Chapter 1. What is the Place for the Environment in Private International Philanthropy?

*Sally Holmes and Amanda Lavigneur*
Environmental Policy Update 2012: What Is the Place for the Environment in Private International Philanthropy?

By Sally Holmes and Amanda Lavigneur

Executive Summary

International philanthropy has grown in recent decades, with private donors becoming an increasingly important segment of financial flows to the developing world. Humanitarian aid has helped respond to global food crises and improved the health of people in low-income communities worldwide. However, environmentally-focused philanthropy comprises only a small portion of aid, and most donors in Africa do not address the environment at all. East Africa is currently facing a variety of environmental problems, ranging from water pollution to deforestation, many of which have implications for social welfare. This prompts the question: how can international philanthropy achieve both environmental and humanitarian goals?

This chapter focuses on four ongoing projects funded by philanthropic grants from the Bill and Melinda Gates Foundation: East Africa Dairy Development (EADD), Farm Radio International, Drought Tolerant Maize for Africa (DTMA), and Vital Signs. These projects are all examples of initiatives where philanthropic projects achieve positive environmental outcomes alongside targeted social outcomes. Through an analysis of project reports and websites, supplemented by personal communications and interviews with project representatives, this study explores how the Gates Foundation integrates environmental considerations into its philanthropic activities.

Findings suggest both environmental and humanitarian outcomes can be realized simultaneously in situations where project implementers worked at the ground level to respond to communities’ needs, where local people are actively integrated into project processes, and where extensive data are available to monitor environmental and social impacts. Donor incentives, including self-interest and the belief that all lives have equal value also have a role to play: particularly when positive humanitarian outcomes are inextricably linked to the health of the environment.

The Bill and Melinda Gates Foundation is uniquely poised to benefit the environment while continuing to benefit humanity by: (1) creating transparent data collection regarding environmental impacts and mitigation strategies of projects; (2) investing in market and extension systems to promote the long-run economic sustainability of projects. As the largest private philanthropic organization in the world, the Gates Foundation can continue to be an environmental leader in international philanthropy - guiding other philanthropic organizations to follow.
Environmental Policy Update 2012: What is the Place for the Environment in Private International Philanthropy?

By Sally Holmes and Amanda Lavigueur

Introduction

The influx of private philanthropy to low-income countries is a movement that has been growing for years, but has truly taken hold in last the decade, as evidenced by a dramatic increase in fundraising and giving worldwide (The Hudson Institute, 2010). This monetary increase in philanthropy mirrors an increase in the number of environmental and humanitarian non-governmental organizations (NGOs) in the last few decades. Funded by public and private donors, these organizations now help fill in gaps in funding which have left governments unable to protect the environment and meet societal needs (Gunlugu, 2003). Philanthropic donors now support a wide array of projects across the globe, (Ambrose, 2005; The Hudson Institute, 2010), with social objectives ranging from fighting disease (Whelan, Serafin, & Von Zeppelin, 2009) to supporting the arts (Di Mento & Preston, 2012). This paper explores links between philanthropy and the environment, researching specifically how four private philanthropy projects currently taking place in East Africa are able to consider the environment in humanitarian philanthropy.

Private philanthropy refers to non-state-based financial flows from individuals, corporations, foundations, private voluntary organizations, universities and colleges, and religious organizations, to areas of need, with the intent of promoting general welfare (Metcalf Little, 2010). This definition intentionally excludes state-based official development assistance (ODA) because, although many philanthropy projects receive financial assistance from state-based channels, private philanthropy has now eclipsed ODA in terms of both level of financial flows and breadth of impacts, largely due to fewer restrictions (Metcalf Little, 2010). Various arguments concerning the motivations of private philanthropic donations exist, ranging from the value of a human life to self-interest to a sense of obligation (Ashford, 2011; Hobbes, 1651; Pogge, 2002; Singer, 2006). These factors all come into play when donors decide where to direct their funds, both in terms of geographical location and project focus area.

Today the vast majority of philanthropy projects in Africa target social issues rather than environmental problems (Ramutsindela, Spierenburg, & Wels, 2011). However, as Africa confronts environmental problems such as erosion, deforestation, desertification, drought, and water shortages, along with the many social impacts associated with these environmental concerns, the opportunity for expanded philanthropic efforts targeted at environmental issues has grown (Addressing Environmental Problems in Africa, 2008). In Ethiopia specifically, primary environmental concerns include deforestation, soil erosion, loss of biodiversity, poor water quality, and declines in soil fertility (Bekele, 2008). Climate change, the shrinking of wetlands, and solid waste management
are also recent challenges to environmental health in the area (Edwards, 2010). This evidence leads to the overarching question: what is the place for the environment in private international philanthropy?

This research provides a context in which to analyze current environment-related philanthropy in the East African region. Through an analysis of current philanthropic activities of the Bill and Melinda Gates Foundation, this chapter provides insights for organizations seeking to more efficiently use philanthropic funds to increase the likelihood of simultaneously realizing environmental and humanitarian goals. It also provides policymakers with suggestions for how to better facilitate philanthropy such that more positive environmental outcomes are achieved.

