

Water Stewardship in Africa: the Next Frontier for Building Shared Value



“Water is a critical natural resource upon which all social and economic activities and ecosystem functions depend.”¹



BY: DAN MITLER, DEVAN ROSTORFER AND KEELY LEDBETTER



The global water crisis is: “a significant decline in the available quality and quantity of freshwater, resulting in harmful effects on human health and/or economic activity.”²

The #1 societal risk for impact in 2015 is the global water crisis.
-World Economic Forum



The four components of water security
Source: UN Water

Introduction

While many companies are already engaging with climate change and an array of other environmental issues, water is quickly emerging as an impactful driver of both business risk and opportunity in the 21st century. Water is a critical input for many supply chains, providing energy and both direct and indirect materials for production as well as giving life to essential natural resources beyond the company gates.

While any world map depicts an abundance of water in oceans, rivers, and lakes, closer analysis shows that less than 2.5% of it is freshwater – the kind of water needed by businesses, people, plant, and animal life to thrive.

Over two-thirds of this global freshwater supply is currently inaccessible or unusable – frozen in glaciers or already polluted.³ The limited supply of usable water is further strained by growing populations and rising demand from communities, agriculture, a growing global private sector, and an exploding middle class in emerging economies.

With pressures on both global water supply and demand continuing to grow, proactively addressing risks and opportunities related to water is increasingly becoming a vital

business strategy. Many companies already active in water stewardship, such as The Coca-Cola Company, have discovered that it presents a special opportunity to create shared value both for the business and for society at large.

In the remainder of this executive summary, the University of Michigan team presents the business and societal case for corporate water stewardship before introducing some of the water-related risks and opportunities in Africa. Additionally, innovative tools for prioritizing water-related investments are used to suggest appropriate water stewardship investments in Africa's most competitive economies. Finally, The Coca-Cola Africa Foundation's RAIN program – with special attention to their Replenish Africa Initiative (RAIN) Water for Schools program – is introduced to provide

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an example of an effective corporate water stewardship investment that is creating significant societal value in Africa's emerging economies.

With this executive summary as a basis, the full report contains additional research and analysis as well as complete findings from the prioritization tools.

The **Business Case** for Corporate Water Stewardship

Corporate water stewardship presents a remarkably clear example of the potential to create shared value.

Not only can investments in company and community water infrastructure generate business value, they can also generate societal and environmental value, if the company starts with this type of shared value creation goal in mind and works effectively with local partners. The evidence is compelling that investments in water stewardship are cost effective (i.e., usually provide positive ROIs) and bring a variety of additional benefits to investors, local communities, governments, and ecosystems.

The potential business benefits from water stewardship investments and activities are deep and broad. Our systems-based approach to mapping the dynamics of company and community value creation, discussed in

detail in the full report, suggests the primary benefits include both minimizing downside risk and building upside potential.

Companies Currently Engaged with Water Stewardship

Companies around the world are signing on to promote water stewardship through organizations such as the CEO Water Mandate. Some of these companies include: Anheuser-Busch InBev, Bayer AG, The Coca-Cola Company, Danone, Diageo plc, The Dow Chemical Company, Ford Motor Company, General Mills, GlaxoSmithKline plc, Heineken NV, Levi Strauss & Co., Merck & Co., Monsanto Company, Nestlé S.A., Nike, Inc., PepsiCo, Inc., PricewaterhouseCoopers, Siemens AG, Unilever, Volkswagen, and over 100 others.⁴

DEFINING CORPORATE WATER STEWARDSHIP

The use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions. Good water stewards understand their own water use, catchment context and shared risk in terms of water governance, water balance, water quality and important water-related areas [including sanitation]; and then engage in meaningful individual and collective actions that benefit people and nature.

