THE HOWARD G. BUFFETT FOUNDATION

2013 ANNUAL REPORT

TABLE OF CONTENTS

Photo: Jeannie O'Donnell

Photo: Molly Wilson

STATEMENT OF PURPOSE

Established in 1999, the Foundation's primary mission is to improve the standard of living and quality of life for the world's most impoverished and marginalized populations. We focus our funding on filling critical gaps to catalyze transformational change.

We invest in three main areas: 1) food security; 2) water security; and 3) conflict mitigation.

Our support for global food security is focused on agricultural resource development for smallholder farmers in the developing world. We invest in a range of interventions including research, improved practices and advocacy to promote the best ideas that will have the broadest impact on the most vulnerable and under-resourced communities. In the U.S., we advocate for greater awareness of hunger in our local communities and the critical role U.S. farmers will continue to play to meet future global demand for food while sustaining our limited natural resources.

Our investments in water security are closely aligned with our food security priorities with a focus on water resource management to support agriculture.

Conflict remains a barrier to achieving global food security. We invest in conflict- and post-conflict countries in several ways: we look for opportunities that will bring an end to conflict or address the circumstances that fuel conflict; and we invest in opportunities to support communities that have been affected by conflict. We see our funding as the first-risk capital that is required to create change in the most difficult environments with the hope it will attract additional funding.

The Foundation continues to make smaller investments in areas where we have deep knowledge and relationships including initiatives with cheetah and mountain gorilla conservation and support for projects in the local communities in which we operate.

The Foundation does not accept unsolicited proposals, and we typically do not provide general operating support.

December 31, 2045, is the final dissolution of the Foundation's assets.

TRUSTEES

Howard G. Buffett, Chairman and CEO
Devon G. Buffett, Secretary
Trisha A. Cook, Treasurer
Nicolette de Bruyn
Howard W. Buffett
Erin M. Morgan
Michael D. Walter
Chelsea M. Zillmer

LETTER FROM THE CHAIRMAN

This past year I published what I consider to be my first "real" book. It isn't about photography; it is about the experiences and journeys behind the lens. It is about the places I visited and the everyday people I talked to when I wasn't taking pictures, and the hard lessons I learned along the way. Writing the book over the last two years forced me to think about what I and our Foundation have accomplished in the last 14 years – and what opportunities we've missed. Our most successful efforts were a result of people who were committed to change no matter the odds or obstacles. When people operate with a sense of urgency and with a clear and committed interest in solving the worst and most difficult problems, change happens. Change makers understand what it took me nearly a decade to fully grasp: that each of us has a limited amount of time in life to achieve our goals.

In 2001, I attended what is commonly referred to as "planter's school" at Sloan Implement, my local John Deere dealer, in Assumption, Illinois. The most important thing farmers do is plant their crops. If you do not get this right, you never achieve your best yields, so every farmer wants to learn how to do it better.

I was sitting in a large, steel shed when the speaker said something that caught my attention; "You think of your operation as one continuous activity. You fertilize, plant, spray, harvest, and start all over, one year blends into the next." But, he pointed out, when your dad lets you climb onto the tractor to plant for the first time and then you climb off to let your son or daughter take over, you have about 40 chances, 40 growing seasons, to get the best crop you can grow.

After that day I thought about farming differently. I realized I couldn't afford to make even the smallest mistakes; I had to view each season as my best opportunity to do it right. I could no longer look at crooked rows and think, "I'll do better next year." Instead, I felt the urgency of my limited chances.

It occurred to me in that moment that life is the same; most of us think of the passing years as one continuous cycle where we have limitless opportunities to do better. The truth is we each get about 40 productive years to achieve our goals. Viewing life in the context of 40 limited chances forces you to approach each year with a sense of urgency and focus, and with little tolerance for wasted time or resources.

40 Chances: Finding Hope in a Hungry World recounts the many stories that laid the foundation for my evolving philosophy on philanthropy and what it can – and cannot – achieve in a lifetime. I have always subscribed to the belief articulated by John F. Kennedy that "our problems are man-made; therefore, they may be solved by man." But I've learned an expensive and painful lesson along the way: much of the non-governmental organizational (NGO) world is set up to fail. Over the past 40 years, we have not made the kind of progress we should expect to see for all the talent, time and money we have spent trying to eliminate hunger and poverty. One reason for this is the "charity" mindset that addresses only the surface of deep-rooted problems over the course of a standard three-to-five year "project" timeframe. It's not unlike weeding your garden without pulling out the roots – things will look good until enough time passes and the weeds grow back.

Photo: Jeannie O'Donnell

I first viewed mountain gorillas in 1997. I have returned to photograph these animals many times, including in Uganda, Rwanda and the Democratic Republic of Congo (DRC). Today, the mountain gorillas in DRC are threatened by human conflict, something we are deeply committed to helping resolve.

If you try to address a problem like food insecurity as a project, there is a fixed beginning and end which will be enough time, resources and stakeholder engagement to provide immediate hunger relief but not enough to help families secure their food supply long term or change the policies that keep people hungry.

PUTTING YOURSELF OUT OF BUSINESS

Life's challenges are not simple. Well-intentioned NGOs will try to buy more time for their efforts by making each project the next success story for their next fundraising campaign, which requires that projects be designed to show some kind of short-term success. "Successful" projects will bring NGOs more funds to keep more staff employed and more projects going, which in turn creates incentives for NGOs to focus on keeping themselves in business, not looking for permanent solutions that put themselves out of business. That is the core reason why we have made so little progress against hunger: short-term success requires short-term activities and leads to short-term thinking.

There are no short-term solutions to hunger and poverty. Eliminating or significantly reducing hunger and poverty requires behavior change at scale. It requires new policies and changes in culture. This reality means big challenges for NGOs and frankly for our Foundation. Our advantage, however, lies in our expendability. We do not wish to exist in perpetuity; quite the opposite. We have a "going out of business" date already set: our Foundation will cease to exist after December 31, 2045. We have 40 years from the time my Dad gave us his first big gift to accomplish our goals. The freedom and flexibility afforded by our self-imposed expiration date are a rare gift in this arena, and we are still learning how we can use this to make the most effective contributions to create change.

One thing we have learned is that we cannot achieve great things by ourselves. I have always relied on and invested in people first. I have traveled the world talking to smallholder farmers about their crops and the challenges they face in places where crop insurance doesn't exist and access to the most basic technologies and knowledge is difficult. I have listened to the pain of mothers who lost young children to starvation because their crops failed and they could not access or afford to buy food, even though we live in a world with enough aggregate wealth and production capacity to theoretically end hunger. I have met world leaders who have the power to create better opportunities for millions of people who have few good alternatives but whose ideas for change are kept small by politics. So when I meet those rare individuals who rise above the institutional barriers that prevent real change, I make it my business to support them and their work.

That doesn't take a lot of process or paperwork; it just takes recognizing the few who are really good at navigating the turns and, as one of our grantees, Jeremy Gilley of Peace One Day said to me, giving them the equivalent of a Formula One car to make their journey faster and increase the odds that they cross the finish line.

People are ultimately responsible for success or failure. They decide whether to put their interests ahead of others, or to sacrifice for a bigger idea, a greater good. And when people are leaders, they determine if their policies or decisions will benefit themselves or those they represent. These are the decisions that ultimately determine whether or not people are hungry and poor.

Above: Emmanuel de Merode is the park warden for Virunga National Park in DRC. We have partnered with Emmanuel to create sustainable economic opportunities for the populations surrounding the park. Our largest single project in 2013 is in Eastern DRC: the construction of a 12.5 megawatt (MW) hydroelectric plant that will bring electricity to 130,000 people and be the catalyst to private sector value-added processing agribusinesses – taking the pressure off the park resources and providing productive alternatives to conflict.

Left: Jeremy Gilley (foreground), founder of Peace One Day, discusses prospects for peace with Rene Abandi, lead political negotiator for M23, one of numerous armed groups operating in eastern DRC. In November 2013, a special UN intervention force helped defeat the M23; however, the Allied Democratic Forces (ADF) and the Democratic Forces for the Liberation of Rwanda (FDLR), which have political agendas to destabilize the region, are among the negative forces that remain and continue to threaten peace and development.

Photo: Howard W. Buffett

One of our partners in efforts to address corruption and government inefficiencies in Africa is the Africa Governance Initiative (AGI) led by former UK Prime Minister Tony Blair. Here, Tony and I meet with reporters at the 2013 World Food Prize in October.

PEOPLE OVER PROCESSES

Over the years, people have become more important to me because I have often seen processes fail. I remember my Dad saying something like, "put great people in a bad process and usually the process defeats the person." In the end, people must find ways to be successful in spite of bad processes and bureaucracies. It is not always easy.

Viewing life through the term-limited lens of 40 chances means no longer accepting the status quo. It means asking tougher questions and being honest about failures. You can learn from success, but you learn much more from failure. Failure is a driver for change. It can be humiliating and frustrating, but motivated people will not accept it.

The greatest lesson I have learned in my lifetime is to believe in people. I have seen so many circumstances where people should have given up physically, mentally or emotionally, but they do not. The human will to survive is incredibly powerful. So I understand the value of encouraging and developing change makers. We support them through our Foundation, but more importantly, we believe in what they can do to change the world. We just need more of them.

I am often asked how I deal with some of what I see and how I feel when I return from a refugee camp or meetings with former child soldiers. How do I deal with observing and being exposed to death, inequity, injustice and the toll of conflict? It is wearing, at times overwhelming, and at times, tempting to give in to the feeling of hopelessness. I am sure every person finds his or her own way to internalize those feelings. What keeps me going is the knowledge that the people living in these difficult circumstances do not have the option of giving up. They will keep fighting to survive, so we cannot give up on them.

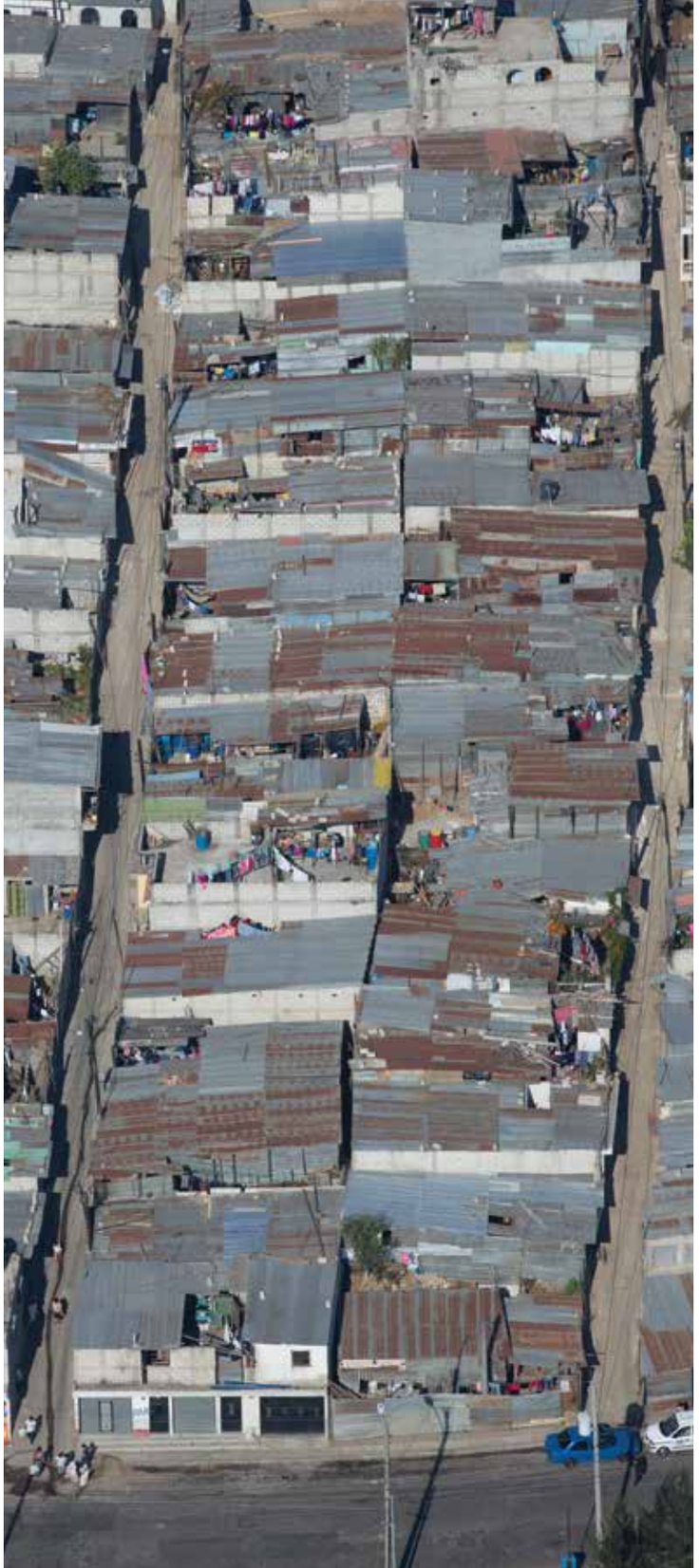
Every trip is different, but regardless of the challenges there is always a soul who is blind to the overwhelming odds; a person who pushes through the barriers and who will not accept the circumstances as they currently exist. I cannot always comprehend or make sense of everything I see, but when I really question how much I can change, I return to a quote by Martin Luther King Jr. that has always stuck with me: "Our lives begin to end the day we become silent about things that matter." Regardless of what kind of impact I believe I can achieve with my 40 chances, I do know I cannot stop trying.

In the pages of this report, I want to introduce you to some of the people who understand the urgency of their 40 chances. These are individuals who have focused their talents to change the world for the better. They are creating change in the most difficult of circumstances and against the greatest odds. They are the individuals who can create real change. They each have two common denominators: they invest in people and they hear the clock ticking.

Our contributions in 2013 reached a high of 45 percent as a ratio to our assets, however we failed to distribute our target amount in 2013. Therefore, as our endowment has increased, it is our hope that within the next few years we identify something that we believe will benefit by a large investment, perhaps a single investment of $100 million.

I close this year's report by acknowledging a special individual, Anja Niedringhaus, a courageous photojournalist whose work our Foundation supported and who became a respected friend. Anja was killed on assignment in Afghanistan on April 4, 2014. Anja understood the value of taking calculated risks to tell important stories. She will be missed.

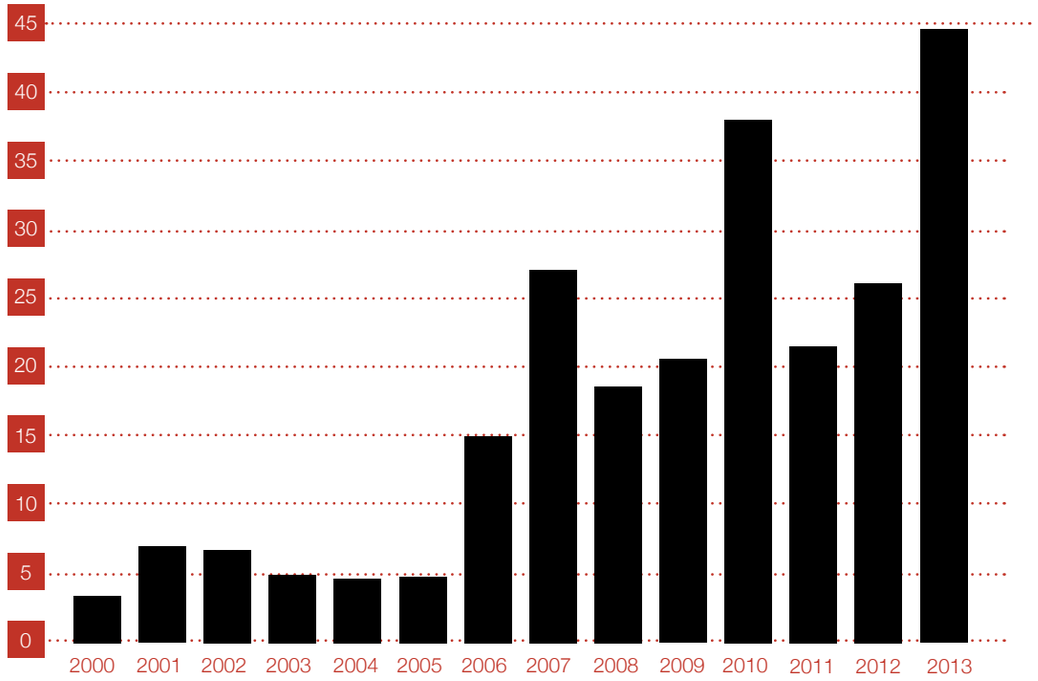
Howard G. Buffett



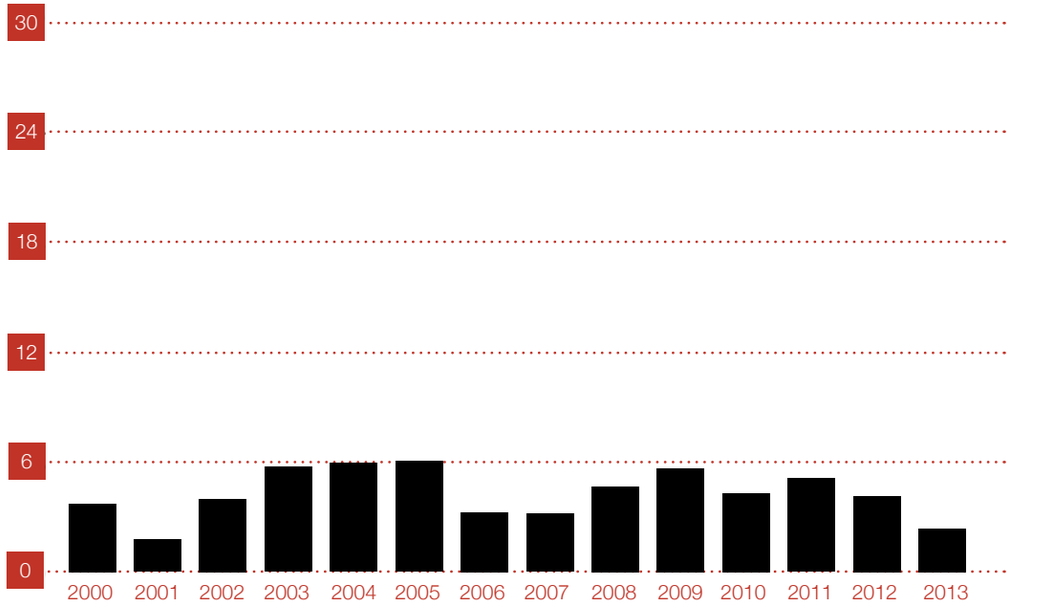
FINANCIALS

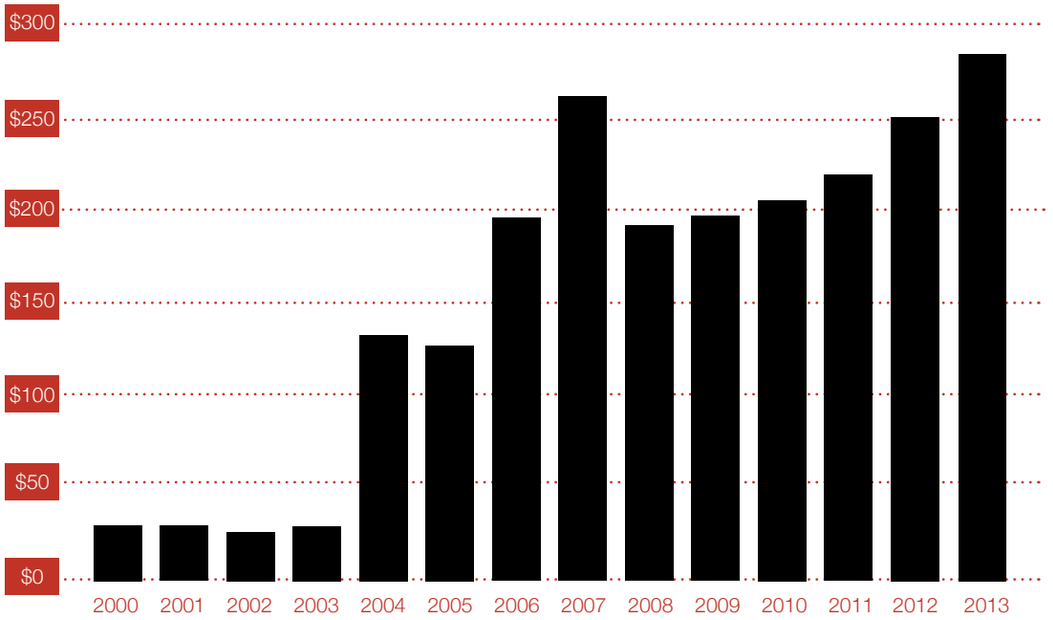
In many parts of the world, agricultural commodities are more valuable than cash. Here a local merchant sells locally grown grains in Kabul, Afghanistan.