Background

History of Philanthropic Incentives

There are various theories surrounding the motivations of philanthropists (“philanthropic incentive”) to areas of need like East Africa, which include belief in the equal value of all human lives, self-interest, belief in the universal duty to donate, and perceived obligations of justice. Moral philosopher Peter Singer argues that private philanthropy is the most effective way to treat all human lives with equal worth (Singer, 2006). Another incentive for private philanthropy is the concept that all humans act in their own interest: this argument, described by political philosopher Thomas Hobbes, states that observing other humans who are poor or in need of resources makes the observer unhappy; thus, individuals have a self-interest to donate (Hobbes, 1651). Moral and political philosopher Thomas Pogge meanwhile introduces a concept called moral universalism to explain philanthropic behavior. Moral universalism is the argument that there is a system of morals or ethics that applies to every single human, and that all humans have a duty to give to those in more need than themselves (Pogge, 2002). Lastly, according to moral philosopher Elizabeth Ashford, humans have obligations towards justice, in particular towards preserving human rights (Ashford, 2011). These arguments have been used to explain global philanthropy for years – and have important parallels related to philanthropic incentive vis-à-vis environmental benefits (UN, 2012).

History of Philanthropy and the Environment

First Era: Environmental Conservation for Hunting

Africa’s history of conservation has progressed from the initiative of a small wealthy class to the more community-focused, donor-funded groups of today. Conservation on the continent traces its roots back to small groups of self-interested elites promoting nature conservation with the goal of conserving hunting territory, often through pressuring colonial governments and evicting African landholders (Beinart, 2000). These small upper-society organizations eventually expanded their membership base beyond the elite class to increase funding for hunting land conservation.
This phase of philanthropy began a long history of Western actors using power and funding to engage in conservation initiatives in Africa without the input of local communities.

Second Era: Environmental Conservation for Wildlife

Modern conservation initiatives became possible after World War II, when African states began to claim their independence and financial flows began pouring in to create national parks and support park-based biological exploration (Beinart, 2000). The African Wildlife Foundation (AWF), founded in 1961, was one of the first formal organizations to begin to tackle the issue of declining wildlife populations (AWF, 2012). After its establishment, many more followed, but many conservation initiatives largely alienated local communities by forcing them to move off of their land. Under this strategy of conservation “wildlife conservation [was] seen as exclusive, even authoritarian, in the colonial era and beyond” (Beinart, 2000). The consequence of this approach ultimately was failure to protect wildlife and stop the encroachment of development into wilderness areas (Adams & McShane, 1997). The creation of Serengeti National Park in Tanzania, which led to the forced relocation of the Masai people from their land to the savanna, is just one prominent example of this authoritarian phase of philanthropy. Forced relocation practices led to land degradation from cattle overgrazing and intensive agricultural on unsuitable marginal lands, in addition to extreme social inequality (Adams & McShane, 1997).

Approaches in the 1990s focused on greater cooperation with and inclusion of communities in conservation projects, although engaging local communities in internationally-funded environmental initiatives remains a challenge today (Ramutsindela et al., 2011).

Modern Era: Humanitarian Goals and Unintended Environmental Impacts

The current wave of international philanthropy focuses primarily on the economic development of poorer nations for humanitarian objectives (The Hudson Institute, 2010). Primarily, in recent years, the goals of projects tend to emphasize improving education and health in developing countries (Bill and Melinda Gates Foundation, 2012a; Mfonobong, 2011). Table 1 summarizes the nature of contributions from the United States’ 50 most generous individual philanthropists in the year 2009, providing an approximate idea of where international funding is focused. As shown below, goals relating to education, arts and culture, health, and medical research far overshadow environmental causes, which make up only 5.91% of total projects (Ramutsindela et al., 2011).
Table 1. Approximate focus and frequency of support to worldwide projects by the United States’ 50 most generous philanthropists, 2009.

<table>
<thead>
<tr>
<th>Areas of Support</th>
<th>Frequency of Support (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>25.75</td>
</tr>
<tr>
<td>Arts and Culture</td>
<td>18.82</td>
</tr>
<tr>
<td>Health</td>
<td>9.91</td>
</tr>
<tr>
<td>Medical Research</td>
<td>7.93</td>
</tr>
<tr>
<td>Environment</td>
<td>5.91</td>
</tr>
<tr>
<td>Social change</td>
<td>5.91</td>
</tr>
<tr>
<td>Global security</td>
<td>5.91</td>
</tr>
<tr>
<td>Jewish cause</td>
<td>2.98</td>
</tr>
<tr>
<td>Youth</td>
<td>2.98</td>
</tr>
<tr>
<td>Science</td>
<td>1.99</td>
</tr>
<tr>
<td>Free societies</td>
<td>1.99</td>
</tr>
<tr>
<td>Libraries</td>
<td>1.99</td>
</tr>
<tr>
<td>Deprivation and violence</td>
<td>1.99</td>
</tr>
<tr>
<td>Disabilities</td>
<td>1.98</td>
</tr>
<tr>
<td>Information access</td>
<td>0.99</td>
</tr>
<tr>
<td>Aquarium</td>
<td>0.99</td>
</tr>
<tr>
<td>Humanitarian</td>
<td>0.99</td>
</tr>
<tr>
<td>Community Initiatives</td>
<td>0.99</td>
</tr>
</tbody>
</table>

(Ramutsindela et al., 2011)

The near-total lack of environmentally-focused philanthropy is equally evident with African philanthropists. Out of the 40 wealthiest people in Africa, seven are major donors to philanthropy projects, none of whom target environmental problems (Mfonobong, 2011).

However, new strategic approaches in philanthropy increasingly focus on environmental outcomes, and seek to balance both social and environmental objectives (CSR Asia, 2010; Hill, 2009). The Bill and Melinda Gates Foundation is one example of a foundation that recognizes the link between the environment and humans, and in doing so, has been able to positively impact both simultaneously.

*The Bill and Melinda Gates Foundation*

The Bill and Melinda Gates Foundation (BMGF) is one example of a modern philanthropic foundation that does consider environmental outcomes in its planning. Originally endowed with $94 million from Mr. Bill Gates in 1994, the Foundation began as the William H. Gates Foundation, aimed at addressing global health and community needs, such as education in the Pacific Northwest of the United States (Bill and Melinda Gates Foundation, 2010a). Today the Bill and Melinda Gates Foundation is the largest private foundation in the world and has funded over $25 billion worth of grants toward global development (Bill and Melinda Gates Foundation, 2010a).

The most significant global health projects in the early years of the Foundation were the administration of vaccines, especially those for malaria and polio, and AIDS vaccine development (Bill and Melinda Gates Foundation, 2010a). In 2006, BMGF partnered with the Rockefeller...
Foundation in a $150 million grant to begin the Alliance for a Green Revolution in Africa (AGRA) – a research-based program with the objective of fighting hunger on the African continent. This was the first grant in what would eventually become the Gates Foundation’s Agricultural Development Program (ADP).

In 2007 the William H. Gates Foundation merged with the Gates Library Foundation to create BMGF, whose four focus areas initially included Global Health, Education, Pacific Northwest, and Libraries. In 2008, the Foundation awarded four grants totaling $17.6 million to address the food crisis in the developing world (Bill and Melinda Gates Foundation, 2010a).

In 2009 at the World Food Prize in Des Moines, Iowa, Bill Gates announced another grant of $120 million to encourage collaboration in empowering farmers to create better food systems to fight world hunger (Bill and Melinda Gates Foundation, 2010a). Today, the strategy of the Agricultural Development Program involves researching and developing productive crops and improved livestock practices, collecting data to prompt agricultural policy changes and measure grant progress, and increasing smallholder farmer access to the marketplace. The Bill and Melinda Gates Foundation also prioritizes the sustainability of their projects, a response to the degradation of land in the developing world that occurred after the Green Revolution in the 1960s to 1980s (Agricultural Development Strategy Overview, 2011). The Foundation funds a variety of projects overseen by international environmental non-governmental organizations (ENGOs) that support these goals (Bill and Melinda Gates Foundation, 2010a).

The Bill and Melinda Gates Foundation operates under the slogan, “All Lives Have Equal Value” (Bill and Melinda Gates Foundation, 2010a). The value of a human life for the purposes of philanthropy is both qualitative, in terms of social value, and quantitative, in terms of monetary value. United States regulatory agencies such as the Environmental Protection Agency and the Food and Drug Administration determine the monetary value of a human life to be in the millions of dollars (Appelbaum, 2011), a value which is commonly applied in philanthropic analysis to determine budgets and projected goals. In striving for this equal valuation of human lives, BMGF directs a substantial portion of their funds to East Africa (Bill and Melinda Gates Foundation, 2012a). East Africa is a region with high necessity for philanthropy. The Bill and Melinda Gates Foundation funds many projects in this region that range from service delivery and information sharing to primary research and data provision.

This research expands upon past research involving philanthropy in Africa by looking specifically at current philanthropy in East Africa, a topic on which little research exists. A case study analysis of projects by the Bill and Melinda Gates Foundation offers insights on how to increase positive environmental outcomes from international philanthropy.
Methods

This paper examines cases from the Bill and Melinda Gates Foundation because it is one of the most reputable and established foundations involved in international philanthropy (Johnston, Lombardi, Richardson, & Ruiz-capillas, 2011). The Foundation has also maintained a long standing presence in Africa since 1998 (Bill and Melinda Gates Foundation, 2010b). Studying cases funded by the same donor organization also means that many potentially confounding factors are held constant, making comparison more meaningful.

The four projects studied here are all under the BMGF Agricultural Development Program, and all are active in rural parts of East Africa. The study projects include East Africa Dairy Development, Farm Radio International, Drought Tolerant Maize for Africa, and Vital Signs. This paper examines the projects in depth using an overview of reports and project websites. From this, the research incorporates a detailed case comparison analysis to determine how projects integrate environmental considerations into their strategies, using a logical framework approach to model the environmental and social factors addressed throughout the project process. Finally, based on the results, the paper identifies potential opportunities to improve environmental outcomes at the various stages of the projects.

Table 2. Primary activities and countries active for case studies.