Source: The Alliance for Water Stewardship

THE BUSINESS CASE FOR CORPORATE WATER STEWARDSHIP

 COMPETITIVENESS	
Brand value	Water stewardship investments can enhance a brand's value and reputation among consumers and key stakeholders, providing an important edge over the competition.
Access to new markets	Maintain or increase access to important markets, including consumer segments, business markets, supplier and source markets, and merger & acquisition targets.
Expanded customer base	Water stewardship investments can lead to a stronger customer base for both today and tomorrow, through benefits to human capital, health, and to national market development.
Access to capital	As growing numbers of investors, asset managers, and financial institutions develop requirements around water, effective stewardship will become increasingly important to maintaining existing and securing new investment capital.
Enhanced innovation culture	Improvements in water and sanitation often result in a greater workforce capacity for innovation. The investments and partnerships themselves can lead to new technologies or business models to address unmet demand and untapped markets.
Corporate adaptability	Directly addressing global water and sanitation challenges can drive the type of processes that will ultimately reposition the firm as focused, flexible, and agile in a rapidly changing world.

 OPERATIONAL EFFICIENCY	
Efficient use of scarce water	As water supply prices increase, investments in water efficiency will yield ever-greater paybacks, with a distinct early-mover advantage.
Related production efficiencies	Many inputs require water, including both energy and materials. Investments in water conservation and efficiency can reduce the supply pressures that lead to price increases.
Reduced compliance costs	As pressures on water quality and quantity rise amid mounting calls for stronger water governance, permitting and compliance costs will rise. Water stewardship can mitigate this trend.
Curtailed insurance costs	As insurance and reinsurance companies account for exposure to water-related risks, stewardship can lower premiums by demonstrating reduced physical, regulatory, and reputational water risks.

 HUMAN CAPITAL	
Increased productivity	Improvements in access to clean drinking water and sanitation facilities yield substantial increases in productivity and health, and in turn, less absenteeism. They can also lead to greater workforce engagement and lower rates of turnover, all of which bring distinct business benefits.
Reduced absenteeism	
Lower turnover	
Thriving employee engagement	
Expanded recruitment	Building a reputation around water responsibility can lead to enhanced access to top talent locally and globally.

 SOCIAL CAPITAL	
Profitable partnerships	Partnerships formed through water stewardship foster trust-based relationships that can lead to new and innovative opportunities.
Crisis resilience	If a crisis around water should occur, being part of an engaged network of stakeholders can provide critical support.
Legacy	In the long-term, water stewardship investments can help build a corporate legacy that company, employees, and community feel invested in.

 RISK MANAGEMENT	
Reduced physical water risk	Too much water, too little water, or polluted water can each pose unique risks to a business and its supply chain and workforce.
Reduced regulatory risk	Water policies or regulations that are ineffective, inconsistent, or otherwise unstable can present significant risks to operations.
Reduced reputational risk	Over-consumption or pollution of water, whether real or perceived, can lead to major damages to brand, reputation, share price, and ability to conduct business.
Enhanced social license to operate	Through demonstrating a commitment to local communities, corporate water stewardship can help build community goodwill and maintain an ongoing license to operate locally.
Supply chain resilience	Water risk can creep into each link of the supply chain. A systems approach to water stewardship can produce a more resilient supply chain from end-to-end.

The **Societal Case** for Corporate Water Stewardship



ECONOMIC DEVELOPMENT BENEFITS

- Increased productivity
- Reduced healthcare costs
- Increased school attendance
- Increased time savings
- Increased tax and tariff revenues
- Expanded household capital
- Increased public funds for investment
- Enhanced access to credit and capital



HUMAN AND SOCIAL CAPABILITIES BENEFITS

- Fulfilled basic needs
- Improved access to important infrastructure
- Increased employment opportunities
- Increased availability of knowledge and information
- Improved educational attainment
- Greater levels of engaged and transparent governance
- Increased adaptability
- Improved physical and psychological well-being
- Enhanced equity, rights, and social cohesion



NATURAL CAPITAL BENEFITS

- Enhanced ecosystem services
- Improved habitat quality
- Reduced pollution
- Improved water quality
- Increased ecological replenishment

In addition to the many short-term and long-term business benefits from water stewardship investments, society also stands to benefit in diverse and interconnected ways:



VALUE FOR MONEY OF WATER STEWARDSHIP

Several recent studies have evaluated investments in water stewardship and all have concluded that in Africa, the benefits outweigh the costs. Without even accounting for benefits to national GDP, the studies found that every US\$1 invested would yield at least US\$2 in benefits, and in some locations it could be over US\$11 in benefits for every US\$1 invested.^{5,6,7}



THE CAPABILITIES APPROACH

A major contribution to development economics came from Nobel Laureate Amartya Sen, who argued that the freedom to achieve well-being is a matter of what people are able to do and to be; in other words, their capabilities.⁸ This opened the door to looking at development not just in terms of income, but also in terms of freedoms and what people in a society are capable of doing or being. Water stewardship can lead to improvements across a wide range of capabilities, both directly and indirectly.



ECOSYSTEM SERVICE VALUATION

Estimating the monetary value of ecosystem services is still a novel and developing field, but one can gain a sense of the potential market value of the various services watersheds provide through looking at similar biomes (below). As innovative market-based conservation programs expand, the value of this natural capital will present new opportunities.

- Coastal wetlands: US\$193,845/ha/year
- Inland wetlands: US\$25,682/ha/year
- Rivers and lakes: US\$4,267/ha/year⁹

The African Context

The African continent presents a unique opportunity for corporate water stewardship. Fueled by population growth and economic development, the continent is home to one-third of the six fastest growing economies in the world with a continued and stabilized growth forecast for the years ahead.^{10,11}

Nonetheless, significant challenges around water insecurity, sanitation, and watershed conservation persist and limit both economic growth and social progress in the region. If current trends around economic and social progress continue, Africa is poised to be a major

player in the global economy in the coming decades. Companies able to engage with markets and societies throughout Africa today, especially on sensitive issues related to water, are more likely to have access to the high growth expected for the continent as a whole.

GDP across Africa has more than quadrupled since 2000¹²

By 2030, Sub-Saharan Africa will reach the level of **per capita income** that **emerging Asia** has today¹²

By 2030, nearly **1 in 5 people** on Earth will live in Africa¹³

Africa has the **fastest growing** middle class in the world¹²

By 2020, Africa's consumer spending will **double** to US\$2.1T¹⁴

115 people in Africa die each hour from diseases linked to poor water and sanitation¹⁵

Only 30% of Sub-Saharan Africa has access to improved **sanitation facilities**¹⁵

2 out of 5 people across Sub-Saharan Africa **don't** have access to **clean drinking water**¹⁵

Nearly 40% of the people in Sub-Saharan Africa live in a **water-scarce** environment¹⁵

Tools for Prioritizing Water Investments

The ideal corporate water stewardship project is one that maximizes both social value and business value (i.e., shared value). Projects that aim to maximize social value but not business value may risk losing the long-term support and resources that are needed to ensure project success and viability over time. Therefore, projects should be structured as much as possible with consideration of both business and social value, as described by business theorists such as Porter and Kramer, Michael Jensen, and R. Edward Freeman.^{16,17,18}

