IRC International Water Sanitation Centre recognize that PLA can enable local people to “undertake their own appraisal, analysis, action, monitoring, and evaluation of water and sanitation services” (Postma et al, 2003). The World Bank's Water and Sanitation Program (WSP) and the IRC International Water and Sanitation Centre carried out a study to test their Methodology for Participatory Assessment (MPA), a modified version of PRA (Postma et al, 2003). The introduction of the MPA shows that participatory methods are recognized by major development organizations as integral to the provision of water services, and that more statistical analysis from participatory methods is desirable.

Participatory Development for Water-related Programs in Rural Rwanda

Because applications of PRA or PLA include natural resources management and poverty alleviation programs, this approach is highly relevant to developing effective WSS programs serving rural Rwandans. PRA methods that could easily be used by rural Rwandans include ‘analysis of difference’, where locals by gender, wealth/poverty, occupation and age could identify difference between groups, including their problems and preferences (Chambers, 1994).

Another method is to train and include villagers as investigator and researchers – women, poor people, and farmers can observe, interview other villagers, analyze data, and present results themselves (Chambers, 1994). In the same vein, Global Grassroots’ projects are planned and operated mostly by women in Rwanda and Uganda who receive nonprofit management training from Global Grassroots.

Rwandan Government and rural water supply and sanitation

Over the past decade, the Rwandan Government has expressed their intention to implement more gender-conscious, participatory approaches in their WSS strategy. Under an overarching development framework called the Vision 2020, the Rwandan government outlined water supply projects for rural regions while updating strategies for a gender-conscious approach in line with existing literature on gender mainstreaming. Vision 2020 is a seven year government program laying out milestone targets for Rwanda to transition from a low income country to a medium income country by 2020. The Economic Development and Poverty Reduction Strategy (EDPRS) was one of the many medium-term steps taken under Vision 2020 – the first EDPRS (2008-2012) outlined universal clean water access as one of the major milestones while the second EDPRS (2013-2018) further developed water provision strategies (Republic of Rwanda, 2013). The Rwandan government explicitly acknowledges the importance of adequate water supply and sanitation services as drivers for social and economic development.

Although water-related national policies are seen as sector-wide endeavors, there are two main ministries overseeing stakeholder efforts: the Ministry of Natural Resources (MINIRENA) addresses sustainable water resource management while the Ministry of Infrastructure (MININFRA) directs and coordinates water supply and sanitation (WSS) service provision efforts on the ground (MININFRA, 2010). In addition, MININFRA is also the institution in charge of advocating IWRM practices in all government policies. As Global Grassroots is concerned with the efforts of local rural residents, this report will examine MININFRA’s water provision role closely.

The 2010 National Policy outlined the role of a highly autonomous water authority. In 2012, this authority was created – the Energy, Water, and Sanitation Authority (EWSA) (MININFRA, 2013). EWSA’s primary mandate is to implement MININFRA WSS policies with operational autonomy in all of Rwanda, in accordance with IWRM principles, including rural

regions that lack water service infrastructure. As the institutional umbrella for the implementation of all rural WSS projects, EWSA is highly relevant to Global Grassroots' water ventures in rural Rwanda.

In regards to gender mainstreaming, MININFRA's 2013 National Policy and Strategy addresses the importance of monitoring differential policy effects for males and females in rural Rwanda. In 2013, MININFRA's National Policy made great changes regarding gender-conscious approaches since the initial WSS policy of 2004 and the National Policy of 2010 (MININFRA, 2013). Option 3, which explains how Global Grassroots can leverage ongoing national gender mainstreaming efforts in Rwanda in the water supply sector, explains MININFRA's 2013 strategy in detail.

Global Grassroots' women-led water ventures

As the Rwandan government implements its updated National Policy for WSS, Global Grassroots is training and supporting Rwandan local women to address pressing social issues. Through its Academy for Conscious Social Change program, Global Grassroots trains Rwandan women to develop and operate their own social initiatives. Global Grassroots recognizes that women in post-conflict Africa have almost no opportunities to obtain the training and support to launch their social ventures. Global Grassroots' founder, Gretchen Wallace, has also witnessed women suffering terribly from post-traumatic stress disorder in the aftermaths of the Rwandan Genocide. Through investment in trauma-healing, non-profit management skills and new civil society organizations, Global Grassroots seeks to help women help themselves and serve their community creatively and sustainably. After undergoing a training program to become certified change agents, participants form teams to operate independent organizations called ventures.

While Global Grassroots recognizes many issues affect women in post-conflict Africa, such as education, domestic abuse, and sexual violence, it finds that there is a high demand by program participants and their communities to address water and sanitation problems. Global Grassroots seeks to expand and incubate more water ventures that fully consider the autonomy, knowledge, and vulnerability of indigenous women. In light of the focus of Global Grassroots-incubated ventures that address clean water supply problems, this report focuses specifically on clean water supply-related ventures rather than on sanitation or hygiene-focused ventures.

In October 2013, Global Grassroots started an incubation center, their Academy for Conscious Social Change, in Rwanda with a focus on water issues (Global Grassroots, 2013). This decision was made in light of the local demand for programs addressing water and sanitation issues. The program was attended by 33 locals (27 women, 6 men) from seven venture teams that focused on water-related social problems. Examples of water-related problems they sought to address included eradicating waterborne diseases, promoting community health, and ending violence against/sexual exploitation of women collecting water for their families (Global Grassroots, 2013). Global Grassroots is in the process of working with each team to complete their venture plan and help them acquire start-up seed funding.

In 2014, some of the water-related ventures' effects were documented by a group of students from the University of Virginia who surveyed 17 of Global Grassroots' ventures. 4 of the surveyed ventures addressed water-related issues: Work for Life, Hard Workers, Have a Good Life, and Let Us Build Ourselves (Kanombe) (Nenon et al, 2014). The evaluation of one water-focused venture, Have a Good Life, shows how local women incorporated their perspectives to better inform water supply issues facing rural Rwandans. Have a Good Life's mission is to address gender-based violence at water points. One beneficiary, Nyiramaso Rose, explained the social outcomes she experienced through this women-led water-related venture:

“Before the venture, my daughters did not go to school and they were sexually abused at the well. Now, they are all in school... Before, my husband would leave his clothes to be cleaned. Since I could not use water to clean them, I would not wash them, and he would beat me. Now, everything is better. The project has solved my family's problems with domestic violence.” (Nenon et al, 2014)

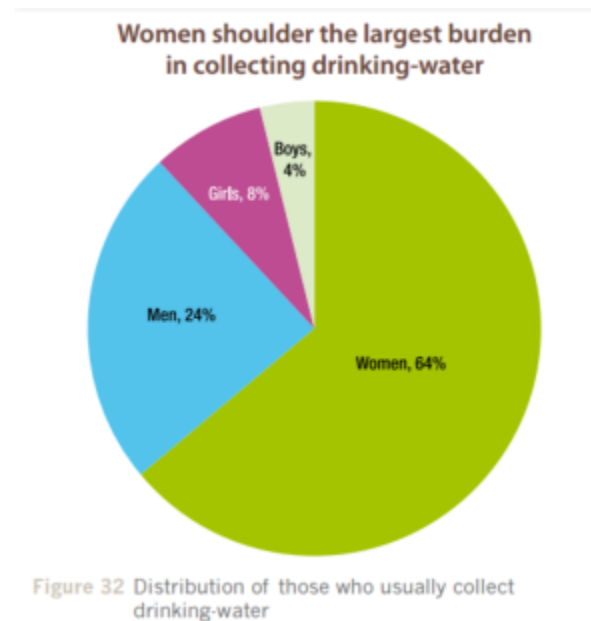
Problem Statement

Despite the presence of Global Grassroots and like-minded practitioners, too many women and girls in rural Rwanda are still excluded from decision-making processes of water interventions. Many influential stakeholders such as grant-giving foundations, aid agencies, and WSS practitioners are using narrow metrics to measure program performance; this impedes practitioners from integrating gender mainstreaming and participatory development into their programs. This section first addresses how misinformed interventions without significant input from local women can have deleterious effects; it then explains how the current relationship between water program funders and program implementers leads to an inefficient distribution of donor resources.

Misinformed interventions

Surveys from 45 developing countries show that women and children bear the primary responsibility for water collection in the vast majority of households (76%) (WHO, UNICEF, 2010). Despite the fact that women are the primary users of community water infrastructure, they are frequently excluded from the design and implementation processes of water supply services programs. Consequentially, these programs are liable to suffering from insufficient information and faulty assumptions. This information gap can engender misplaced interventions that do not meet the needs of the users. Poorly-informed interventions can have deleterious effects by undermining traditional practices or causing local communities to invest scarce resources in unviable activities.

As explained in the section on gender mainstreaming, researchers have found that women's participation in water projects is strongly associated with project effectiveness and that the failure to account for gender differences is linked to failed projects, and that projects designed and run with the full participation of women were more sustainable and effective than



Source: WHO, UNICEF, 2010

those that did not involve women as full partners (GWA, UNDP, 2006). Thus, there is evidence that excluding women from decision-making in water projects is correlated with negative outcomes.

Misallocated resources

Based on the database provided by WASHfunders.org, major foundations funding water-related programs in Rwanda are not considering whether funding recipients are accounting for social outcomes that matter to end users (e.g. health, leisure). From publically available reports on these foundations' websites, the primary program effect indicator (if available at all) is number of individuals served or quantity of water per individual. These metrics do not capture the externalities – both the social benefits and costs – of water projects. By not actively selecting fund recipients that promote gender-focused participatory development, foundations are failing to support practitioners that fully account for the needs of the primary end users, the women of rural Rwanda. They are allocating their resources inefficiently.

The interests of funders, practitioners, and rural Rwandan women may be misaligned because foundations may not have performance measurement metrics that account for the well-being of rural Rwandan women. For example, programs may be funded on the basis of outputs (e.g. units of water per household, number of water pumps installed), rather than outcomes (e.g. the number of additional school days taken up by children, the decrease in days of diarrhea for children). Additionally, it may be the case that foundations are unaware of the integral role of rural women in water-related program design and implementation. This is highly unlikely however, considering the available literature on the role of gender mainstreaming in WSS.

Despite Global Grassroots' focus on training and enabling local women to lead their own community water initiatives, there is a lack of support from major foundations funding other water supply programs in Rwanda. According to founder Gretchen Wallace, Global Grassroots has begun collaborating with the Coca-Cola Foundation's Replenish Africa Initiative (RAIN) recently. However, it does not seem to be receiving funding or recognition from other top donors. By top donors, this report refers to foundations listed in WASHfunders.org's Rwanda database, such as the Howard G. Buffett Foundation, the Bill and Melinda Gates Foundation, and the Coca-Cola Foundation. These foundations were the main funders of WSS projects that included Rwanda in their scope of work between 2003 and 2012. The Howard G. Buffett

Foundation donated the most, with \$11.92 million, followed by the Gates Foundation (\$1.04 million) and the Coca-Cola Foundation (\$1 million) (WASHfund.org, accessed 2015).

Table 1: Foundations – WSS programs that include Rwanda in scope of work

Name of Foundation	Total Funding (USD)
Howard G. Buffett Foundation	11,915,199
Gates Foundation	1,036,969
Coca-Cola Foundation	1,000,000
Anonymous ¹	254,405
Wallace Genetic Foundation	200,000
Stewardship Foundation	94,938
Bochnowski Family Foundation	72,500
Laird Norton Family Foundation	70,000
Denver Foundation	50,000
Glory Foundation	40,000
Raskob Foundation for Catholic Activities	33,500
West Foundation	31,000
Ronald McDonald House Charities	30,000
Saje Foundation	26,971
Jubilee Foundation	25,760
Resnick Foundation	25,000
Westwood Endowment	20,000
Emelco Foundation	10,000
Natan Foundation	10,000

¹ An anonymous donor gave to programs that addressed Rwanda's WASH issues exclusively (\$254,405 in 2011 to FXB USA), but could not be analyzed in this report due to its anonymity.

For projects that included only Rwanda, the Gates Foundation was the main donor; this foundation donated directly to Rwandan government agencies such as MININFRA and the Rwandan Ministry of Health.

It is unclear whether the following beneficiaries have a gender mainstreaming component in their theory of change (ToC) and account for the needs and desires of rural Rwandan women. Between 2003 and 2012 for water projects that addressed Rwanda as well as other areas, the following recipients obtained the most funding:

Table 2: Beneficiaries – WSS programs that include Rwanda in scope of work

Name of Beneficiary	Total Received (USD)
CARE USA	11,915,199
UN Foundation	1,000,000
Ministry of Health Rwanda	925,000
Lifewater International	331,169
FXB USA	254,405
Water for People	175,000
Rwanda MININFRA	111,969
Better World Fund	100,000
Global Water Challenge	100,000
Sisters of Saint Mary of Namur	22,000
Busogo Parish	11,500

An analysis of the listed top five donors and the top five beneficiaries shows that many foundations lack a clear gender-mainstreaming framework when funding WSS-solutions in Rwanda – only one of the five donors, the Howard G. Buffett Foundation/Global Water Initiative alliance, had a gender-conscious WSS approach that focused on empowering female subsistence farmers. In addition, only three out of the top five recipients had an integrated gender and WSS approach in their programs.