<table>
<thead>
<tr>
<th>Project</th>
<th>Primary Activity</th>
<th>Countries Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Africa Dairy Development</td>
<td>Service delivery</td>
<td>Kenya, Uganda</td>
</tr>
<tr>
<td>Farm Radio International</td>
<td>Information sharing</td>
<td>Tanzania, Uganda</td>
</tr>
<tr>
<td>Drought Tolerant Maize for Africa</td>
<td>Primary research and distribution</td>
<td>Ethiopia, Kenya, Tanzania, Uganda</td>
</tr>
<tr>
<td>Vital Signs</td>
<td>Data provision</td>
<td>Ethiopia, Tanzania</td>
</tr>
</tbody>
</table>

(Bill & Melinda Gates Foundation, 2012)

The first case study is East Africa Dairy Development, which is an on-the-ground service delivery project. The second case, Farm Radio International, is also an on-the-ground project, with a focus on information sharing. The third case study is Drought Tolerant Maize for Africa, which focuses on original research and some distribution. The last case study is Vital Signs, a data provision system concentrated on collection and monitoring. Together these projects represent the multiple levels at which international private philanthropy can influence the environment.
Results

This section examines the four case studies in terms of underlying project goals, project organizational and implementation structure, and environmental implications.

East Africa Dairy Development

Underlying Goals and Structure

East Africa Dairy Development (EADD) is a four-year pilot program that aims to increase the incomes of dairy farmers in East Africa (Gaitano, 2011). Heifer International is the primary implementer of this project, and works in conjunction with four other project partners, with funding from BMGF. In Kenya and Uganda, EADD works on creating “cooperative hubs” where farmers receive business and animal husbandry training, artificial insemination services, veterinary care, and a market to sell their milk at higher prices. The project also distributes cross-bred cattle to increase the quality and quantity of milk produced (Bill and Melinda Gates Foundation, 2012b; “East Africa Dairy Development,” 2012).

Heifer International instigated EADD in 2009, with plans for the pilot phase to extend until 2012, at which point the main phase will continue for six years (Gaitano, 2011). Project participants have seen a 102% increase in milk sales since 2009, with an average of 304,000 liters milk per day sold by East African dairy farmers. East Africa Dairy Development has also performed 181,000 artificial inseminations, with an increasing annual average. The 27 current cooperative hubs associated with the program involve nearly 173,000 farmers, and operate chilling plants to pool farmers’ milk and create a formal market for sale. Each hub is a starting point for the formation of dairy business associations, of which there are 57 in East Africa (Bill and Melinda Gates Foundation, 2012b; “East...
The goal of EADD is to double the household incomes of dairy farmers around East Africa. The project aims to aid 1,000,000 people from 179,000 dairy farming families in the ten-year span (“East Africa Dairy Development,” 2012). At this point, BMGF reports that increased incomes have already helped to upgrade the homes and farms of East African dairy-farming families. Additionally, more children are in school because their families are now able to afford school fees (Bill and Melinda Gates Foundation, 2012a).

Environmental Implications

Environmental implications of dairy development in East Africa include a variety of negative issues surrounding livestock, such as overgrazing and pollution (Kurwijila & Bennett, 2007; McDermott, Staal, Freeman, Herrero, & Van de Steeg, 2010). However, while EADD has increased the number of cattle that graze on the land, the training and services farmers now receive can serve to mitigate these impacts. Due to environmental pollution, East African governments may begin to dissuade families from dairy farming near urban areas (Kurwijila & Bennett, 2007). In addition, the rural highlands of East Africa are reportedly better for the environment when grazing cattle, due to the reduced negative effects on humans living near cattle farms (Kurwijila & Bennett, 2007).

Other potential environmental concerns arising from EADD include the overgrazing of natural pastures due to increasing livestock numbers and pollution from the new chilling plants. Also apparent is the issue of development of new lands as farmers move to undeveloped rural areas to find new grazing land for their cattle (McDermott et al., 2010). On the other hand, livestock manure can sometimes be beneficial for the land through improved organic nutrient cycling. Additionally, some dairy farmers plant fodder species for cattle grazing, which can help protect the soil from erosion among other environmental benefits (Muriuki, n.d.). East Africa Dairy Development is an on-the-ground program that directly involves farmers. This allows the project to work directly with local farmers so that they can produce milk more efficiently in terms of environmental impacts.

Farm Radio International

Underlying Goals and Structure

The Bill and Melinda Gates Foundation sponsors Farm Radio International’s work in five African countries, including Uganda, Tanzania, Malawi, Ghana, and Mali. Partnering with radio stations in these countries, Farm Radio International broadcasts 30 minute programs disseminating agricultural knowledge to farmers on topics such as disease-resistant crops, composting, animal husbandry, soil, and water, with the goal of “enhancing the ability of broadcasting partners to serve the interests of

---

1 Farm Radio International is active in 39 countries, supported by BMGF in five (Farm Radio International, 2012).
small-scale farmers and their communities to ensure food security” (Farm Radio International, 2012). Its work across five countries has reached approximately 39 million farmers.

Farm Radio’s work as an information-disseminating organization has had positive sustainability outcomes across the continent (Farm Radio International, 2012). One recent example of Farm Radio International’s work is its broadcasting program promoting practices to improve soil health in Tanzania. Recognizing that intercropping cereals and grains with pulses and legumes can lead to great improvements in soil health, Farm Radio International has reached out to 300,000 farmers to encourage them to intercrop maize with soybeans (Miller, Kone, Jackson, Leclair, & Perkins, 2012). The program further offers practical advice on how to accomplish this. This not only preserves the environment and improves maize yields, but also increases the iron and protein content of meals and provides farmers with income from these cash crops (Miller et al., 2012).