QUALIFYING DISTRIBUTIONS
(as percent of assets)

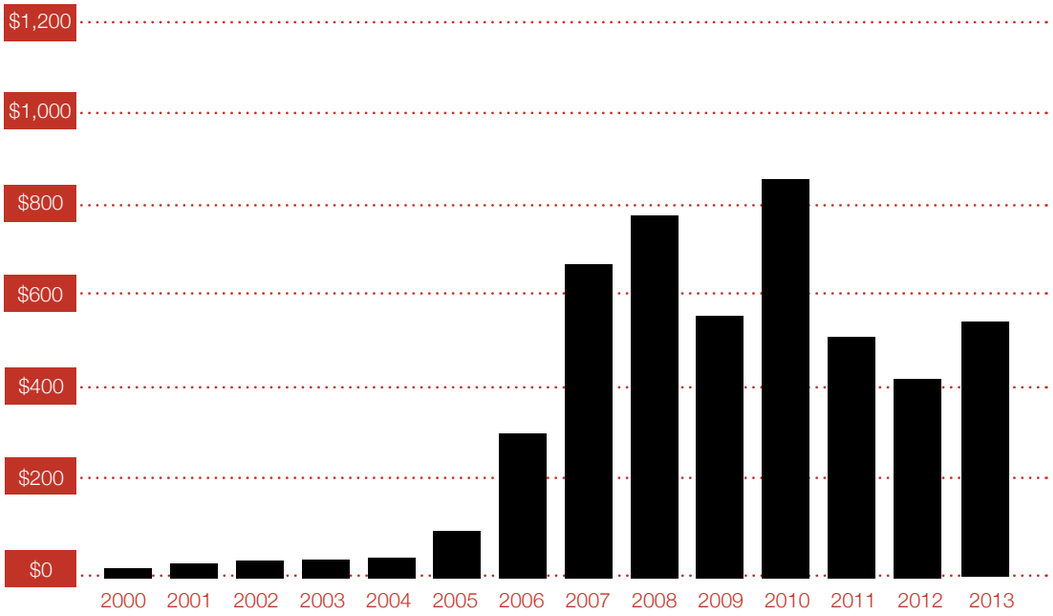


OPERATING EXPENDITURES
(as percent of grants)





TOTAL ASSETS
(in millions)



AVERAGE GRANT SIZE
(in thousands)

CONTRIBUTIONS BY CATEGORY

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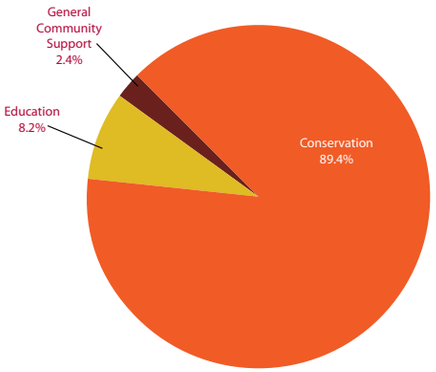

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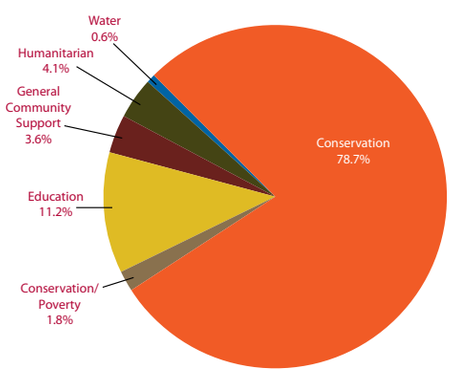

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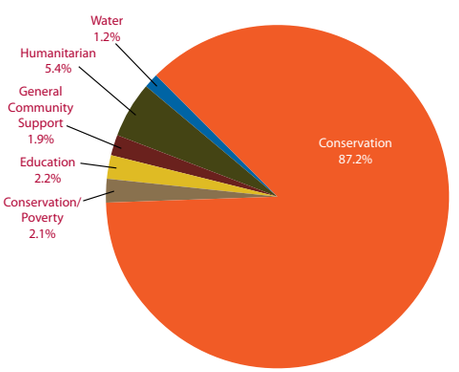

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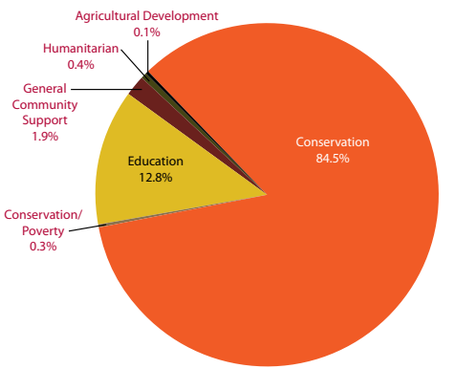

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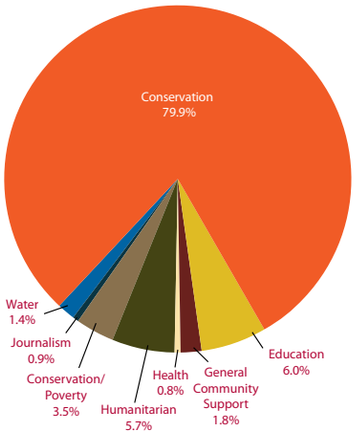

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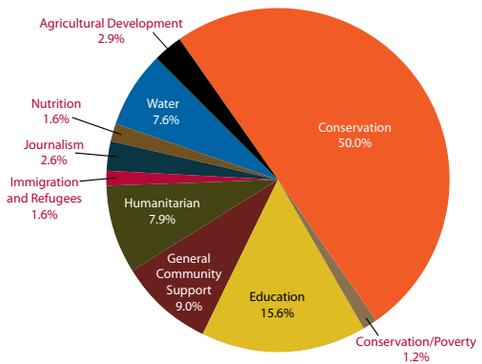

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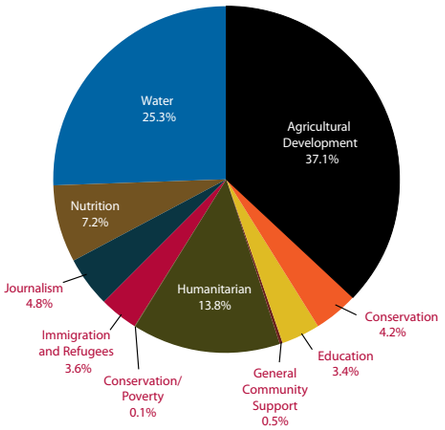

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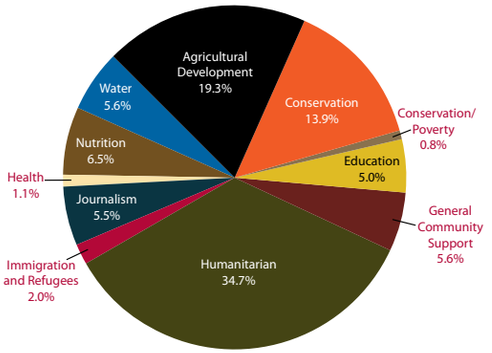

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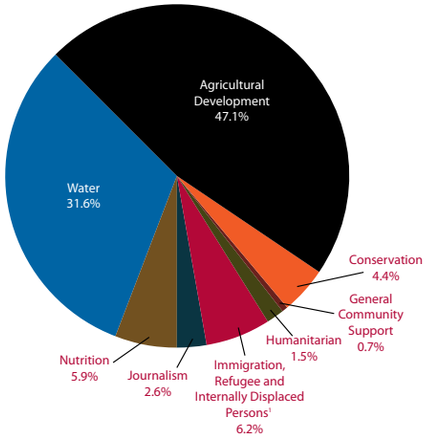

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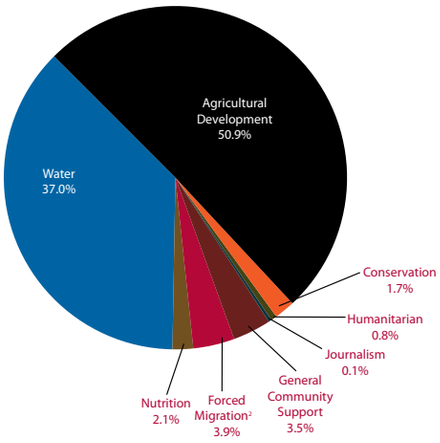

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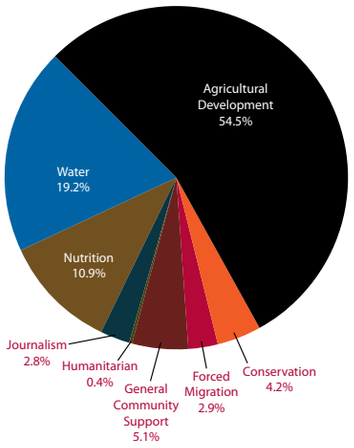

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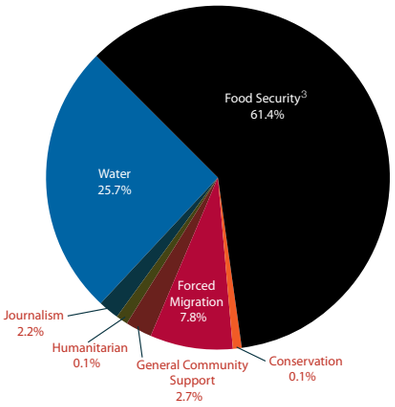

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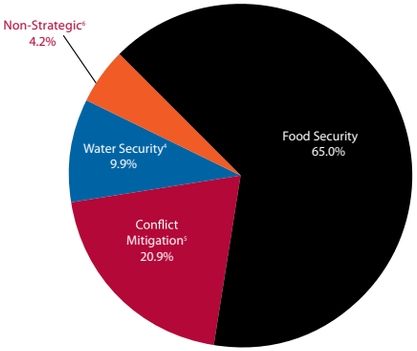

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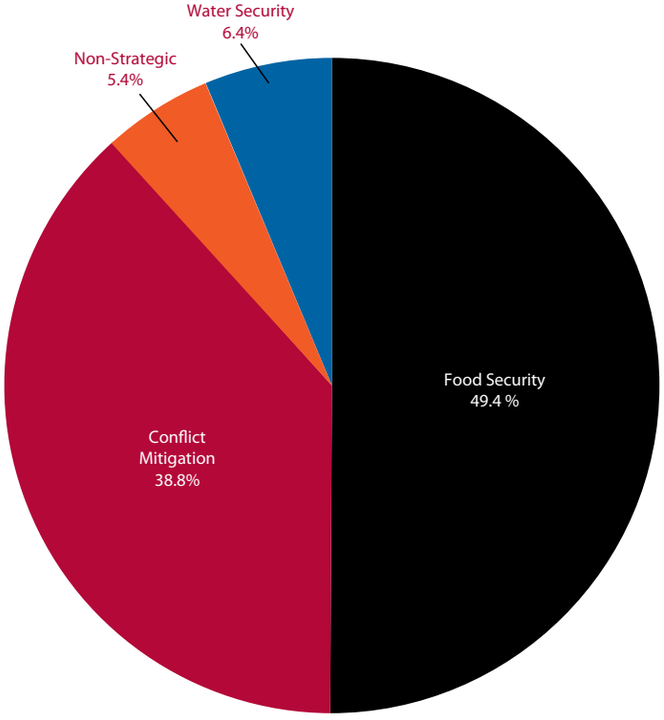


[1] *In 2008, HGBF changed the category of "Immigration and Refugees" to "Immigration, Refugee and Internally Displaced Persons."*

[2] *In 2009, HGBF changed the category of "Immigration, Refugee and Internally Displaced Persons" to "Forced Migration."*

[3] *In 2011, HGBF changed the category of "Agricultural Development" and "Nutrition" to "Food Security."*

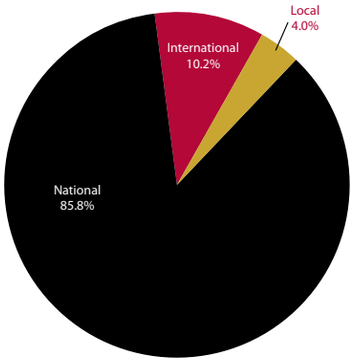
[4] *In 2012, HGBF changed the category of "Water" to "Water Security."*

[5] *In 2012, HGBF re-categorized its food security, humanitarian and forced migration grants in conflict and post-conflict countries as "Conflict Mitigation."*

[6] *In 2012, HGBF re-categorized its public safety, conservation and community support grants as "Non-Strategic."*

CONTRIBUTIONS BY DESTINATION

2000



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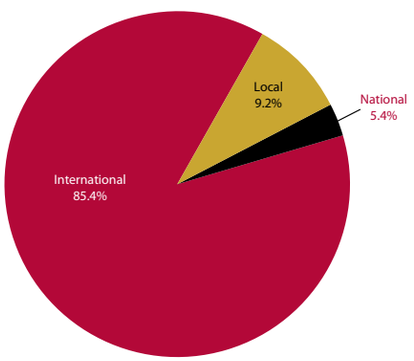

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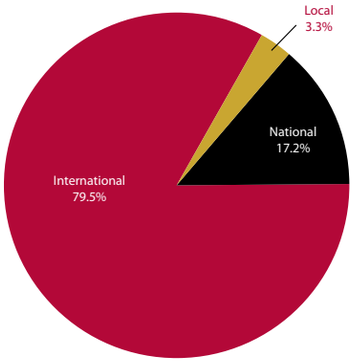

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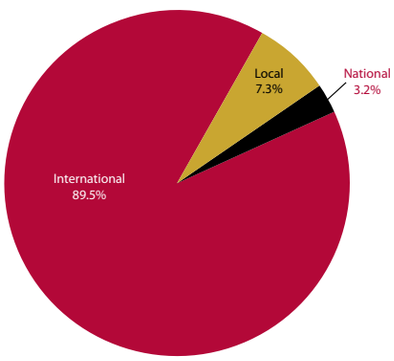

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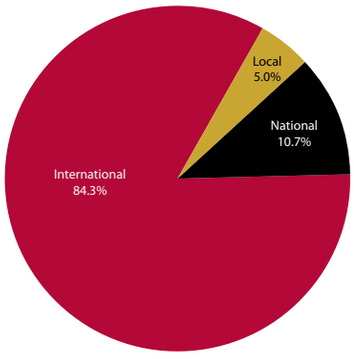

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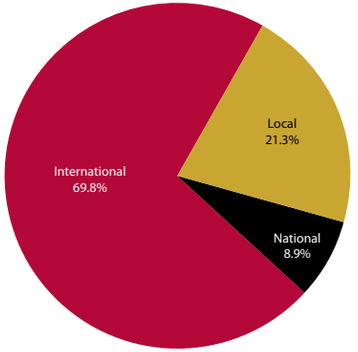

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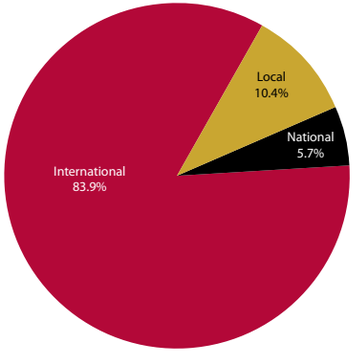

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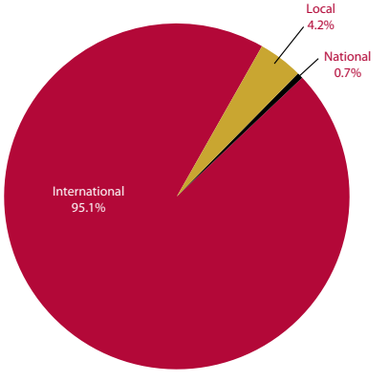

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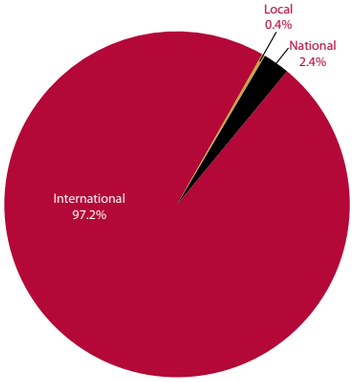

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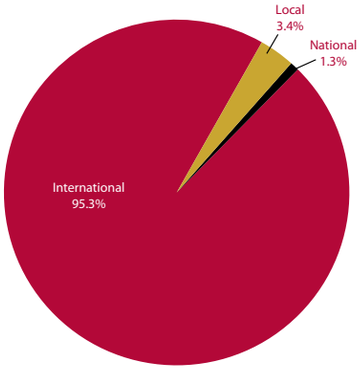

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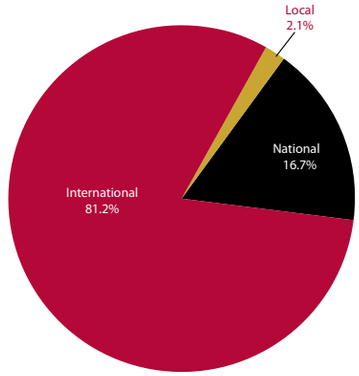

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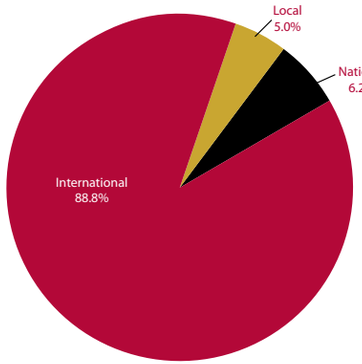

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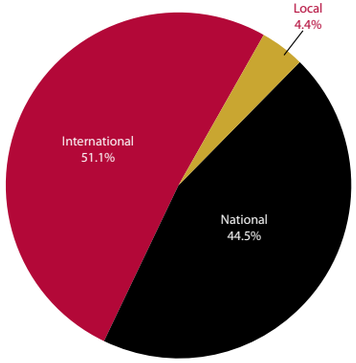

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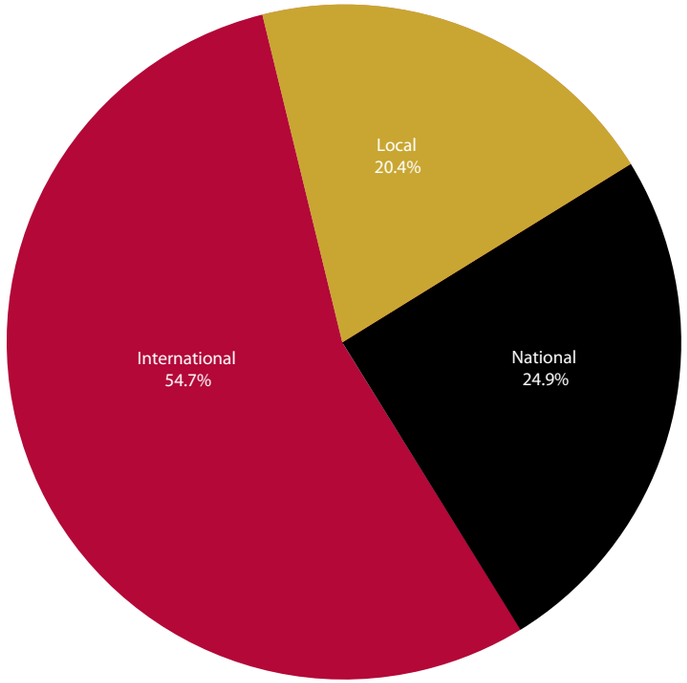

CONTRIBUTIONS BY GEOGRAPHY

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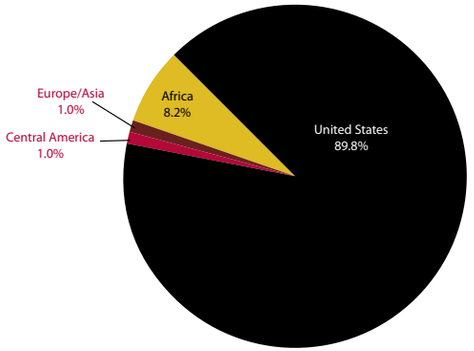

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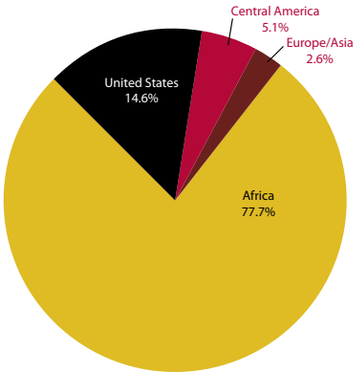

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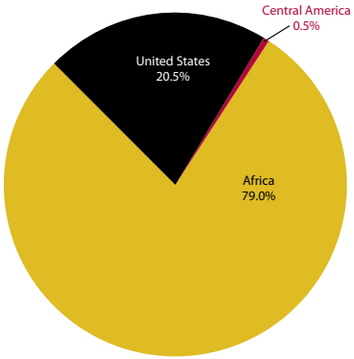

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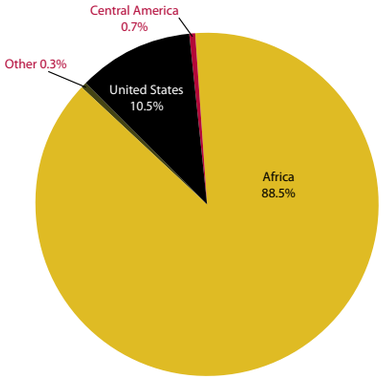

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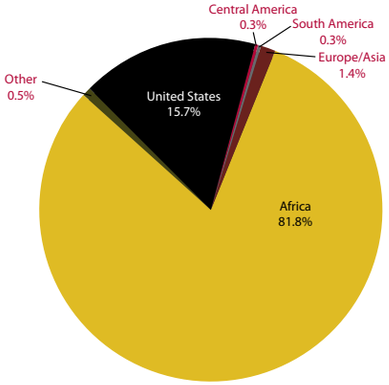

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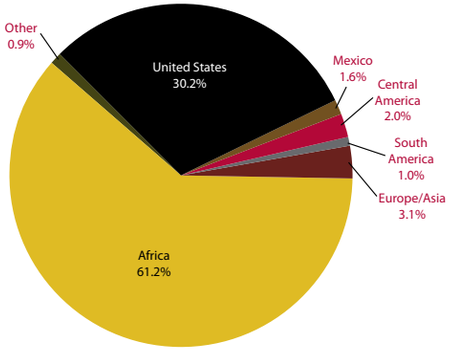

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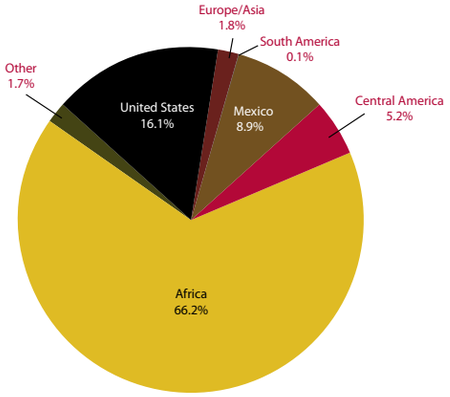

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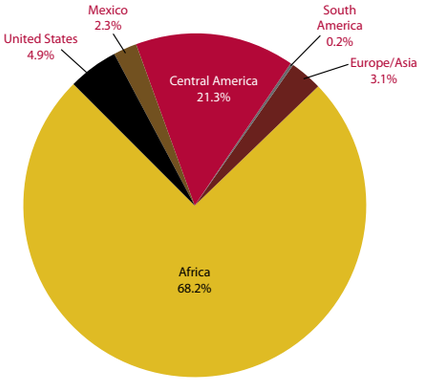

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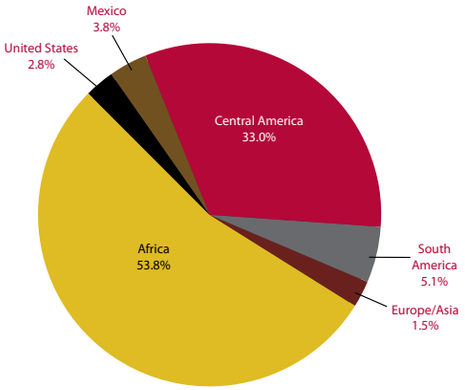

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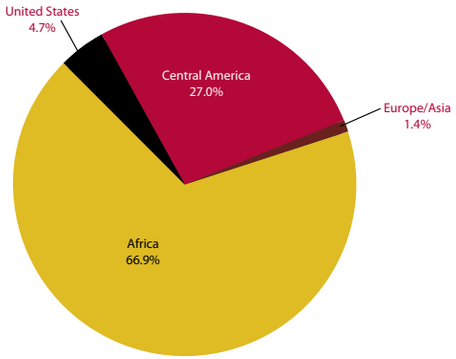

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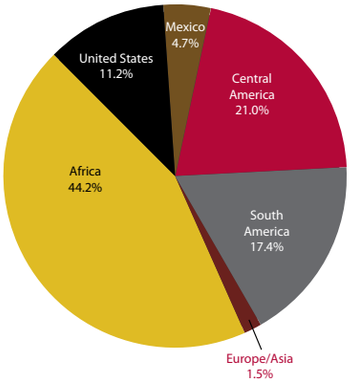

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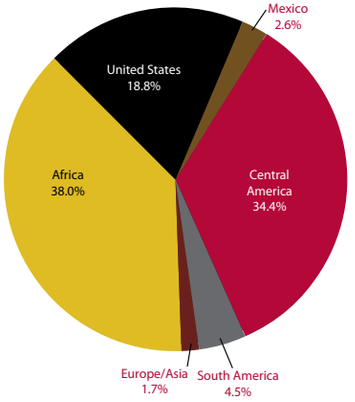

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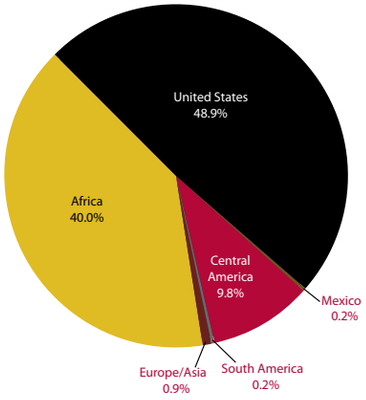
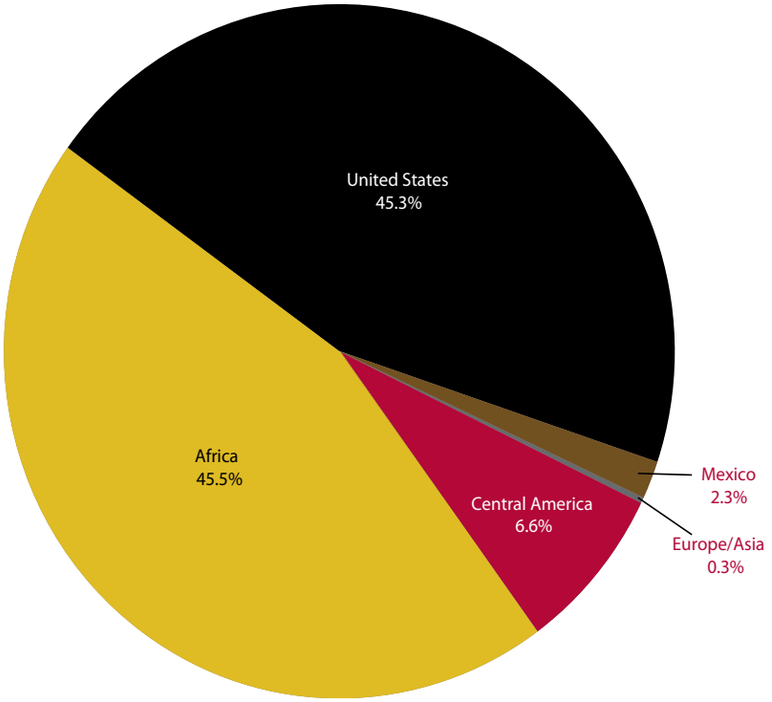
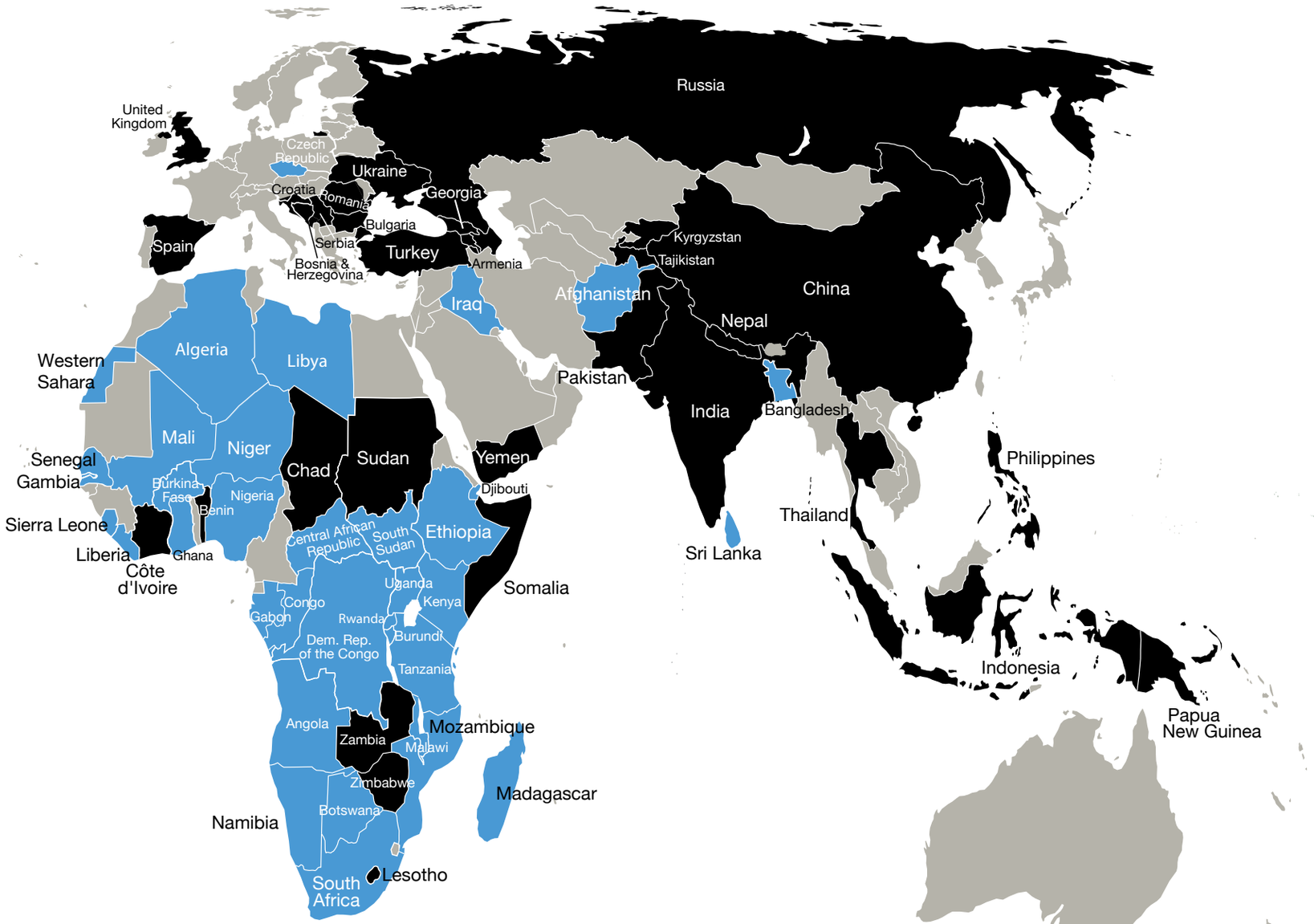


2013



CONTRIBUTIONS BY COUNTRY



Countries receiving funds in 2013 may have also received funds in prior years.



FOOD SECURITY

Warren Buffett, Howard G. Buffett and Howard W. Buffett discuss *40 Chances* with Betty Liu on Bloomberg.

Photo courtesy of Bloomberg News

The central mission of the Foundation and a primary focus of our grantmaking is global food security. Geographically, we are focused on developing agriculture and enabling access to markets for smallholder farmers in Latin America and Africa, and raising awareness in the U.S. of hunger at home and abroad, as well as the critical role U.S. farmers play in meeting the needs of the world's hungry. Our goal is to pilot the best ideas we can find with partners who share our philosophy, our tolerance for risk-taking and understand that success is measured by sustained and scaled progress even as our funding ends.

40 CHANCES

In October 2013, the Foundation supported the release of *40 Chances: Finding Hope in a Hungry World*, authored by Chairman and CEO Howard G. Buffett with contributions from Howard W. Buffett. The book is informed by the Foundation's first 15 years of grantmaking, Howard's analysis of global food security and the role private philanthropy can – and cannot – play in addressing the hunger challenge. *40 Chances* will hopefully inspire more people to think of themselves as changemakers who have limited but valuable opportunities to make a positive difference in the world around them.

40 Chances provides a platform for the Foundation to advocate for a more food-secure world by addressing some of the critical barriers that undermine real advancement, including how we farm in both the developed and developing world; the monetization of food aid; conventional approaches to international development; and the important and fundamental role governance plays. The 40 stories in *40 Chances* serve as case studies for the Foundation's work and approach to grantmaking, including the importance of investing in people and ideas, learning from failures, taking risks (especially risks that others will not take), and ensuring a clear exit strategy for each investment.

Photo: Ann Kelly

Howard G. Buffett, his father Warren, and son Howard W. Buffett discuss *40 Chances* with Piers Morgan.

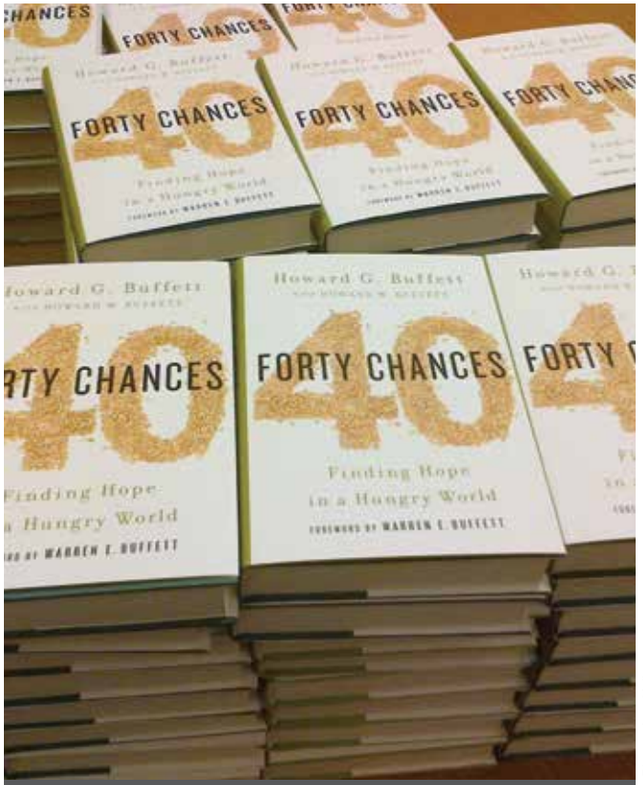


Photo: Ann Kelly

40 Chances: Finding Hope in a Hungry World was released on October 24, 2013.

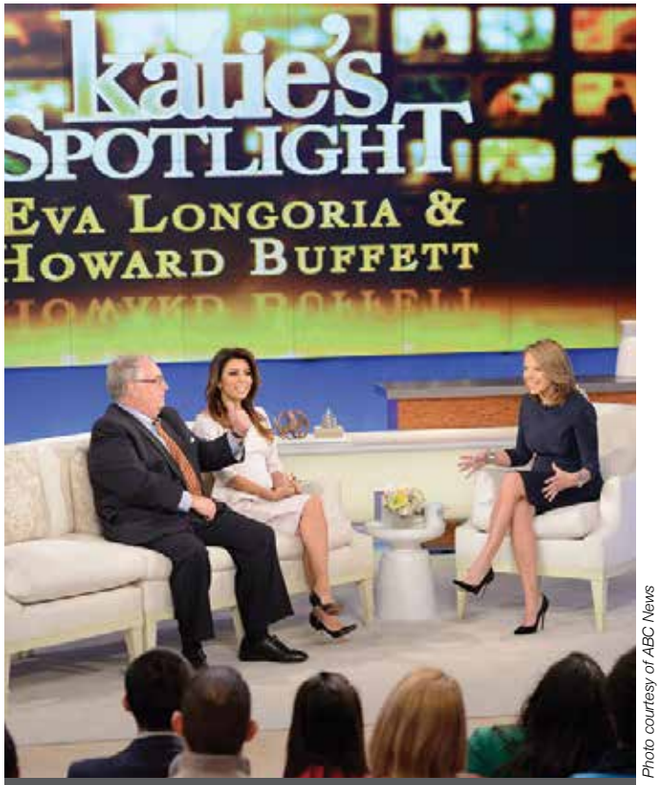


Photo courtesy of ABC News

Eva Longoria and Howard G. Buffett discuss hunger in the U.S. with Katie Couric.

The Foundation also launched four *40 Chances* programs designed to spur innovation in philanthropy to support market-based solutions to global food security challenges:

- a high school business plan competition with the Network for Teaching Entrepreneurship (NFTE);
- an agricultural innovation prize with the White House and the University of Wisconsin-Madison;
- the 40 Chances Fellows Program with Tony Blair's Africa Governance Initiative and the World Food Prize Foundation; and
- the 40 Chances Seed Grants program with Arizona State University's Lodestar Center to support innovative non-profit organizations.

Photo: Laren Poole

On December 6, 2013, this Lord's Resistance Army (LRA) soldier, Lt. Opaka, was part of a group of 19 defecting LRA soldiers and victims recovered in Zemio, Central African Republic by humanitarian operations supported by HGBF, in partnership with the Bridgeway Foundation, the African Union and the U.S. military. One of the Foundation's field partners explained the concept of 40 Chances to the soldier and he wanted to share the message with the LRA fighters who had not yet defected to encourage their surrender.

Des Moines Sunday Register | JANUARY 5, 2014 | METRO EDITION

Opinion

THE FIRST AMENDMENT

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Branstad's legislative agenda won't have any 'dramatic splash' PAGE 3OP

OP

DesMoinesRegister.com/opinion

WE HAVE THE ABILITY TO GROW MORE FOOD, BUT WE NEED LEADERS AND THE WILL TO MAKE IT HAPPEN.

Finding HOPE in a hungry world

ABOUT THE AUTHOR:

HOWARD G. BUFFETT is chairman and chief executive officer of the Howard G. Buffett Foundation, a private family foundation based in Decatur, Ill. Buffett is the son of Omaha businessman Warren Buffett.

2 PAGES OF FACES

See some of the faces of hunger that Howard Buffett has photographed. **Pages 4OP and 5OP**

Essay and photos by Howard G. Buffett

I look at the world through a photographer's lens. Over the last 30 years, I have shot tens of thousands of photographs in over 130 countries. The decisions a photographer makes about what to include or to leave out can make or break the shot. I learned that rule applies in philanthropy as well, including the challenge of addressing global hunger.

When I started out in photography and philanthropy, I focused mainly on endangered species and incredible natural landscapes in Africa, and both Central and North America. In the process, I was charged by bears, bitten by a cheetah and confronted by an elephant. I was often strapped into helicopters without doors while shooting photos of migrating zebras and wildebeests on the Serengeti plains or polar bears floating on ice islands in Canada.

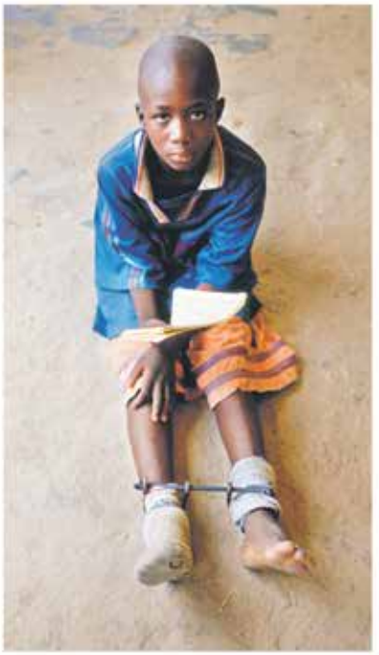
But it took me a number of years and thousands of photographs to realize that just focusing on the mountain gorillas or cheetahs — with my camera or with philanthropic grants — was not going to save them. Local people were suffering, many barely surviving their fragile circumstances, and as a friend of mine once said to me, "No one will starve to save a tree."

This realization — combined with my extensive experience as a farmer and an extraordinary gift of philanthropic resources from my father — completely changed my focus. It turns

See HUNGER, Page 6OP

This girl in Senegal kept positioning herself so Howard Buffett would take her photograph.

A few feet away from the girl, this boy sat in shackles. He was the victim of an extremist group that exploits children by enslaving them and forcing them to beg for money on the streets.



HUNGER

Continued from Page 1OP

out there are a lot of parallels between what makes a great photograph and what makes for effective philanthropy. In both pursuits, it matters very much how you frame the subject.

On one hand, close-ups are powerful. They stir our emotions. They can make people care. I was on a trip a number of years ago in Senegal reviewing agricultural projects and I took two portraits that I will never forget.

The first is of a beautiful young girl in a bright green and purple scarf. She was among a group of children who had surrounded our vehicle, which had stopped for a rest break in a hot, dry area of the country. When she saw my camera, she positioned herself apart from the group so I could take her photograph. I focused on her expression. She looked proud, as if to say "I may be poor and live in a difficult place, but I am worthy of your attention. Remember me!" I find this photograph and the memory of this little girl hopeful, even inspiring. My mother always said that every human life has equal value; this little girl's determination and spirit testify to that.

But the photograph I took minutes later conveys a very different message. We entered the compound of a local "school," and there was a young boy sitting on the ground with a book in his hand. There was nothing around him but dry, sandy dirt and his expression was blank. What made me care about this boy (enough to risk photographing him even though an angry crowd began to gather), was that his ankles were shackled.

Many local people in this region of Senegal could not afford to feed their own families. A powerful man ran this facility, and I was told he promised parents he would feed and educate their children. Children here were expected to beg; the master would turn them loose in crowded areas and they had to bring back money to support this man who drove around in a new Mercedes. The children were miserable and some would try to run away, so the adults in this compound chained them to trees, and sometimes to each other. Or, as with this boy, they shackled his ankles so he could only hobble.

He did not fill me with hope as the little girl had. My memory of him is a reminder of suffering and modern-day slavery. We subsequently used this photograph to get the government to investigate this operation, but the boy's expression and the conditions within this place still haunt me.

When it comes to trying to craft solutions to complex global problems like hunger or conservation, close-ups often don't tell the whole story. In many places where animals are endangered, local people are starving or suffering terrible consequences of conflict. They are left without options, and that desperation can lead to animal poaching and self-defeating practices such as slash-and-burn agriculture.

Right now, there is widespread slaughter of elephants and rhinos going on across the African continent, with some of the proceeds from the stolen ivory fueling terrorism and armed conflict. That's not a story that can be told in only one or two close-ups. We cannot separate the economic despair of local people and the impact of armed groups from the safety and protection of wildlife.

We need to view this tragedy with a wide-angle lens. We can't possibly hire enough rangers to stop ivory poachers. We can't fence in mountain gorillas. We cannot solve animal and habitat problems without also addressing the people problems. It's why our foundation that formerly worked only in conservation now focuses primarily on global food security and conflict mitigation.

We seek out bold ideas to create sustainable economic development that give people better options. Our foundation is investing in development efforts with broader reach, more ambitious goals, and longer, more realistic time frames. They are designed to improve local economies in sustainable ways.

Some are agricultural initiatives, such as educating farmers in better soil management practices, or helping build processing plants so local crops can be sold on more profitable terms. Others, such as the construction of a hydroelectric dam to create electricity and boost local industry in eastern Democratic Republic of the Congo, are designed to create alternatives to the enduring conflicts that keep people hungry and cause them to consume natural resources only to meet immediate needs.

One of the most valuable gifts my parents gave me was the way they framed what they considered our obligation to help other people. My father has always maintained that success in life is largely shaped by the circumstances into which we are born. He calls that "the ovarian lottery." If you are born in a crowded, dangerous refugee camp dependent on uncertain forms of aid from others; if you have dreams but no resources to pursue them; if you are raised in shackles by a manipulative con man who purports to "educate" you in exchange for food, your prospects for thriving are grim.

In light of that, my parents urged us to share our good fortune and the resources my dad had amassed in life with those who struggle for reasons beyond their own making. He told my sister, brother and me to focus on the toughest problems and to recognize that failure would be part of the picture.

Photography has been a powerful tool in my mission. It individualizes and humanizes the daily challenges that nearly a billion of the world's most vulnerable and marginalized people face. I recently wrote a book called "40 Chances: Finding Hope in a Hungry World," about how my views on philanthropy have evolved and also about the people and ideas I think hold promise to battle hunger more effectively. It's also about the urgency I feel as a farmer who realizes each of us has only about 40 growing seasons, or 40 years, to make a difference in the world and accomplish our goals.

In combination with the book, we put together an exhibition of my photography at the World Food Prize Hall of Laureates in Des Moines so I could cast in sharper detail the images and the people who have made such an impression on me and who motivate me every day. I want to frame the hunger challenge in a more realistic and useful way; to convey to people the complexity of factors that cause and exacerbate food insecurity; and to call into question the bureaucracies and recipes that have been failing for years but that still mostly represent the status quo.

To reduce hunger, we have to raise the standard of living of hundreds of millions of poor farmers. The good news is, for the most part, we have the knowledge and resources to transform smallholder farming in a way that is sustainable. The bad news is we too frequently lack the leadership and political will to translate ideas and know-how into solutions at large scale. Yet I remain hopeful, because in my travels I see and meet individuals who possess the leadership, will, and ideas, and who are creating change around them, often despite enormous odds.

If our focus remains too narrow and if we continue to frame the hunger challenge as figuring out where to drop off bags of aid, then we must be prepared to keep doing that forever, as we are not helping communities become self-sufficient. As these photographs show, individuals are remarkably resilient and determined. But hundreds of millions of people today have been born into circumstances and systems that stack the odds against them.

We have to apply the lessons of the past to empowering local people to determine their own, brighter future, armed with new ideas and the good will of a caring world.

Buffett, with children in Rwanda. ©THOMAS D. MANGELSEN/IMAGES OF NATURE

IOWA CONNECTIONS

» An exhibit of Howard Buffett's photos is on display at the World Food Prize Hall of Laureates in downtown Des Moines. The exhibit is open most Tuesdays and Saturdays from 9 a.m. to 1 p.m.

» Buffett's "40 Chances" book was launched in October at the World Food Prize events in Des Moines.

» Buffett, former British Prime Minister Tony Blair and his African Governance Initiative and Kenneth Quinn, president of the World Food Prize Foundation, announced the creation of the 40 Chances Fellows program to address issues of hunger, conflict or poverty in Africa.

Credit: Des Moines Sunday Register

Page 8OP | Sunday, January 5, 2014 State Edition | Des Moines Sunday Register

THE ODDS ARE AGAINST THEM ...

The challenge in feeding the world's hungry people is bigger than knowing where to drop off bags of food aid. We must help the millions of poor farmers become self-sufficient.

Nearly 60 percent of Hondurans live in poverty. It is not uncommon to see families like this one working together to meet their needs, this time by hauling wood they have gathered.

Buffett saw this severely malnourished child in a remote village in Niger in 2004. She died three days later.

Many families in the Central African Republic spend their time searching for clean water, often forcing children, like this young girl, to help.

Agriculture plays a vital role in Malawi. This woman carries locally grown cassava and a container of vegetable oil from a food distribution site.

This man and his brother in Afghanistan are part of the 80 percent of the population who rely on low-production agriculture to survive — in spite of the military unrest.

Farming in South Sudan requires that all family members, even children, work. But many families cannot produce enough food to meet their needs, leaving children hungry. This child is digging sweet potatoes.

Des Moines Sunday Register | State Edition Sunday, January 5, 2014 | Page 5OP

... BUT THESE PEOPLE ARE RESILIENT

Three-fourths of Burundi's population is food insecure. The nation has suffered years of conflict, and these young men have never experienced peace and stability, as evidenced by the AK-47 at this collection point for weapons.

On Buffett's first trip to Uganda in 1997, he passed this child on the road. At the time, Buffett didn't realize how precious the boy's two ears of corn were. More than half of Ugandans live on less than $1.25 per day.

In 1994, Rwanda experienced a horrific genocide, resulting in the murder of more than 800,000 Rwandans in less than 100 days. More than 500 people were murdered in this church. Buffett stood on the pews to avoid stepping on human remains. This woman survived by pretending to be dead among the other bodies. She was pregnant at the time. Buffett has gone back and visited the woman and her son several times.

Food assistance from the United States has been part of Sudan's lifeline as the nation struggled through numerous conflicts. Here, a Sudanese man shades himself with a bag from the U.S.

After building soil mounds to improve water drainage during heavy rains, Burundi farmers plant sweet potatoes. Government soldiers assist the farmers while providing protection from armed groups.

Child laborers in Bangladesh work long hours, earn low wages, receive little food and often work in hazardous environments. This girl was too frightened to stop and talk with Buffett.

A substantial portion of the population of Bhutan is engaged in subsistence farming. This farmer uses her roof to dry peppers, which she will take to the local market.

FINDING HOPE IN A HUNGRY WORLD

Published in the *Des Moines Sunday Register,* January 5, 2014.

The Foundation advocates for and invests in research and ideas to support agricultural development for smallholder farmers in sub-Saharan Africa. Some of our investments on the ground in food security are in conflict- and post-conflict countries and therefore categorized as Conflict Mitigation investments. However, we continue to design original field research in partnership with our academic partners to test different farm inputs and techniques to address the unique challenges faced by sub-Saharan smallholder farmers. We also supported original research to focus attention on priority solutions to develop agriculture in Africa. We hope to encourage policymakers and key influencers to look beyond high-level, empty commitments to support investment in agriculture and instead understand that transforming the trajectory of agriculture in Africa must be African-led and requires an enormous commitment by individual country governments.

Photo: Alicia Bishop

Howard G. Buffett regularly meets with smallholder farmers in the field to understand the challenges they face in developing agriculture. Here, in his capacity as an Ambassador Against Hunger for the World Food Programme, he visits a food for work project outside Tamatave, Madagascar, to understand how farmers are using techniques to improve soil health and prevent erosion in this area still recovering from a devastating cyclone the prior year.

AFRICA'S POTENTIAL FOR AGRICULTURE

Many credible organizations and individuals have suggested that Africa has enough fertile farmland, water and favorable climates to not only feed itself but also contribute to global food security through food exports. They point to specific analyses that "prove" Africa's potential for agricultural development.

The Foundation has long found these analyses to be lacking and the conclusions drawn somewhat naïve because they fail to account for very real practical and political barriers that persist to different degrees in every country on the continent. The Foundation developed our own analysis to look country by country at Africa's real and potential role in meeting its own food needs as well as its ability to contribute to global food security. The results raise serious concerns.

Using the Global Agro-Ecological Zones (GAEZ) database, a geographic information system (GIS) of the Food and Agriculture Organization of the United Nations (FAO), as our baseline, we first used data on optimal crop type based on soil suitability to create the best case scenario for all land in Africa that is biophysically suited for agriculture (excluding deserts, water, forest, cities, land with extremely poor soils and land that is already intensely farmed or protected). We eliminated land that was deemed inaccessible: either 75 kilometers (47 miles) or more from an all-weather road or six hours or more from a market, a standard commonly used by the World Bank and FAO. Of Africa's 3,030 million hectares (7.5 billion acres) of land mass, only 414 million hectares (1.0 billion acres) is both biophysically suitable and accessible for agriculture.

Each girl hauls about a half bushel of corn (shelled) to a wooden storage shed that is often infested with weevils. The distance traveled by one of these girls is about one mile, each direction. Therefore hauling the same amount of grain (70 tons) as four wagons pulled by a modern tractor would require one person walking the equivalent of a quarter of the way around the world.

PRACTICAL AND POLITICAL METRICS

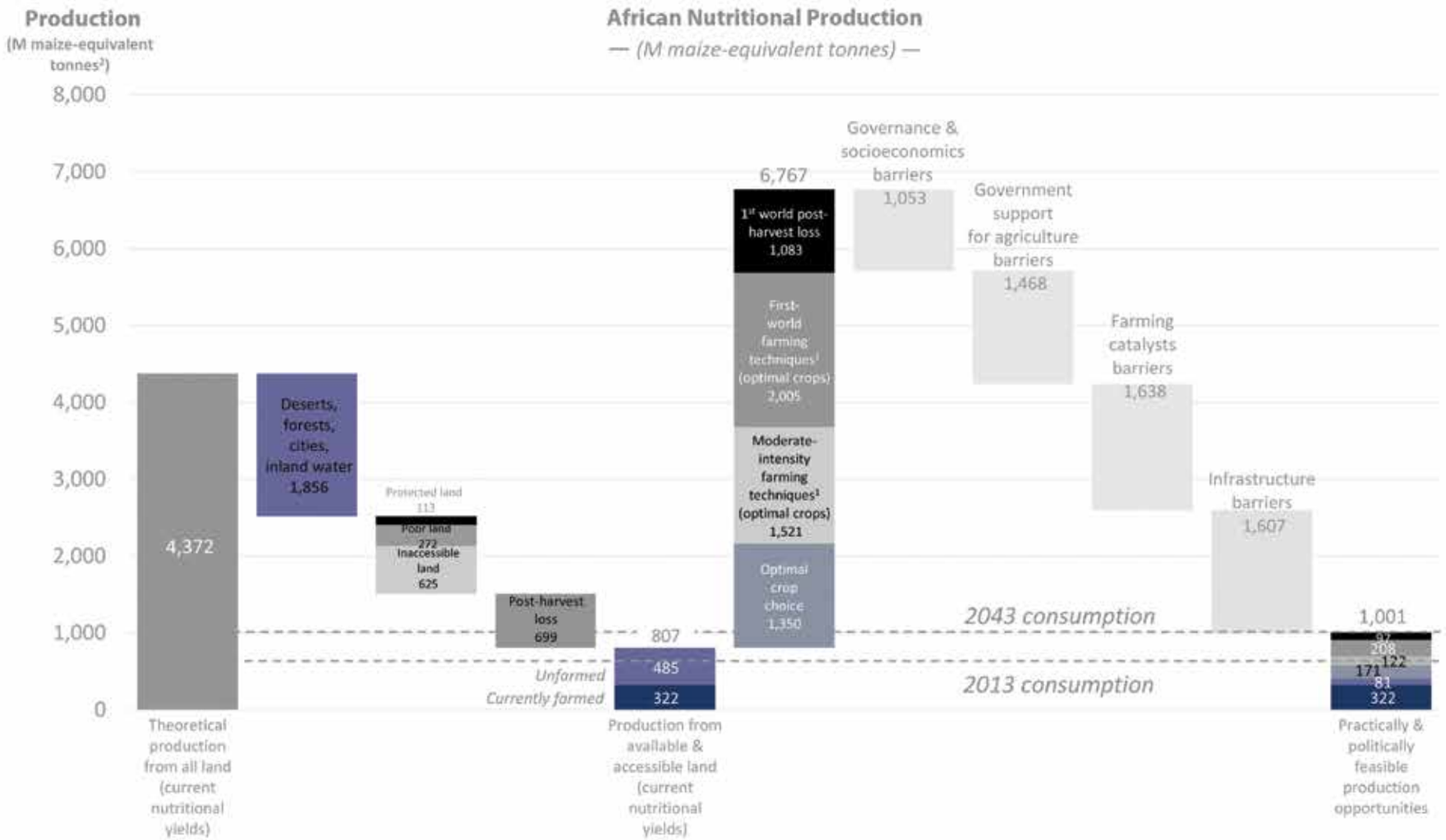
Taking into account 36 metrics and 55 sub-metrics of practical and political factors of governance and socioeconomics such as rule of law, corruption and poverty; government support for agriculture including government spending, extension research; farming enabling factors such as land rights and availability and access to improved inputs; and infrastructure helped us formulate a measure of the "headwinds" that restrict a country's theoretical production improvement potential.

GOVERNANCE & SOCIOECONOMICS	GOVERNMENT SUPPORT FOR AGRICULTURE	FARMING ENABLING FACTORS	INFRASTRUCTURE
· Rule of Law · Corruption · Poverty Rates · Civil & Economic Freedom · Social Justice for Women · Cultural Heterogeneity · Child Mortality Rates · Orphans & Child Head-of-Household · Literacy Rates · Cell Phone Use	· Government Spending on Agriculture · Extension, Research and Education · Regulation of Protected Seeds · Commodity Reserves · Import Tariffs · Trade Delays · Water Resource Management	· Availability of Fertilizer (usage as a proxy) · Pesticide Use · Number of Tractors in Use · Access to Capital · Access to Agricultural Inputs & Markets · Entrepreneurial Opportunity · Water Resources · Rural Organizations (co-ops) · Land Rights · Women Farmers · Foreign Direct Investment · Orphan Crops · Farm Size · Availability of Skilled Workforce	· Public Investment in Infrastructure · Road Conditions · Grain Storage · Rail Conditions · Rural Electrification

Source: Lake Partners analysis

AFRICA'S THEORETICAL VS. REAL POTENTIAL FOR AGRICULTURE

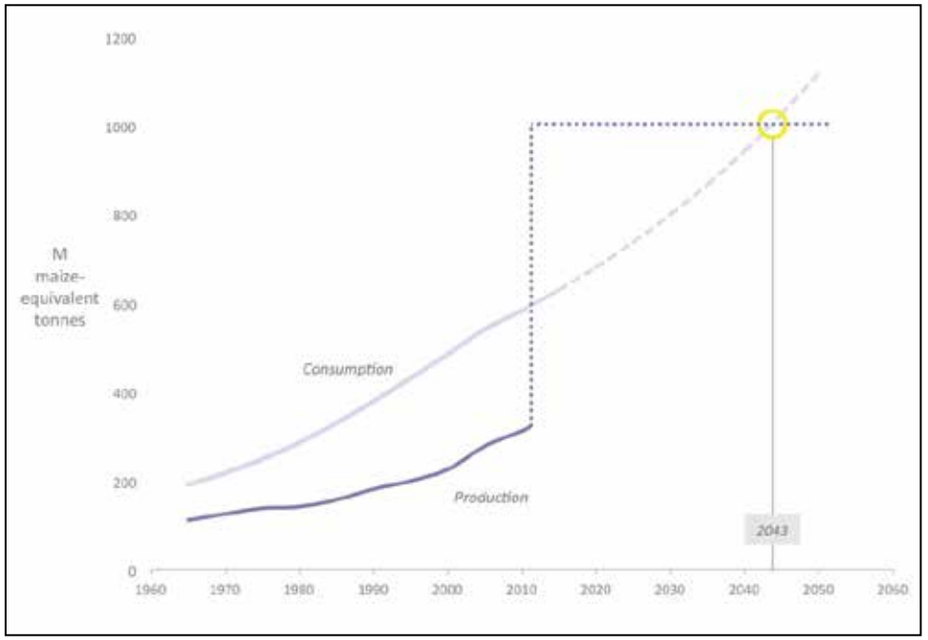
Given its existing practical and political barriers, only 47 million hectares (116 million acres) of Africa's biophysically and accessible land in our estimation is practically and politically feasible for agriculture **under current circumstances**. This translates to a true potential to increase its production from 442 million metric tons to approximately 1,050 million metric tons under rain-fed conditions. Approximately 50 percent of the improvement comes from adopting first-world techniques (improved seed type, mechanization, nutrients, chemicals, soil erosion mitigation and nutrient management); 20 percent from optimal crop selection; 15 percent from reducing post-harvest losses; and 15 percent from expanding production into fallow land.



[1] Defined as moderate and high use of fertilizer, improved varieties of crops, machanized tools, use of pesticides and herbicides, soil erosion mitigation, nurtrient maintenance and follow year requirements
[2] Maize equivalent tonnes describe tonnes of all major crops that are weighted by calorie and protein content relative to maize
Source: FAOSTAT, GAEZ, Lake Partners analysis

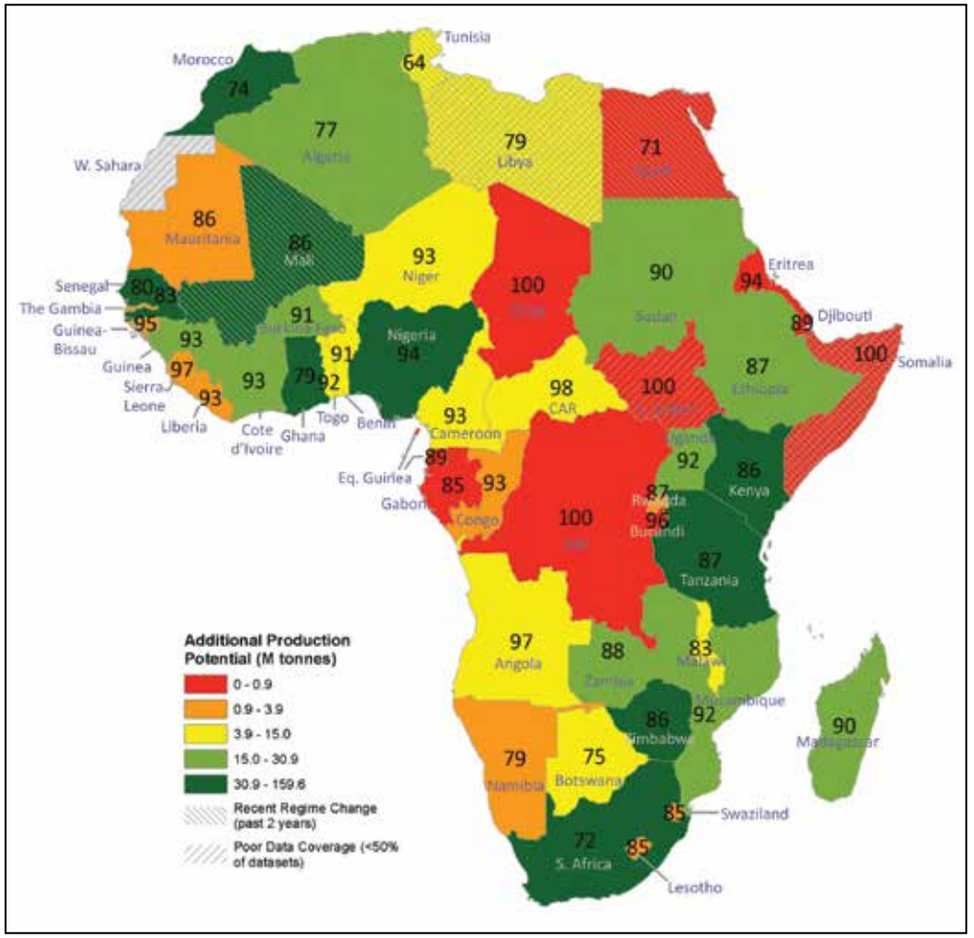
AFRICA'S PROJECTED CONSUMPTION AND PRODUCTION

With existing practical and political barriers, Africa as a continent could theoretically produce enough food to feed itself until the year 2043, when population growth overtakes production increases. This assumes nutrition per person remains constant; protein and calories per ton produced increases 35 percent; food produced in one country can readily be exported to another; and productivity gains and barriers to production vary greatly by country.



Source: FAOSTAT ("Production"): UN "World Population to 2300"/UNDP ("Consumption"), Lake Partners analysis

POTENTIAL PRODUCTION AND CURRENT BARRIERS TO GROWTH

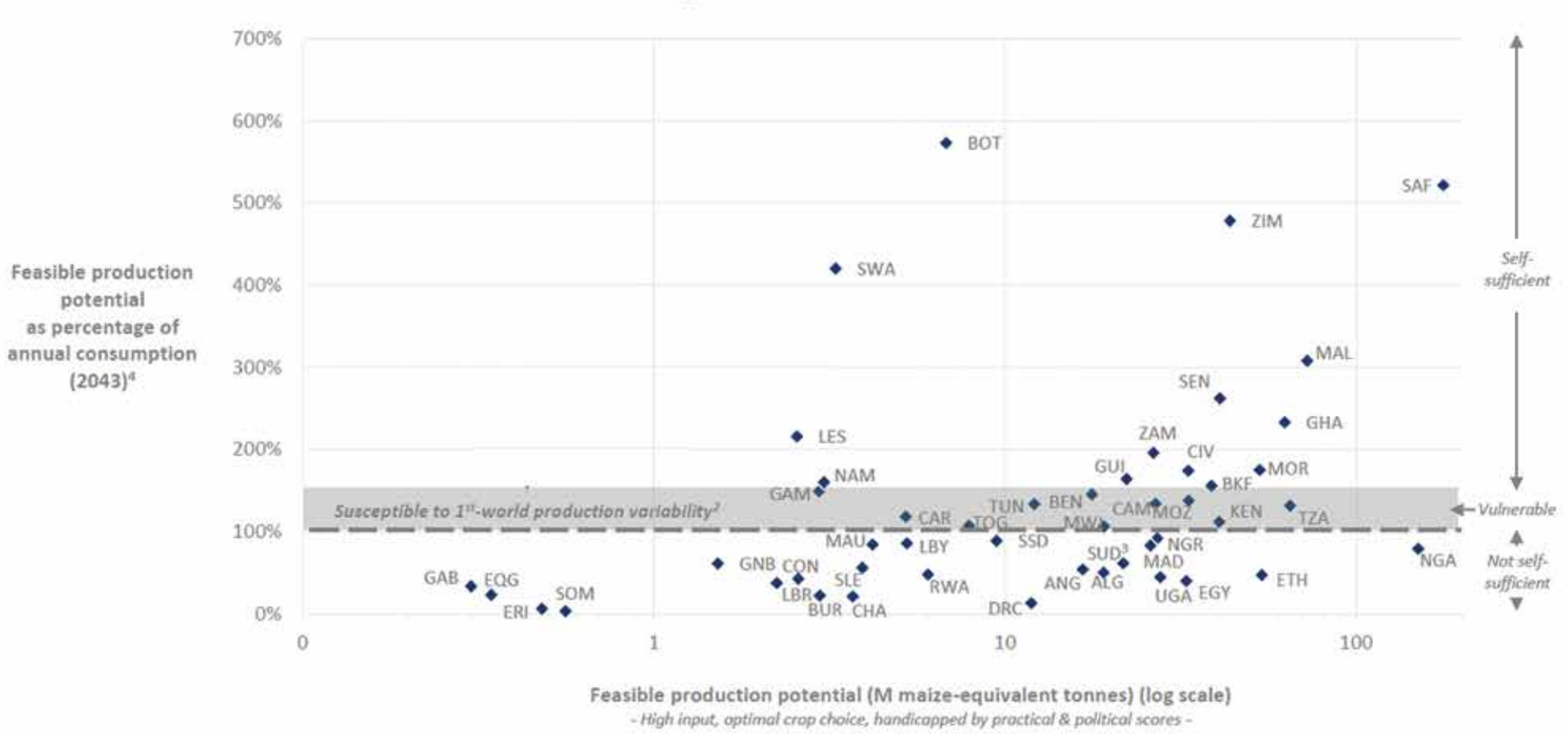


Source: Lake Partners analysis

AFRICA'S POTENTIAL AGRICULTURAL SELF-SUFFICIENCY BY COUNTRY

Addressing the practical and political barriers increases the opportunity for self-sufficiency by as much as 10 times. Taking into account practical and political barriers suggests Africa's real potential for agriculture is 92 percent lower than estimates by McKinsey & Company.

In 2014, the Foundation will release additional analysis on Africa's potential for agriculture – including an estimation of the highest return on investment opportunities to address key barriers across eight different countries. Our hope is to both reinforce the African Union's 2014 focus on agriculture but also highlight the critical barriers that must be removed to make real forward progress.



[1] USDA/FAO Data (1940-2012), Lake Partners analysis
[2] To absorb a 34 percent production decrease and remain about 100 percent of consumption, a country must average 151% of consumption (100%[100%-34%])
[3] The former Sudan's 2011 production of 7.9 M tonnes is apportioned to South Sudan (5.7 M tonnes) and Sudan (2.2 M tonnes) using GIS estimates of currently farmed cropland and GAEZ yield estimates
[4] Assuming constant consumption profile (0.7 tonnes per person per year)
Source: Lake Partners analysis

AFRICAN AGRICULTURE A DECADE AFTER MAPUTO

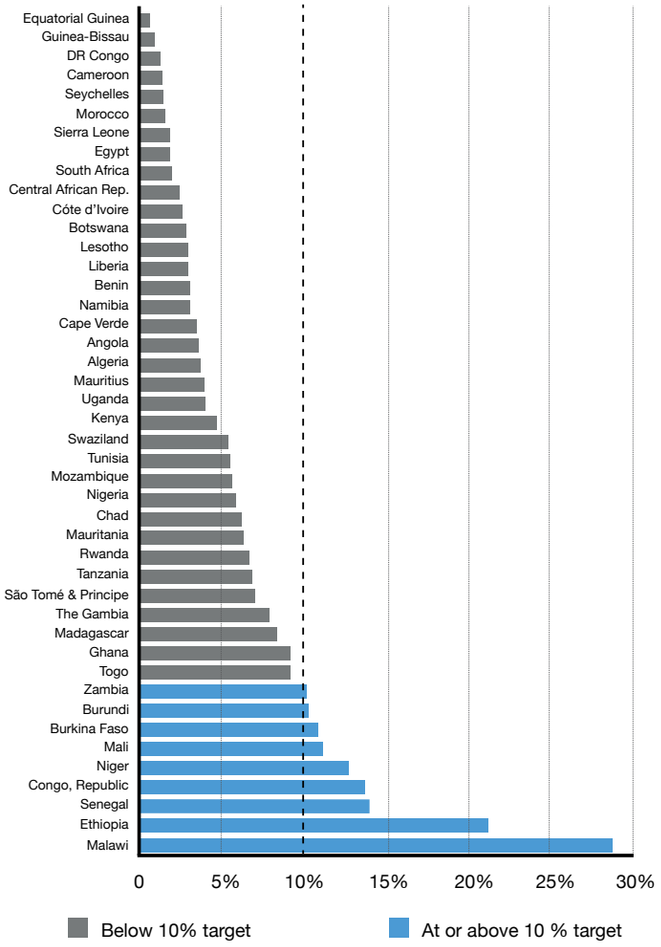
Excerpted from "The Maputo Commitments and the 2014 African Union Year of Agriculture" by the Howard G. Buffett Foundation (HGBF) and the ONE Campaign.

In July 2003, at the African Union (AU) summit in Maputo, Mozambique, African leaders made a bold commitment to reverse the underinvestment that had held the agriculture sector back for decades. Through the Maputo Declaration, African heads of state made the following promises to their people:

- to allocate at least 10 percent of national budgets to agriculture; and
- to achieve at least six percent annual agricultural growth.

A decade has passed since African heads of state committed to the Maputo targets in 2003, and the results are decidedly mixed. Fewer than 20 percent of countries have fulfilled either of their Maputo commitments; however, many countries are making progress. More than 30 have signed the Comprehensive Africa Agriculture Development Programme (CAADP) compact, pledging to develop national agriculture through defined investment plans, and at least 19 countries have launched fully costed [1] and technically reviewed plans to accelerate agricultural development.

PUBLIC AGRICULTURAL SPENDING AS A PERCENT OF NATIONAL BUDGET, 2010



Sources: ReSAKSS based on national sources, IFPRI 2011, IMF 2012, and AUC 2008
Target for national budget spending on agriculture is 10 percent, nine countries (in blue) achieved this in 2010. 44 total countries, some excluded due to missing data.

To realize the potential of agriculture in the next decade, African leaders should undertake the following commitments in an "enhanced Maputo" agreement:

1. Make time-bound commitments to increasing investment and improving services to smallholder farmers and women farmers, including concrete timetables for meeting their existing pledges to allocate at least 10 percent of budgetary resources to agriculture and food security and to achieve six percent growth in agriculture.

2. Sign on to an "enhanced Maputo" agreement, committing to prioritize and accelerate implementation of a set of policies and targeted investments that support smallholder farmers, including those that address issues such as infrastructure, extension services, intra-regional trade barriers, post-harvest storage, value chains and markets, seed policy reform, improved land governance and land rights, and sustainable localized approaches to agriculture.

3. Increase transparency and accountability in the implementation of an enhanced Maputo framework, including through the creation of a CAADP food security and agriculture index to measure and monitor the implementation and outcomes of the enhanced Maputo framework at the national level, while engaging smallholder farmers on accountability.

*Visit **www.ONE.org/40Chances** to read the complete policy brief.*

[1] Note: While full cost estimates have been made for individual country plans, most are not actually budgeted or funded.

SMALLHOLDER FARMERS AND FOOD INSECURITY IN WEST AFRICA

According to the International Food Policy Research Institute (IFPRI) and FAO data, countries in West Africa have in the last 10 years shown signs of economic progress: real per capita income levels are increasing; agricultural production levels are improving; and poverty levels are declining.

While these topline numbers are encouraging, understanding how these factors impact poverty and food insecurity for the majority of the population - and smallholder farmers in particular - is less clear. To get a better picture of the relationship between agricultural development and food insecurity, the Foundation partnered with the Conflict and Development Center at Texas A&M University to conduct a vulnerability survey in rural communities in three countries in West Africa: Liberia, Senegal and Ghana. Liberia, only 10 years removed from two protracted civil wars, was chosen to represent one end of the development spectrum, while Ghana, classified as a low middle-income country since 2010 by the World Bank, with a stable and strengthening democracy, was chosen to represent the other end of the development spectrum, with Senegal falling somewhere in between.

This seven-month study targeted a minimum of four agro-ecological zones and a randomly selected sampling of households. In Liberia, 326 households were surveyed in Lofa, Nimba and Grand Bassa counties. In Ghana, 647 households were surveyed in Atwima, Nwabiagya, Ejura, Greater Accra, west and northern Gambaga districts, while 510 households were surveyed in Senegal in the Fatick, Kaffrine, Kolda, Matam and Tambacounda districts. Participating households rely primarily on agriculture for meeting their food needs.

While by no means intended to be a definitive representation of the relationship between agriculture and food insecurity in these countries, the vulnerability study did give the Foundation a clearer understanding of smallholder agriculture, household incomes, assets, productivity, and most importantly, the severity of the food insecurity challenges that persist in these rural communities.

AGRICULTURE AND FOOD INSECURITY: SURVEYED RURAL COMMUNITIES IN GHANA, SENEGAL AND LIBERIA

COUNTRY	AVERAGE FARM SIZE (HECTARES/ACRES)	AGRICULTURAL TECHNOLOGY USE	YIELDS (Kg/Ha)			AVERAGE ANNUAL HOUSEHOLD INCOME (USD)	PERCENT WHO SAY THEY EXPERIENCE HUNGER 120+ DAYS/YEAR
			Maize	Cassava	Rice		
Ghana	3.8 / 9.4	Low	1,273	7,651	1,883	$1,735	6%
Senegal	3.9 / 9.6	Low	569	N/A	599	$1,344	9%
Liberia	1.6 / 4.0	None	N/A	2,600	2,150	$926	31%

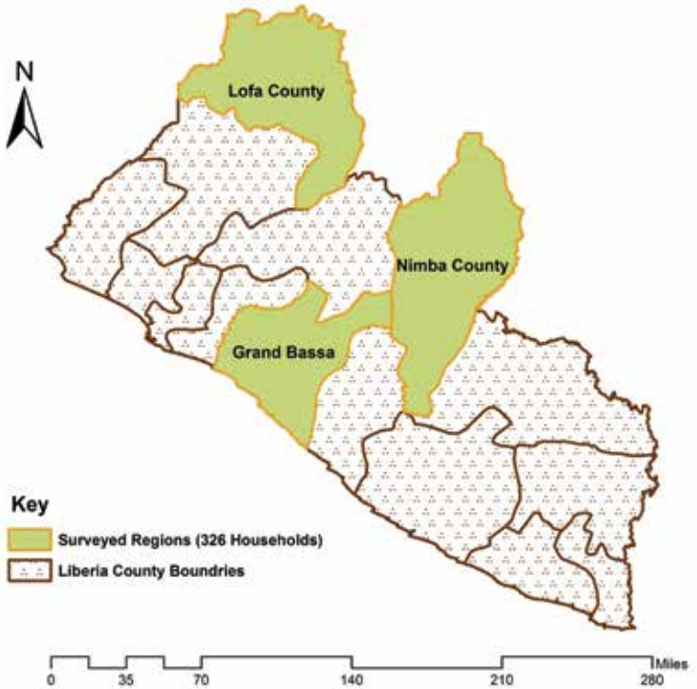
LIBERIA

Subsistence farming characterizes much of Liberian agriculture. Food inadequacies, low incomes and lack of technology negatively affect the majority of the 326 Liberian rural households participating in the survey. Extended periods of conflict have intensified the effects of hunger and poverty. Additionally, there was no evidence of extension agents, NGOs or other development agencies working in the surveyed communities. Most households cannot afford to spend more than one U.S. dollar a day and rely on their own harvests for food.

Of the 326 rural households surveyed, 81 percent were experiencing food inadequacy during the time of the surveys. Only 10 percent of the households thought they would have enough food to consume over the next six months.

Over 70 percent of the households reported that they suffered through chronic food insecurity in the scarce months from June to August. Households adopted several tactics to cope with food inadequacies, including skipping meals and attempting to borrow money or food. At least 40 percent of the households stated that there were periods when they could not feed their children for one day or more. Households surveyed chiefly consumed produce from their own farm, with salt typically being the only purchased food item. Daily diets consisted mostly of carbohydrates and vegetables and lacked proteins and vitamins. The respondents cited insufficient labor and technology as the main reasons for their unbalanced diets and food insecurity.

SURVEYED COUNTIES IN LIBERIA (326 HOUSEHOLDS)

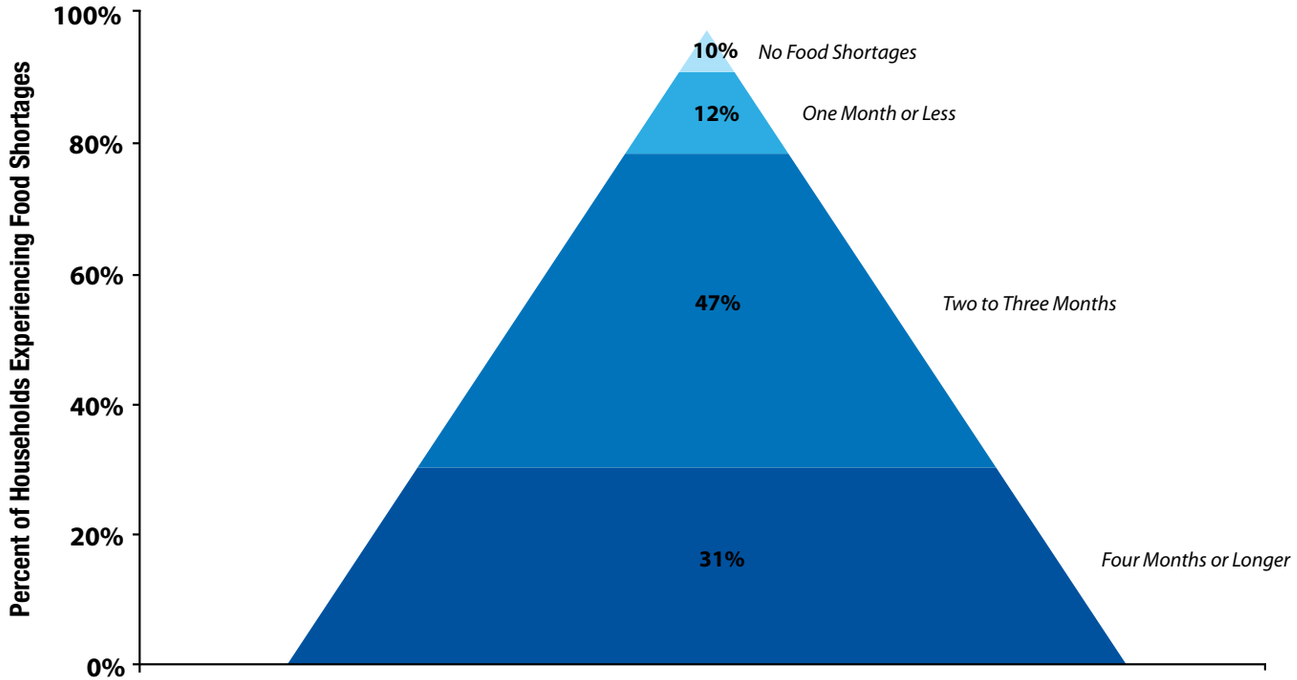


Inadequate capital, labor and technology severely constrain the production levels of Liberian farmers. The average amount of land available to farmers in the sample population is 1.6 hectares (4.0 acres). While the majority of the population utilizes community lands in plots of less than two hectares (4.9 acres), a few households owned more than 10 hectares (24.7 acres). Farmers use intercropping methods (where two or more crops are grown in the same land area at the same time) to intensify the use of their relatively small farms. For household consumption, Liberian farmers primarily grow rice, cassava and vegetables. Liberian lowland and upland rice yields were estimated at 2.5 and 1.8 metric tons per hectare, respectively, about half the average world rice yields according to the FAO. Cassava and vegetable yields also show low production levels. The data on labor use for each farming activity (brushing, burning, cleaning, fencing, bagging, harvesting, etc.) showed heavy dependence on labor-intensive production methods. The most profitable sources for cash earnings are production and sales of charcoal and sugarcane juice. Other cash crops include palm oil, sugarcane, rubber, cocoa, coffee and kola nuts. These cash crops require costly off-farm processing, reducing the returns to farmers. Therefore, an average farmer with limited resources and technology is unable to reap most benefits from the cash crops.

The cost of production estimates include group labor costs, seed and storage costs, pesticides, herbicides, fertilizer, hand tools, transportation, storage and other miscellaneous costs. An average farmer cannot afford to hire laborers for agriculture. Usually, more financially secure farmers share community labor. Although laborers are not always compensated through paper money, the estimated average marginal value of communal labor is around two U.S. dollars per day during the production season.

Most farmers surveyed did not use certified seeds, but instead used seeds saved from the previous year. The storage and harvesting methods employed are traditional and nonscientific. Minor hand tools are the only technology consistently used by Liberian farmers. Furthermore, only five percent of the respondents had access to irrigation. External assistance and/or interventions by NGOs, government entities and/or international organizations were not reported by surveyed households. Consequently, the team discovered very limited or no use of micro-credit, modern marketing and transportation strategies, improved fertilizer or contemporary farming techniques among Liberian farmers.

SURVEYED RATES OF FOOD INSUFFICIENCY IN LIBERIA



Almost half of the surveyed households had members engaged in non-farm employment; however, most did not generate a substantial income. Cash income was estimated from the cash revenues from all farm and non-farm activities, including crop and produce sales, livestock sales, bush meat sales, barter trades, teaching income, contract labor/farming income and small trading revenues. The bottom half of the population sample earned an average income of U.S. $268 annually, while the top 15 percent earned U.S. $1,342. A cash balance for farming households was calculated by subtracting all production cash costs from all farm cash revenues. Only 40 percent of the households were able to earn positive cash profits from their agricultural produce. Approximately 64 percent of the households surveyed were living on less than a dollar a day of cash income.

A standard Cobb-Douglas production function was used to further examine the effect of labor, technology and capital on crop yields. Technology, albeit meager, was found to be statistically significant and had a positive effect on production yields of major crops. Lack of technology is deemed the primary reason for low productivity, profit and income among rural Liberian farmers.

In rural Liberia, the prevalence of hunger and poverty has been exacerbated by chronic conflict. The nation underwent two civil wars (1989-1996 and 1999-2003) in recent decades. About 82 percent of the surveyed population reported that they were affected by the civil wars in some way. Regression analysis showed that conflict in Liberia is a major cause of food insecurity and hunger. Displacement due to conflict and deaths of family members were both found to be statistically significant and positively correlated to perceptions of increased food insecurity.

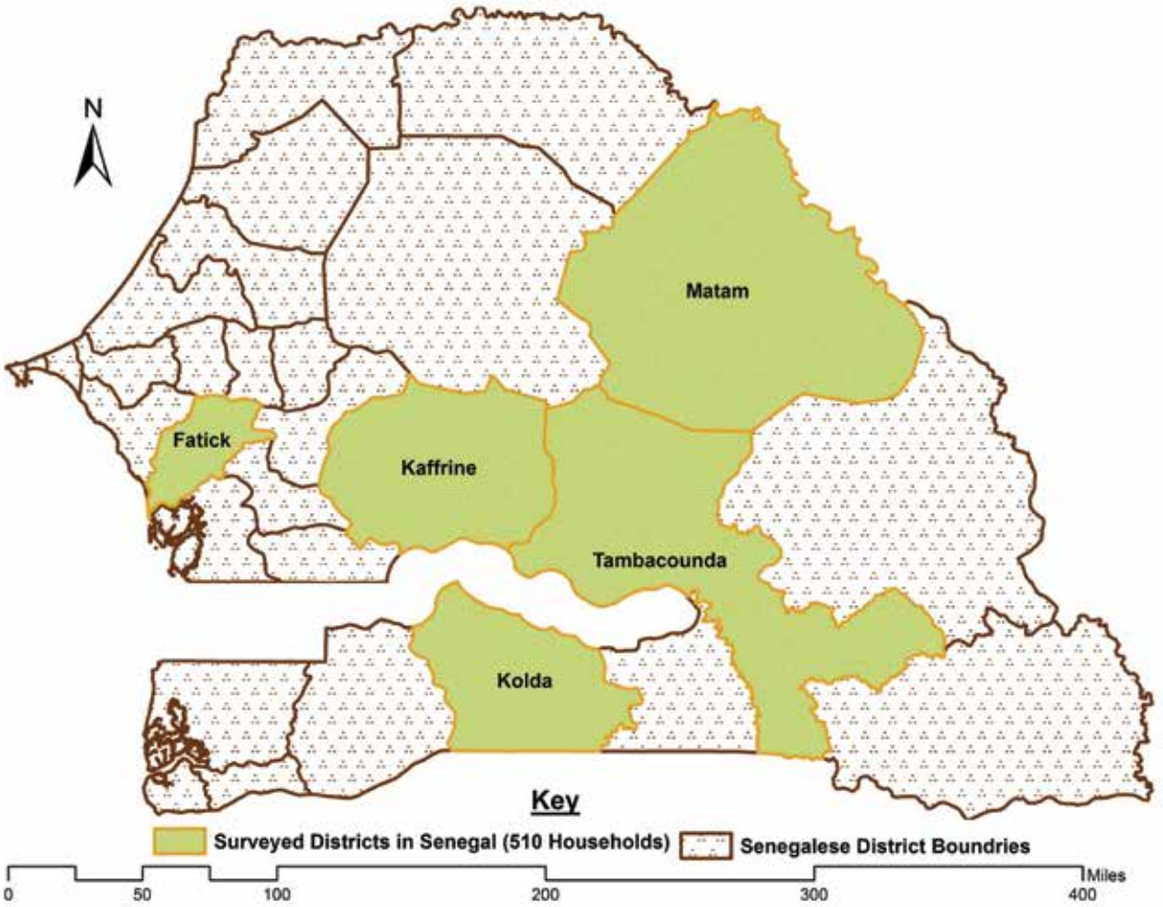
SENEGAL

Senegal is a relatively socio-politically stable country in West Africa. According to the World Bank, in the last decade, the percentage of the population living below the national poverty line gradually declined from 55.2 percent to 46.7 percent. Despite this progress, 77.5 percent of Senegal's population are farmers, an industry characterized by low returns and limited use of technology. Persistent and seasonal food insecurity and low technology also characterized the Senegalese households surveyed. Compared to the other countries surveyed, farmers surveyed in Senegal reported less crop diversification (two to three crops on average). Poor market access, low agricultural productivity due to lower technology use and poor education were deemed as the primary drivers of food insecurity.

A total of 510 rural households in five agro-ecological zones of Senegal were surveyed on various aspects of agriculture, including household structure, access to resources, agricultural practices, animal and crop production, food security, technology usage, and water and health access.

The average farm size for the survey population was 3.9 hectares (9.6 acres) with the majority of households (63 percent) reporting access to land through inheritance. About 47 percent of laborers involved in agriculture are female, with these households reporting reduced access to land and resources. Land access and crop diversity varied across the five regions surveyed.

SURVEYED DISTRICTS IN SENEGAL (510 HOUSEHOLDS)



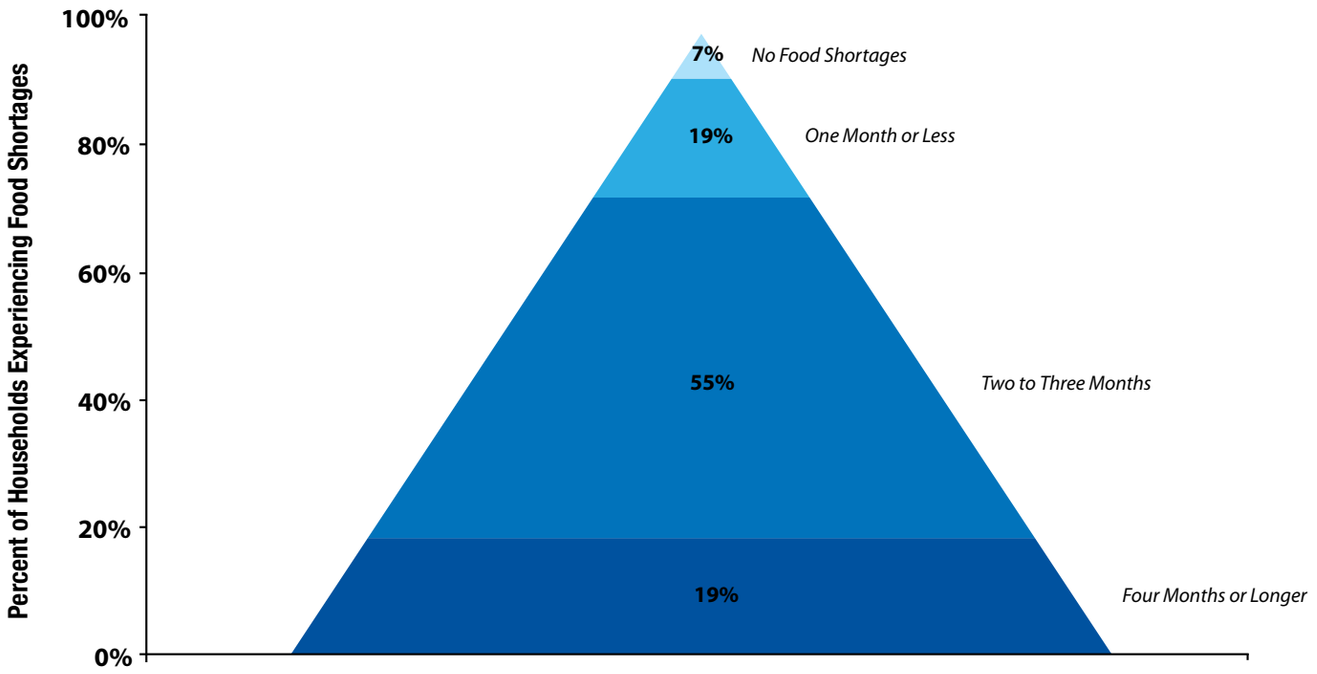
Ninety-three percent of households reported concerns about food sufficiency over the prior 12 months with 20 percent of the survey population stating that they were food insecure (as defined by food shortages that reduced consumption) more than 120 days a year. The study revealed a strong seasonality effect on food security, and food consumption and availability varied monthly. During the post-harvest period, the majority of the households had better access to food while pre-planting and dry seasons were considered the lean months. During August and September, about 73 percent of the households reported food insecurity. A number of households contracted non-agricultural loans and consumed the part of their harvest initially allocated for seed as coping strategies.

During crop seasons, households relied heavily on their own family labor, with 92 percent of households using family laborers aged 15 years or younger. Some of these child laborers also attend school, while in other households, a few respondents revealed that sending children to school and not using them as farm labor would result in severe food shortages for the family. Eighteen percent of households also reported hiring external labor.

Millet and peanuts are the most commonly grown crops in the households surveyed. Peanuts yielded on average 612 kilograms per hectare, while millet yields averaged 457 kilograms per hectare; both are about half of the world's average yield levels.

Availability and use of technology among households surveyed was extremely low, with less than two percent of the sampled households using tractors and only five percent having access to irrigation. Most crops are rain-fed and the use of hand tools is prominent. Households typically use less fertilizer than the standard recommended by the extension system.

SURVEYED RATES OF FOOD INSUFFICIENCY IN SENEGAL



About 40 percent of the surveyed population used fertilizer or compost. The percentage of households using pesticides and herbicides was about 30 percent and 10 percent, respectively. Interestingly, the farmers who perceived their land to be more fertile used more fertilizer. The computed statistics on crop yields indicated that rice and maize yields obtained by households using fertilizer are significantly higher compared to non-users.

Cereals and other food crops are allocated mostly to household consumption and a small part of production is sold. Rural households, especially the poorest ones, increasingly rely on the members of their households to generate additional income from the performance of menial jobs and livestock production.

GHANA

According to the World Bank, Ghana is among the most prosperous and politically stable of West African countries, with a gross domestic product (GDP) per capita of about U.S. $3,257, GDP growth of 8.7 percent, and among the 10 fastest growing economies in the world. Nevertheless, Ghana's development is constrained by issues involving land rights, rapid urbanization, governance and low rates of agricultural output. Agriculture is the largest industry in Ghana, employing about 53 percent of the population according to the World Bank. Based on survey results, the biggest impediments to food security and agricultural productivity are lack of access to technology and markets, lack of inputs, weak land rights and rapid urbanization.

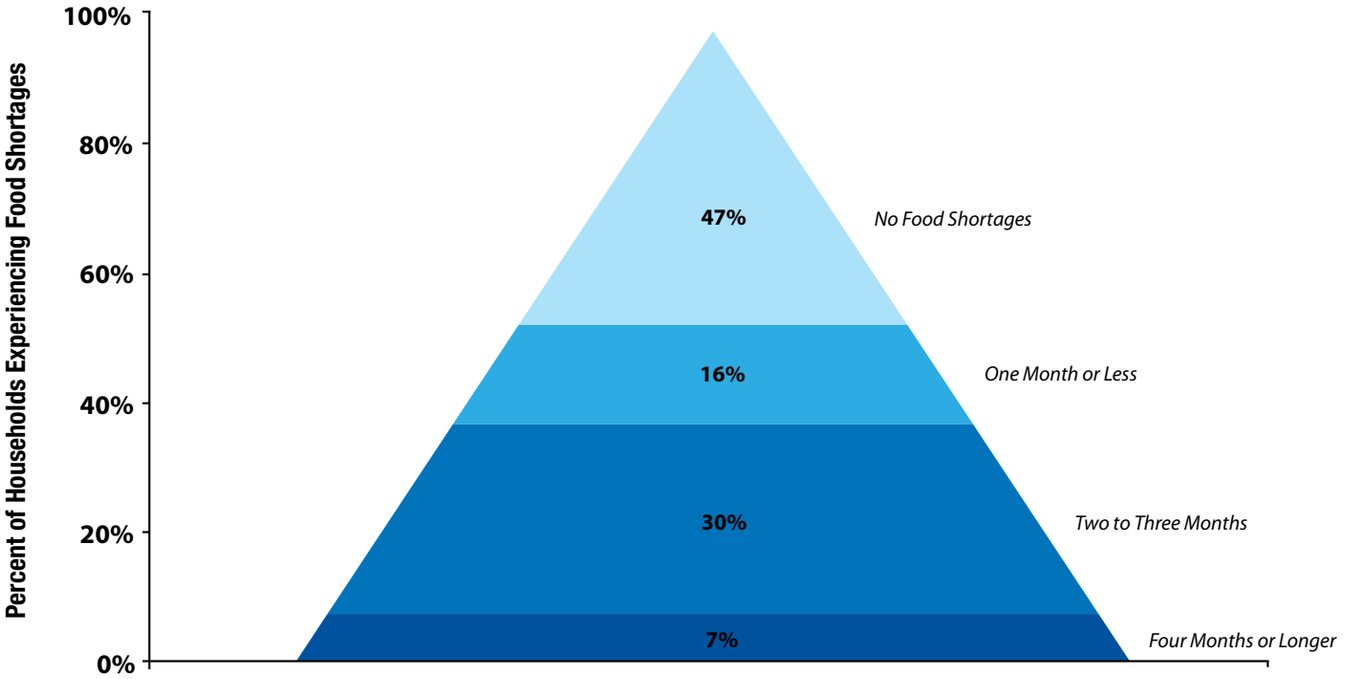
Approximately 42 percent of surveyed households reported experiencing food shortages during the previous years. The scarcest month in the surveyed parts of Ghana is June, followed by May and July. Coping mechanisms to handle food shortage included adults skipping meals and borrowing money from neighbors to purchase food. Vegetables, maize, millet, cassava and rice were the most frequently consumed food items. Household members also consumed plantain, legumes (pulses, beans, nuts), condiments and fruits. Vegetables, fish and condiments were typically purchased in the marketplace.

The average farm size of Ghanaian households surveyed was 3.8 hectares (9.4 acres). Most farmers did not have formal titles to their land. Land distribution in Ghana showed significant inequality; however, the level of inequality varies by region. About 97 percent of sampled households own or utilize up to 13 hectares (32 acres) of farmland for cultivation. A majority of these households grew two major staple food grain crops: maize and rice. The average yield of rice was 1.8 metric tons per hectare among surveyed farmers.

These yield rates are greater than other West African countries, but are significantly lower than world standards as reported by FAO. In addition to rice and corn, other food crops grown include cassava, yam and cocoyam. Okra, peppers and tomatoes are major vegetable crops while cocoa is the most important cash crop, with an average yield of about 1.9 metric tons per hectare among surveyed households.

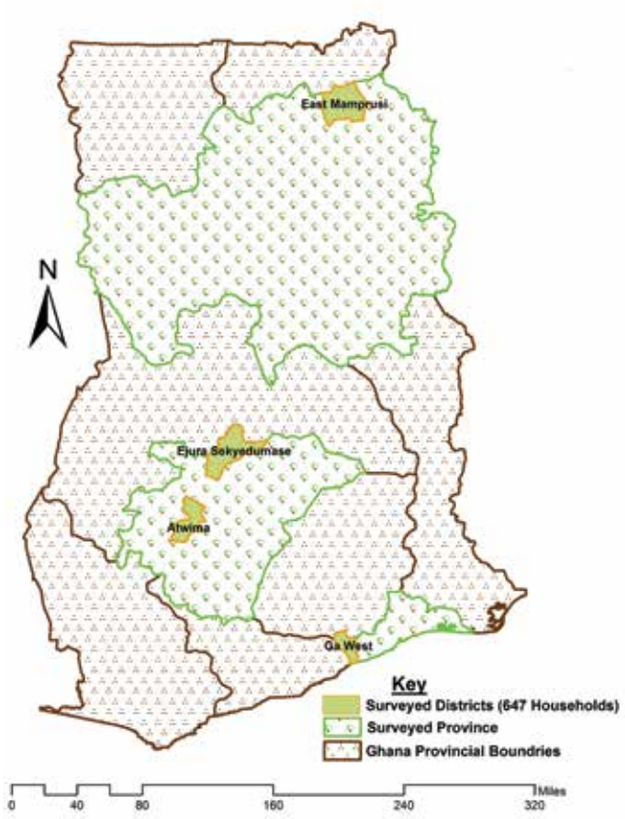
Farming in Ghana is more mechanized and less labor-intensive than other West African countries. However, lack of technology is prevalent among surveyed rural households. About 65 percent of total respondents used tractors, but only 10 percent of the users owned them. Land preparation and harvesting in rural Ghana required the highest amount of farm expenditures. Some animal draft power is used but hand labor is still much employed in land preparation. No-till agriculture may be a solution, provided farmers have access to inexpensive equipment. A majority of the households spent less than U.S. $100 annually for labor. Due to inconsistent precipitation, irrigation facilities are one of the most important, yet costly, farm expenses in rural Ghana. Eighty-one percent of farmers used chemical fertilizer, but at low application rates. A quarter of farmers surveyed purchased certified seeds. Approximately 56 percent of the farmers used herbicides, while 18 percent used insecticides.

SURVEYED RATES OF FOOD INSUFFICIENCY IN GHANA



The Ghanaian farmers surveyed were commonly able to obtain assistance from the government and non-governmental organizations. The primary forms of assistance were: training, marketing, extension support, transport of agricultural produce and micro-credit.

SURVEYED DISTRICTS IN GHANA (647 HOUSEHOLDS)



RESEARCH TO IMPROVE SMALLHOLDER PRODUCTIVITY

FOUNDATION RESEARCH FARMS

The Foundation invests in applied research to improve production practices for smallholder farmers in developing countries in partnership with leading agricultural research universities on three research farms: over 1,400 acres in Arizona, 4,400 acres in Illinois and 9,200 acres in South Africa (Ukulima). The farms in Arizona and South Africa are well suited for research on practical and sustainable ways for smallholder farmers to improve soil fertility and production and to test crop production in water- and drought-stressed environments.

COVER CROPS AND SOIL FERTILITY

Smallholder farmers in sub-Saharan Africa continue to struggle with issues of agricultural productivity. According to the U.S. Department of Agriculture (USDA), yields in sub-Sahara Africa are roughly one-third of the world's average. One significant limiting factor is the lack of access to new or improved technologies, with access defined not just in terms of availability but also affordability, sustainability and proper utilization.

The Foundation continues to fund research to provide useful, affordable and sustainable methods and technologies to smallholder farmers to improve soil quality and agricultural productivity. Our research on cover crops at Ukulima in South Africa in partnership with Educational Concern for Hunger Organization (ECHO) seeks ways to combine the benefits of cover crops with those of conservation agriculture.

Cover crops are vital sources of nutrients for soil health. They increase water retention rates and suppress weeds, thus decreasing labor costs. In addition, cover crops shield the soil from heavy rainfall and wind, reducing soil erosion and helping retain valuable nutrients.

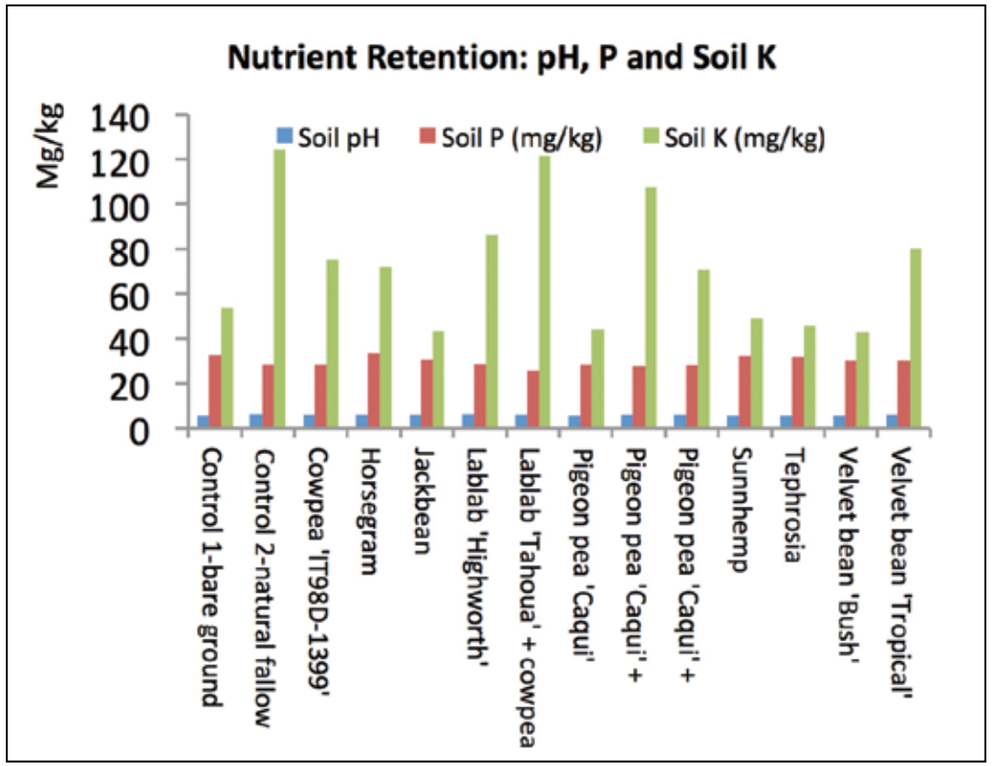
Cover crops provide different nutrient retention potential, and certain cover crops have the potential to be an additional food source for humans and livestock.

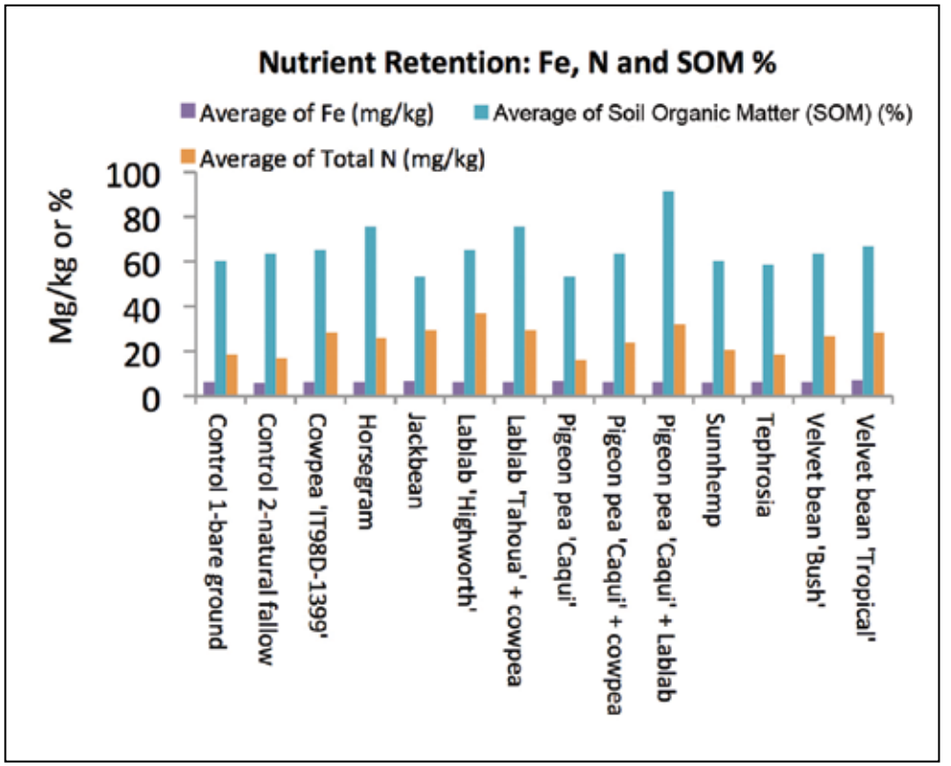
ECHO's approach allows for the "stacking" of best practices to most effectively manage the most valuable resource African farmers have: their soils. The research evaluates legume species for their potential to improve soil fertility and biology in dry marginal soils and identifies the most commonly used cover crops to see how they contribute to increasing yields and soil health.

ECHO tested 14 cover crop treatments alongside bare ground and natural fallow controls. Smaller-scaled versions of these experiments were performed in years two and three to observe long-term trends. Six months after planting, soil samples were collected and tested for different soil health variables. As illustrated by the graphs on the following page, the experiment shows cover crops retained higher amounts of vital soil nutrients, particularly potassium and nitrogen, and it demonstrated higher soil organic matter.

Out of the 14 cover crops tested, the top-performing edible legumes were lablab, cowpea and horsegram. The study also determined that the non-edible legume red velvet was the most powerful weed suppressor of all varieties. The goal is to use this research to empower smallholder farmers to choose cover crops that are best suited to their soil needs.

Research at Ukulima continues to demonstrate the important role cover crops play in a conservation-based agricultural system. The right cover crops can help smallholder farmers who do not have access to or cannot afford synthetic fertilizer to improve soil health, resulting in increased yields at lower overall input costs.





- Soil pH levels remained unchanged for the different types of cover crops applied.
- Soil P (phosphorus) levels showed marginal changes for the different cover crop experiments.
- The greatest fluctuations were observed for soil K (potassium). The lablab (tahoa + cowpea) cover crop had the highest amount of potassium retention while the control (natural fallow) had the second highest.

- Soil Fe (iron) levels stayed unchanged for the different types of cover crops applied.
- Soil N (nitrogen) was highest for lablab varieties and pigeon pea.
- The greatest fluctuations were observed for soil organic matter. The pigeon pea (first), lablab (second) and the natural fallow (third) experiments had the three highest amount of soil organic matter retention.

WATER-EFFICIENT RICE PRODUCTION

Rice is the third most important grain crop in the world following maize and wheat. One-fifth of the world's population depends on rice as a major staple crop, including a large number of smallholder farmers in developing countries. There are two broad categories of rice production: upland rice and lowland (or flood-prone) rice.

Upland rice requires limited irrigation for efficient grain production while lowland rice is typically grown in low-lying lands in river deltas. Conventionally, lowland rice production uses flood irrigation, demanding more water per hectare than any other crop — a significant challenge for smallholder farmers since only a small portion of the water in many flooded plains is available for active crop development.

To overcome this limitation, the Foundation provided funds to the University of Missouri to explore technology options to explore more water-efficient ways to cultivate rice. The study's goal was to develop a tool to predict the optimum frequency and water amounts using center pivot irrigation for lowland rice production. The research concentrated on sandy and drought-prone soils in South Africa and Arizona, which are non-conventional rice growing regions. The study also compared arsenic (a harmful substance that accumulates in rice grain during cultivation) levels in rice produced under pivot irrigation as compared to conventional flooded irrigation.

During the three years of research, the team successfully grew and harvested lowland rice under center pivot irrigation. This unconventional rice irrigation method decreased the soil's silicon levels but also yielded grain with much lower arsenic levels.

The team also determined that the optimal water requirement depended on the water loss during biological processes and the growth stage of the plant. By measuring plant growth properties and input requirements, the research identified some best practices for growing rice under center pivot irrigation in sandy and drought-prone soils. These results are reflected in the team's crop water use calculator, a tool accessible to farmers and other researchers via computer or mobile device at http://agebb.missouri.edu/weather/reports/cwu/ukulima.asp.

These research findings are enhancing our understanding of cereal production. To date, four scientific papers have been published based on this water efficiency research. The tools developed through this project continue to empower researchers around the world to find solutions to production issues in areas prone to drought.

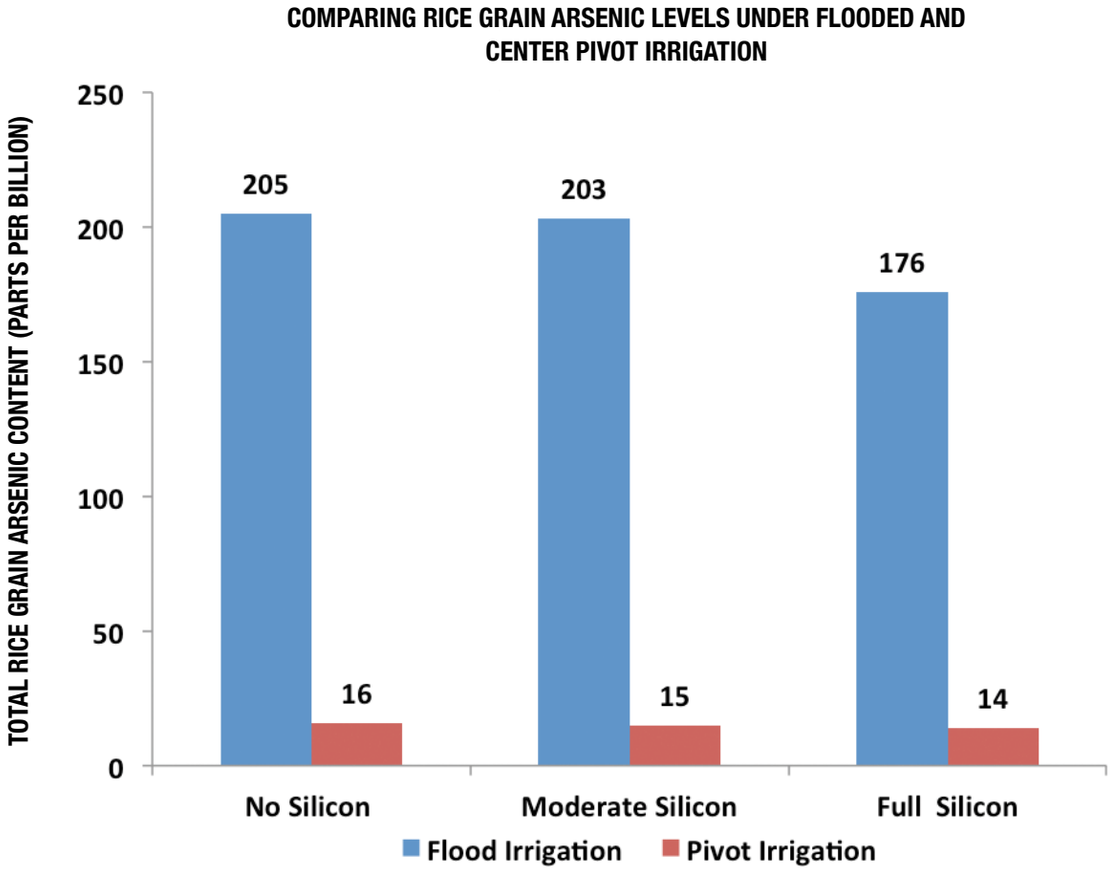


Photo: Gene Stevens (University of Missouri - Delta Research Center)

Rice is grown under center pivot irrigation to test and develop methods for growing in drought-prone or water-stressed areas.

A BROWN REVOLUTION FOR SOIL HEALTH

Excerpted from "A 'Brown Revolution' for Better Soil Health in Africa" by the Howard G. Buffett Foundation and the ONE Campaign. Visit ***www.ONE.org/40Chances*** *to read the complete policy brief.*

Millions of African smallholder farmers and their families depend on the land for their livelihoods. The quality of the soil is a significant factor in farmers' ability to improve their livelihoods and overall food security. In a world where almost 850 million people are already food-insecure, the challenge of how nine billion people will sustainably feed themselves in 2050 must be addressed today.

It can take 500 years or more to produce an inch of topsoil, and yet soil is vulnerable to many risks. Some 75 percent of Africa's agricultural soils have been significantly degraded; as a result, over half of its production zones have serious fertility problems. More than 80 percent of soils in Africa have chemical or physical limitations that limit crop production. Luc Gnacadja, Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD), has said that the world is being depleted of arable land at 30 to 35 times historic rates.

Conservation agriculture offers one context-specific response to the challenge of feeding a growing global population in a sustainable way. The approach entails a bundle of practices that involve three primary principles: 1) low or no-tillage; 2) organic soil cover or cover crops; and 3) crop rotation. When farmers use low or no-till methods, they seek to minimize soil disturbance in order to maximize organic matter in the soil, which is an important component in soil fertility. Cover crops are used to provide essential nutrients, protect soil from wind erosion, retain moisture and reduce soil temperatures by offering shade. Crop rotation is also extremely important. Rotating specific crops can replenish lost nutrients, increase microbial activity, and bolster yields.

For too long, soil health has been neglected as part of the agricultural development agenda in Africa. It is time for African leaders to foster a "Brown Revolution" that puts soil health squarely on the agenda.

To accomplish this, African leaders and development partners should consider the following recommendations:

AFRICAN GOVERNMENTS SHOULD HIGHLIGHT THE IMPORTANCE OF SOIL HEALTH IN THEIR AGRICULTURE SECTOR STRATEGIES AND DEVELOP RECOMMENDATIONS FOR FOSTERING A "BROWN REVOLUTION."

All countries should develop an explicit soil health strategy with specific plans for rebuilding the health of soils. In turn, donors and national governments should ensure that these strategies inform national food security and agriculture plans. These plans should emphasize a range of approaches, including conservation agriculture where appropriate. The CAADP can identify and disseminate guiding principles to implement and scale up conservation agriculture practices within CAADP countries.

IN ORDER TO ADDRESS ADOPTION BARRIERS FOR SMALLHOLDER FARMERS, GOVERNMENTS AND DONORS SHOULD INCREASE INVESTMENT IN EXTENSION SERVICES AND SUPPORT FOR FARMER ORGANIZATIONS.

Proper soil health management requires knowledge – by farmers, policymakers and researchers. Lack of awareness, capacity and understanding poses a significant barrier to the adoption of conservation agriculture. If extension staff are not familiar with soil management and conservation agriculture techniques, they do not promote them to farmers. It is therefore important for governments to strengthen the capacity and technical know-how of extension staff so that they can impart this knowledge to farmers. Support for farmer organizations offers another vehicle to spread information on how to improve soil health and conservation agriculture. Farmers often learn new practices from peers and neighboring farmers. For this reason, local farmer organizations should be supported, fostered, and endowed with knowledge about the importance of soil health.

GOVERNMENTS SHOULD IMPROVE TENURE SECURITY OVER RURAL LANDS TO ENSURE THAT SMALLHOLDER FARMERS CAN REALIZE INVESTMENTS IN SOIL HEALTH AND CONSERVATION AGRICULTURE.
Smallholder farmers need the guarantee that they will have long-term access to their land. Governments must take steps to provide these guarantees so that smallholder farmers can act as stewards of their land.

LOCAL RESEARCH CAPACITY SHOULD BE STRENGTHENED TO BETTER DETERMINE THE PRACTICES THAT WORK BEST ACROSS THE CONTINENT'S DIVERSE GROWING CONDITIONS.
Efforts to improve soil health, including conservation agriculture, are highly context-specific. For this reason, it is paramount that donors and governments devote resources to bolster local research capacity and knowledge. Increased local research will also help complement the emerging evidence base around conservation agriculture in sub-Saharan Africa.

Farmers in many parts of the world do not have access to synthetic fertilizer. A small boy is shown here collecting animal waste that his family will use for fuel and farming.

With limited resources, many women sell cooked corn along the side of the road as a way to secure income.

AFRICAN LEADERS, NOT AID DONORS, MUST LEAD THE WAY TO ENDING HUNGER BY TONY BLAIR AND HOWARD G. BUFFETT

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Despite the progress we have made in eradicating disease, advancing new technologies and improving wellbeing, it is difficult to fathom that we still fail to feed nearly a billion people in the world. Nowhere is chronic food insecurity so entrenched as it is in sub-Saharan Africa, where one in four people go to bed hungry each night.

The good news is we believe this can change, and quickly. We have the knowledge, the technology and even the resources to end hunger. What has long been missing from the equation is the necessary leadership and political will. However, Africa increasingly is a land of leaders who have a progressive vision for their countries and for improving the quality of life for all of their people. Given the right support, Africa's leaders can instigate huge, positive changes for millions of people. For our part, developed nations have to realize that it must be Africans – not aid donors – who determine the path to progress. Our role is to make sure the right structures and institutions develop to enable this new generation of African leaders to end hunger within their borders.

We come from different professional backgrounds: business, philanthropy, and farming on the one hand; politics on the other. But we have come together on this issue because we have seen in our own work in Africa that visionary and determined leaders can deliver real, sustainable change at the national and local level.

One such person is President Koroma in Sierra Leone. Sierra Leone was decimated by years of civil war in the 1990s. President Koroma took office in 2007 and has brought democracy and peace. He has begun to rebuild infrastructure and address corruption. Today, Sierra Leone's economy is growing rapidly.

The Tony Blair Africa Governance Initiative, with financial support from the Howard G. Buffett Foundation, is helping President Koroma build the government's capacity to both prioritize its development agenda and, importantly, deliver on those plans. AGI brings in individuals experienced in building effective government institutions. They work side by side with motivated but often inexperienced local government officials who learn the skills and organizational tools needed to build and run these institutions.

The results are profound. In Sierra Leone, for example, thanks to a focus on healthcare in 2010, increased access to treatment led to an 80 percent reduction in child deaths from malaria and a 60 percent reduction in maternal mortality in hospitals. This is progress affecting millions of lives.

President Koroma's government has identified improving agricultural productivity as one of his government's next priorities. A nationwide Smallholder Commercialization Programme has been launched to support 80,000 subsistence farmers to progress into commercial production. The plan provides farmers with better fertilizer and seeds, access to markets through better transport infrastructure and the use of over 200 Agricultural Business Centres.

But it's not just national leaders who can make a lasting difference with the right support. Local leaders such as Kofi Boa of Ghana are also driving change. The son of cocoa farmers, Kofi studied advanced agricultural techniques in both Ghana and the U.S., but he always knew he wanted to return home and help his country. Today he is a widely respected expert in what is called conservation farming, or "no-till" systems specifically designed to preserve and nurture soil and reduce the need for fertilizer, water and other inputs. At his Center for No-Till Agriculture, Kofi has helped 100,000 farmers across Ghana adopt these practices and his published research inspires others throughout the continent.

President Koroma and Kofi Boa are two visionary leaders creating change at the macro and micro level. The challenge now is to encourage and enable other motivated Africans to take aim at hunger. We have seen the shortcomings of western-backed aid projects. Building schools, delivering seeds and digging wells may be done with the best of intentions, but without visionary and empowered national and local leaders these contributions can only be sustained with more aid. As we mark World Food Day this month it is worth remembering that while big issue awareness campaigns are crucial, what is really needed is long-term support for African-led development.

Today AGI is working with seven African leaders and their governments to build the institutions they need to prioritize and implement their own plans to end hunger and malnutrition. That ranges from helping increase mechanization in agriculture in Sierra Leone to improving seed quality, production and crop diversification in Malawi.

At the local level, HGBF is investing millions in Ghana and South Africa to promote conservation agriculture to sustainably address local food production challenges. This is in addition to the millions invested in creating markets for improved seeds in partnership with the Program for Africa's Seed Systems.

One encouraging development this year is the creation of the New Alliance on Food Security (comprised of African heads of state, corporate leaders and G-8 members) which seeks to lift 50 million people out of poverty over the next 10 years. Its plan is to encourage private sector investment to improve agricultural productivity and incomes for smallholder farmers, and to make sure donor governments align their support with plans conceived by African governments. The initiative will be collaborative and led by Africans.

World agricultural output will need to increase 70 percent by 2050 to feed our growing global population. Urgent action is needed to address this crisis, especially in sub-Saharan Africa.

ABOUT TONY BLAIR

Tony Blair is the founder of the Tony Blair Africa Governance Initiative and former Prime Minister of the United Kingdom.

In Latin America, we primarily work in four countries in Central America: Guatemala, Nicaragua, Honduras and El Salvador. We also make opportunistic and strategic investments in Mexico and South America. Our focus is on smallholder agricultural development to improve food security, improve livelihoods and build resiliency. We invest in food security in four main ways: 1) piloting efforts to improve productivity; 2) connecting smallholder farmers to markets; 3) promoting the adoption of conservation agriculture; and 4) influencing private and public investments to do both at scale. In 2013, we began analyzing what we have learned from past investments and using those lessons to inform our future priorities. We continue to look for opportunities to catalyze private sector engagement with smallholder farmer production. Central America in particular offers a unique opportunity to tackle food insecurity at a regional scale, and we were pleased with the progress we made to elevate our efforts to the attention of key policymakers who work on smallholder farmer development.

LESSONS ON IMPROVING FOOD SECURITY AND MARKET ACCESS FOR SMALLHOLDERS IN CENTRAL AMERICA

AN ANALYSIS BY CATHOLIC RELIEF SERVICES FOR THE HOWARD G. BUFFETT FOUNDATION

The prevailing paradigm of donors and Latin American governments over the last two to three decades is that smallholders and rain-fed farming systems do not contribute to economic growth and are not a worthwhile investment. Two HGBF-funded agriculture projects prove otherwise. These projects demonstrate that with the right mix of technical support and inputs, smallholders can produce not only for household food security and markets, but based on their numbers and scale, they can improve degraded environments, contribute to economic growth and increase food security at a national scale.

This report provides key findings and specific recommendations based on a retrospective analysis in Nicaragua and El Salvador of the Agriculture for basic Needs (A4N) and Campesinos for Progress (C4P) pilots.[1]

The findings that follow reflect the most important trends and patterns. Publication of these findings with quantitative results from final evaluations is planned for 2014.

A. IMPROVED FOOD SECURITY

The cumulative effect of conservation agriculture plus soil and water conservation resulted in dramatic increases in maize and bean productivity of 300 percent (0.39 Mt/ha to 1.36 Mt/ha) in a Nicaraguan community planting a local variety. This is impressive, but not surprising because of the low starting point. In another community, a farmer planting an improved variety reported that "people come to ask how we get maize yields of 4.55Mt/ha (72.5 bushels/acre)." The lesson is that good farming practices with soil and water conservation can and do increase yields considerably on degraded land. It also led to better access to food and reduced the hunger months. One farmer field school (FFS) member said, "We have learned many things that we have put into practice. We used to have several months of hunger; now we have none. We have enough maize and beans in June and July." The increased production also increased incomes. "We used to get yields of 0.39 Mt/ha (6.2 bushels/acre) with the local maize variety. Now we get 1.36 Mt/ha (21.7 bushels/acre). [Before] we could never produce enough to sell. Now we have enough for us, the chickens and to sell." This finding is the most significant result of A4N and will be important to quantify with multiple farmers.

[1] A4N focused on sustainable agriculture, microfinance and marketing for food security and income in four countries of Central America and C4P concentrated on increased production and sales of maize (El Salvador) and beans (Nicaragua) to formal and informal markets through technical assistance and support of smallholder cooperatives. A4N supported approximately 80,000 rural people (16,000 farm families) in four countries, while C4P worked with a few hundred farmers. Both projects were designed for 3 years.

[2] Rich topsoil retains moisture longer in drought, drains faster during rain and provides nutrients for stronger plants that are less susceptible to weeds, pests and disease.

B. ENDURING USE OF CONSERVATION AGRICULTURE

Conservation agriculture is an important option for smallholders as it rehabilitates soil while increasing productivity. This study found that farmers in all the visited communities adopted conservation agriculture throughout project areas and increased maize yields, often significantly. It was plainly visible from plant vigor and yield increases that adoption rates by non-project farmers from neighboring and distant communities were high. FFS members in Llanos de Boqueron, Nicaragua, estimated that from their 22 members, 150 farmers (50-60 percent of farmers) in their four communities were practicing conservation agriculture. Word of mouth about drastic improvement in maize yields of 300 percent increases brought Nicaraguan farmers from other municipalities to "pass by, see the healthy crop and ask questions." (Llanos de Boqueron farmer)

> "*They test the planting distances on a small area of their own plot. Now they are copying this practice as far away as Jinotega (over 67 miles away).*" (Esquipulas farmer)

Interestingly, those farm households who were the most resource poor seemed to be the most likely to adopt a practice and continue an activity after the project.

C. IMPROVING GOVERNMENT EXTENSION

In the 1990s national extension support to smallholders was greatly reduced. National extension systems focused instead on export agriculture to the detriment of national markets and food security of the poor. This may be changing.

Key departments, including the National Center of Agricultural and Forestry Technology (CENTA), the Institute of Agricultural Technology (INTA), and the Directorate of Agricultural Science and Technology (DICTA) in the agricultural ministries of Central America are adopting the A4N extension model:

1. *El Salvador*: With FAO, CENTA is working with A4N promoters to implement a food security project. CENTA plans to train its agronomists in the A4N model for content and learn-by-doing approaches. CENTA designed a pilot to be implemented with Catholic Relief Services (CRS) that will train community promoters as local extension agents in the five skill sets, savings groups, FFSs, local agricultural research committees (CIAL) and producer associations. These have not started due to lack of funds.

2. *Nicaragua*: INTA adapted and is using all the A4N manuals and training materials in the skill sets, FFSs and conservation agriculture for extension agents, promoters and community members. With FAO funding, INTA is evaluating the community promoter model for greater extension coverage and horizontal transfer of technology.

3. *Honduras*: In the municipalities where A4N worked, DICTA is recruiting and funding extension services for A4N promoters.

4. *Guatemala*: The three A4N municipalities passed ordinances to form Municipal Agricultural Units (UTAMs) and assign budgets to staff them with A4N partner extension agents and community promoters. Though municipal governments changed in 2012, the UTAMS are continuing.

D. ONGOING REPLICATION OF COMMUNITY MICROFINANCE: Community savings groups have spread beyond project borders to government programs (Honduras, El Salvador), NGOs and donors, including Inter-American Development Bank (IDB), U.S. Agency for International Development (USAID), and Green Mountain Coffee Roasters (GMCR). Microfinance catalyzed the full participation of women in A4N, uncommon for an agriculture project.

By forming women's savings groups earlier than any other activity, women built financial capital and social capital that served to increase confidence, self-esteem, status and project engagement. They spoke up about men receiving subsidized seeds and fertilizer, when they could not save enough for a grain mill or tamale business.

"*These savings groups have had a huge impact in this region and on our institution….We are including savings groups in all our projects.*" (A4N director, FUNDESA)

E. WOMEN'S PARTICIPATION HAS A MULTIPLIER EFFECT Rural development that targets only half of the productive population caps impact and impedes sustainability. The retrospective team observed continued social and economic benefits, as women shared leadership and increased household income through sales of eggs, tilapia and improved bean seed they had produced.

"*These savings groups changed women's perspectives. They began to value themselves and their own knowledge, often different from men's knowledge. They understood that their opinions were important. More women now have leadership skills, are making decisions and leading in their communities, households and municipal meetings.*" (CRS staff, El Salvador)

In past agriculture projects, the focus was staple grains, the domain of men. "Women were not very involved." The mix of skills in A4N included activities which are the purview of women – "small livestock, especially poultry; household vegetable production; healthy diets and recipes. At the start of A4N, only men attended community meetings, but now both men and women contribute."

When photographing Maria, I remember what a classic scene it was with the corn hanging from the ceiling. It was classic in another way: Maria looked healthy but she was suffering from micronutrient deficiencies.

The savings groups are building a foundation of empowered women who have improved relationships with men.

"*There are high levels of domestic violence in communities where women do not leave the house. Once they are in a women's savings group, the group becomes a barrier to domestic violence. When women are going out [of the house], there is social pressure against violence. Women in a group resist and publicize the problem. Before A4N and savings groups, no women spoke up in community assemblies. No women sold [the household store of] maize when men were out of the house.*" (Partner staff, FUNDESA)

F. MARKETING CHALLENGES

In A4N, marketing was the least developed skill set, in large part due to the time required for low resource farmers to improve organization, productivity, processing and basic skills before engaging in marketing. The time frame was too short to put complex lessons into practice. The El Salvador C4P maize cooperative is a notable exception. However, in C4P the cooperatives still need support in technical assistance and mentoring for administration and management during their first years of growth.

G. POLICY: THE GOOD AND THE BAD

In C4P El Salvador, after a weak first year start in a geographic area where maize production is low, CRS moved the project and created the maize cooperative ASAESCLA. It has been successful in multiple aspects – active municipal support and funding, sales contracts, membership increases, volume, quality and sales to the largest Central American food processors. It is being used as a model for several new cooperatives. Policy played an important enabling role in that 20 percent of the raw material purchased by food processors in El Salvador must be sourced locally.

In C4P Nicaragua, government decisions in response to global increases in bean prices showed how one bad policy can erode agricultural development quickly and reverse success. The co-op Ecovegetales had two successful years averaging $2,200 net annual income per family. In the third year, the government closed its borders to the export of red beans, the bean used in Nicaraguan kitchens. As the major bean producer for Central America, Nicaragua produces enough for domestic use and exports. The government decision flooded domestic markets in 2012 and co-op members sustained large losses. Prices to farmers plummeted from about $40 per 100 lbs in 2011 to $14.29, below the cost of production at $23. The co-op credit fund is now $20,557 in arrears. