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THE CONVERGENCE FACTOR: LESSONS FROM INTEGRATING FRESHWATER CONSERVATION AND WASH IN AFRICA

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COVER PHOTO (LEFT): *© Apophia Jemimah/The Jane Goodall Institute (JGI).*

CAPTION: *Mr. Moses Andama, a community forest monitor and resident of Nyantonzi village, Masindi district, Uganda, reading a WASH hygiene and practices knowledge reading material distributed in his community by JGI.*

(RIGHT): *© Patrick Nease/Conservation International.*
CAPTION: *Nolu Kwayimani, Conservation South Arica (CSA) project manager, tests the quality of water from a local access point along with volunteer water monitors.*

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Africa Biodiversity Collaborative Group

THE CONVERGENCE FACTOR: LESSONS FROM INTEGRATING FRESHWATER CONSERVATION AND WASH

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ACRONYMS

ABCG	Africa Biodiversity Collaborative Group
ANDM	Alfred Nzo District Municipality
AWF	African Wildlife Foundation
CI	Conservation International
COP	Community of practice
CSA	Conservation South Africa
FW	Freshwater conservation
JGI	The Jane Goodall Institute
M&E	Monitoring and Evaluation
NGO	Non-governmental organization
SSA	Sub-Saharan Africa
SICODA	Siiba Conservation & Community Development Association
TNC	The Nature Conservancy
TOC	Theory of change
USAID	United States Agency for International Development
WASH	Water, sanitation and hygiene
WCS	Wildlife Conservation Society
WHO	World Health Organization
WRI	World Resources Institute
WWF	World Wildlife Fund

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EXECUTIVE SUMMARY

Most of sub-Saharan Africa (SSA) is under pressure from increasing population growth, urbanization, and consumption, as well as poorly-planned infrastructure development. All these factors are negatively impacting the quality and availability of freshwater resources. Major watersheds attract development, the result of which leads to increased pollution due to inadequate waste water management infrastructure and contributes to increasing and competing demands that can lead to scarcity. In addition, climate change is impacting water resources in SSA and is expected to further aggravate water stress in river basins across Africa. Millions of people still lack access to clean water and sanitation, as well as other basic necessities. By linking freshwater conservation (FW) and water, sanitation and hygiene (WASH), Africa Biodiversity Collaborative Group (ABCG) partners expect reduced watershed degradation and pollution will help increase the health of watershed ecosystems and species. This will help conserve freshwater ecosystems and improve efficient use of dwindling water resources due to climate change, which will lead to increased access to clean water and improved human health (ABCG 2015).

With support from the United States Agency for International Development's (USAID) Africa Bureau, the Africa Biodiversity Collaborative Group (ABCG[1]) piloted innovative projects that integrate freshwater conservation and WASH in landscapes in South Africa and Uganda to address these challenges. The objectives of this task team under ABCG were to increase the effectiveness of biodiversity conservation through emphasis of synergies that integrate biodiversity with actions that contribute to improving global health. The task team accomplished this by engaging key stakeholders in the landscapes to pilot test the guidelines and a Monitoring and Evaluation (M&E) framework produced by ABCG members and development organizations engaged in WASH. This included conducting gender analyses to inform project design, M&E in each pilot site, and documenting lessons learned and proposed refinements to the tools. These lessons will then be shared with the Africa-based community of practice of practitioners to help promote these integrated approaches.

The purpose of this document is to provide insights into how Conservation International (CI), with its affiliate Conservation South Africa (CSA), and the Jane Goodall Institute (JGI) integrated WASH activities into existing conservation programs in South Africa and Uganda, respectively. At the end of a two-year implementation period, both CSA and JGI staff agreed the pilots demonstrated meaningful results that prove the concept works. In light of the innovative nature of the project, staff encountered many challenges, but the demand from communities for improved water and associated health and conservation benefits underscore the need for more work on these projects. There is much more to do to continue this very important work.

[1] ABCG is supported by the USAID to advance understanding of critical biodiversity conservation challenges and their solutions in sub-Saharan Africa. ABCG is hosted by the Wildlife Conservation Society (WCS), in coalition with the African Wildlife Foundation (AWF), Conservation International (CI), the Jane Goodall Institute (JGI), The Nature Conservancy (TNC), World Resources Institute (WRI) and World Wildlife Fund (WWF).

Both JGI and CSA pilots integrated FW-WASH activities into existing projects in the landscapes. This was the first time JGI conducted a WASH project on this scale. While JGI was not involved in the guidelines development, they were involved in developing the M&E framework.

The lessons learned from this phase include:

- WASH activities create incentives and co-benefits for conservation.
- Gender analyses provide insights about roles and responsibilities relating to WASH and conservation that help with integration, resulting in more effective programming.
- Community education campaigns foster sustainability and ownership of conservation and WASH approaches.
- Monitoring and evaluation of these integrated projects is challenging but essential for demonstrating impact.
- Community-led project decision making and local policies support sustainability of these efforts.
- Flexible funding to supplement and address unexpected challenges can make impact go further.

Sinegugu Zukulu of CSA looks out upon the landscape where CSA works. Erosion and the presence of wattle, which contribute to degradation, are apparent across the landscape. Photo credit: Lydia Cardona/CI.

1. INTRODUCTION

Africa is home to some of the world's most critical biodiversity. While beaming with life found nowhere else in the world and landscapes that are as varied as they are dramatic, the continent also faces significant pressures that threaten the richness of these diverse ecosystems and sources of human livelihood. Deforestation, overfishing, wildlife trafficking, illegal plant harvesting, and many other human-led activities – all of which are accelerated by rapid population growth – pose threats to Africa's natural resources and sustainable development.

Recognizing this trend and the critical conservation priorities nearly twenty years ago, a coalition of seven US-based conservation non-governmental organizations with extensive field programs in Africa formed ABCG under the belief that tackling some of the continent's greatest biodiversity challenges could best be achieved through collaboration and coordination of resources (See **Box 1** for more details on ABCG). From 2015-2018, the ABCG coalition focused on five thematic areas central to tackling priority conservation issues, including: 1) Land and Resource Tenure Rights; 2) Land Use Management; 3) Managing Global Change Impacts; 4) Global Health Linkages to Conservation (Population Health and Environment; Water Sanitation and Hygiene); and; 5) Emerging Issues. This most recent phase of ABCG was made possible through continued funding support from the U.S. Agency for International Development's Africa Bureau.

The Global Health Linkages to Conservation task group was established in recognition of the strong, cross-cutting links between ecosystem health, human health and the health of domestic animals. This work group provides methodological guidance to advance a vision that incorporates health outcomes into biodiversity conservation and sustainable development. In line with USAID priorities, ABCG's overall program of work – and this task in particular – focuses on the development,

BOX 1 | ABCG Overview

ABCG's vision is of an African continent where natural resources and biodiversity are securely conserved in balance with sustained human livelihoods.

ABCG's Mission

ABCG's mission is to tackle complex and changing conservation challenges by catalyzing and strengthening collaboration and bringing the best resources from across a continuum of conservation organizations to effectively and efficiently work toward this vision of Africa.

ABCG's Objectives

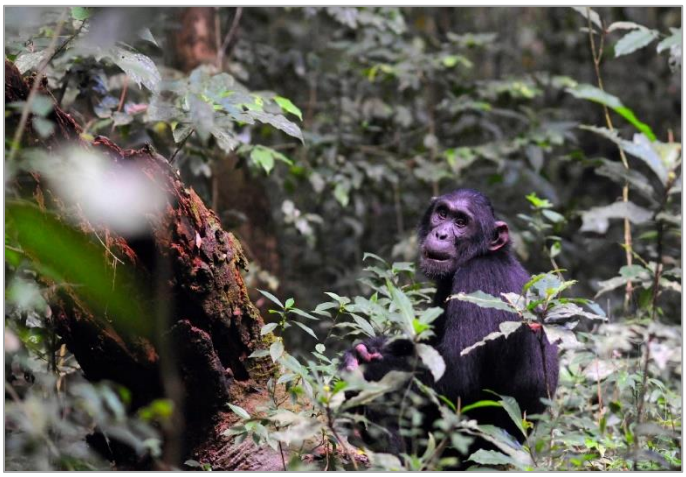
- Promote networking, awareness, information sharing and experience among U.S. conservation non-governmental organizations working in Africa.
- Encourage information exchange and idea sharing with African partners.
- Identify and analyze critical and/or emerging conservation issues in Africa as priorities for both future NGO action and donor support.
- Synthesize collective lessons from field activities and share them with a broader multi-sector community in the United States and Africa.

dissemination and scaling up of best practices and effective tools for biodiversity conservation and human well-being.

The purpose of this report is to provide an overview of the progress of the Global Health Linkages to Conservation task group focused on integrating FW and WASH. The document outlines lessons from CSA and JGI learned in the past two years as field practitioners have tested the integrated freshwater conservation and WASH approach contained in the guidelines and associated M&E framework. The practitioners also offer recommendations for improvements to the tools for future use by health, development and conservation practitioners in Africa.

1.1 OVERVIEW OF WASH, HEALTHY SOCIETIES, AND HEALTHY ECOSYSTEMS LINK

Water, poverty and environment are deeply connected. The poor are the most vulnerable to environmental risk factors such as unsafe water and climate change. Human communities living in close proximity to these areas tend to be impoverished with little to no access to improved water sources and sanitation facilities. The sustainability of freshwater resources and safe drinking water projects depend on appropriate conservation of the broader watershed. Protecting free-flowing river systems, intact wetlands and groundwater recharge areas is also essential for maintaining ecosystem resilience and protecting WASH infrastructure against the impacts of natural disasters, climate change and variability.



Frequent human-wildlife contact around water sources means that chimpanzees like this one are habituated to humans. Photo credit: Peter Apell/ JGI

Humans are integrally linked to the environment. WASH activities associated with conservation may integrate health objectives with watershed management approaches, as well as both rural and urban water supply and sanitation. This can reduce the impact of pollution on the watershed and the ecosystem goods and services it produces. Though conservation efforts more traditionally intersect with WASH at the rural or community level, the rapid growth of cities, increased water variability related to climate change, and water stress have increased attention on the upstream watersheds that filter and regulate urban water supplies (Edmond *et al*. 2013).

1.2 BACKGROUND ON TASK 4: GLOBAL HEALTH LINKAGES TO BIODIVERSITY CONSERVATION

This task group generated information on the impacts of infrastructure developments on watersheds in SSA, as well as the impacts of freshwater conservation in meeting FW-WASH goals. By linking freshwater conservation and FW-WASH, ABCG expected reduced watershed degradation and pollution would

improve the health of freshwater ecosystems and species. Building on successful project activities under ABCG I, pilot projects in South Africa (CI and CSA) and Uganda (JGI) involved local stakeholders and authorities to demonstrate the effectiveness of implementing integrated development and conservation projects. In addition to the pilots in South Africa and Uganda, this task group advanced an Africa-oriented "community of practice" or COP – co-led by AWF and CI and anchored in Nairobi – to share learning and build capacity in Sub-Saharan Africa on integrated freshwater conservation and FW-WASH projects (ABCG 2015). See A**nnex 1** for a more detailed Theory of Change for the pilots.

At a high level, ABCG defines integrated (or multi-sectoral) projects as those that "combine health interventions with conservation activities, creating synergies and greater conservation and human well-being outcomes than if they were implemented in single-sector approaches" (Edmond *et al.* 2013).

Both CSA and JGI leveraged existing programs in their landscapes and built integrated FW-WASH activities into the biodiversity conservation and natural resource management platforms. This leverage helped staff to draw on good relationships with communities, the local government, and partners to start up activities quickly. At the beginning of the implementation phase of the project in October 2015, CSA and JGI began planning for the field pilots and reviewed the guidelines and M&E framework in preparation for project kick off with staff. CI had some experience with integration of FW-WASH in its Madagascar program, but not in South Africa. JGI had extensive experience in integrated approaches such as Population, Health and Environment but was new to integrating FW and WASH. Both organizations integrated WASH components into larger conservation projects, taking a chance on

BOX 2 | Project Overview: Conservation South Africa's One Health Pilot in the Mzimvubu Watershed

The headwaters of the Mzimvubu River, South Africa's last free-flowing river, supplies water to over one million people in the dry Eastern Cape Province. The watershed is comprised of more than two million hectares and provides a range of ecosystem services, food, water and livelihoods. Yet it is experiencing rapid rates of degradation in the form of huge soil erosion gullies from overgrazing, sediment load damage to infrastructure, seasonal water supply extremes, loss of grazing lands and increased erosion from the spread of non-palatable and water-thirsty invasive vegetation (CSA 2014). Sadly, the entire upper catchment (435,000 ha.) is a severely degraded grassland mosaic landscape, with high water runoff that causes extensive soil erosion and an unpredictable water supply. Degradation, largely from Acacia mearnsii (black wattle) and Acacia dealbata (silver wattle) encroachment and erosion are impacting nearly 10 percent of the upper catchment. At the same time, about 40 percent of the region's wetlands have been drained or diverted for commercial farming interests or are otherwise impacted by agricultural activities. A vulnerability assessment shows that further expansion of alien trees and extreme weather events could exacerbate degradation (CSA 2015).

CSA is implementing the One Health Project, with community partners and the local Alfred Nzo District Municipality, to ensure improved protection and restoration of water supply points and improved water management to prevent pollution and harm to plants and animals in the watershed. By 2020, CSA plans to restore 71,765 ha of watershed, guide government investments in infrastructure for access to water and sanitation and employ and train local community members in invasive plant removal and environmentally-driven livestock management. Over three years, this broad initiative will directly benefit 130,471 people in 25 communities and improve water health for over one million additional downstream users.

BOX 2 CONTINUED | Project Overview: Conservation South Africa's One Health Pilot in the Mzimvubu Watershed

Leveraging the One Health project, CSA – with technical assistance from CI – piloted the ABCG Freshwater Conservation and WASH Integration Guidelines and the M&E Framework in four sites within the Alfred Nzo District. ANDM is a key partner in this project, as the government body with the mandate to provide water supply and adequate sanitation facilities. Given their holistic vision, these partners have been working together to achieve successful integration of these disciplines and achieving both health and conservation outcomes.

Project Accomplishments since 2015 include:

- Restored and protected nine natural springs, eight with technical assistance from CSA and one in additional spring completed entirely by community members
- Trained 17 water monitors (12 men, five women) on water quality monitoring, collection of water quality data and continued maintenance of infrastructure to protect natural springs.
- Reached 613 households (211 men, 357 women) through peer-to-peer sanitation best practices awareness campaign, led by 16 community members (11 men and five women) in partnership with ANDM.
- Completed participatory stream and river health assessments with 12 villages (35 men, 13 women) to raise awareness of their importance and need to restore degraded wetlands for water security.
- Sponsored 17 water monitors to complete accredited training programs on wetland delineation and restoration and donga (deep gullies) rehabilitation and surface water harvesting. These capacities can contribute to expanding the protection of water resources after the completion of the pilot phase.
- Engaged 99 policy makers to consider actions led by the municipality to build upon program results through a Climate Change and WASH Summit held at the ANDM offices.

whether the approach would work and exploring new avenues for collaboration. Through the testing of these approaches, CSA and JGI committed to engaging local communities and strengthening the capacity of project partners, which were primarily the local government, not NGOs, as envisioned in the guidelines.

CSA, with technical assistance from CI, piloted the ABCG FW-WASH integration tools in the Alfred Nzo District Municipality (ANDM) of South Africa's Eastern Cape Province. In Uganda, JGI piloted these tools in local villages in the Albertine rift region of Hoima and Masindi Districts, also known as the Budongo-Bugoma Corridor.

1.3 OVERVIEW OF THE TOOLS: FW-WASH INTEGRATION GUIDELINES AND MONITORING AND EVALUATION (M&E) FRAMEWORK

In 2012, members of ABCG and partners specializing in WASH spearheaded an effort funded by USAID to produce several cutting-edge resources for integrated programming of freshwater conservation and WASH in sub-Saharan Africa. According to a Coca-Cola report on FW-WASH integration, this pioneering work funded by USAID's Bureau for Africa is the only supportive evidence outside of the Sustainable Development Goals (SDGs) that builds the case for the integration of WASH and freshwater biodiversity conservation (Koch and Noe 2016).

BOX 3| Project Overview: The JGI Pilot in the Budongo-Bugoma Corridor in Uganda

JGI builds on the legacy of its founder to be a leader in the conservation of chimpanzees and their habitats throughout Africa and is providing support and leadership in all the field sites where chimpanzees constitute an important conservation target, as well as in national conservation policy discussions in the countries where those sites are located. JGI has been a leader in designing and implementing conservation and development programs in Africa, which incorporate public health, family planning, and livelihood programs that have a positive impact on local and regional environmental issues, and it has significant capabilities in the application of remote sensing, GPS and GIS technologies (ABCG 2014a).

JGI is piloting WASH activities in local villages in the Albertine rift region of Hoima and Masindi Districts, also known as the Budongo-Bugoma Corridor - a forest region that is a key habitat for chimpanzee. JGI works with the Hoima and Masindi district councils, local institutions, and schools to reach young people with awareness raising and education campaigns on water conservation and improved sanitation, in addition to renovating protected streams and constructing community rain water harvest points in schools. Access to potable water and increased hygiene awareness reduces illness and death from disease, leading to improved health, poverty reduction and socio-economic development. Getting the entire community and the government directly involved in these projects ensures that communities and the ecosystems in which they live in continue to be vibrant and healthy.

Project achievements as of August 2018 include:

- Number of schools adopting hand washing facilities increased from 10 percent to 100 percent.
- Latrine use behaviors and practices have improved by 80 percent in schools.
- Conducted WASH sensitization campaigns reaching over 500 community members and 5,710 students.
- Established and trained nine Water User Management Committees, comprised of more than 40 percent women.
- Supported the enactment of by-laws covering the entire Budongo Sub County (6 parishes and 62 villages) with sub sections covering: 1) watershed degradation; 2) pollution of water sources in the project area; as well as 3) enhancing household hygiene.
- Through these interventions, over 5,200 school children and community members have gained access to clean and potable water.

The ABCG task group has produced two key resources: "Freshwater Conservation and Water, Sanitation, and Hygiene Integration Guidelines: A Framework for Implementation in sub-Saharan Africa" and the "Freshwater Conservation and WASH Monitoring and Evaluation Framework and Indicators."

The ABCG tools draw on the evidence base and lessons learned from the 2012 ABCG publication "Linking Biodiversity Conservation and Water, Sanitation, and Hygiene: Experiences from sub-Saharan Africa." The paper reviewed 43 projects with aspects of biodiversity conservation and WASH and called for guidance on how to integrate the two disciplines under different scenarios, ecoregions, and climates. It also called for a monitoring and evaluation framework, with integrated indicators for measuring the benefits of an integrated project. These tools were the first of their kind, not just for SSA but for the entire water sector.

Both tools, created in consultation with WASH and conservation practitioners, resulted from design workshops and technical reviews that engaged 27 organizations[2]. After the completion of the M&E Framework, the task team determined that the next step was to pilot the use of both tools in two sites and compile the learning from these experiences while also gathering input as to potential improvements for each tool.

2. LESSONS LEARNED

Implementation of this integrated approach – outlined in the Integration Guidelines and used across both pilot project sites in Uganda and South Africa – encompassed new practices and methodologies that the CSA and JGI project teams had not previously encountered. Therefore, the experiences implementing integrated freshwater conservation and WASH projects using the ABCG framework tools.

2.1 WASH ACTIVITIES CREATE INCENTIVES AND CO-BENEFITS FOR CONSERVATION

Access to clean water and sanitation is among the greatest development challenges facing sub-Saharan Africa. This is also true across the project sites, where access to potable water was quite limited prior to the project interventions. In Budongo sub-county, the location of JGI's project site, access to potable water is around 65 percent according to project lead and JGI Uganda Programs Director Peter Apell. In the ANDM, where CSA is working in the Eastern Cape, the number of households relying on unprotected groundwater sources for drinking water was 46 percent (Edmond *et al* 2017). In both areas, disease exposure and risk transmission are quite high given limited adoption of handwashing, few sanitation

[2] Contributors to the Guidelines and M&E Framework included: ABCG, Absolute Solutions, Africa Wildlife Foundation, Catholic Relief Services, Conservation International, FHI360, the Global Environment and Technology Foundation, the Jane Goodall Institute, Kenya Water Towers Agency, Kenya WASH Alliance, Millennium Water Alliance, The Nature Conservancy, The Natural Resource Defense Council, Neighbours Initiative Alliance, Netherlands Development Organization (SNV), Total LandCare, the United States Agency for International Development, The United States Forestry Service, WASH Advocates, WaterAid East Africa, Water and Sanitation for the Urban Poor, Water for People, Wetlands International, the Woodrow Wilson Center, Winrock International, World Vision, and WWF.

facilities and environmental contamination of water sources (typically due to animal waste and pollution).

Kwayimani and local water monitors show the overflow of water in a community reservoir. Photo credit: Colleen Sorto/CI

Both areas also face pressing threats to biodiversity, described in greater detail earlier in this report, making these areas crucial for conservation efforts. Despite CSA and JGI being environmental conservation organizations, these pilot projects focused largely on increasing access to water for their community sites in the early phase of their work. This was done under the premise that this would generate local support and serve as an entry point for the broader integrated efforts that yield both human well-being and conservation benefits.

According to Apell, the conservation benefits need to be tangible for the community and the WASH benefits need to complement conservation activities, such as protecting forests and biodiversity. With the integrated approach, community members saw that the WASH activities provide direct benefits like clean water, a vital need for every household, and that forests are valuable in providing this water. WASH integration provides complementary benefits in the form of drilling boreholes, water tanks, and improved water sources that enable people to see the links between the health of the ecosystem and its value. This project represents a different perspective on conservation, with water as a convergence factor for balancing conservation and livelihoods. The WASH component also creates an opening for conversations about sanitation, hygiene practices and water-borne diseases.

Both projects resoundingly uphold the benefit of approaching these wider conservation efforts from the perspective of clean water access, an issue evidently of widespread importance in both regions. In the case of JGI, Apell underscores that “so long as the interests for both sides are met, like in this project, it catalyzes buy-in from communities to protect water catchment forests, which are also biodiversity habitats” (Personal communication May 2018).

In one of the Eastern Cape project sites in South Africa, one example of this success is that of a community reservoir, which prior to 2015 accumulated little water. The project’s interventions, including improved cattle grazing practices, protecting and piping of springs, and removing of a water-thirsty invasive species, culminated in a new issue – an abundant overflow of water from the reservoir. These community volunteers, trained in basic water quality testing, performed regular monitoring and rehabilitation activities to ensure the water was protected and conserved. “It’s amazing how much awareness has happened without us teaching them…but [through] being part of the monitoring team,” explained Nolubabalo Kwayimani, WASH and One Health Programme Manager for CSA.

Ultimately, both project teams underscored that increasing access to water for their communities was one of their greatest achievements. This approach's focus on water access, a key need in these communities, engendered success in catalyzing community engagement in ways that other initiatives

likely could not. Were the focal point of this effort not based on water then it is possible that buy-in from the communities may not have been so strong.

Therefore, both project teams expressed that the focus on water as the main entry point for intervention was key to their successful engagement of local communities. In the case of JGI, their efforts even enabled local support for establishment of by-laws aimed at reducing watershed degradation and pollution of water sources in the project area. This later evolved into district and county land use plans that have a strong component on riparian watershed restoration – underscoring the conservation benefit gained.

2.2 GENDER ANALYSES PROVIDE INSIGHTS ABOUT ROLES AND RESPONSIBILITIES RELATING TO WASH AND CONSERVATION THAT HELP WITH INTEGRATION, RESULTING IN MORE EFFECTIVE PROGRAMMING

As with any project design, analyzing and accounting for context in the design is key to advancing interventions that have the potential to be truly transformative and are based on a do no harm approach. Across many countries in the developing world, including South Africa and Uganda, gender norms are integral considerations in water resource management and conservation, largely because water collection and household management of water resources is often the responsibility of women. Planning and implementing WASH or freshwater conservation projects in these contexts without involving women would be uninformed on a continent where women are responsible for 90 percent of the work associated with collecting water and wood for their households (UN Water 2014).

With respect to gender analysis, each team approached the process differently. JGI conducted an extensive gender analysis at the beginning of their project through a consultant, while CSA carried out an analysis later into their project implementation period through project staff. Both responded that their approaches were successful for their purposes – with JGI staff noting that the results produced key insights that were integral to early project planning efforts and CSA staff noting the benefits of increased staff capacity developed through this effort. Both efforts produced key insights and understanding of gender issues in the area that have been reinforced through the pilots themselves and other project initiatives.

The CSA and JGI gender analyses show that, despite geographic and cultural differences, gender plays a significant role in successful conservation and human health outreach. Entrenched cultural attitudes may impede women's contributions and work against project objectives, inhibiting women from contributing to areas where their insights and contributions could have impact, such as in decision-making and participation in meetings and committees. One of the surprising findings in the JGI analysis was that women reinforce cultural stereotypes and can present barriers to changing gender roles. Tweaking project activities to incorporate insights from a gender analysis can help to challenge these norms and improve conservation outcomes (Cardona et al. 2017).

These insights have enabled greater project impacts given that certain outputs from these projects would not have taken place without proper understanding and context-specific planning that responded to local challenges to women's inclusion. One of the greatest areas of insights and challenges they each encountered was the theme of women's inclusion in governance and decision-making processes related to water. Deeply entrenched cultural attitudes across both project contexts, where participation on

management councils, for example, could be seen as a distraction from other important household tasks, often inhibited women's participation. In response, JGI ensured that women make up 44 percent of water user management committees. Their interventions, notably the installation of rain water collection tanks at schools, also helped to ensure that children – who along with women would spend on average 1.2 hours per day collecting water – had improved school attendance because they could meet this responsibility at school. Female children were particularly considered in this process to ensure that they had equitable access to water tanks. Previously, they reported fear of being attacked at communal water collection sites because overcrowding often resulted in adult men or women controlling access.

In terms of cultural change, it is also interesting to note that Kwayimani, of the CSA project, as a female often encountered barriers or challenges in her work because of gender. Both she and another program manager leading a separate project with herders in the region helped to increase exposure for women in such positions of authority and management that have helped to shift norms and expectations. While Kwayimani once sat on the floor during village meetings and waited her turn to speak, over time she was invited to sit in a chair and her influence grew among leaders and community members alike. This influence was then felt more widely, as her encouragement led to women taking on more technical roles as water monitors that provided an opportunity for them to speak up more at meetings. Both projects found similar responses when it came to including women in decision-making processes, such as scheduling a time specifically for women to speak or setting up women-only meetings.

Ultimately, staff across both project sites expressed the importance of gender considerations as integral to maximizing the impact of their project interventions in terms of governance, participation and ownership of activities in the communities. The analyses broadened staff and community understanding of the attitudes, perceptions, and roles of men and women in water conservation and daily work and

School girls from Kimanya Upper Primary School collect water from a nearby spring. Photo credit: Umar Tumwine/JGI

created new ideas for how to better share responsibilities. These examples also underscore the importance of conducting such analyses in a way that is tailored to each context and that is flexible enough to allow project staff to determine the needs and potential applications of the analysis.

2.3 COMMUNITY EDUCATION CAMPAIGNS FOSTER SUSTAINABILITY AND OWNERSHIP OF CONSERVATION AND WASH APPROACHES

> This ToC proposes that integrated freshwater conservation and WASH programs include an educational component to help communities understand the connections between the environment and their well-being. This can nurture a sense of stewardship in communities to develop sustainable water management practices and creates a positive feedback cycle.
>
> – *ABCG FW-WASH Integration Guidelines*

The integrated project pilots both assumed a strong community engagement strategy. Leveraging education as a strategy within the integrated approach is a key element of the approach's theory of change (TOC) that has demonstrated invaluable impact (see **Annex I**). In both contexts, project staff expressed their belief that there is a direct link between educational campaigns and improved water sources. Because of this, both project teams shared the water testing results with their communities.

The result is that communities then understand why preserving the forests or watershed truly benefits them. In both project settings, there are examples of local ownership of this process. In Uganda, for example, hygiene education and training targeted schools. The JGI team learned that if they helped teachers integrate the sanitation messages into school lessons – rather than as standalone trainings –

the learnings were absorbed far more effectively. At the schools, latrine use and improved hygiene practices increased 80 percent. Soon after, the communities became quite responsive and in one case invested their own resources into purchasing and installing additional latrines at a school. This represented an investment of $3,000 USD, a significant amount for an impoverished community. The training that resulted from these interventions gave the community a sense of ownership and sufficient incentive to invest.

WASH sensitization posters have been developed for dissemination in schools and communities. Credit: JGI.

In South Africa, CSA staff drew on the ABCG FW-WASH Guidelines "Principle into Action" chapter on community engagement, participatory information gathering and M&E design in designing the project of. One example of how the resulting community engagement strategy led to a greater sense of local ownership was after CSA worked with

volunteers from the communities to protect and restore eight natural springs, teaching them the methods necessary to do so and sourcing all needed materials locally. Villagers relied on these springs for water when piped systems were not functioning. Shortly after, an additional spring was rehabilitated, and a cage was built to protect the source. The community led this effort without CSA's assistance and financed it on their own.

In the last quarter of the project, CSA designed a peer-to-peer training program for herders. The training responds to information from a Health Monitoring Protocol CSA commissioned in 2017. Consultations with local sanitation experts and ANDM officials indicated that herders and livestock have an impact on water quality in the upper reaches of the high yield catchments. Stock posts, often located near water, were also noted as a point sources of contamination. This training included six key messages focused on improved sanitation, hygiene, and land-use practices and water resource protection that aim to respond to and reduce impacts on the water sources noted in the report.

Before the pilot project concluded, CSA completed one training for 86 individuals (60 men, 26 women). Initial feedback was that these messages need to be regularly reinforced before behaviors will be entrenched and that considering a parallel effort with school children may offer additional avenues for passing messages from school children to the homestead and back to herders.

Across both examples, the school-based lessons and community outreach helped bring the sanitation messages home to catalyze behavior change at a broader scale.

2.4 MONITORING AND EVALUATION OF THESE INTEGRATED PROJECTS IS CHALLENGING BUT ESSENTIAL FOR DEMONSTRATING IMPACT

Obtaining baseline data prior to project interventions improves project planning and makes demonstration of impact possible. For the pilots, CSA and JGI did not conduct broad-based household surveys due to limited implementation resources and instead relied on existing data from the projects in the target areas. This was helpful but may not have provided the full range of information necessary to measure impact. Staff indicated that balancing the needs for various types of data up front is challenging and, on various occasions, the different teams pursued data throughout different phases of the project.

Both JGI and CSA staff report using the guidelines and M&E framework to design the pilot projects. They were able to carry out project functions with a lean implementation staff, something that was a source of pride across project staff in both contexts. Staff from both organizations commented that certain components of their M&E went very well. For example, both performed a gender analysis as part of their project implementation and noted that this was successfully integrated in their project planning and helped build capacity.

However, as with most project implementation efforts, there were many challenges that were latently, rather than preventatively, addressed given the inherent limited resources. Neither project conducted robust household surveys to garner baseline data on knowledge, attitudes, and practices around WASH and freshwater behaviors and interventions, making it difficult to show evidence-based progress on project indicators.

For the South Africa team, this theme of challenges around consistent M&E efforts appeared to be particularly present because staff in CI's headquarters in Arlington supported much of the initial project

planning. The CSA team were quite strong in applying the M&E framework in the beginning, which was customized to the context and the needs of the project. However, the M&E framework was not referenced as much as intended over the course of the project, especially because of the complexity of the framework and low staff capacity.

One of the challenges of both pilots was to ascertain the overall health impact of the interventions. In both project circumstances, health data for the project sites was obtained much later into the project implementation periods. The relationships with local health centers were not as direct as they could have been, which makes it harder to prove any causal relationship with the interventions and improved human health indicators, such as reduced incidence of diarrhea and water-borne diseases. Alice Macharia from JGI reports that getting health information from the districts was difficult given the short timeframe of the pilot. But it would be useful to see if there are trends in reduction of certain types of diseases that the communities experienced and if there is a relationship to the pilots. JGI observed through the gender analysis and project activities that children often had many wounds that were unaccounted for. Some conversations indicated the children were wounded by chimpanzees while collecting water at springs and wells in or near the forest. The installation of water tanks at the school helped reduce this human-wildlife conflict, but it does still exist. JGI expressed interest in bringing more stakeholders, such as NGOs and district health staff, into the conversation to deal with these issues and to look at it from a broader perspective.

2.5 COMMUNITY-LED PROJECT DECISION MAKING AND LOCAL POLICIES SUPPORT SUSTAINABILITY OF THE EFFORTS

Conservation and sustainable management of freshwater ecosystems connect with WASH goals. Projects, policies and plans should – to the maximum extent possible – integrate activities aimed at ensuring improved sanitation and water access with conservation and sustainable management of freshwater sources on which people rely for drinking water. During the Uganda pilot, JGI worked closely with the local government to create and implement by-laws or policies at the local level that helped reinforce JGI's messages about behavior change aimed at improving health and conservation outcomes.

Apell recounts that youth were critical to the community engagement efforts, especially in light of human-wildlife conflict with chimps at the shared water sources, such as springs and wells in the forests. The girl children were especially vulnerable, given their responsibilities for water collection. Since the chimps were injuring children, the community decided to install the water tanks at schools to prevent injury.

According to Macharia, communities were deeply engaged in preliminary conversations about where to install new water sources. JGI conducted community assessments to garner diverse perspectives on the best locations and then shared the results. They noted that the response from communities was amazing. This process helped facilitate community ownership of the water sources and led to a commitment for community-based maintenance so that if anything broke in the future they would be involved in its repair. This lesson is also a best practice and JGI recommendation for all future projects.

Supporting these community-driven initiatives, local officials also enacted several by-laws or policies to ensure the effectiveness and sustainability of the water conservation and WASH activities. Uganda has many national water policies, but they seldom trickle down to the local level, according to JGI staff.

These local governance measures are more targeted, including restrictions on cutting trees near wells, restriction on pollution of water sources, restrictions on clearing of swamps, and basic requirements for household hygiene – specifically the installation of a toilet (pit latrine) and a utensil drying rack in each homestead and other behaviors. Enforcement measures such as fines and regular monitoring help to support the by-law intentions.

Water monitors were a critical component to community engagement central to the CSA project. Photo credit: Patrick Nease/CI

2.6 FLEXIBLE FUNDING TO SUPPLEMENT AND ADDRESS UNEXPECTED CHALLENGES CAN MAKE YOUR IMPACT GO FURTHER

As mentioned earlier, both CSA and JGI integrated the pilot activities into existing biodiversity conservation and natural resource management programs in the target landscapes. The leveraging of the modest resources from foundations, partners and other sources helped advance the ABCG pilot project outcomes, building on existing relationships with men and women in the communities, local officials and other local stakeholders. Without the existing platforms and flexible funding, the pilot projects would have required significantly more resources to get started and achieve momentum.

During this pilot period, CI and CSA made significant gains, thanks to additional grants secured to complement the ABCG activities. Two sequential $50,000 grants from the Starwood Foundation[3] provided complementary funds for CSA to rehabilitate natural springs, where many community

[3] No longer operating after merger with Marriott International in 2016.

members source their water when water taps are not functioning properly. The flexible funds filled certain gaps that came about when a local WASH partner was not identified, and the local government was not able to provide certain services. The Starwood funding, secured thanks to CI's Center for Environmental Leadership in Business, came as a huge surprise to the CSA project team who simultaneously lost other supplementary funding that they were expecting. The additional funding enabled the team to expand their WASH education efforts and impacts.

At the same time, CI's Millennial Innovation Lab provided internal funding to develop a mobile phone application for water monitors to collect and track data on stream assessments. This support significantly helped streamline monitoring activities and the sharing of results with ANDM during Year 2 of ABCG support.

For JGI, working with the schools and their awareness programs ensured broad impact beyond the classrooms, as students took home the WASH integration lessons on water storage and hygiene. This complemented other activities the JGI team was leading such as "Roots and Shoots" environmental education, as well as activities on community education and village awareness meetings. Continued empowerment of local institutions can lead to even more engagement of communities. For example, during implementation efforts last year, JGI worked with the Siiba Conservation & Community Development Association (SICODA), an organization established with representation from all the villages and which has the responsibility for monitoring and ensuring that they are protecting local forests/water catchment areas. SICODA organized a conservation tournament while the youth were on holiday to keep them busy and get them excited about conservation. The winning team was presented with a Conservation Cup, provided by JGI. SICODA contributed funds to present the winners and runner- ups with goats.

Some additional needs for flexible funding in this project site pertained to infrastructure, especially sanitation in schools. Apell noted that the local government in their case had money but were stretched. As a result, JGI continues to look for complimentary resources to fund items such as bicycles for the village assistants and hand monitoring tools.

For both CSA and JGI, leveraging funding is important for responding to pressing project needs and augmenting project activities. For these pilots, the supplemental funding helped project staff achieve intended outcomes in a timely manner.

Flexible funding allowed the teams to pursue additional initiatives, such as this mobile app for collecting water quality data, used by the CSA pilot. Photo credit: Patrick Nease/CI

3. SUGGESTIONS FOR STRENGTHENING THE GUIDELINES AND M&E FRAMEWORK

An integral part of piloting the ABCG guidelines and framework was to assess aspects of the tools that could be strengthened in future versions or updates. At the time of this report, ABCG was not planning to make such changes. However, the task team who developed the tools and tested them in the pilot sites felt it was important to document suggestions for both future improvements and to benefit others who may use the guidelines and/or M&E framework before changes are made. Recommendations from staff in Uganda, South Africa, and Headquarters support units from CI and JGI were gathered and condensed in the sections below.

One overarching theme among these suggestions was how helpful other examples of integrated projects would be for addressing design challenges, understanding the application of the indicator framework or working through unexpected challenges during implementation. ABCG hosts a Nairobi-based COP for implementers across SSA to exchange ideas, advice and practical experience on integrating freshwater conservation and WASH. Several members who contributed to this report referenced how being a part of the COP could enhance the use of both tools. This forum is housed within LinkedIn Groups. To join, please search for "Africa Biodiversity Collaborative Group: FW-WASH Community of Practice."

3.1 SUGGESTIONS FOR THE FRESHWATER CONSERVATION – WASH INTEGRATION GUIDELINES

Overall, feedback from project staff in both pilot sites reflects that the guidelines were useful, especially during the early stages of project design. Suggestions for how to revise the guidelines focused largely around understanding how this theory transitions into practice and on working with stakeholders.

Asist project implementers with making the leap from understanding the theory to putting it into practice. Specific suggestions are to:

- Add visuals to communicate more complex ideas, such as in the theory of change section, or a flow-chart on how this approach can improve health outcomes.

- Localize and adapt the guidelines – such as spelling and terminology – to match the language of the countries where it is applied.

- Expand the M&E section to provide greater depth on baseline surveys. Examples could be included in this section and/or as a part of the M&E framework.

- Include case studies within the guidelines to ground these ideas in practical experiences. This could include the pilot site case studies as well as examples from the development sector.

- Include a link to this report, so lessons from the pilot sites are directly linked to the guidance.

Expand the sections of the guidelines that focus on working with stakeholders, including working with partners. Potential areas of improvement are:

- Add more detail to the section on stakeholder engagement. It may be too general for individuals who haven't done it before and requires more elaboration.

- Improve guidance around stakeholder mapping. It assumes that practitioners already know which stakeholders need to be engaged in the project.

- Include more information on best practices around partnership with NGOs and other entities, since partnerships are a key element for success. This could be something along the lines of criteria for partnerships.

- Develop some general principles for working with government partners, since they can be distinct and different than working with the NGO sector, and in many cases might be the only or most suitable partner available – as both pilot projects experienced.

- Expand guidance on adaptive management, especially how to address some of the challenges encountered in the pilot sites.

- Offer guidance on how to share information gathered during the project, such as water-quality data, baseline information, and other data points, with communities. If project implementers are only focused on how they intend to use data for informing project design, for example, an opportunity to promote ownership within the areas of intervention can be missed.

3.2 SUGGESTIONS FOR THE MONITORING AND EVALUATION FRAMEWORK

Overall, there was less feedback offered that related to revisions for the M&E framework. That could potentially be attributed to reasons such as the framework document being considerably shorter than the guidelines or because implementers selected which of the indicators were best suited to their project context and, therefore, could only provide feedback on the sub-set they used in their project. Specific suggestions for revisions included:

- Tighten the indicators so they are more tied to objectives of the project. For example, JGI's pilot project involved school-based WASH activities, but there are no corresponding indicators in the M&E framework. If the menu of indicator options currently listed in the draft M&E document is expanded, then project staff could contextualize the indicators and make them more appropriate for their project objectives.

- Strengthen indicators around gender so that projects don't unintentionally include process-only indicators. The indicators should show how women's participation in all stages of local decision-making processes is increasing, instead of focusing solely on how many women and men participated in a meeting.

- Add a section with sample baseline surveys. This could also tie to updates in the Gathering Information section of the integration guidelines that provides guidance on conducting baseline assessments.

- Revisit the indicators related to community capacity in the value-added indicators. These could potentially be expanded to measure and monitor the impacts of related trainings, not just the number of individuals.

Women from Siiba Village collecting water from a rehabilitated spring. Villagers once abandoned the spring because of its dirty water but since its rehabilitation have once again been relying upon it as a water source. Photo credit: © Brenda Mirembe/JGI

4. CONCLUSION

As this pilot phase of the ABCG freshwater conservation and WASH task draws to a close, CSA, JGI and partners have reflected on the successes and challenges to implementing these pilots in diverse landscapes. The ABCG partners recognize that the fundamental tenets of the Theory of Change in the guidelines are valid and that integrating activities across the conservation and WASH sectors make sense for achieving mutual conservation and human well-being outcomes. The lessons provided here demonstrate it is possible to achieve synergistic successes through partnership, capacity building and engagement with communities, government and other stakeholders.

However, there is still a critical need for additional activities to demonstrate the direct links and impacts of the integrated approach. Both project partners point out that the timeframes of these pilots were too short to build the evidence base to support the causality of conservation and human health improvements attributable to this approach. While there are many observable improvements, more rigorous data collection, routine M&E and thoughtful analysis is needed in the two pilot landscapes to prove the approach is scientifically valid.

CSA, JGI and partners are confident these pilots and lessons provide good fodder for future African practitioners in the ABCG community of practice and beyond to advance this approach and achieve their conservation and human well-being goals. These pilots demonstrate ABCG's unique, collaboration-based capacity to develop, disseminate and scale up best practices and effective tools for effective biodiversity conservation.

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6. ANNEX

6.1 ABCG THEORY OF CHANGE FOR GLOBAL HEALTH LINKAGES TASK ON WATER, SANITATION AND HYGIENE