Environmental Implications

Many aspects of Farm Radio International have made it successful in helping farmers move toward more sustainable agricultural practices. To this end, the aspect of the project that BMGF specifically sponsored was The African Farm Radio Research Initiative (AFFRI) conducted to improve the effectiveness of the project (Bill and Melinda Gates Foundation, 2012c). AFFRI found that a primary determinant of success in the program was engaging local communities. For example, a program by which farmers could ask specific questions to broadcasters, known as the phone-in program, was important for outreach and impact, according to 61% of extension agents (Perkins, Ward, & Leclair, 2011). Additionally, AFFRI found that farmers who had a role in the process through planning, monitoring and evaluation of the program were 35% more likely to adopt the highlighted sustainable agriculture, compared to 20% of passive listeners and 4% of the control community (Perkins et al., 2011).
In addition, researchers found that broadcasters did not signal a Farm Radio broadcast long enough in advance to allow women and children to return from the fields. Thus, they extended the length of the song that was played before a program was about to begin (Kate Schneider, personal communication, November 2, 2012).

Farm Radio International also seeks longer-term impacts from their work. Radio communication is one way to allow for the diffusion of valuable sustainable practice knowledge in countries where many people do not have internet access. This means that policy makers and program planners are able to hear the aspects of farming that are most salient to farmers and fine-tune the programming to make it most useful. Through effective communication with local communities, the number of farmers who uptake more sustainable agricultural practices increases (Farm Radio International, 2012).

**Drought-Tolerant Maize for Africa**

*Underlying Goals and Structure*

Drought Tolerant Maize for Africa (DTMA) is a primary research and distribution project that aims to develop open-pollinated and hybrid varieties of maize and distribute these across Africa to increase yields and reduce the hunger crisis (LaRovere et al., 2010). To accomplish this, the International Maize and Wheat Improvement Center (CIMMYT) developed 34 drought tolerant maize varieties specific to drought-prone areas of Africa and cross-bred these with varieties possessing other favorable traits such as high yield, early maturation, taste, and disease resistance (CIMMYT, 2012). After scientists created these varieties, CIMMYT distributed them to 2 million smallholder farmers across 13 African countries, four of which are in East Africa (CIMMYT, 2012). Researchers expect DTMA to increase yields by 10-34%, positively impacting 2 million smallholder farmers benefiting from higher yields and incomes, and generating $1.5 billion in benefits that will accrue to producers and consumers. (Bill and Melinda Gates Foundation, 2012d).

In order to ensure that DTMA is applicable and useful to the stakeholders involved, CIMMYT has undertaken extensive data collection through household surveys. An example of a country from outside East Africa where this process has led to improvement in community adoption of drought-tolerant maize is Malawi, where farmers expressed their strong preference for early-maturing varieties to reduce the chance of starvation (Bill and Melinda Gates Foundation, 2012d). Specifically, farmers preferred variety ZM309, which matured early according to 91.4% of those surveyed and which also were found to be somewhat less volatile than other varieties (Erenstein, Tesfahum Kassia, Langyintuo, & Mwangi, 2011). Responding to this feedback, the Malawi federal government endorsed this variety and now encourages its use throughout the country (Bill & Melinda Gates Foundation, 2010). In CIMMYT’s Household Survey, this preference for early maturation was echoed elsewhere in East Africa (Erenstein et al., 2011).
Unfortunately, there are barriers to making DTMA self-sustaining. A study of ten East Africa countries, completed in 2007, found that the market for improved seeds is currently weak due to a poor extension system, lack of infrastructure, and farmers’ unwillingness to adopt new seed varieties. The increase in the number of seeds being sold, doubling from 1997 to 2007, is comparatively small to the large jump in the number of seed producers, which changed from 19 to 80 in this region over the same period (Langyintuo, 2007). This project also faces environmental constraints, which if not properly monitored, can further degrade the land.

### Environmental Implications

Growing maize in Africa is not only difficult due to drought, but also because of soil fertility. While using fertilizers such as manure and agricultural waste to support maize production can help mitigate this issue, fertilizers also have many potential negative impacts, including ground and surface water pollution, soil acidification, and further erosion and land degradation (Admasu, 2009). Researchers have also found that monocultures of maize further degrade soil quality, though this effect is reduced when farmers use no-till versus plough-based methods (Lal, 1997).

In spite of the fact that water availability inhibits maize growth, researchers recognized as early as 1997 that maize yields are greater than millet, wheat, or sorghum, making it the most viable option when grown in drought constrained areas of Africa (Heisey & Edmeades, 1997). Scientists at this time also recognized the potential for global climate change to further constrain corn yields (Heisey & Edmeades, 1997). In 2008 researchers continued to cite climatic variability as a decisive factor in agricultural production, demonstrating that communities in East Africa would be especially susceptible to changing climates due to poverty (Cooper et al., 2008). This highlights the importance of programs such as DTMA, which reduce the potential of starvation in these vulnerable communities by helping to increase the robustness of maize.
There are also risks associated with using genetically modified (GM) crops, such as the potential for GM genes to spread to wild plants, which could then become drought tolerant, ultimately causing these wild plants to possess undesirable characteristics (Mellon & Rissler, 2012). However, project planners must weigh this environmental risk against the positive impact this project can have on the environment. One potential positive impact from DTMA is that increased and sometimes less volatile yields of maize could reduce the need to expand land use for agriculture.