Table 3: Top 5 foundations and gender-specific indicators used

Name	Indicators	Gender and Water
Howard G. Buffett Foundation, Global Water Initiative	Unspecified (Howard G. Buffett Foundation, 2015)	Integrated ² - focus on empowering women b/c of their role in smallholder production in East Africa
Bill and Melinda Gates Foundation	Detailed Per Program Approach (Gates Foundation, 2012)	Not integrated – Gender protocol does not have to be integrated into program to receive grant
Coca-Cola Foundation, Replenish Africa Initiative (RAIN)	Ex) Liters of water replenished per project (Coca-Cola Company, 2010)	Not integrated – Gender protocol does not have to be integrated into program to receive grant
Wallace Genetic Foundation	Unspecified (Wallace Genetic, 2013)	Not integrated – Gender protocol does not have to be integrated into program to receive grant
Stewardship Foundation	Unspecified (Stewardship Foundation, 2014)	Not integrated – Gender protocol does not have to be integrated into program to receive grant

Table 4: Top 5 beneficiaries and gender-specific indicators used

Name	Indicators	Gender and Water
CARE USA	Ex) Days of water per	Integrated – emphasis on women

² This was decided by whether or not the grant-maker's website included a statement acknowledging the important role of women and girls in planning, implementing, monitoring and evaluating water-related projects. It does not reflect whether the grant-maker funds projects that abide the gender mainstreaming criteria provided by the African Development Bank.

	household or per person in different situations (e.g. caught in crisis, in developing world, etc.) (CARE, 2013)	in decision-making power
UN Foundation	Unspecified (United Nations Foundation, 2013)	Not integrated – Women and girl's rights and gender equality is one of their main focus, but not necessarily tied to water programs
Ministry of Health – Rwanda	Ex) proportion of rural population with access to improved water source (Ministry of Health, 2012)	Not fully integrated – Gender protocol does not have to be integrated into water program
Lifewater International	Ex) Countries reached, number of people served, number of community members trained in NGO methodology (Lifewater, 2015)	Integrated – Recognizes water collection problems for women and girls.
FXB	Ex) Number of individuals/households reached (FXB)	Integrated – focused on village level development as opposed to issue isolation, comprehensively covers HIV prevention, addressing domestic violence, education for children, and other issues relevant to advancing gender equality

Options for Global Grassroots

This section explains the rationale and implementation strategy for three options Global Grassroots could pursue to address the problem of 1) misinformed water interventions and 2) misallocated WSS donor resources that do not consider end user needs.

The options are 1) coalition-building with strategic partners in the WSS or gender mainstreaming sector; 2) building evidence to support the effectiveness of Global Grassroots' women-led water ventures relative to other types of interventions; and 3) extending and maintaining the status quo. This third option considers how Global Grassroots would use existing performance evaluation and certification toolkits while maintaining its current initiatives.

Option 1: Coalition-Building

Engage with other water-related service organizations and enable them to incorporate participatory development and gender mainstreaming methods in their practices.

1.1 Found a backbone organization to coordinate and support WSS sector partners' activities to achieve collective impact

By founding a backbone support organization with other key cross-sector WSS practitioners, Global Grassroots may enable partner organizations to meaningfully incorporate gender mainstreaming and participatory development practices in their water supply programs in Rwanda. Since 'collective impact' and 'backbone organization' were introduced as concepts in 2011 through a Stanford Social Innovation Review article, the method has gained traction amongst community-based social impact practitioners (Collective Impact Forum, 2014).

Joining or creating a backbone organization to achieve collective impact stands in direct contrast to emphasizing isolated impact – isolated impact is focused on finding and funding a solution within a single organization, with the hope that the most effective organization will scale up and extend their impact (Kania and Kramer, 2011). Meanwhile, collective impact is defined as the “commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem,” (Kania and Kramer, 2011). According to collective impact research, not all problems require a collective impact approach. However,

because the challenges facing rural Rwandan women in terms of clean water procurement and usage cannot be addressed by a single entity, achieving collective impact is critical. For example, MININFRA's EWSA or nonprofits like Global Grassroots are incapable of developing and implementing solutions for all of rural Rwanda. It is clear that clean water supply in rural Rwanda is a multi-stakeholder issue requiring expertise in many sectors ranging from environmental sustainability to gender equality.

Research by Kania and Kramer shows that backbone support organizations are critical to the success of collective impact initiatives. Compared to the isolated intervention of individual organizations, large-scale social change, or collective impact, requires broad cross-sector coordination. This means donors, technology companies, local end users, and other WSS practitioners must coordinate their activities. Fixing one point on the water supply continuum, such as developing more cost-efficient water pumps, will have a limited impact until all parts of the continuum are improved at the same time, including increased presence of local women in the decision-making process. Collective impact initiatives require more support than mere collaboration and coalition-building; they benefit from having a backbone organization.

A backbone support organization can provide cross-sector partners with centralized infrastructure, a dedicated staff, and a structured process with a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among participants. The main role of the backbone organization would be to guide participants' vision and strategy, support aligned activities, establish shared measurement practices, build public will, advance policy, and to mobilize funding (Turner et al, 2012). These six common activities would help the organization support and facilitate collective impact by ensuring that key water-supply program activities are all gender mainstreamed:

Activity	Short-term Outcomes (Illustrative)	Intermediate Outcomes (Illustrative)
1. Guide vision and strategy	Partners share a common understanding of the need and desired result	Partners' individual work is increasingly aligned with the initiative's common agenda
2. Support aligned activities	Partners increasingly communicate and coordinate their activities toward common goals	Partners collaboratively develop new approaches to advance the initiative
3. Establish shared measurement practices	Partners understand the value of sharing data	Partners increasingly use data to adapt and refine their strategies
4. Build public will	Community members are increasingly aware of the issue(s)	More community members feel empowered to take action on the issue(s)
5. Advance policy	Policymakers are more aware and supportive of the initiative's policy agenda	Policy changes increasingly occur in line with initiative goals
6. Mobilize funding	Funding is secured to support initiative activities	Philanthropic and public funds are increasingly aligned with initiative goals

Source: Stanford Social Innovation Review, 2011

Implementation:

- Global Grassroots should join the Collective Impact Forum, which is a web-based network of funders and backbone organizations who practice collective impact (Collective Impact Forum, 2014). As the Forum provides toolkits and training, this would be a helpful starting point for Global Grassroots and a co-founding partner organization to become better informed about this new approach to managing and expanding nonprofit initiatives. Additionally, funders of the Collective Impact Forum include current WSS initiative funders, including GWC members. Since these funders are members of both GWC and the Collective Impact Forum, they are likely to support both initiatives and agree to become part of a Global Grassroots-led backbone organization.
- After gaining access to collective impact literature and toolkits, Global Grassroots should identify potential partners in coalitions they are already a part of, such as the Global Water Challenge (GWC, 2014). Founded in 2006 as a 501(c)3, GWC's mission is to "accelerate the delivery of safe water and sanitation through partnerships that catalyze financial support and innovations for sustainable solutions" (GWC, 2014). Of the partners in the Global Water Challenge, Global Grassroots should work with the

following types: 1) funders, 2) field practitioners by sector (water supply or sanitation) and function (advocacy, public education, fundraising, training/mentorship to locals), 3) technology providers and 4) Rwandan locals.

- Global Grassroots should then consider modeling the backbone organization after the Millennium Water Alliance (MWA) – Ethiopia Program. This backbone organization began with WSS programs in 5 regions of Ethiopia in 2004. MWA – EP is now funded by multilateral donors such as USAID and by foundations such as the Conrad N. Hilton Foundation and the Coca-Cola Foundation. An independent evaluation for MWA-EP indicates that a collective impact initiative that was professionally managed and not board managed led to improved outcomes for both partners and for their target population (Davis, 2013).

Examples of Successes in the MWP Ethiopia

COLLECTIVE IMPACT CONDITION	EXAMPLES OF SUCCESSSES
Common agenda	<ul style="list-style-type: none"> • MWA-EP partners adopted a common policies and strategy document (MWP Ethiopia, 2011)
Shared measurement systems	<ul style="list-style-type: none"> • A common monitoring, evaluation and learning platform implemented in 2012
Mutually reinforcing activities	<ul style="list-style-type: none"> • Ongoing PMG meetings; most partners find them valuable and there is good participation • Peer evaluations and shared learning through PMG meetings • Partnership peer evaluations were conducted 2006, 2007, 2011 • Some partners have been able to access new sources of funding through the MWA (US#5, 2012) • Good integration and representation among various sector offices (health, water, education woreda offices/bureaus) (MWP Ethiopia, 2011)
Continuous communication	<ul style="list-style-type: none"> • Those who attend PMG meetings feel in the loop.
Backbone support organization	<ul style="list-style-type: none"> • The MWA-EP Secretariat office participated in different national forums like WASH Movement, Christian Relief and Development Association, and Multi Stakeholder Forums to contribute towards the effort being made in water and sanitation development activities around the country.

Source: Davis, 2012

Global Grassroots should also consider branching outside of coalitions it is already part of and collaborate with like-minded organizations. Potential key partners include the following:

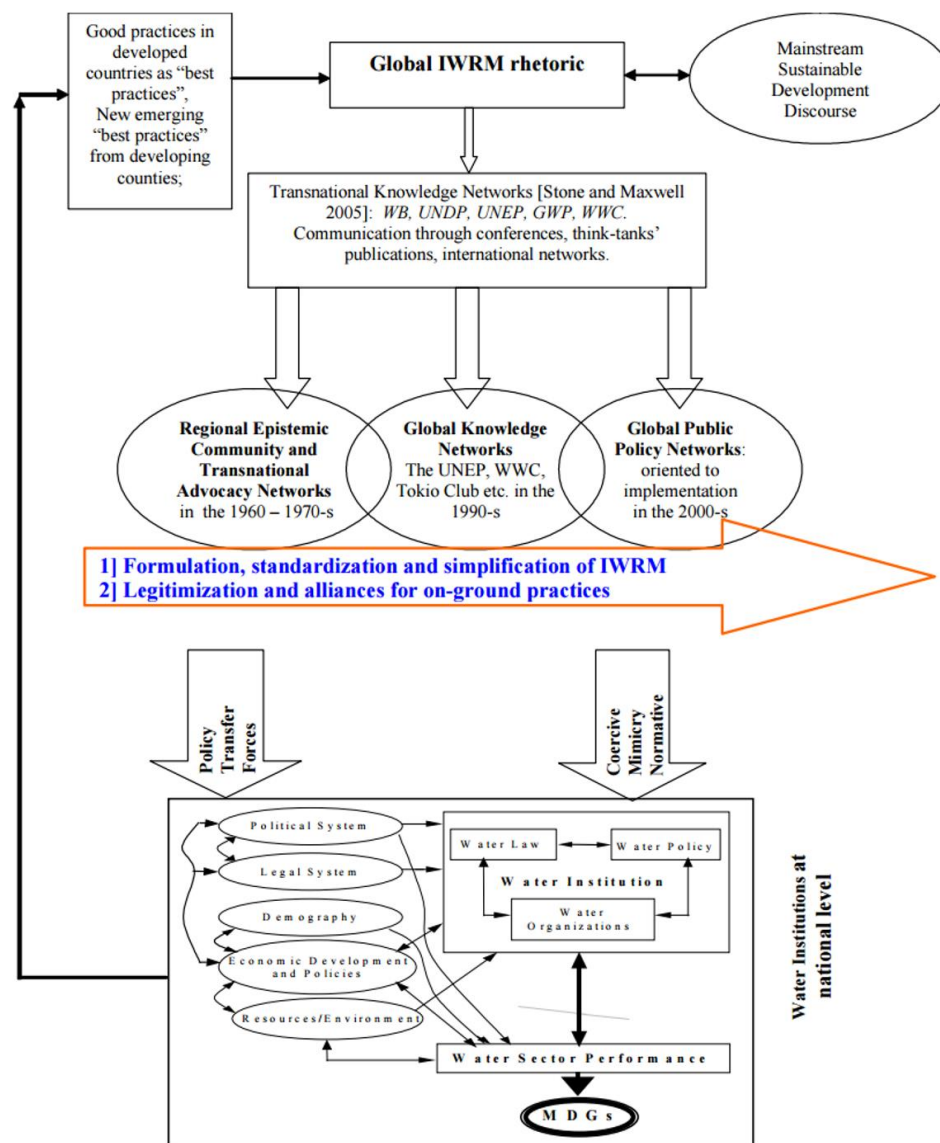
- **Women for Women International:** Founded in 1993, WfWI works with women in 8 countries affected by war and conflict to offer support that will eventually lead to economic self-sufficiency (Women for Women, 2014). One of WfWI's programs is in Rwanda. Furthermore, WfWI founded a Women's Opportunity Center (WOC) in Rwanda which trains and supports women's entrepreneurship.
- **Gender in Agriculture Partnership:** GAP is an inclusive network that came together after the first Global Conference on Women in Agriculture (GCWA, New Delhi, March 2012) to empower local women when delivering food, nutrition, and income security (Gender in Agriculture, About, 2015). Initial founding members include Oxfam, ROP-Africa, UN Women, World Food Programme, World Bank, Food and Agricultural Organization, CARE International, and Dupont Pioneer (Gender in Agriculture Partnership, Membership, 2015).
- **Water Point Data Exchange:** WPDx is an emerging framework for sharing water point data, established by Improve International in light of the lack of data regarding water services' user experience in developing countries (Davis, 2015).
- **Girl Hub Rwanda:** Girl Hub is an initiative by the global movement, the Girl Effect, which seeks to take a holistic approach to improve girls' lives through education, health, safety, and opportunity to produce a positive ripple effect (Girl Effect, n.d.). Girl Hub has a Rwanda branch, which so far has two major initiatives: 1) using Rwanda's 2010 Demographic and Health Survey (DHS) data to identify the most vulnerable population and 2) operating mentorship programs and digital platforms to deliver more information and decision-making toolkits (e.g. education on sexual/reproductive health, financial literacy lessons).
- Other notable organizations: Rwanda Women Network; GROOTS International (Grassroots Organizations Operating Together in Sisterhood), of which Rwanda Women Network is a member; Global Women's Water Initiative

1.2 Attend conferences to disseminate knowledge and encourage method adoption among WSS service providers in Rwanda

According to global knowledge networks literature, new program management concepts are usually generated at the grassroots level, disseminated through conferences and international networks, and adopted by stakeholders who attend these conferences (Stone and Maxwell, 2005). The successful knowledge dissemination and widespread adoption of WSS concepts such as integrated water resources management (IWRM) indicates that participation in UN-hosted conferences can lead to increased adoption of gender mainstreaming and participatory rural development concepts (Mukhtarov, 2008). This option first discusses the example of IWRM's bottom-up knowledge generation and top-down policy transfer process, and potential conferences for Global Grassroots to attend to emulate the IWRM example with their women-led venture incubation model.

The following diagram shows how best practices from developing countries shaped the global IWRM rhetoric, which was then formulated, standardized, and simplified before being used by policy institutions such as the UNEP to inform national water institutions (Mukhtarov, 2008).

Figure: IWRM Rhetoric Formation, Dissemination, and Adoption



Case Study of IWRM: After being developed conceptually by expert groups comprised of academics, consultants, and practitioners, IWRM was then incorporated by global knowledge networks. Global knowledge networks involve NGOs, think tanks, international financial institutions (IFIs). For example, IWRM was championed by the World Water Council in 1994. However, IWRM was only widely disseminated when in 1996, the World Bank, UNDP, and the Swedish International Development Agency (SIDA) established the Global Water Partnership (GWP), a so-called “global public policy network” (GPPN) (Mukhtarov, 2008).

Implementation: To disseminate Global Grassroots' best practices in women-led water venture incubation to other WSS sector practitioners in Rwanda, Global Grassroots should strategically attend WSS conferences to advocate its methodology. The following are notable and relevant conferences that either focus on 1) WSS, 2) gender-conscious development, or 3) both:

Table 5: Key conferences	
Issue Focus	Conferences (in chronological order)
WSS	WASH Challenge Cup , New Developments in IT & Water Conference, 8th World Water Forum, 4th AfricaSan Conference, World Water Congress, WASRAG World Water Summit 7, World Water Week
Women-led development	Global Conference on Women in Agriculture (<i>Last held in 2012</i>)
Women-led WSS	National Conference on Women-led Water Management (<i>Last held in 2012</i>)

Global Grassroots should first identify conferences that support WSS and gender mainstreaming methods, but if these are not available, then attend the more general WSS conferences. For more information on conferences, Global Grassroots can refer to the event list on the database WASH Cluster³.

In the future, if Global Grassroots feels the need to host its own conference, it should reconsider this option. This is because while there are several water supply related conferences (many of which also include 'hygiene' in addition to 'supply' and 'sanitation'), there seem to be almost no sustained, annual conferences on women-led WSS practice. Global Grassroots, by initiating knowledge sharing and research submissions for all women-centered water-supply programs in Rwanda, would be filling a need that is currently not being met.

³ For more information, please visit <http://washcluster.net/gwc-meetings/>

Option 2: Evidence-building

Build evidence to support the hypothesis that women-integrated water ventures perform better on measures of social outcomes and project effectiveness than water ventures that do not integrate women.

While there have been a few major studies establishing the impact of gender-sensitive project approaches on project sustainability and social outcomes in the community, in particular a World Bank Review of 121 rural water supply projects and a study by the International Water and Sanitation Centre (IRC), there remains a lack of empirical evidence to support the hypothesis that women-integrated water ventures perform better on measures of social outcomes than water ventures that do not integrate women (Gross et al, 2001). In order to increase donor funding for and organizations' adoption of a gender-integrated approach, Global Grassroots can directly contribute to the evidence base supporting this approach. The rationale behind conducting a comparative study on gender-mainstreamed projects rather than Global Grassroots' projects specifically is that it is difficult to operationalize Global Grassroots' methods as compared to the methods of other implementing organizations. As Global Grassroots uses and holds central to its work a gender-mainstreamed approach, this study will bolster Global Grassroots' position in the eyes of donors while having generalizability for other water projects.

There are two paths Global Grassroots can pursue: a retrospective observational study or a field experiment. Though both build evidence, they possess different levels of statistical rigor and have varying costs and benefits.

2.1 Conduct an observational study to establish the link between women's participation in water projects and better social outcomes.

The study would retrospectively compare the outcomes for water ventures using a gender-mainstreaming approach in the design and implementation of the project and water ventures that did not use such an approach.

The hypothesis: water ventures using a gender-mainstreaming approach yield better outcomes in regard to the wellbeing of beneficiaries and the community, as well as project effectiveness, as compared to water ventures that don't use a gender-mainstreaming approach.

The sample: The sample in question is villages that have had water projects fully implemented in the past ten years. Global Grassroots can use the preliminary list of past and present water ventures in Rwanda (Appendix A) as a starting point to select a representative sample of villages – ones that have had gender-mainstreamed water projects implemented (treatment group) and ones that have had non-gender-mainstreamed water projects implemented (control group). These water projects should have been implemented within a constrained time frame, such as between the years 2000 and 2005.⁴

The independent variable (treatment): projects with a gender-mainstreaming approach. There are many existing checklists for a gender-mainstreaming approach; the one most relevant to water projects is the African Development Bank's (AfDB) "Checklist for Gender Mainstreaming in the Water and Sanitation Sector." In order to identify programs using this approach, the organizations must have undertaken a given number of the following measures, as decided by the researcher. Dividing programs into 'gender mainstreamed' and 'inadequately gender mainstreamed' ones is essential as the experiment we propose uses a diff-in-diff estimation model:

➤ Planning and appraisal phase:

- Background work should include gender-disaggregated data and analysis using gender conceptual tools, as identified in the GWP/UNDP Gender Mainstreaming in Water Management Resource Guide (GWP, UNDP, 2006, pg. 112).
- Consultation with ministries in charge of women and gender and other stakeholders (NGOs, women's associations, local councils); project team should include or consult with a gender expert
- Specific allocations in budget and schedule for gender activities
- Outline monitoring mechanism for gender-disaggregated indicators
- Program objectives explicitly include gender balance/equality

➤ Implementation phase:

- Staff trained in gender-mainstreaming framework and gender issues in water

⁴ The year 2005 is used rather than 2010, the year of the survey used to source data on dependent variables, in order to account for lag time between water interventions being implemented and changes in social outcomes

- Consult and gain buy-in of local authorities and families (spouses) about participation of both genders in water project
 - Equitable access and remuneration for paid labor opportunities for both technical and non-technical jobs to women and men
 - Community outreach communications should be gender sensitive and avoid gender stereotyping of responsibilities and opportunities (Tetra Tech, SUWASA, 2014)
- Monitoring and evaluation phase:
- Training of staff and community in appropriate gender-sensitive monitoring tools
 - Collection of gender-disaggregated data
 - Use of gender impact indicators (AfDB, 2009)

As mentioned in the background section on participatory development, the World Bank Water and Sanitation Program and IRC International Water and Sanitation Centre developed a methodology for quantifying participatory (including gender-sensitive) approaches, known as the Methodology for Participatory Assessment (MPA) (Postma et al, 2003). The MPA can be used in addition to the AfDB checklist to identify gender-mainstreamed water projects. The key categories that the MPA takes into account for assessing holistic participation include decision-making, quality of management, capacity building, gender, and poverty. A summary of the MPA indicators can be found in the WSP's report on Linking Sustainability with Demand, Gender, and Poverty (Gross et al, 2001, pg 10). Note that the MPA has since been renamed Qualitative Information System (QIS) (IRC WASH, 2013).

The dependent variables: The dependent variable of interest is social outcomes in the villages. The AfDB evaluates the impact of gender-mainstreamed projects with the following categories of indicators: financial/economic outcomes, health, education, social conflict, and participation and socio-political position of women (AfDB, 2009). Also of concern are project sustainability measures, as articulated by the MPA: effectively sustained services and effectively used services (Gross et al, 2001). Global Grassroots can pursue two paths in collecting data on these outcomes:

- A. Use pre-existing data. The National Institute of Statistics of Rwanda (NISR) conducts a Demographic and Health Survey every five years, most recently in 2010. The survey sampled households from 492 villages, with a total of 12,792 households in 2010. The

survey measured indicators on education, health, literacy, fertility, infant and child mortality, maternal and child health, women's status (including indicators such as women's control over their own earnings and household decision-making power), and domestic violence (NISR, 2012). All DHS datasets are free to download and use; the DHS website provides specific instructions on using these datasets for analysis (The DHS Program, n.d.).

- B. Collect new gender-disaggregated data using a consistent set of indicators on economic, social, and project sustainability outcomes, such as the AfDB indicators, which are specific and holistic.

Analysis: In running the analysis, it is important to control for exogenous variables that are unrelated to the treatment but may influence the outcome. Such variables (at the village level) include but are not limited to the income level, education level, type of water project (pump vs tap stand, etc), and geographic isolation.

- A. Existing data option: Once they've identified a representative sample of villages for both the treatment and control group, the researcher can match these villages to the ones surveyed in the DHS. He/she can compare DHS data longitudinally to test for an association between gender-mainstreamed water projects and better social outcomes. For example, the researcher would average the data from households for each village for outcomes such as health, literacy, and water supply in the years 2000 and 2010. Then he/she would compare this data as exemplified in the following chart:

Ex: average child mortality in village	Gender-mainstreamed	Non-gender-mainstreamed
2000 DHS	Y1	X1
2010 DHS	Y2	X2
Change	Y2-Y1	X2-X1

If there was a statistically significant difference in change over time between the outcomes $[(Y2-Y1)-(X2-X1)]$, then the researcher can establish a correlation and suggest a causation between gender-mainstreamed water projects and the outcomes of interest.

- B. If Global Grassroots decided to collect new data, the study design would be cross-sectional but not longitudinal — thus it would not be able to suggest causation. It could establish correlation, by comparing village outcomes:

Ex: average child mortality in village	Gender-mainstreamed	Non-gender-mainstreamed
New data	Y1	X1

The primary analysis will likely be a robust regression comparing the economic, social, and project sustainability outcomes of villages with gender-mainstreamed water interventions and villages with non-gender-mainstreamed water interventions. If the regression reflected a statistically significant difference between outcomes [Y1-X1], then the researcher can establish an association. The primary benefit of collecting new data is being able to run separate analyses for women's and men's outcomes with a customized set of metrics.

Implementation: in order to carry out this analysis, Global Grassroots can bring on a consultant with experience in qualitative and quantitative research methods for two weeks for the pre-existing data sub-option or a team of consultants for six months for the collect new data sub-option. For the pre-existing data option, the consultant's primary activities will involve identifying villages that have had gender-mainstreamed and non-gender-mainstreamed water interventions implemented in a given time frame, sorting and aggregating relevant DHS data, and running the analysis. Collecting new data will involve a significant time commitment in order to interview enough households at enough villages to generate a representative sample. Alternatively, Global Grassroots can pursue the partnerships described later to gather the new data.

The UNICEF-Netherlands Partnership Programme for Water Supply and Sanitation conducted an excellent study on the extra-financial impacts of WSS interventions in Mozambique. It considered outcomes such as: health, time used for collecting water – particularly for women and girls –, school enrolment, retention and performance of children and communities' livelihoods. The study further includes an assessment of sustainability of the programme benefits, defined as the (probability of) continuation of benefits after major

development assistance has been completed (UNICEF, Gov. of Netherlands, 2011). This work serves as a solid basis for Global Grassroots or a research partner to design their own study specific to gender-mainstreamed WSS interventions.

2.2 Conduct a field experiment to validate causal effectiveness of gender mainstreaming methods.

The experiment would be run as a randomized controlled trial, in which participants/groups are assigned to a type of water project – either gender-mainstreamed or non-gender-mainstreamed – at random, with all project factors except the variable of interest holding constant among groups.

Hypothesis: Water ventures using a gender-mainstreaming approach yield better outcomes in regard to the wellbeing of beneficiaries and the community, as well as project effectiveness, as compared to water ventures that don't use a gender-mainstreaming approach.

Sample: The sample involves a random selection of households from a given number of villages. A researcher would identify a representative sample of villages – the constraining factor in selecting the number of villages would be funding available for implementing water interventions in each village.

Independent variable (treatment): To design a gender-mainstreamed project, the implementing team would follow the gender mainstreaming framework from the AfDB articulated in the observational study option.

Dependent variable: See outcomes described in the observational study option.

The intervention: Half of the villages would be randomly assigned a gender-mainstreamed water project; the other half would be assigned a non-gender-mainstreamed water projects.

Analysis: In previous studies similar to this one, researchers have used propensity score matching to match treatment villages to similar control villages to ensure comparability between villages based on community indicators (e.g. demographics, housing, socioeconomic conditions, village infrastructure) and household variables (e.g. health outcomes, water and sanitation, personal hygiene) (WHO, 2009). Data would be collected at baseline for all identified communities before

the intervention was implemented, and again immediately after and five years after the intervention was implemented. After controlling for the exogenous variables mentioned in the observational study section, the researcher would run a differences-in-differences analysis. The field experiment provides longitudinal data, so the researcher can compare the outcomes for the control versus treatment group before and after the implementation of the water projects.

	Gender-mainstreamed	Non-gender-mainstreamed
Before implementing project	Y1	X1
After implementing project	Y2	X2
Change	Y2-y1	X2-x1

If there was a statistically significant difference in change over time between the outcomes $[(Y2-y1)-(x2-x1)]$, then the researcher can establish a causal relationship between gender-mainstreamed water projects and the outcomes of interest.

Implementation: Randomized controlled trials are expensive and time-intensive to run. In order to implement one, Global Grassroots would have to pursue external funding or pitch the idea to and partner with a high-capacity organization or academic institution. Potential funders are listed in Table 1.

Publishing and promotion

In order for the results of the selected study to be useful, practitioners, policymakers, and donors must be aware of them. Global Grassroots must develop a strategy to disseminate their findings. Three plausible options are publishing in a WSS sector or more broad development journal (a list of such journals is included in Appendix A), promoting through social media platforms such as Facebook (and cross-listing on pages of WSS-related organizations), and reaching out to widely-followed development innovation blogs such as FastCo and NYTimes Solutions.

Partnerships for implementation

There are significant stakeholders interested in building evidence for gender-mainstreaming; influential champions of the cause that also provide funding for water projects include IRC WASH, the UN, WaterAid, and the Global Water Partnership (GWP) (WASHplus, n.d.). A longer list of potential partners and supporting organizations are listed in Appendix A. Global Grassroots can pursue partnerships with these organizations to gain funding for the long-term observational study and field experiment or to persuade the organizations to run/organize the field experiment themselves.

Additionally, Global Grassroots can pursue these partnerships with organizations that implement and conduct monitoring and evaluation on water projects on the ground in Rwanda to gather data on a customized set of metrics. These metrics are described in sub-option two of the observational study. Global Grassroots can ask these organizations to collect data on a more holistic set of social metrics before and after they implement their planned water projects; this strategy takes advantages of existing structures (since most organizations implementing water ventures already conduct some type of monitoring and evaluation) and saves Global Grassroots the work of aggregating data from many water projects themselves.

Building evidence for Global Grassroots' methods specifically

Although this option focuses on gender-mainstreamed water projects as the key intervention, Global Grassroots may want to specifically assess the relative effectiveness of its own processes in context of water ventures. In order to do so, Global Grassroots must operationalize the key and consistent features of its water-related programs (much like the AfDB checklist) and find a method to identify these features in other ventures (for the observational study) or replicate these features (for the field experiment). Beyond replacing the independent variable of gender-mainstreamed water interventions with Global Grassroots-style water interventions, the methodology above remains largely the same.

Option 3: Extend the status quo

There are several measures Global Grassroots can take in order to supplement their impact in the existing WSS donor and program landscape. Unlike Option 1 and 2, the following measures do not require Global Grassroots to undertake programmatic change. Instead, this option allows Global Grassroots to leverage existing frameworks to inform and enhance its current work.

Leverage Rwandan Government's momentum with IWRM, participatory processes, and gender-consciousness

Using their gender-conscious approach to increase buy-in, Global Grassroots can appeal to the Rwandan government for project funding and can push for adoption of their gender-mainstreamed methods.

In its major national policy documents including the Vision 2020 and EDPRS II, Rwanda has committed to an ambitious target of achieving 100% water supply coverage countrywide by 2017. For the 2014/2015 year, the Ministry of Finance allocated \$43.7 million USD for water and sanitation, which is money that Global Grassroots could potentially tap into or influence use of (WaterAid, 2012).

Moreover, both the Ministry of Infrastructure (MININFRA) and the Ministry of Natural Resources (MINIRENA) have explicitly committed to a gender-conscious approach.

MININFRA's 2010 National Policy and Strategy for Water Supply and Sanitation Services document included a brief section on a "gender-conscious" approach, where "the needs, priorities, and interests of women are taken into account in all planning processes, implementation strategies, training materials, etc." The pillars and principles underlying the policy included:

Community participation: The beneficiaries of water supply and sanitation services shall be actively involved in planning, decision making and oversight throughout the project implementation cycle. In particular, they will choose the service level that responds to their needs and capacities.

Interests of women and children: The crucial roles and the particular interests of women and children are fully acknowledged. All sector activities shall be designed and implemented in a way to ensure equal participation and representation of men and women, and to pay due attention to the viewpoints, needs and priorities of women (see section 4.10.2 for details on the implication).

It also identified gender as a critical cross-cutting issue in the WSS sector and committed to ensuring that:

- Women are adequately represented in decision making processes as well as in training programs
- Participation of women in committees and in the management of water schemes, including in high-level positions, is promoted
- The needs, priorities, and interests of women are taken into account in all planning processes, implementation strategies, training materials, etc
- Local implementation partners are sensitized and trained on gender issues

Additionally, MININFRA released a 2013 plan that builds upon its 2010 National Policy and shows promise in regard to focusing on gender and assessing wider social outcomes (MININFRA, 2013). They include an annex of additional indicators and targets to be monitored by the water and sanitation sector once the management information system (MIS) is “fully improved.” The Gender and Family section includes the following gender-conscious metrics:

- % of women headed households with clean safe water within 500 meters in rural areas
- % water user committees with women representative in key positions
- WSS sector MIS capture gender disaggregated data regularly
 - Number of districts in WSS sector with water access data disaggregated by sex; this indicator is due to be measured by 2017/18
- WSS sector with 30% or more women employees in senior positions
- % of private water operators sensitized on gender equality
- % of water user committee members sensitized on gender and family issues
- % water and sanitation campaigns with messages promoting gender equality and family issues (MININFRA, 2013)

In addition, MININFRA plans to increase the number of districts in WSS sector with water access data disaggregated by sex; this indicator is due to be measured by 2017/18. MININFRA’s updated 2013 National Policy incorporates an ambitious gender-conscious approach with clear metrics. However, implementing these gender-conscious approaches are contingent upon the capacity of the monitoring authority, the management information system (MIS).

MINIRENA’s 2011 National Policy for Water Resources Management includes as a primary policy objective: Provide a framework for equitable allocation of water resources

and the sharing of benefits derived from that resource. In its policy principles, it outlines the importance of IWRM and participatory management:

“The management of water resources is...best undertaken within a framework that provides for decision making in an integrated and holistic manner, referred to as Integrated Water Resources Management (IWRM).”

“In regard to the management of natural resources, including water resources, responsibility ought to be devolved to water resources users, as far as practicable, including communities and the private sector. The role of the Government should ultimately, be that of an enabler and a regulator rather than that of an implementer and a service provider” (MINIRENA, 2011a).

These statements signal MINIRENA’s support of participatory approaches.

In MINIRENA’s sub-sector strategic plan for water resource management, the Ministry fully embraces IWRM, and includes tangible measures for gender-mainstreaming. It has set a target allocation of \$7.6 million USD from 2011-2016 towards an effective water governance framework that reflects the principles of IWRM; one of the key outputs for this goal is a gender mainstreaming strategy for water resource management. MIGEPROF/GMO have been charged with developing this strategy. Furthermore, under the key outcome of an efficient and equitable water allocation and utilization framework, a key output is the development and implementation of a framework for integrating gender and social vulnerability issues into water resources development and management:

4.5 A framework for integrating gender and social vulnerability issues into water resources development and management is developed and implemented	- Proportion of vulnerable people with access to adequate clean water; - Proportion of women actively involved in water management activities;	Provide incentives to increase access to water and sanitation by socially vulnerable groups i.e. poor, people living with HIV/AIDS;	MININFRA
		Put in place incentives to ensure that girls and women have adequate access to water and sanitation in schools, markets, health and other public facilities	MINEDUC
		Train Women farmers in appropriate smallholder irrigation and water management technologies;	MINAGRI
		Equip Water User Groups with skills and provide them guides and other tools in gender mainstreaming;	MINAGRI/MINIRENA/MININFRA

\$920,000 USD have been allocated to this output (MINIRENA, 2011b).

Given these substantive commitments to participatory and gender-mainstreamed approaches, it seems that the WSS sector in Rwanda is already headed in the direction that Global Grassroots advocates. Global Grassroots can leverage this momentum and appeal to MININFRA and MINIRENA for funding. Other NGOs have done this successfully – one of Girl Hub Rwanda’s programs, the *I2+ Program*, is now funded by DFID Rwanda and managed by

Rwanda's Ministry of Health, while implemented through three NGOs (Girl Effect, n.d.). Alternatively, Global Grassroots can meet with officials from these agencies in order to explain and promote their methods and expertise. As the government is still building out its frameworks and capacity for the aforementioned commitments, these meetings will come at a critical time and may result in the greater adoption of Global Grassroots' gender-conscious, participatory methods across the Rwandan WSS sector.

Make Global Grassroots' impact more accessible to donors

Currently Global Grassroots conducts a holistic, customized set of impact evaluations for its water ventures. Some of their general venture evaluation metrics that directly account for social outcomes, such as improvement in participants' standard of living, include the following (Global Grassroots, Evaluation, 2015):

- Number of meals the participants' family eats daily
- Frequency of eating meat
- Percentage of children able to afford to go to school
- Amount spent on rent
- Perceived lack of wellbeing or difficulty of standard of living and happiness

Aside from these common performance evaluation metrics for all of its ventures, individual venture evaluation metrics specific to each group are developed by the individual water/sanitation venture teams themselves. Because each venture has its own mission, vision, and theory of change, and because Global Grassroots purpose is to be in a more incubating and supporting position, ventures have the freedom to develop their own metrics to monitor and evaluate their outcomes with. Global Grassroots says the following about evaluating each venture, including water ventures:

“The degree to which each social venture is meeting its own program and outcome objectives to create a social impact at the root level of its issue according to its theory of change, as measured by its own evaluation metrics. The degree to which each social venture has used their skills to solve new problems or teach other members of the community their skills” (Global Grassroots, Evaluation, 2015).

However, this customization makes it difficult for donors to quickly understand Global Grassroots' impact and compare it to other potential grant beneficiaries. Outlined below are methods for quantifying impact that yield measures that are more accessible to donor organizations.

Expanding or modifying impact evaluation to align with frameworks/tools that already have traction

The principles underlying Global Grassroots' work include participatory methods, gender consciousness, and paying attention to critical social outcomes. Several different organizations have already made headway in developing impact frameworks and tools for gender mainstreaming and more broadly capturing externalities of development and water projects.

Existing Impact Frameworks

PROWESS

In 1988, the UNDP interregional program for Promotion of the Role of Women in Water and Environmental Sanitation Services (PROWESS) published PEGESUS, a framework for planning and evaluation in partnership with people. PEGESUS aimed to provide a simple and quick means of evaluating water supply and sanitation projects, by involving community members, particularly women, in data collection and analysis. The prime objectives of the new approach were to achieve sustainability, effective use, and replicability, by giving a central place to the users of water and sanitation facilities. The new framework, which evolved from field experience, was used to evaluate two other UNDP/World Bank funded projects, one in Indonesia and the other in Kenya. These documented case studies helped in the development of Goals and Indicators which were refined after review by UNICEF, WHO, IDRC and CIDA, and published separately by PROWESS; these indicators are included in Appendix B (UNDP, 1990). Global Grassroots can consult these metrics to inform their impact evaluations, as they have already been reviewed by major aid agencies.

Sustainable Development Goals

Many development initiatives have aligned themselves around the UN Millennium Development Goals (MDGs) and associated indicators established in 2000. The two main MDGs relevant to Global Grassroots' work are:

- Goal 3: promote gender equality and empower women
 - Target 3.A: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015
- Goal 7: ensure environmental sustainability
 - Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation (MDGS, 2008)

While the education target is tangentially relevant to Global Grassroots' work, it does not relate to Global Grassroots' water supply projects. The relevant target for Goal 7 does not speak to the potential social externalities of water supply projects. Thus, while donors are concerned with gender equality and water supply, the MDGs do not compel them to take interest in the intersection of the two goals.

In 2015, the UN plans to adopt a new development agenda called the Sustainable Development Goals (SDGs). The proposal for SDGs have much more expansive targets for gender equality and water supply:

- Goal 5. Achieve gender equality and empower all women and girls
 - 5.1 **end all forms of discrimination** against all women and girls everywhere
 - 5.2 **eliminate all forms of violence** against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation
 - 5.3 **eliminate all harmful practices, such as child, early and forced marriage** and female genital mutilations
 - 5.4 recognize and **value unpaid care and domestic work** through the provision of public services, infrastructure and social protection policies, and the promotion of shared responsibility within the household and the family as nationally appropriate
 - 5.5 **ensure women's full and effective participation and equal opportunities** for leadership at all levels of decision-making in political, economic, and public life

- 5.a undertake reforms to **give women equal rights to economic resources**, as well as access to **ownership and control** over land and other forms of property, financial services, inheritance, and **natural resources** in accordance with national laws
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
 - 6.1 by 2030, achieve universal and equitable access to safe and affordable **drinking water for all**
 - 6.2 by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, **paying special attention to the needs of women and girls and those in vulnerable situations**
 - 6.4 by 2030, **substantially increase water-use efficiency** across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity
 - 6.5 by 2030 **implement integrated water resources management at all levels**, including through transboundary cooperation as appropriate
 - 6.b support and strengthen the **participation of local communities** for improving water and sanitation management (Open working group, 2014)

The bolded words indicate overlap between Global Grassroots’ work and the SDGs. Global Grassroots can frame their impact with the language of the SDGs in order to appeal to donors in the post-2015 development agenda.

Girl Effect

The Girl Effect is an initiative with the goal of “getting girls on to the global development agenda and driving massive resources to them” (Girl Effect, n.d. a). It is implemented through a strategic collaboration between the UK's Department for International Development (DFID) and the Nike Foundation known as Girl Hub. Girl Hub provides decision makers with the information they need to invest in girls, brings girls' voices to the table, and collects data and evidence to show what works for girls (Girl Effect, n.d. a). The movement is supported by more than 100 major international development organizations.

One of Girl Hub’s primary branches is based in and focused on Rwanda. Girl Hub Rwanda’s mission is to enable all of Rwanda’s one million adolescent girls to fulfil their

potential by: partnering with leaders to deliver for girls; developing innovations in girl programming; working through a brand platform called Ni Nyampinga to inspire and enable girls; and generating girl-led insights and evidence (Girl Effect, n.d. b).

Girl Effect has defined a set of indicators from the data platform Girls Discovered and creates country scorecards based on these indicators; the indicator categories are: access to income, age at first birth, age at first marriage, education, healthcare/wellbeing/safety, and time with friends (Girl Effect, 2013). Global Grassroots can make use of these indicators and Girl Hub Rwanda's work in order to appeal to the large donor base that supports Girl Hub.

Water Data Point Exchange (WDPx)

The Global Water Challenge (GWC), a coalition of leading organizations committed to addressing water and sanitation issues, created a working group to develop an online data platform to aggregate information on initiatives in the WSS sector. The platform is planned to launch in the third quarter of 2015, and is meant to help identify factors promoting and undermining sustainability (GWC, 2015). The working group is looking for input to help shape the platform; Global Grassroots can request gender-disaggregated data. Once the platform is launched, Global Grassroots can upload their own data points so that their water projects reach a wider audience.

Cross-sector impact investing standards

Another field that has made strides in assessing the social benefits and costs of development projects is impact investing. The field uses the concept of social return on investment (SROI), a method for measuring extra-financial value (i.e., environmental and social value not currently reflected in conventional financial accounts) relative to resources invested (Roebuck, 2012, p. 418). Additionally, impact investors are increasingly interested in WSS endeavors. For example, the Case Foundation is a non-profit impact investing organization that is in the Global Water Challenge with Global Grassroots.

McKinsey & Company and the Foundation Center developed Tools and Resources for Assessing Social Impact (TRASI), the first cross-sector repository of social impact assessment tools. TRASI contains 150 examples of how social impact is being measured by foundations, nonprofits, social investors/enterprises and others seeking social change (McKinsey&Co, 2010).

B Analytics, an analytics platform powered by B Lab, developed the Global Impact Investing Rating System (GIIRS), the first cross-sector assessment and rating of the social and environmental impact of investment funds and the companies held within them. It includes metrics on female ownership and employees in an organization, communities served, and social impact objectives such as access to clean water (Criterion Ventures, 2011).

IRIS is another internationally-accepted assessment standard. Originating from a collaboration between the Acumen Fund, B Corps and the Rockefeller Foundation, and now conducted by the Global Impact Investing Network, the Impact Reporting and Investment Standards (IRIS) reports on the social performance of organizations at the organizational and product level, with measures that cross sectors as well as those that are sector-specific, including the environment and water sector. The standards begin by classifying the overall social objective of organizations. The objectives include equity and empowerment, which can be applied to organizations working with women. IRIS is the catalog of generally-accepted performance metrics that leading impact investors and organizations use to measure social, environmental, and financial success, evaluate deals, and grow the credibility of the impact investing industry (Criterion Ventures, 2011).

Users that integrate GIIRS/IRIS metrics into their social and environmental performance practices and measurement systems, and that have publicly registered their use with these initiatives, are listed on their widely-viewed online platform. Both USAID and DFID use IRIS/GIIRS to measure impact (ODI, 2014). Global Grassroots can register with GIIRS and IRIS in order to increase their exposure to private and public donors.

Credible tools

Logic model

The Skoll World Forum, a thought leader in social change, encourages organizations to measure impact with a logic model (Skoll, 2006). A logic model, also known as a results framework, serves as a key tool in the development landscape, enabling practitioners to discuss and establish strategic development objectives and then link interventions to intermediate outcomes and results that directly relate to those objectives. It is an explicit articulation (graphic display, matrix, or summary) of the different levels, or chains, of results expected from a

particular intervention—project, program, or development strategy. The results specified typically comprise the longer-term objectives (often referred to as “outcomes” or “impact”) and the intermediate outcomes and outputs that precede, and lead to, those desired longer-term objectives (IEG, 2012).

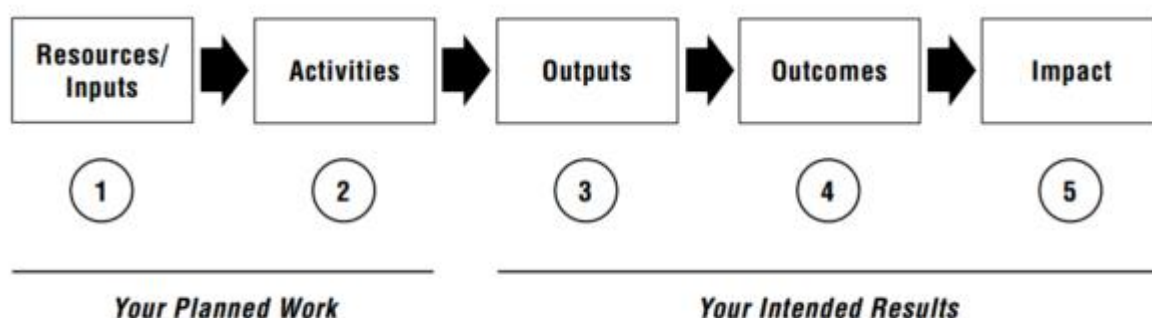


Figure 1. The Basic Logic Model.

Source: Kellogg Foundation logic model development guide

Developing a logic model can help Global Grassroots clearly articulate to donors and beneficiaries alike how their work translates into impact. Logic models, such as the one below, are common and desired in the WSS sector programs of large organizations such as WHO and the World Bank (IEG, 2012):

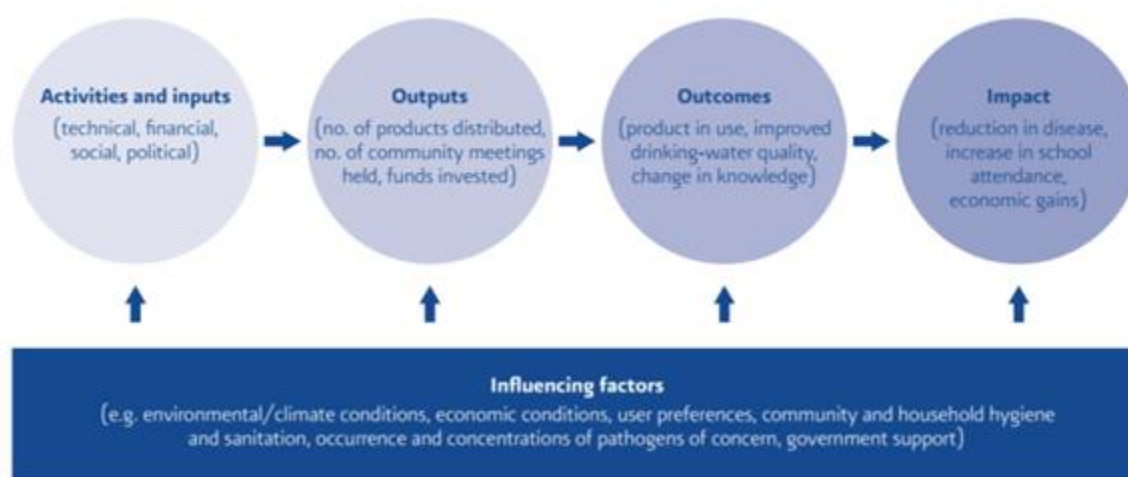


Figure 2: Examples of HWTS-related programme outputs, outcomes and impacts

Source: WHO toolkit for monitoring and evaluating household water treatment and safe storage programs

WashCost Calculator

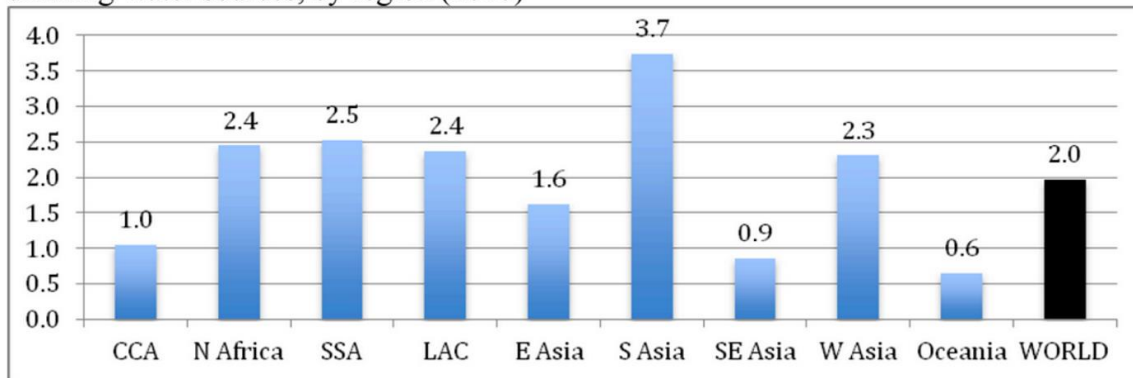
IRC WASH has developed an online calculator to allow WASH sector practitioners to use life-cycle costs information to adapt their plans and achieve water and sanitation services that last for generations. It functions as a sustainability check to strengthen delivery of water and sanitation services, make use of reliable life-cycle cost information, and understand the benefits of the life-cycle costs approach. The prototype of the WASHCost Calculator has garnered interest and feedback from a wide range of users across Africa, Latin America and Asia (IRC, 2013). Global Grassroots can use this calculator to assess and promote the sustainability of their water ventures to donors.

Quantifying the ripple effect of gender-mainstreamed water-supply projects

Global Grassroots should also consider quantifying the ripple effects of its gender-mainstreamed water initiatives. This would help potential donors assess the relative effect of their funding and therefore help Global Grassroots attract more funding. At the very least, it would help Global Grassroots assess its own effects and inform its decision when distributing seed funding to various initiatives. For example, if one water-venture produces greater economic benefits than the other, Global Grassroots may choose to invest in the one with a higher dollar multiplier.

One oft-stated statistic is a dollar multiplier from the WHO/UNICEF Joint Monitoring Programme (JMP) 2012 report, which states that water and sanitation interventions across all world regions would “produce benefits ranging from US\$5 to US\$46 per US\$1 invested” (Child Info, 2012). This specific cost-effectiveness ratio originates from a 2007 research paper, *Global Cost-Benefit Analysis of Water Supply and Sanitation Interventions*. A follow-up WHO report in 2012 from Dr. Guy Hutton, the same author behind the original US\$5 – US\$46 multiplier, explains the benefit-cost ratio (BCR) of water and sanitation interventions – the new global economic return on water spending is US\$2 per dollar invested, while the global economic return on sanitation spending is US\$5.5 per dollar invested (Hutton, WHO, 2012).

Figure B. Benefit-cost ratios of interventions to attain universal access of improved drinking-water sources, by region (2010)



Hutton's data is sourced from the WHO/UNICEF JMP and includes 136 countries – any cost benefit analysis is not country specific and is an aggregated, weighted (by population) estimate. The study notes that one challenge modelling future costs was that types of technology used, and how they were delivered varied even within one country (Hutton, WHO pg 24, 2012). Therefore, the author used the assumption that in rural areas, basic water supply involves a borehole with a lifespan on 30 years.

Table 3. Technology options 'given' to the unserved population

Location	'Low' cost scenario	Baseline scenario	'High' cost scenario
Sanitation			
Rural	Dry pit	Wet pit	Septic tank
Urban	Wet pit	Septic tank or sewerage with treatment (according to current coverage)	Sewerage with treatment for all
Water			
Rural	Dug well	Borehole	Household connection
Urban	Borehole	Piped treated household water supply or borehole (according to current coverage)	Piped treated household water supply for all

Since the assumptions used in the global study are often not applicable for Global Grassroots' water-supply ventures, Global Grassroots should develop its own quantification system. For instance, for Global Grassroots, the main cost involved will not be a 'dug well' or 'establishing a household connection'. However, Global Grassroots should justify its benefit quantifications by including all the 'benefit' items included in the WHO report. The included benefits in the report for improved water supply are the following:

- Health:
 - averted cases of diarrhoeal disease

- malnutrition-related diseases
- health-related quality of life impacts
- Health economic:
 - costs related to diseases such as healthcare, productivity, mortality
- Time value
 - travel and waiting time averted for collecting water

The 2012 WHO report excluded benefit items that Global Grassroots may find useful to include. The following benefits were excluded from producing the multiplier due to the author's belief that "the lack of evidence impedes a credible global assessment" (WHO, pg 25, 2012):

- Other Health:
 - dehydration from lack of access to water
 - less flood-related health impacts
- Education:
 - improved educational levels due to higher school enrollment and attendance rates
 - impact of childhood malnutrition on education
- Leisure and quality of life / intangibles:
 - Leisure and non-use values of water resources and reduced effort of averted water hauling and gender impacts
- Property:
 - rise in the value of property
- Income:
 - increased incomes due to more tourism income and business opportunities
 - productive uses

In particular, Global Grassroots should attempt to collect data on the 'Education' and 'Leisure and quality of life / intangibles' variables to quantify the benefits in a credible way. These two variables seem to be heavily affected by the gender-conscious methods of Global Grassroots, while merely installing water tanks would not impact these variables as much for the WHO study.

Evaluative Criteria

The following criteria will be used to assess how well each option addresses the problem statement:

Influence (30%)

The key beneficiaries of water projects are rural women in Rwanda. Participatory, gender-mainstreamed approaches to water projects ensure that gender perspectives and attention to the goal of gender equality are central to all activities, so that the needs and voices of these key beneficiaries are integrated into the design and implementation of water projects.

The influence criteria assesses how much each option is expected to increase the following: 1) the number of WSS organizations using gender-mainstreamed methods in Rwanda (weighed 60%); 2) the frequency relevant keywords are searched (weighed 20%) and the frequency relevant keywords appear in academic journals (weighed 20%).

Because the number of WSS organizations using gender-mainstreamed methods directly impacts women in Rwanda the most, this proxy is weighed highly at 60%. The other two proxies for influence are weighed lower because while they indicate influence amongst those who use Google, they do not directly impact women in Rwanda.

1) **The predicted number of organizations using gender-mainstreamed methods** (such as Global Grassroots' methods)

This criteria will be ranked with the following ratings, where each rating represents the percentage of existing water-related organizations in Rwanda (listed in the Background section) predicted to adopt gender mainstreaming methods (as determined by the AfDB's gender-mainstreaming checklist).

	None	Low	Medium	High	Very high
Percentage predicted to adopt (60% of total influence)	0%	20%	50%	80%	100%

2) The visibility of Global Grassroots' methods of participatory decision-making and gender-mainstreaming as measured by **the frequency** gender-mainstreaming mentioned in development literature – journal articles; and by frequency of mentions in media coverage, including social media. There are many online tools such as Google Insights, Google Trends, and Altmetric that help analyze trends in the academic and social sphere.

For the purpose of this report, this criteria will be ranked none, low, medium, high, or very high based on mentions of “Global Grassroots” and “gender mainstreaming” in a Google Trends search, which measures how often these terms are searched for in Google; the average number of searches for these terms for the past five years (Jan 2010-2015) was 62 for gender mainstreaming and 4 for Global Grassroots. The predicted increase in search average applies to searches of the two key phrases in the next five years (Jan 2015-2020).

Academic visibility, that is references to gender mainstreaming and Global Grassroots in development literature, is also a valuable metric. This criteria will be ranked low, medium, or high based on the predicted increase in number of search results for the following search: "gender mainstreaming"|"global grassroots" "rwanda" "water". These keywords have been selected to capture all academic work that may occur as a result of the proposed options. Currently this search yields about 1,500 results.

	None	Low	Medium	High	Very High
Predicted increase in Trends search average (20% of total influence)	0%	20%	50%	80%	100%
Predicted increase in Google Scholar results (20% of total influence)	0%	20%	50%	80%	100%

Increased adoption of these methods is a key outcome that directly addresses the problem of misaligned interventions; thus the influence criteria is weighted highly at 30%.

Funding (30%)

Each option will lead to varying degrees of increased funding for Global Grassroots. Because increased funding will lead to an increased capacity for Global Grassroots to conduct its women-led water ventures, this criteria is weighted highly at 30%. To estimate the expected increase in funding with each option, this report examines the group of foundations that have already disbursed funds to water-related programs in Rwanda in the past six years, as recorded in WASHfunders.org's database. 19 foundations gave grants to water-related programs that included Rwanda in their scope, with an average of **\$241,148 in grant size per year per recipient** (see appendix). This report estimates **the likelihood that Global Grassroots will be able to obtain a grant** in a given year after implementing an option (e.g. the expected value). The likelihood of obtaining a grant is directly linked to **Global Grassroots' ability to reach and persuade donors** of the value of their gender-mainstreaming methods.

For example, if there is currently a very low chance of receiving a grant from this 'bundle', then the expected value in the status quo is $10\% * \$241,148$ or \$24,115 per year. If the probability of obtaining a grant is now higher after implementing one option (e.g. "medium"), then the expected value for this option would be $.50 * \$241,148$ or \$120,574 per year.

	None	Low	Medium	High	Very high
Likelihood of reaching and persuading donors	0% (results in 0 of funding per year)	20% (results in \$48,229 of funding per year)	50% (results in \$120,574 of funding per year)	80% (results in \$192,918 of funding per year)	100% (results in \$241,148 of funding per year)

Feasibility (30%)

Options must be aligned with Global Grassroots' organizational capacity in terms of financial cost and time (weighed 70% and 30% respectively). Due to resource constraints, financial cost matters substantially more than predicted time needed to implement an option.

Financial cost, weighted at 70% of the feasibility criteria, refers to the total amount of money (USD) required to completely implement an option. It includes both up-front and variable costs.

	Very high	High	Medium	Low	Very low
Total cost	<\$100	<\$3,000	\$3000-\$7,000	\$7000-\$10,000	\$10,000+

Time, weighted at 30% of the feasibility criteria, is the estimated number of years Global Grassroots must invest to implement an option. Some options have longer time horizons or require recurring efforts; this criterion accounts for these attributes.

	Very high	High	Medium	Low	Very low
Number of years predicted (weighed 30%)	0 months	less than 20 months (<1.67 years)	20-39 months (1.67-3.25 years)	40-59 months (3.3-4.9 years)	60+ months (5+ years)

These criteria are especially important because Global Grassroots has ten full-time staff members who support 19 current ventures and 11 developing ventures – the final recommendation must take into account Global Grassroots’ ability to execute a given measure.

External Buy-in (10%)

As described in the background section, there is already traction behind the participatory, gender-mainstreamed methods that Global Grassroots’ advocates. The political feasibility criterion assesses the alignment of an option with the current interests and directions of WSS sector development agencies and NGOs. It attempts to ascertain how much buy-in an option will get from these actors – that is the potential for Global Grassroots to find allies to support an option.

This criteria will be ranked none, low, medium, high, or very high, which reflect levels of external buy-in. For instance, ‘high’ means that the option gets the full 10% value assigned to this criteria.

Outcomes Matrix

Outcomes matrix, unweighted

<i>Criteria</i>	<i>Metrics</i>	Backbone organization	Conference attendance	Retrospective observational study	Field experiment	Status quo
Influence (.3)	Number of orgs adopting GM (.6)	High (80%)	Medium-low (30%)	Medium-low (30%)	Medium (50%)	Low (20%)
	Visibility - Google Trends (.2)	Medium (50%)	Low (20%)	Medium (50%)	Medium (50%)	None (0%)
	Visibility - Google Scholar (.2)	High (80%)	High (80%)	Medium (50%)	Medium (50%)	None (0%)
Funding (.3)	Likelihood of reaching and persuading donors	High (80%)	Medium (50%)	Medium (50%)	High (80%)	Medium (50%)
Feasibility (.3)	Financial cost (.7)	Very low \$11,125 (0%)	High \$243 (80%)	Medium \$3700 (50%)	Medium \$3,500 (50%)	High \$270 (80%)
	Time (.3)	Very low 5+ years (0%)	High <1 year (80%)	High 13 months (80%)	Low 3.5 years (20%)	High 2 months (80%)
External buy-in (.1)	Levels of external buy-in	Low (20%)	High (80%)	High (80%)	Low (20%)	High (80%)

Outcomes matrix, results of weighting

Criteria	Metrics	Backbone organization	Conference attendance	Retrospective observational study	Field experiment	Status quo
Influence (.3)	0.18	0.144	0.054	0.054	0.09	0.036
	0.06	0.03	0.012	0.03	0.03	0
	0.06	0.048	0.048	0.03	0.03	0
Funding (.3)	0.3	0.24	0.15	0.15	0.24	0.15
Feasibility (.3)	0.21	0	0.168	0.105	0.105	0.168
	0.09	0	0.072	0.072	0.018	0.072
External buy-in (.1)	0.1	0.02	0.08	0.08	0.02	0.08
Outcome:		48%	58%	52%	53%	51%

Note on methodology: weighting is done by multiplying the percent values inside the unweighted table with the weights and sub-weights of criteria and metrics. For example the value of 0.144 for the criteria ‘*number of orgs adopting gender-mainstreaming*’ for the option ‘*backbone organization*’ is calculated by multiplying the criteria weight (0.3) * the org adoption subweight (0.6) * the evaluation of the option (80%).

Evaluation of Options 1 - 3

Evaluation of Option 1.1: Backbone organization

Influence

If Global Grassroots can found a backbone support organization with relevant partner organizations targeting rural Rwandan women’s water needs, the influence will be very high. This backbone organization will ensure that all members, including Global Grassroots, follow a vision and mission that all members agree upon. Because Global Grassroots is the one founding this backbone organization, it can ensure that this organization’s core values include gender mainstreaming principles. Therefore, the percentage of WSS organizations in Rwanda predicted to adopt gender mainstreaming methods will be **high**.

Because this backbone organization will include influential donors or reference existing influential WSS backbone organizations in East Africa such as the Millennium Water Alliance – Ethiopia Program, we predict that the terms “Global Grassroots” and “gender mainstreaming” will be searched for more. Since there are a limited number of WSS experts and practitioners in Rwanda, the search count increase is limited. The predicted increase in Google Trends is thus moderate (**medium**).

However, the predicted increase in Google Scholar results (i.e. influence within the expert circle) is high. This is because a backbone organization, such as the MWA – EP, hosts frequent membership meetings that lead to more knowledge sharing. If Global Grassroots shares its own research on its women-led water ventures amongst an influential circle of dedicated WSS partners, it is likely to lead to high knowledge dissemination amongst WSS professionals. The predicted increase in Google Scholar results is **high**.

Funding:

With this option, the likelihood of reaching and persuading WSS donors will be **high** (around \$192,918 of funding per year). The backbone organization staff will help coordinate the activities of the members so that there is little programmatic overlap for the same target population – MWA – EP has strategically coordinated membership programs so that they do not overlap when applying for grants. By coordinating the activities of many WSS organizations serving rural Rwandan women, Global Grassroots can better attract donor interests. However, Global Grassroots should keep in mind that in the case of a backbone organization, the additional funding will not be for Global Grassroots alone but for the activities of all its members.

Feasibility:

The financial costs of creating and maintaining a backbone organization are **high**. To take the example of MWA, the total expenses in 2011 exceeded \$4 million (Martin, 2011). The main predicted costs of establishing and maintaining a backbone organization are as follows:

- 1) Financing a permanent staff (one executive director and at least two staff members) to conduct backbone organization’s critical activities (as outlined above in the Options section)

2) Hosting monthly meetings with partners to coordinate activities and share knowledge

The first major cost would be financing the staff for this new organization. Based on the annual amount given as wages to Global Grassroots staff, the total annual wages (executive director and two staff members) would be around \$100,000 (Global Grassroots, Form 990, 2013). However, since the partners would be sharing the burden of procuring money for creating this new staff, the cost can be divided by the number of partner organizations. Basing the membership number off MWA Ethiopia's backbone organization, it is predicted that the Global Grassroots-initiated backbone organization will have approximately 10 members. Financing a permanent staff would cost Global Grassroots ~\$10,000 every year ($\$100,000 / 10$ members).

The second major cost would be the additional labor hours taken to meet with partners to coordinate activities and share knowledge. This effort is predicted to be the equivalent of one full time employee from each member organization spending 5 hours a week on backbone organization activities. Based on Global Grassroots, a ~10 person organization with 40-50 working hours / week, the hourly wage dedicated for backbone activities would be the following:

$(\$100,000 \text{ total annual salary} / 50 \text{ work weeks} / 45 \text{ work hours per week} / 10 \text{ employees}) =$
~\$4.50 per work hour per employee

$(\sim \$4.50 \text{ per work hour per employee} * 5 \text{ hours} / \text{week} * 50 \text{ work weeks}) = \$1,125$ in total labor costs for backbone organization activities.

In total, the cost is ~ **\$11,125**.

The number of years predicted for the founding of a fully functioning backbone organization ranks **low** (at least five years). This prediction is based on the number of years it took for MWA – EP to fully transition from a coalition of members to a backbone organization that achieved collective impact; since the establishment of its Ethiopia initiative in 2004, it took five years before MWA – EP hired its first full-time executive director, established its first headquarters in D.C., and hired a small permanent staff (MWA, n.d.).

External Buy-in

External buy-in will be the most difficult for this option (**low**) because of how resource-intensive founding a backbone organization is; everyone has to dedicate funding to support a full time staff for this new organization. Collective impact initiatives require all of its members to align their objectives, which may lead to initial disagreement. Because members must be willing to forego some of their original objectives, buy-in is difficult. In addition to the difficulties of establishing a backbone support organization with its own governing board and permanent staff, a new backbone organization spearheaded by Global Grassroots may meet the resistance of existing ones such as the Millennium Water Alliance (MWA).

Evaluation of Option 1.2: Conference attendance

Influence:

If Global Grassroots attends a conference with relevant partner organizations targeting rural Rwandan women's water needs, the influence will be moderately high. Conferences allow practitioners to share their knowledge and meet like-minded stakeholders. However, there is no binding mechanism to ensure conference attendees who gain exposure to Global Grassroots' methods start implementing gender mainstreaming. Therefore, the percentage of WSS organizations in Rwanda predicted to adopt gender mainstreaming methods will be **medium-low**.

Because conference participants will likely include influential donors, and because conference related publications will be made available online, we predict that the terms "Global Grassroots" and "gender mainstreaming" will be searched for more during the time of the conference. Since there are a limited number of WSS experts and practitioners in Rwanda, the search count increase is limited. Additionally, the conference time-span is temporary and search terms will increase only during a short time frame. The predicted increase in Google Trends is thus **low**.

Additionally, we predict that the increase in Google Scholar results (i.e. influence within the expert circle) will be moderately high. The conference is intended to be a platform for knowledge sharing among experts. In particular, if Global Grassroots shares its own research on its women-led water ventures, it is likely to lead to high knowledge dissemination amongst WSS professionals. The predicted increase in Google Scholar results is **high**.

Funding:

With this option, the likelihood of reaching and persuading WSS donors will be **medium**. WSS donors present at the conference will be able to gain exposure to Global Grassroots' methods and to gender mainstreaming. Once donors learn how critical gender mainstreaming is to program efficacy, they will have a strong incentive to support WSS practitioners that have strong gender mainstreaming indicators. However, because the number of donors present at these conferences is uncertain, the funding will not be high, but rather medium.

Feasibility:

The financial costs of identifying and attending a conference, especially domestic ones in Rwanda, are **low**. We predict that the main cost would be the opportunity cost in terms of labor hours taken to attend the conference. If two Global Grassroots members spent two days in total traveling and a full day at the conference, the opportunity cost in wages would be as follows.

$(\$100,000 \text{ total annual salary} / 50 \text{ work weeks} / 45 \text{ work hours per week} / 10 \text{ employees}) =$
~\$4.50 per work hour per employee

$(\sim \$4.50 \text{ per work hour per employee} * 2 \text{ employees} * 9 \text{ work hours per day} * 3 \text{ days}) = \243 in total labor costs for conference attending activities.

The number of years predicted to identify, prepare for, and attend a conference is **less than 1**. This is because there are many WSS and gender-related conferences already in the pipeline, and there is no extra effort required from Global Grassroots to create its own conference.

External Buy-in

External buy-in will be **high** because like-minded partners in the WSS sector will welcome new findings on the efficacy of gender mainstreaming at a low cost to their own activities.

Evaluation of Option 2.1: Retrospective observational study

For this analysis, sub option (a) of option 2.1 – a study using existing data – will be evaluated.

Influence

Part of options 2.1 and 2.2 is a publishing and promotion strategy. Global Grassroots should aim to be published in a journal that has wide readership from WSS stakeholders, specifically those who have funded/implemented WSS projects in Rwanda. This visibility in a journal and cross-promotion through Global Grassroots' and partner organizations' social media platforms gives both options 2.1 and 2.2 a **medium** rating on visibility, both in terms of Google Trends searches and Google Scholar Results.

Given that an observational study has less statistical rigor than an experimental study, its ability to convince other organizations to use gender-mainstreamed methods is limited. Nonetheless, a well-designed observational study still builds evidence for Global Grassroots' gender-mainstreamed methods. Given that the study attains visibility in a journal and the digital WSS landscape, it have a significant but not enormous impact on organization's practices. For example, given that ten of the nineteen foundations that give money to WSS projects in Rwanda read this study, two of these ten may find the evidence compelling enough to mandate gender-mainstreaming or add it to their impact framework. Thus, this option is rated **medium-low** on predicted adoption.

Funding

An observational study assessing the extra-financial and project sustainability impact of gender-mainstreamed interventions would provide Global Grassroots with compelling evidence to make a case for their methods to donors. However because an observational study provides evidence for correlation (between gender-mainstreamed water projects and positive social/sustainability outcomes), but can only suggest causation, the strength of evidence is limited. Thus, this option ranks **medium** on its ability to persuade donors of the value of Global Grassroots' gender-mainstreaming methods.

Feasibility

According to GlassDoor, the average salary for a monthly World Bank contractor is about \$7,400 (Glassdoor, 2015). Given that the observational study will require two weeks of work from one researcher, the cost of this option is **\$3,700**.

The time to complete this project involves both running the analysis (one month) and publishing and promoting results. Average publication time for a social sciences article can range from six and 14 months (Bjork & Solomon, 2014). Taking the difference in these averages yields a ten month estimate for publication, with an additional two months required for promotion of the publication. Thus, total time to implement is 13 months, which gives this option a **high** ranking on time.

External Buy-in

Given the push for evidence-based work in the both the WSS sector and the advocates of gender-mainstreaming (WHO, 2010) (DFID, 2006) (UN Women, 2014), this option ranks **high** on external buy-in, especially because it does not require significant financial or time investment from partners. The findings of a well-run observational study can help bolster the cause of gender mainstreaming and will help inform sustainable interventions in the WSS sector in Rwanda. The government can also use this study, specifically the key components for gender-mainstreamed projects, to implement their gender-mainstreamed WSS initiatives.

Evaluation of Option 2.2: Field experiment

Influence

Part of options 2.1 and 2.2 is a publishing and promotion strategy. Global Grassroots should aim to be published in a journal that has wide readership from WSS stakeholders, specifically those who have funded/implemented WSS projects in Rwanda. This visibility in a journal and cross-promotion through Global Grassroots' and partner organizations' social media platforms gives both options 2.1 and 2.2 a **medium** rating on visibility, both in terms of Google Trends searches and Google Scholar Results.

An experimental study has a high level of statistical rigor and thus a greater ability to convince other organizations to use gender-mainstreamed methods than an observational study.

Given that the study attains visibility in a journal and the digital WSS landscape, it can have a significant impact on organization's practices. For example, given that ten of the nineteen foundations that give money to WSS projects in Rwanda read this study, four of these ten may find the evidence compelling enough to mandate gender-mainstreaming or add it to their impact framework. Thus, this option is rated **medium** on predicted adoption.

Funding

Randomized controlled trials are the gold standard of empirical research (J-PAL, n.d.); if the findings are statistically and substantively significant, they provide strong causal evidence for Global Grassroots hypothesis. Thus, this option ranks **high** on Global Grassroots' ability to persuade donors of the value of their gender-mainstreaming methods.

Feasibility

The International Initiative for Impact Evaluation (3IE) provides funding for rigorous evaluations of development projects. They fund a range of interventions from observational studies to large-scale RCTs, with an average funding amount of **\$350,000** (3IE, n.d.). As this option suggests a small-scale RCT, the average funding amount is a reasonable estimate of the cost of implementation. Furthermore, in 2015, 3IE expected to disburse \$350,000 for a grant to assess progress in WSS, largely in Africa, by the Water Supply and Sanitation Collaborative Council (3IE, 2015).

However, Global Grassroots is not actually shouldering the cost of the RCT. The cost it is taking on is the cost of pursuing a grant or a partnership for this RCT, which manifests in staff hours dedicated to grant-writing and networking. Grant-writing is time intensive (about 116 hours per grant) and requires expertise, so Global Grassroots would bring in a grant-writer (NCBI, 2015). The cost of hiring a grant-writer for a new proposal is **\$3,500** on average (Not-for-profit Grant Writers, n.d.).

The time to complete this project involves both running the analysis and publishing and promoting results. An RCT is a time-intensive endeavor, especially as the experiment outlined in Option 2.2 attempts to evaluate long-term outcomes such as health, education, and social conflict. The experiment will require a time horizon of six months to implement the gender-mainstreamed water projects intervention and 2 years for the implementation to take effect and for researchers to evaluate its impact. Average publication time for a social sciences article can

range from six and 14 months (Bjork & Solomon, 2014). Taking the difference in these averages yields a ten month estimate for publication, with an additional two months required for promotion of the publication. Thus, total time to implement is 3.5 years, which gives this option a **low** ranking on time.

External Buy-in

Given the push for evidence-based work in the both the WSS sector and the advocates of gender-mainstreaming (WHO, 2010) (DFID, 2006) (UN Women, 2014), a field experiment may generate strong interest among external stakeholders, especially because it possesses a high level of statistical rigor. The findings of a well-run field experiment can help bolster the cause of gender mainstreaming and will help inform sustainable interventions in the WSS sector in Rwanda. The government can also use this study, specifically the key components for gender-mainstreamed projects, to implement their gender-mainstreamed WSS initiatives. However, to implement this option, Global Grassroots must rely on partner institutions. Because RCTs are time and resource intensive, it is difficult to convince partners to run them. To implement this option, Global Grassroots will apply for a grant, but receiving this grant is not guaranteed. Thus, this option ultimately ranks **low** on buy-in.

Evaluation of Option 3: Extend the status quo

Influence

In terms of visibility, this option contains no measures for promoting Global Grassroots' work either to experts/scholars or to the general public. Furthermore, the only measure that would influence the number of organizations using Global Grassroots' approach is the meetings with Rwandan officials to inform the Rwandan Government's WSS project approaches. Therefore, the influence criteria is rated **low**.

Funding

Coordinating with the Rwandan Government's gender-mainstreaming efforts and more thoroughly mapping their own impact against existing frameworks will both help Global Grassroots attain funding. In particular, Global Grassroots will be underlining the value of its

program as it relates to water projects; this focus on its methods rather than gender-mainstreaming more broadly may help them make a stronger case for why their organization specifically should receive funds. Thus, this criteria is rated **medium**.

Feasibility

Setting up meetings with Rwandan government officials, aligning Global Grassroots' impact metrics with more widely used ones, and quantifying Global Grassroots' impact all require work hours from staff. Based on the methodology explained in the evaluation of option 1.1 and the estimated 60 additional work hours, the cost of implementing this option will be **\$270** (60 hours * \$4.50 wage per hour per employee * 1 employee = \$270).

The breakdown of required time is based on the following activities: online research (20 hours), interviewing locals (20 hours), and write-up/delivery (20 hours) to relevant stakeholders. We expect these hours to be spread out over the course of **two months**.

External Buy-in

Because this option builds off existing frameworks – such as the Rwandan Government's strategic plans and established impact evaluation methods – it is inherently aligned with the direction of the Rwandan WSS sector; thus, external buy-in is rated **high**.

Recommendation

Based on our evaluation, we recommend Global Grassroots implement Option 1.2 and one of Option 2.1 or 2.2.

We recommend Global Grassroots choose Option 1.2 over 1.1. Attending a WSS conference may not be as high in 'influence' or 'funding' as founding a backbone organization, but it is far more feasible and faces less challenges in terms of getting external buy-in. In addition, conference attendance is predicted to result in increased knowledge dissemination within water supply and sanitation expert/practitioner circles.

In comparing Options 2.1 and 2.2, a field experiment provides stronger and possible causal evidence for the relationship between gender-mainstreamed water projects and better social outcomes; thus, it is more persuasive to both donors and practitioners than an

observational study. The major practical difference between the two options is that retrospective study is guaranteed if Global Grassroots chooses to implement it; the field experiment requires applying for a grant, which is not necessarily guaranteed. Furthermore, a retrospective study has a shorter time horizon than the field experiment. If Global Grassroots feels confident in its ability to attain a grant for the field experiment and is comfortable with a longer time horizon, it should pursue option 2.2; if not, it should implement option 2.1.

By integrating both evidence building and partnership building, Global Grassroots helps WSS stakeholders implement gender mainstreamed water programs and enable the empowerment of rural Rwandan women.

References

- 3IE. (2015). RFP: mid-term review of WSSCC medium-term strategic plan. Retrieved from http://www.3ieimpact.org/media/filer_public/2015/02/06/mid-term_review_of_wsscc_top.pdf
- 3IE. (n.d.). FAQ. Retrieved April 26, 2015, from <http://www.3ieimpact.org/funding/open-window/ow-faq/#11>
- AFDB. (2009). Checklist for gender mainstreaming in the water and sanitation sector. Retrieved from <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Checklist%20for%20Gender%20Mainstreaming%20in%20the%20Water%20and%20Sanitation%20Sector%20EN.pdf>
- Appel, K., Buckingham, E., Jodoin, K., & Roth, D. (2012). *Participatory learning and action toolkit: For application in BSR's global programs*. Retrieved from <http://herproject.org/downloads/curriculum-resources/herproject-pla-toolkit.pdf>
- Bjork B., & Solomon D. (2014). The publishing delay in scholarly peer-reviewed journals. Retrieved from <http://openaccesspublishing.org/oai1/article.pdf>
- CAP-NET, GWA. (2014). Why gender matters in IWRM: a tutorial for water managers. Retrieved from <http://www.thewaterchannel.tv/gender/index.html>
- CARE. (2013). Clean Drinking Water | CARE. Retrieved from <http://www.care.org/work/health/clean-water>
- Chambers, R. (1994). The Origins and Practice of Participatory Rural Appraisal. *World Development*, 22(7), 953-969. Retrieved from <http://www.ircwash.org/sites/default/files/125-94OR-16929.pdf>
- Chambers, Robert. "From PRA to PLA and Pluralism: Practice and Theory." Institute for Development Studies. Working Paper 286. July 2007.

- Child Info. (2012). Progress on drinking water and sanitation 2012. Retrieved from http://www.childinfo.org/files/JMP_MainMessages.pdf
- Coca-Cola Company. (2010). *The Coca-Cola Company Replenish Report*. Retrieved from http://assets.coca-colacompany.com/d3/8d/9f454e09473e91df9739a68461b6/replenish_2010.pdf
- Collective Impact Forum. (2014). Collective Impact Forum | Getting Started. Retrieved from <http://collectiveimpactforum.org/getting-started>
- Criterion Ventures. (2011). The landscape of gender metrics.
- Davis, S. (2015, February 20). Water Data Point Exchange. Retrieved from <https://improveinternational.wordpress.com/2015/02/20/the-water-data-point-exchange-needs-your-input/>
- Davis, S., & Improve International. (2013). *Collective impact in Ethiopia 2004-2012: Independent study of the Millennium Water Alliance WASH Program*. Retrieved from Improve International website: <http://mwawater.org/wp-content/uploads/2013/12/MWA-Collective-Impact-Report-External-December-2013.pdf>
- DFID. (2006). Research inspired policy and practice learning in Ethiopia and the Nile Region (RiPPLE). Retrieved from <http://r4d.dfid.gov.uk/Project/60092/>
- Gates Foundation. (2012, July). Rwanda Ministry of Health - Bill & Melinda Gates Foundation. Retrieved from <http://www.gatesfoundation.org/How-We-Work/Quick-Links/Grants-Database/Grants/2012/07/OPP1052262>
- Gender in Agriculture Partnership. (n.d.). About | Gender in Agriculture Partnership. Retrieved from <http://gender-gap.net/content/about>
- Girl Effect. (2013, May 1). Assets and insights: invisible girls. Retrieved February 25, 2015, from <http://www.slideshare.net/girleffect/ge-presentation-whatweknowaboutgirldatapdf-2>
- Girl Effect. (n.d. a). About the Girl Effect. Retrieved from <http://www.girleffect.org/about/>

- Girl Effect. (n.d. b). Girl Hub Rwanda. Retrieved April 20, 2014, from <http://www.girleffect.org/the-girl-effect-in-action/girl-hub/rwanda/>
- Girl Effect. (n.d.). About - Girl Effect. Retrieved from <http://www.girleffect.org/about/>
- Girl Effect. (n.d.). GirlHub Rwanda. Retrieved from <http://www.girleffect.org/the-girl-effect-in-action/girl-hub/rwanda/>
- Glassdoor. (2015). The World Bank salaries. Retrieved April 26, 2015, from <http://www.glassdoor.com/Salary/The-World-Bank-Salaries-E41195.htm>
- Global Grassroots - Evaluation. (2015). Retrieved from <http://www.globalgrassroots.org/evaluation.html>
- Global Grassroots. (2013). *Program Update 2013*. Retrieved from <http://www.globalgrassroots.org/pdf/GlobalGrassroots2013ProgramUpdate.pdf>
- Global Grassroots. (n.d.). Global Grassroots - Rwanda. Retrieved from <http://www.globalgrassroots.org/rwanda.html>
- Global Water Challenge. (2014). Global Water Challenge [Web log post]. Retrieved from <http://www.globalwaterchallenge.org/>
- Global Water Initiative. (2015). GWI in East Africa. Retrieved from <http://globalwaterinitiative.org/gwi-in-east-africa/>
- Government of Rwanda Ministry of Health. (2012). *Third health sector strategic plan: July 2012 - June 2018*. Retrieved from http://www.moh.gov.rw/fileadmin/templates/Docs/HSSP_III_FINAL_VERSION.pdf
- Gross, B., Van Wijk, C., & Mukherjee, N. (2001). Linking sustainability with demand, gender and poverty. Retrieved from WSP website: https://www.wsp.org/sites/wsp.org/files/publications/global_plareport.pdf
- GWA, UNDP. (2006). Mainstreaming gender in water management. Retrieved from <http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/water-governance/resource-guide-mainstreaming-gender-in-water-management/IWRMGenderResourceGuide-English-200610.pdf>

- GWC. (2015). Water point data exchange. Retrieved from <https://improveinternational.wordpress.com/2015/02/20/the-water-data-point-exchange-needs-your-input/>
- GWP. (2010, March). What is IWRM?. Retrieved from <http://www.gwp.org/en/The-Challenge/What-is-IWRM/>
- GWP. (2014). Gender and water. Retrieved from <http://www.gwp.org/Global/About%20GWP/Strategic%20documents/GWP%20Gender%20Strategy.pdf>
- IEG. (2012). Designing a results framework for achieving results: a how-to guide. Retrieved from http://siteresources.worldbank.org/EXTEVACAPDEV/Resources/designing_results_framework.pdf
- IRC WASH. (2013, April 3). Quantified qualitative monitoring. Retrieved from <http://www.ircwash.org/news/quantified-qualitative-monitoring>
- J-PAL. (n.d.). What is randomization? Retrieved from <http://www.povertyactionlab.org/methodology/what-randomization>
- Kania, J., & Kramer, M. (2011, Winter). Collective Impact. *Stanford Social Innovation Review*. Retrieved from http://www.ssireview.org/articles/entry/collective_impact
- Kellogg Foundation. (2004). Logic model development guide. Retrieved from <http://www.smartgivers.org/uploads/logicmodelguidepdf.pdf>
- Lifewater. (2015). The Problem - Lifewater International | A Non-Profit Christian Water Development Organization. Retrieved from <https://lifewater.org/problem/>
- Martin, J. (2011). Audited financial statements millennium water alliance. Retrieved from <http://mwawater.org/wp-content/uploads/2013/06/Millennium-FS-short.pdf>

- McKinsey&Company. (2010). Learning for social impact.
- MDGS. (2008, January 15). Official list of MDG indicators. Retrieved from <http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>
- MINECOFIN. (2014). The national budget: a citizen's guide 2013-2014. Retrieved from http://www.minecofin.gov.rw/fileadmin/templates/documents/LG_Districts/Budget_Citizens_Guide/2013-2014/2013-14__Budget_Citizen_Guide-_English.pdf
- MININFRA. (2010). National policy and strategy for water supply and sanitation services. Rwanda.
- MININFRA. (2013). Water and sanitation sector strategic plan. Rwanda.
- MINIRENA. (2011a). National policy for water resources management. Rwanda.
- MINIRENA. (2011b). Water resources management sub-sector strategic plan. Rwanda.
- Mukhtarov, F. (2008). Intellectual history of integrated water resources management (Doctoral dissertation, Central European University). Retrieved from http://www.academia.edu/3783043/%C4%B0ntellectual_History_of_Integrated_Water_Resources_Management
- MWA. (n.d.). History of MWA. Retrieved from <http://www.mwawater.org/about/history/>
- NCBI. (2015). To apply or not to apply: a survey analysis of grant writing costs and benefits. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4349454/>
- Nenon, P., Heneine, M., Council, C., & Jackson, L. (2014). *Global Grassroots Impact Assessment*. VA: Jefferson Public Citizens (JPC) Program.
- NISR. (2012). Demographic and health survey. Retrieved from <http://dhsprogram.com/pubs/pdf/fr259/fr259.pdf>

- Not-for-profit Grant Writers. (n.d.). Price list. Retrieved from www.nonprofitgrantwriters.com/price-list/
- ODI. (2014). Why and how are donors supporting social enterprises? Retrieved from <http://www.enterprisefordevelopment.org/wp-content/uploads/2014/11/ODI-Why-and-how-are-donors-supporting-social-enterprises.pdf>
- Open Working Group on Sustainable Development Goals. (2014). Open working group proposal for Sustainable Development Goals. Retrieved from <https://sustainabledevelopment.un.org/sdgsproposal.html>
- Postma, L., Van Wijk, C., & Otte, C. (2003). Participatory quantification in the water and sanitation sector. Retrieved from IRC WASH website: <http://www.ircwash.org/sites/default/files/Postma-2003-Participatory.pdf>
- Roebuck, K. (2012). Social project management. In Project portfolio management (PPM) - optimizing for payoff (p. 418). Emereo Publishing.
- Rwanda - FXB. (n.d.). Retrieved from <http://fxb.org/programs/rwanda/>
- Skoll World Forum. (2006, September 25). Measuring social impact. Retrieved from <http://skollworldforum.org/2006/09/25/measuring-social-impact/>
- Stewardship Foundation. (2014). Guidelines & Themes | Stewardship Foundation. Retrieved from <http://stewardshipfdn.org/guidelines-themes/>
- Stone, D., & Maxwell, S. (2005). Global knowledge networks and international development: bridges across boundaries. In *Global knowledge networks and international development: Bridges across boundaries*. New York: Routledge.
- Tetra Tech, SUWASA. (2014). Sustainable water and sanitation in Africa. Retrieved from USAID website: <http://usaid-suwasa.org/index.php/component/phocadownload/category/1-e-newsletters?download=18:mainstreaming-gender-in-water-supply-and-sanitation-services>

- The DHS Program. (n.d.). Using datasets for analysis. Retrieved from <http://www.dhsprogram.com/data/Using-Datasets-for-Analysis.cfm>
- The Republic of Rwanda. (2013). *Economic Development and Poverty Reduction Strategy 2013-2018*. Retrieved from http://www.unpei.org/sites/default/files/e_library_documents/Rwanda_Economic_Development_and_Poverty_Reduction_Strategy_2013-2018.pdf
- Turner, S., Merchant, K., Kania, J., & Martin, E. (2012, July 18). Understanding the Value of Backbone Organizations in Collective Impact: Part 2 | Stanford Social Innovation Review [Web log post]. Retrieved from http://www.ssireview.org/blog/entry/understanding_the_value_of_backbone_organizations_in_collective_impact_2
- UN DAW. (2005). Women and Water. Retrieved from <http://www.un.org/womenwatch/daw/public/Feb05.pdf>
- UN Water. (2005). *Water for Life Decade* (32948-DPI/2378). Retrieved from United Nations Department of Public Information website: <http://www.un.org/arabic/waterforlifedecade/waterforlifebklt-e.pdf>
- UN Water. (2008). Status report on IWRM and water efficiency plans. Retrieved from http://www.unwater.org/downloads/UNW_Status_Report_IWRM.pdf
- UN Women. (2014). Gender mainstreaming in development programming. Retrieved from <http://www.unwomen.org/~media/headquarters/attachments/sections/how%20we%20work/unsystemcoordination/gendermainstreaming-issuesbrief-en%20pdf.pdf>
- UN Women. (n.d.). Gender mainstreaming - concepts and definitions. Retrieved from <http://www.un.org/womenwatch/osagi/conceptsanddefinitions.htm>
- UNDP - World Bank Water and Sanitation Program. (1990). Workshop on goals and indicators for monitoring and evaluation for water supply and sanitation. Retrieved from https://www.wsp.org/sites/wsp.org/files/publications/418200732654_workshop.pdf

UNDP, 2006: Human Development Report 2006, p.47, New York: UNDP.

UNEP. (2005). Women and water management: an integrated approach. Retrieved from <http://www.unep.org/PDF/Women/ChapterFive.pdf>

UNICEF, Gov. of Netherlands. (2011). Impact evaluation of drinking water supply and sanitation interventions in rural Mozambique. Retrieved from <http://www.oecd.org/countries/mozambique/49295401.pdf>

United Nations Foundation. (2013). United Nations Foundation :: Our Solutions. Retrieved from <http://www.unfoundation.org/what-we-do/campaigns-and-initiatives/>

Wallace Genetic. (2013). Retrieved from http://www.wallacegenetic.org/grant_info.php

WASHfund.org. (n.d.). Funding Map. Retrieved April 3, 2015, from [http://washfund.org/Funding-Map/\(location\)/Africa](http://washfund.org/Funding-Map/(location)/Africa)

WASHplus. (n.d.). Gender and WASH & IAP. Retrieved from <http://www.washplus.org/links/gender-and-wash-iaq>

Water and Sanitation Program. (2007). *Community-led total sanitation in rural areas: an approach that works*. Retrieved from http://esa.un.org/iys/docs/san_lib_docs/WSP-Community%20Led.pdf

Water and Sanitation Program. (2010). *Mainstreaming Gender in Water and Sanitation - Gender in Water and Sanitation*. Retrieved from <https://www.wsp.org/sites/wsp.org/files/publications/WSP-gender-water-sanitation.pdf>

WaterAid. (2012). Financing of the water, sanitation and hygiene sector in Rwanda.

WHO, UNICEF. (2010). Progress on sanitation and drinking water. Retrieved from http://www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf

WHO. (2009). How valuable are environmental health interventions? Retrieved from <http://www.who.int/bulletin/volumes/88/7/09-066050/en/>

WHO. (2010). The power of evidence. Retrieved from

http://www.who.int/water_sanitation_health/publications/glaas_strategy.pdf

WHO. (2012). A toolkit for monitoring and evaluating household water treatment and safe storage programmes. Retrieved from

http://www.who.int/household_water/WHO_UNICEF_HWTS_MonitoringToolkit_2012.pdf

Women for Women International. (2015). About Us | Women for Women International.

Retrieved from <http://www.womenforwomen.org/about-us>

World Bank, 2006: Gender, Time Use, and Poverty in SubSaharan Africa World Bank Working paper no. 73, 2006, The International Bank for Reconstruction and Development, Washington, D.C. World Bank.

Appendices

Appendix A

The following spreadsheet includes a list of resources that Global Grassroots may find useful:

<http://tiny.cc/7n9ixx>

Sheet 1: Preliminary list of past/present WSS projects in Rwanda

Sheet 2: Potential partners

Sheet 3: List of journals

Sheet 4: Existing monitoring and evaluation

Sheet 5: Additional resources

Appendix B: PROWESS indicators

Table 1 Efforts made to involve women in water and sanitation programmes

Project phases	Previous conventional approaches to involving women	Possible future approaches
Initiation and Preparation	Information collected on women (sometimes collected from the women themselves) – usually late in the process	Information collected from women on women, and from men on men – as part of baseline data from the beginning of the project
	Women present at meetings when they know about them and have time	Information directly to women and stimulation of more active roles at village meetings (support mechanisms)
	Sometimes women present on Village Water Committees (usually through a quota system) – but participation normally very passive	Development of more active roles for women on Village Water Committees especially in the area of management (support mechanisms)
Human Resources Development	Women trained as: Village Health Workers (quota); Caretakers; and in some cases more qualified maintenance officers (pump or well attendants)	Efforts to involve more women alongside men in all these areas, but especially in the more “technical” areas and in management (support mechanisms)
	Many competent interested women do not participate because of timing, location, etc.	Adapt training to realities of women in terms of timing, location, qualification requirements, etc.
Implementation	Labour inputs are expected of women and women contribute with supplies of local materials	Required labour inputs of men and women are assessed according to the total work situation in given seasonal contexts. Women may already be overworked at that time. Contributions should be on the same terms as men, especially with regard to payment
Operation and maintenance	In many cases, women's involvement is limited to an extension of their reproductive roles – in a “caretaker” capacity	Efforts to involve more women as pump attendants on the same conditions as men (support mechanisms)
	Fewer women are involved in technical areas as pump attendants to carry out simple repairs	
	Women sometimes involved with different conditions from those of men, even when doing the same work; e.g. men are paid and women expected to work as volunteers	Ensure that women and men doing the same work get the same conditions
	Women involved on Village Water Committees play a passive role and have few real responsibilities	Promote the inclusion of women in areas of responsibility such as financial control, store-keeping, etc.
Monitoring and evaluation	Women are not involved in monitoring and evaluation exercises and do not get access to information from such exercises (same situation for men)	Efforts to develop participatory methodology and train communities (men and women) to utilize them

Table 2 Key indicators at the community and project/programme level

<i>Condition to be monitored</i>	<i>Organizational indicators</i>	<i>Technical indicators</i>
Sustainability		
Functioning of facilities	Availability of spare parts No. of trained mechanics/caretakers, by gender	Percent of facilities in working order Average downtime Types of breakdown
Community capabilities and decision-making	Definition of O&M roles (community M/F, agency, private sector, NGOs) No. served by systems managed by: govt; private sector; NGOs; community Communication channels available for technical support Are skills and knowledge shared within the community? How?	
Training provision	Existence/membership (M/F) of Water Committee Frequency of training covering technical, financial, management topics? Nos. of trainees by gender	
Cost sharing/willingness to pay	Collection and management system for O&M funds Community choice of technology/service levels Benefits perceived by users (M/F)	Total investments (capital & recurrent costs) Community contributions (capital and O&M)
Effective Use		
Access	Protection of water source	No. of users/design population Characteristics (gender) of users Average distance to water source Water quantity (seasonal) Water quality at source and in homes Time taken to use facilities
Hygienic use	Home hygiene practices Availability of cleansing materials Cleanliness of facilities Community views (M/F) of facilities	Form of wastewater disposal Provision for latrine emptying Household water protection/treatment Proportion of water used for personal hygiene
Replicability		
Extension	New activities initiated by the community (WSS and other development). How? Local financing mechanisms (revolving funds) Community ranking of priorities/constraints	Nos. of external specialized staff involved in scheme operation
Transfer	Regular budget covering training, salaries, overheads in agency Integrated institutional framework Documentation of accumulated experience Communication channels	

(UNDP, 1990)