VALUE CREATION MODEL

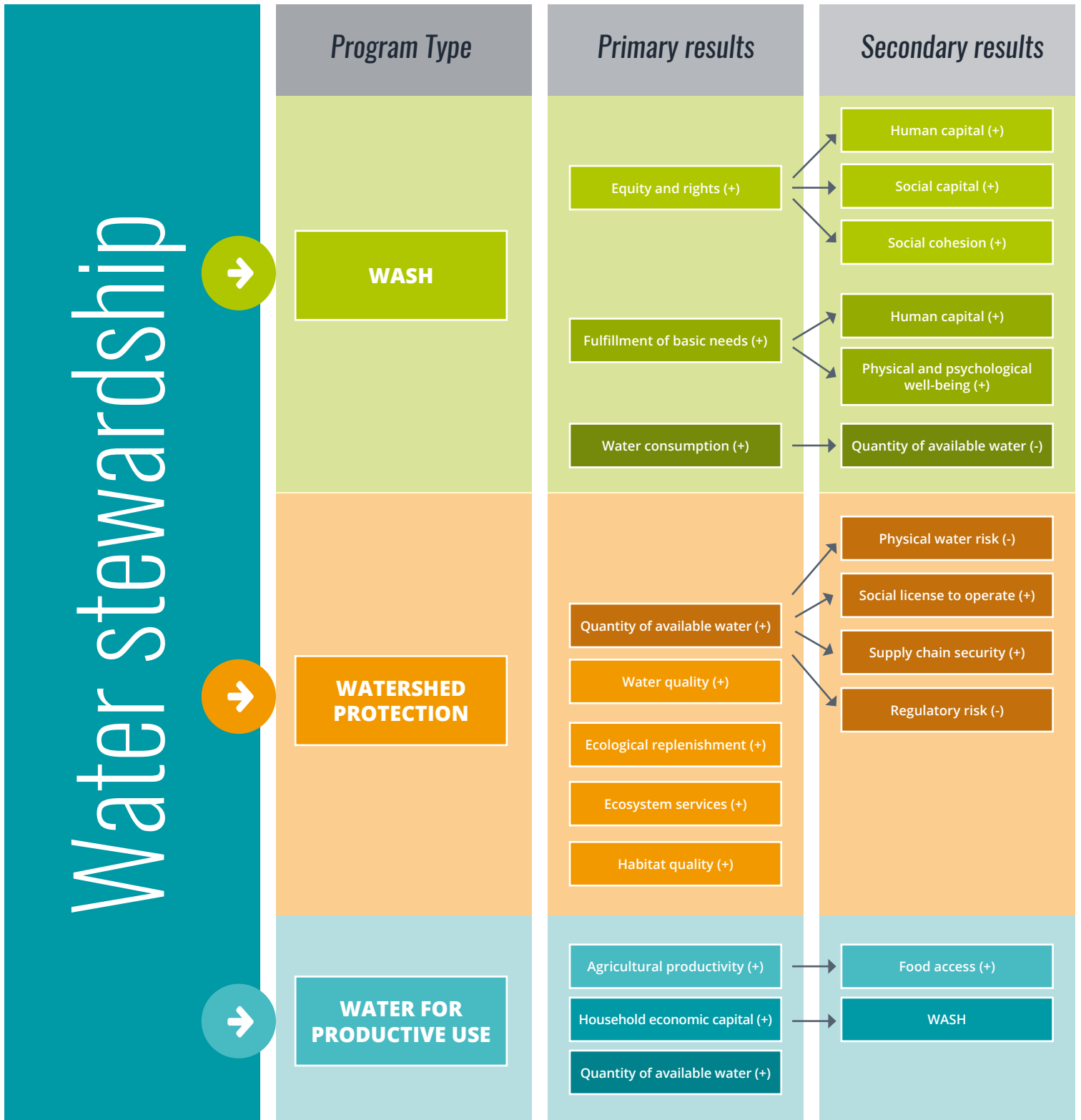
The University of Michigan team used complex system dynamics to develop an original value creation model, known as the Water Stewardship Causal Loop Diagram (CLD). This model highlights the ability of water stewardship to act as a “bridge” between the value creation process for business, society, and the environment. The model also underscores the fact that certain water stewardship projects may have more impact than others because of their ability to create broader, systems-level results.

Using Coca-Cola’s RAIN program categories (WASH, watershed protection, and water for productive use) as the subject for analysis, the University of Michigan team highlighted how these program types can lead to value creation. In the diagram that follows, each type of water stewardship program is linked to selected downstream results. The complete model is analyzed within the full report.



This model highlights the ability of water stewardship to act as a “bridge” between the value creation process for business, society, and the environment.

DOWNSTREAM VALUE-CREATION FROM THREE WATER STEWARDSHIP PROJECT TYPES





SPATIAL ANALYSIS

In the context of water stewardship, place matters. Contextual factors including economic, environmental, and social considerations can all influence the relative need for such programs, as well as program outcomes in a given place. Among the various types of water stewardship activities, three of the more common types of projects are those that improve access to safe drinking water, sanitation and hygiene (WASH), watershed conservation programs, and programs

related to sustainable agriculture and water for productive use. Using these categories as a guide, the University of Michigan team analyzed economic, environmental, and social data to prioritize water-related investments for specific geographies based on each project type. These locations represent areas with significant societal need: projects in these regions are likely to yield greater societal benefits than similar projects in different locations.

WASH projects^a

- Tanzania
- Ethiopia
- Nigeria

Watershed conservation projects^b

- Algeria
- Morocco
- South Africa

Sustainable agriculture projects^c

- South Africa
- Nigeria
- Mozambique

Top targeted locations for three types of water stewardship programs

^a These countries were identified based on (1) being among the top 10 most populous countries in Africa; (2) having < 50% of the population with access to improved sanitation and/or < 75% of the population with access to improved water; and (3) being listed among the top countries for investment (KPMG) or for Ease of Doing Business (World Bank).

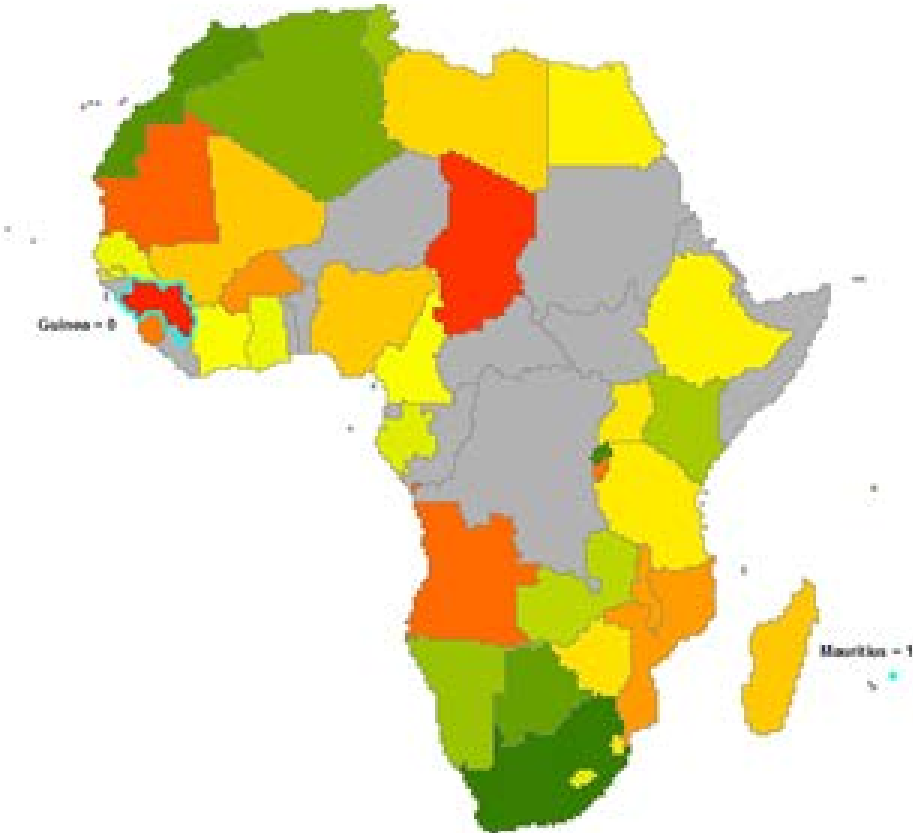
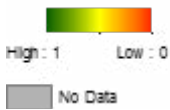
^b These countries were identified based on (1) being in the bottom 50% of Africa for average annual precipitation; (2) being in the bottom 50% of the SOFI rankings (State of Freshwater resources Index, see the full report for more); (3) being among the top 10 countries in Africa for total annual water withdrawals; and (4) having extremely low levels of upstream protected land.