**Vital Signs**

*Underlying Goals and Structure*

One of the more explicitly environmentally focused projects supported by BMGF, Vital Signs is an environmental data collection and monitoring program with the aim of informing decision-makers involved in sustainable agricultural development (Conservation International, 2012a). Project partners Conservation International, the Earth Institute, Columbia University and the Council for Scientific and Industrial Research of South Africa, launched the program in February 2012, with a $10 million grant from BMGF. This grant will fund the first phase of the program, which lasts three years. The projected timeline for the entire program is in three phases, lasting a total of 10-15 years. Vital Signs is currently working in Ethiopia and Tanzania, but hopes to reach a global scale, while still focusing on areas undergoing agricultural development or intensification (Conservation International, 2012a; Sara Barbour, personal communication, November 1, 2012).

Vital Signs employs a three-layered system composed of measurement, analytical output and decision (Conservation International, 2012a). Measurement includes space and aircraft observation to create land use maps, plot-level observation to obtain agricultural yields, continuous data from meteorological stations and sentinel landscapes to extract data concerning agricultural and ecosystem services, and human well-being. These data will be co-located and will incorporate both existing and new reports. Following data collection, analysts will develop an integrated analytical framework to cross-analyze data. Lastly, analysts will construct indicators to aid decision-makers (Conservation International, 2012a).
The first year of Vital Signs involves designing the general system, building infrastructure for data collection, finalizing scientific designs and making contact with policymakers. There is the hope to eventually build up the capacity of both local and national African organizations so that multiple African organizations can run the monitoring program (Conservation International, 2012a; Sara Barbour, personal communication, November 1, 2012).

**Environmental Implications**

The goal of Vital Signs is to use monitoring data to “[increase] crop yields and incomes without damaging the environment and the natural benefits it provides to farmers” (Sara Barbour, personal communication, November 1, 2012). The project implementers believe that crop yield and income are not the only factors in alleviating poverty through agriculture; other significant factors include food security, climate security, ecosystem health, and livelihoods. This results from the fundamental connection between farmers and their environment (Sara Barbour, personal communication, November 1, 2012).

While the goal of Vital Signs is not simply positive environmental outcomes, the project is a means to the ultimate goal of sustainable agricultural development and poverty alleviation. The main environmental factors considered in Vital Signs include water, soil, fuel wood availability, land type, climate and biodiversity (Sara Barbour, personal communication, November 1, 2012).

According to Dr. Sandy Andelman, the Vice President of Conservation International, a purpose of Vital Signs is to “effectively evaluate the trade-offs and synergies among policies for agricultural development, poverty alleviation and conservation of nature” (Conservation International, 2012b). Without an effective environmental monitoring system, “we will fail at meeting the challenge of making sure everyone on the planet has enough food to eat while earth’s life support system is...
sustained” (Conservation International, 2012b). Vital Signs is a pioneer project in terms of linking philanthropy and the environment. The project uses environmental monitoring to set the stage for future projects to consider the environment directly in project planning and project impact evaluation (Conservation International, 2012a).

Discussion

The Bill and Melinda Gates Foundation motto is “All Lives Have Equal Value” (Bill and Melinda Gates Foundation, 2012a). According to moral philosopher Peter Singer, this fact has always been so, but only recently have philanthropists begun acting upon it. Socioeconomic differences and also differences in access to environmental good and services cause some lives to suffer more than others, thus creating a moral need for more equal living standards worldwide. Private donors can give grants directly to projects with both humanitarian and environmental objectives without encountering many of the barriers faced by more formal types of foreign aid (Singer, 2006). Thus, private donors can direct their funds where they are most needed: to issues most negatively affecting the environment, and consequently, human lives.

The Bill and Melinda Gates Foundation acts upon these motivations in a clear manner. One of the phrases often used by BMGF is “all people deserve the chance to live healthy, productive lives” (Bill and Melinda Gates Foundation, 2012a). Environmental issues affecting the poor in developing countries are instances of injustice, if environmental benefits are considered to be a human right. In the Universal Declaration of Human Rights, a United Nations-created document listing rights that every human should enjoy, Article 25 includes the “right to a standard of living adequate for the health and well-being of himself and of his family” (UN, 2012). Because the environment affects standard of living, environmental benefits are a human right. Accordingly, humans have obligations of justice to improve the environment for those in need, which is the main goal of environmental consideration in philanthropy. Melinda Gates has claimed to feel an incredible responsibility to help the world’s poor (Bill and Melinda Gates Foundation, 2012a), which is one of Pogge’s universalist morals. The intensity with which BMFG donates to the poor and their environment demonstrates the obligation of justice felt by the organization’s founders.

Moral arguments are especially appropriate when considering the environment in humanitarian philanthropy. The Bill and Melinda Gates Foundation, as a global leader in international philanthropy, implements humanitarian projects while considering the environment. The Foundation chooses grant recipients according to its own donor incentive, which stems from its belief that “All Lives Have Equal Value”. Therefore, in order to pursue environmental consideration in humanitarian philanthropy, donors must apply incentives as BMGF does.

The trade-offs between agricultural development, poverty alleviation, and environmental sustainability often appears to be at odds in environmentally-focused philanthropy. However,
BMGF demonstrates that private philanthropy can accomplish these objectives simultaneously. In fact, the key conclusion of this analysis is the fact that BMGF, while accomplishing social goals, is in the unique and influential position of being able to address environmental degradation all levels, both through funding a variety of different types of projects (service delivery, information sharing, primary research and distribution, and data provision) and through addressing the environment throughout the entirety of each individual project.

From choosing grant recipients to developing the market systems in which agricultural products are sold, BMGF takes into account the environment. When deciding on grant recipients, BMGF considers how projects will impact the environment (Agricultural Development Strategy Overview, 2011). When grants are awarded, BMGF works with project partners to explicitly establish guidelines for carefully monitoring environmental impacts and mitigating risks associated with the projects. The project then progresses to implementation. Figure 1 below illustrates the logical frameworks for each of the case studies analyzed in this research, depicting the various inputs, processes, and outputs of the projects (Clark & Sartorius, 2004). Positive environmental impacts are noted, as well as negative environmental implications, which are displayed in red.

One common theme among all of these projects that is influential in increasing the likelihood of sustainable outcomes is working with the community to meet its specific needs. This occurs first through data collection and then adjustments to make the project more applicable, as in the case of DTMA and Farm Radio International. In this way, data collection factored prominently into BMGF’s projects, allowing verification of the positive impacts of projects and identifying opportunities for improvement. In the case of EADD and Vital Signs, BMGF includes African stakeholders directly in the projects. For EADD, this takes the form of cooperative hubs, which formalize markets, leading to higher prices received by suppliers of dairy products. Through this inclusive approach, BMGF is able to increase involvement in these projects, leading to the positive environmental outcomes outlined in the logical frameworks (Figure 1) while simultaneously decreasing hunger in the region.

While these projects have succeeded in producing primarily positive environmental outcomes, negative and currently unaddressed environmental impacts remain. For example, maize monocultures result in soil degradation. Pollution from chilling plants of milk and overgrazing from cattle (both aspects of EADD) also potentially negatively impact the environment. Economic and practical weaknesses in Africa, such as lack of market infrastructure of low seed adoption rates, also have important implications for environmental outcomes, since ignoring these factors can lead to the failure of a project.
Figure 1. Logical frameworks for BMGF case studies.
Overall, BMGF has demonstrated that there is a place for the environment when addressing humanitarian goals, as illustrated by the ability of this organization to achieve a number of positive environmental outcomes alongside poverty alleviation. As Kate Schneider states, “Solving human poverty is not an ends-justifies-the-means problem if environmental degradation is the means. We can’t afford to do that” (Kate Schneider, personal communication, October 11, 2012).

**Recommendations**

Various recommendations for donors arise from examining the positive aspects as well as potential for improved consideration of environmental issues in these four BMGF projects. Project planners can adjust the inputs section of each logical framework to improve processes, outputs, outcomes and impacts of the projects. One potential addition to inputs often touted by BMGF is to create the infrastructure for better market systems. The infrastructure in EADD showed the potential of improved environmental impacts, and this could apply to DTMA as well as future BMGF projects.

The results show that project donors and implementers can also adjust the processes step in the logical framework to alter outputs, outcomes and impacts – and to choose which outputs, outcomes and impacts will be monitored and used to evaluate project performance. To achieve long-standing positive outcomes for communities, environmental impacts of project processes must be considered alongside to developmental goals. To this end, data collection is vital, and the resulting information should be made transparent to the public. This information could either justify environmental impacts or provide the needed data to spur environmental improvements for on-the-ground projects such as EADD and DTMA.

Furthermore, in making information on environmental performance of projects transparent, BMGF could inspire other philanthropic organizations to consider environmental factors in project planning (Johnston et al., 2011). As the largest private philanthropic organization in the world, it is key that BMGF consider environmental implications in their project processes. If they do so, younger and smaller private philanthropic organizations may follow.

All projects considered in this study could continue to benefit from soliciting feedback from participants and other on-the-ground stakeholders for improvements as part of the project planning process. This allows for project planners to implement improvements – including improvements to environmental outcomes of projects – that might otherwise be unanticipated. These information channels can be opened in a variety of ways, including by training local community members to implement projects, as well as providing local African organizations with the financial and organizational capacity to evaluate their own projects. All four of these cases involve local communities, which has strengthened and expanded their social and environmental impacts. Hence BMGF projects should continue incorporate community involvement into project processes.
Mandates from philanthropic donors in the West may ultimately prove to be the most effective way to incorporate local stakeholder involvement in all project phases.

Because private foundations often do not pay taxes such as income tax or property tax, some consider the federal government to be a donor to these organizations (Brody & Tyler, 2009). In this way, governments have a certain amount of jurisdiction over private philanthropic activity. Federal governments in East Africa should provide incentives for philanthropic donor organizations that consider the environment in project implementation. Vital Signs, in particular, has found working with federal governments in East Africa to be a critical factor of success (Sara Barbour, personal communication, November 1, 2012). Additionally, by providing positive incentives for environmental monitoring and reporting, governments can ensure private donors are more likely to begin considering the environment in their project planning. As more donor organizations get on board, there is increasing potential to improve environmental outcomes and mitigate unintended environmental consequences in international philanthropy.
Works Cited


Chapter 1 Appendices

Appendix 1A

Interview with Sara Barbour, Coordinator, Vital Signs Monitoring System, Conservation International
1st November 2012, 11:46 AM

What is the official name of the project?

Vital Signs, or the Vital Signs Monitoring System.

What was/is the time frame for this project?

Vital Signs was launched in February of this year with a $10 million grant from the Bill & Melinda Gates Foundation. This grant covers phase 1 of Vital Signs (three years) of a three-phase process (10-15 years).

Where is your project geographically located (if possible, more specific than country names)?

Vital Signs will be a global monitoring system, focused on regions currently undergoing agricultural development and intensification. During the first three years (phase 1), Vital Signs will launch in regions of Ethiopia, Ghana and Tanzania, followed by launches in Mozambique and Uganda. In later phases Vital Signs will expand throughout Africa, as well as to regions in Asia and South America.

Broadly defined, what is the type of this project (health, biodiversity conservation, land conservation, water improvement, agriculture, etc)

Vital Signs is a monitoring system that will provide policy-makers with integrated data on agriculture, ecosystem services and human well-being to help them make sustainable agricultural development decisions.

What were the goals of this project?

Perhaps more than any other group of people, farmers rely on nature for their livelihood and way of life. When it comes to agricultural development, however, the energy, water, and fertile soil that healthy ecosystems provide to farmers are rarely monitored. While goals for increasing crop yields and income are critical, they don’t give us the whole picture. Nature is integral to farmers’ well-being, and sustainability requires a system that reflects the interconnectedness of food security, climate security, ecosystem health and livelihoods. Decisions on agricultural development are currently based on incomplete information, and improving agricultural, social and environmental statistics in African countries is critical to our goal: increasing crop yields and incomes without damaging the environment and the natural benefits it provides to farmers.

6. In what country/region did (is) the project take (taking) place? Is the project rural/urban in nature?

Vital Signs is in the process of selecting the specific regions on which we will focus in our first three countries, Ethiopia, Ghana and Tanzania.

What environmental factors were important to consider when planning this project (i.e. climate, soil, water, land type?)

Vital Signs will measure a large variety of environmental factors, from water, soil and fuel wood availability to land type, climate and biodiversity (see attached report from the Vital Signs pilot project in Tanzania).

What economic, political, and social/cultural factors were important to consider when planning this project?
Political factors are a big piece of successfully launching Vital Signs. Our first step in each country is meeting with government officials in the Ministries of Agriculture, Water etc. to determine the most effective partner agencies and regions for the monitoring system, and the recent death of the President of Ethiopia has slowed our progress in that country since the confusion in government has slowed their responsiveness.

What is the cost or estimated cost of this project, and over what time frame?

The $10 million Gates Foundation grant is our current source of funding, and we are meeting with other potential private sector partners to expand funding for the Vital Signs Fund and set up the Vital Signs Private Sector Advisory Council.

What were the positive outcomes of this project (assess benefits quantitatively if possible). If the project is on-going, what are the expected outcomes and what is the current prognosis of the project?

Vital Signs will provide policy-makers and the private sector with integrated information on agriculture, ecosystem services and human well-being. As a global public good, Vital Signs will make both the raw data and an easy-to-use dashboard available online, so that leaders around the world will have an effective tool to help them gauge tradeoffs and make informed decisions on sustainable agricultural development. Vital Signs focuses on robust metrics that are relevant for sustainability, and will monitor changes in the vital ecosystem services upon which agriculture and farmers’ livelihoods depend.

Appendix 1B

E-mail Communication with Kate Schneider, Research Analyst, Bill and Melinda Gates Foundation
2nd November 2012, 6:47 PM

As for the radio story, basically women farmers said that the intro song signaling the beginning of the program wasn’t long enough for them to get themselves and their children in from the fields and near the radio, so the organization running the programs actually increased the length of the song.

Appendix 1C

Interview with Kate Schneider, Research Analyst, Bill and Melinda Gates Foundation
11th October 2012, 1:30 PM

Do you focus pretty much exclusively on agriculture at the foundation?

No, agriculture is just one of our program strategies but we are the, yeah so I sit on a really unique team. We’re part of agricultural development and under that we work on agricultural policies and there’s a few of us that are the only people across the foundation that actually have a mandate to address gender and environmental issues and so we do so in the context of agriculture in that those are the teams we sit on, the issues that you know are our backgrounds and expertise but we don’t have counterparts anywhere else. With gender especially that’s really interesting. And with environment I mean we don’t quote on quote do climate change. So we don’t make grants specifically targeting major drivers of climate change. But we make grants targeting agriculture and climate change you can’t talk about agriculture without talking about the environment because it’s an environmental resource. It’s an ecosystem service provisioning food for people is one of the services nature provides. And so we absolutely have to talk about the environment but I wouldn’t say that we’re not the Moore Foundation for example, where their entire mission is largely around making grants focused on
environmental resource protection. And we certainly don’t focus really on conservation as a goal. It’s well we focus on important environmental issues but through the lense of agriculture.