



# LINKING BIODIVERSITY CONSERVATION AND WATER, SANITATION, AND HYGIENE

Based on the publication “Linking Biodiversity Conservation and Water, Sanitation, and Hygiene: Experiences from sub-Saharan Africa” by David Bonnardeaux, released June 30, 2012, on behalf of Conservation International and the Africa Biodiversity Collaborative Group.<sup>1</sup>



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## INTRODUCTION

In 2012, as a result of increasing dialogue among environmental organizations and international development groups, the United States Agency for International Development (USAID)-supported Africa Biodiversity Collaborative Group (ABCG) commissioned a quick review of existing projects and initiatives that address both freshwater conservation and Water, Sanitation and Hygiene (WASH) objectives. The study attempted to demonstrate the existing links between WASH and freshwater conservation and document integrated approaches that are achieving conservation and human well-being goals.

## BACKGROUND

International development organizations and funding agencies have traditionally treated freshwater ecosystems and watershed management needs as distinct and separate agendas from on-the-ground efforts related directly to access to water and sanitation. This has led to the development of separate sets of policies, in addition to further dividing an already small pool of development resources available for water and ecosystem projects.

Conservation International (CI) and ABCG members, together with conservation and development partners, are exploring the evidence of approaches that can be mutually supportive if better integrated into a larger context of watershed management and sustainable development. Our rationale is that humans depend upon healthy freshwater ecosystems for sustaining the provision of multiple services over the medium and longer term—including drinking water, sanitation and hygiene benefits. They also support some 126,000 species. Furthermore, WASH projects can either degrade or help enhance freshwater ecosystem health depending on how they are designed and implemented. Therefore, WASH projects can play a greater role in improving the lives of people but also benefit freshwater dependent species. Attributing monetary value to the role that ecosystems play in delivering these services can justify investing less in costly engineering options and more in “natural” infrastructure that can help further both the WASH and freshwater conservation agendas.

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<sup>1</sup> This group includes African Wildlife Foundation, Conservation International, The Nature Conservancy, Wildlife Conservation Society, World Resources Institute, World Wildlife Fund, and the Jane Goodall Institute.

## SUB-SAHARAN AFRICA CONTEXT: FRESHWATER CONSERVATION AND WASH

Sub-Saharan Africa is home to nine of Earth's 34 biodiversity hotspots, including the Cape Floristic Region, Coastal Forest of Eastern Africa, Madagascar and the Indian Ocean Islands, Guinean Forests of Western Africa and Succulent Karoo. The region also has extensive inland waters including the Nile, Congo and Zambezi basins, the Great lakes of the Rift Valley and the Okavango Delta in Botswana, harboring a vast repository of biodiversity and high level of endemism. However, around four in 10 people still rely on unimproved sources for their daily water needs in the region and two thirds are still without improved sanitation (UN, 2011). While there have been noticeable improvements in access to improved water sources in the region, the population growth rate is fast outpacing these efforts resulting in more people being solely dependent on surface waters. The fast growth rate is also putting pressure on the natural resource base and in turn the ecosystems.

Water, poverty and environment are intrinsically connected. Areas of high endemism and biodiversity are usually relatively remote and as a result 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. Conversely, in the downstream reaches of rivers, acute water shortages are becoming the norm in some areas as the myriad stakeholders take up water to meet their disparate needs e.g. heavy industry, irrigation for agriculture, fisheries, tourism, and municipal water and electricity utilities. The impacts on human health linked to the lack of access to improved water and sanitation facilities range from water-borne diarrheal diseases such as typhoid, giardia and cholera to water-washed diseases such as roundworm, trachoma and scabies.

## REPORT HIGHLIGHTS

The report includes exemplary case studies already out there where true integration of these two once-thought-to-be disparate sectors has occurred, ranging from integrated river basin management approaches to population, health and environment projects; and from environmental flow assessments to the implementation of payment for watershed services projects. Examples of Tools and Strategies for Combining WASH and Freshwater Conservation include:

- **Integrated River Basin Management (IRBM)** and basin-planning play a key role in such delivering economic efficiency, social equity and environmental sustainability of water.
- **Environmental flow assessments (EFAs)** are becoming the global standard for determining the amount of water required to sustain aquatic ecosystems and satisfy basic human needs, in turn informing IRBM and planning. There is great interest from the donor community in the environmental flow approach, as it ultimately offers an effective means to mainstream the environment – particularly freshwater ecosystems – into national development planning, including poverty reduction strategy papers (PRSPs) and strategies to address the Millennium Development Goals.
- **Payment for Watershed Services (PWS)** directly supports targets associated with human health through improvements in water quality and quantity, as well as supporting the maintenance of other ecosystem services that contribute to food security (through services such as pollination, soil retention, and nutrient cycling), income generation (through agricultural production and cultural services associated with tourism) and physical security (through regulation of floods, for example). Many pilot PWS projects are being implemented in sub-Saharan Africa by a host of donors, international and national implementing agencies, and hold a lot of promise to take the PWS concept further in the region.

- **Population, Health and Environment (PHE)** projects have been effective throughout sub-Saharan Africa, mostly in family planning, reproductive health, and HIV/AIDS. Great gains could be made across the board through cost and resource sharing by linking WASH, conservation, their related sectors, and PHE projects.

## LESSONS LEARNED

Several themes or lessons emerged in the course of writing the report, including important topics addressed below:

**Synergetic Gains:** Positive outcomes in one sector can spillover into the other when WASH and freshwater conservations efforts are properly cross-coordinated, because of the intrinsic interlinkages between the two. For example, well-planned sanitation infrastructure minimizes the risk of acquiring debilitating water-related diseases like typhoid, giardia, and cholera, but it can also reduce the ecological impact of human waste. Conversely, intact freshwater ecosystems not only provide habitat for a myriad of species, they also bestow on humanity vital ecosystem services that ultimately underpin economic development. Healthier and more prosperous communities are also more empowered to conserve the ecosystems they depend on.

**Efficiency:** Cost and resource sharing can raise impact and lower costs when programs combine inter-related objectives across several fields, such as WASH, forestry, agriculture, conservation, and population and community development. This was seen to be the case in the TACARE project implemented by the Jane Goodall Institute in Tanzania for example.

**Building Trust:** Tangible short-term benefits in one area can build trust within a community so that they are more willing to engage in areas with less immediate long-term benefits. Population, Health and Environment (PHE) programs have shown that community buy-in for the environmental component of a project can be garnered through provision of health services such as WASH.

**Filling Programming Gaps:** Coupling long-term conservation strategies and WASH interventions could enable observation and measurement of WASH outcomes over longer time periods. Institutional and programmatic support for longer for conservation efforts could be leveraged so WASH practitioners could measure the long-term effectiveness and sustainability of typically shorter WASH interventions.

**Better Planning All Around:** Efforts for better and integrated planning around water basins can complement other planning processes that also take place at the basin-level. Environmental flow assessments (EFAs) can generate essential information regarding optimal water flow for different stakeholders' needs, which can be used to improve future basin planning. Integrated WASH and conservations efforts provide water managers the opportunity to focus on the larger linkages between water resources and land management, or landscape-level conservation efforts.

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For more detailed exploration of relevant case studies, challenges, lessons learned, and strategies for combining WASH and conservation efforts, please access the full report at [www.abcg.org](http://www.abcg.org).

If you have questions or additional case studies, please contact Colleen Vollberg at [Cvollberg@conservation.org](mailto:Cvollberg@conservation.org).