^c These countries were identified based on (1) being among the top 10 countries in Africa based on total arable land; (2) having >50% of the total land area dedicated to agriculture; and (3) having >50% of total freshwater withdrawals used for agriculture.

TOP 10 MOST GLOBALLY COMPETITIVE AFRICAN COUNTRIES, 2014-15:¹⁹

- 1. Mauritius
- 2. South Africa
- 3. Rwanda
- 4. Morocco
- 5. Botswana
- 6. Algeria
- 7. Tunisia
- 8. Namibia
- 9. Kenya
- 10. Seychelles

Global Competitiveness Index



Case Study:

The Coca-Cola Africa Foundation's Replenish Africa Initiative

Background

The Coca-Cola Company has had a presence in Africa since 1928 and currently can be found in each of its countries. Coca-Cola is currently the continent's largest employer, with 70,000 system employees in Africa, 45 bottling partners and 145 bottling/canning facilities as of 2010.²⁰ With the industry experiencing slower growth in developed markets, Coca-Cola has pivoted towards emerging economies in recent years, which is where roughly two-thirds of their business comes from.²¹ To support this strategy, Coca-Cola has begun investing some of their planned US\$17 billion into African markets.^{20,22} In alignment with this business strategy, Coca-Cola has likewise invested in water stewardship throughout Africa.

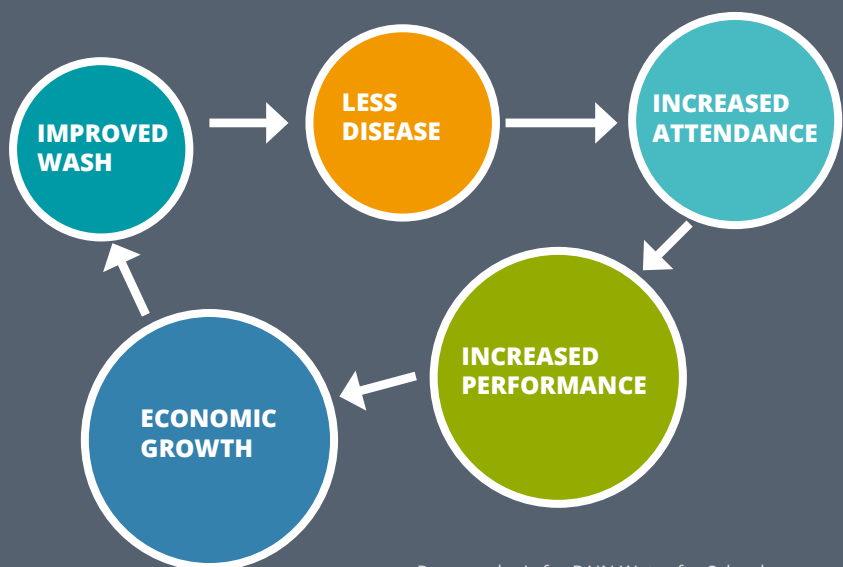
RAIN is a flagship corporate water stewardship program created by The Coca-Cola Company and The Coca-Cola

Africa Foundation in 2009. With a commitment of US\$65 million from The Coca-Cola Company, RAIN aims to provide sustainable and safe water access to 6 million people across Africa by the end of 2020. To date, RAIN has supported these types of investments in 37 African countries.

For example, RAIN Water for Schools is one stewardship program in a portfolio that contains dozens of such projects. In 2009, The Coca-Cola Africa Foundation and The Coca-Cola Company committed to providing WASH programming in up to 100 primary schools throughout South Africa. RAIN Water for Schools strives to improve WASH infrastructure and build local capacity for sustainable operations and maintenance, as well as conduct health and hygiene training. When completed, the program is expected to benefit up to 50,000 students and teachers across all nine South African provinces.

Social benefits

The RAIN Water for Schools program is intended to produce both short-term and long-term benefits to society. The program logic is straightforward and powerful. In the short-term, the program aims to reduce WASH-related disease, leading to greater student attendance and educational attainment. In the long-run, higher educational attainment and greater levels of gender equity and social inclusion are expected to lay a foundation for broader economic growth.²³



Program logic for RAIN Water for Schools

Case Study: The Coca-Cola Africa Foundation's Replenish Africa Initiative

Business benefits

The RAIN program is strictly structured as a philanthropic endeavor through The Coca-Cola Africa Foundation and was conceived to provide social benefit to local communities rather than business benefit to the Company. Nonetheless, RAIN sits at the high-impact intersection of water, community, and business. The program drives both community benefits as described above as well as indirect business benefits.

In emerging markets, Coca-Cola's strategy revolves largely around improving sales through customer loyalty.²¹ While not targeting customers, RAIN Water for Schools and other

community programs can help build recognition by establishing Coca-Cola as a good community member. Furthermore, the program contributes to many of the other business benefits identified earlier, such as human capital benefits through laying a foundation for a healthier and better-educated workforce. By promoting health and education among children, Coca-Cola is also securing a social license to operate, thereby reducing their risk exposure. Finally, Coca-Cola is building a long-term legacy through RAIN Water for Schools and similar programs in Africa that could yield reputational benefits for years to come.

Shared Value

The RAIN Water for Schools program is an excellent example of how shared value can be built through corporate water stewardship investments. Although it is intended only to create social value, it is able to indirectly promote business value as well. WASH in schools programs, of which RAIN Water for Schools is just one example, can contribute to virtuous cycles that create value for local communities. Corporate water stewardship investments can also produce business benefits not only through building brand value and human capital, but also through contributing to regional market development.

Ultimately, Coca-Cola's Replenish Africa Initiative is a prime example of how companies can leverage investments in water stewardship to generate shared value for

communities, for businesses big and small, for national markets, and for the planet. The global water crisis presents an increasingly substantial challenge to people the world over, to many global supply chains, to political and economic stability and growth in the region, and to constrained global freshwater supplies. No matter what angle it is approached from, targeted water stewardship investments in Africa present a compelling case. Most signs point to that trend only rising in the future. If regional growth trends continue as most forecasts are calling for, entering or continued expansion into these high growth emerging markets represents a special opportunity to secure and grow market share using what can be considered a socially, environmentally, and fiscally responsible strategy.

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Dan recently received a Master of Science (M.S.) degree at the University of Michigan's School of Natural Resources and Environment (SNRE). He founded and served as principal consultant for a corporate sustainability consultancy where he advised multinational and regional companies on strategic sustainability issues. He has also worked with industry-leading companies on global carbon accounting and sustainability reporting (with CDP and GRI) and on competitive product lifecycle assessments (LCAs). He has published an original case study on corporate water decision-making for use in top global business schools through the Ross School of Business (University of Michigan); and served as author on two University reports on domestic manufacturing and energy markets/policies for use by both Congressional and Michigan decision-makers. He has worked and studied internationally in Southeast Asia, Africa, Central America, and Europe.

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Devan Rostorfer is currently working as an environmental planner at the Southeast Michigan Council of Governments (SEMCOG) where she is working to protect water quality and manage water quantity while implementing green infrastructure throughout seven counties in S.E. Michigan. Devan recently completed an M.S. at the University of Michigan's SNRE and has experience developing regional water quality strategy through her work with The Nature Conservancy. In early 2015, Devan was a regional finalist in the social-entrepreneurship-oriented international Hult Prize competition and has recently published a case study on the oil industry in Africa through the Ross School of Business. She has experience working and volunteering internationally in China, India, American Samoa, Australia, and South Africa.

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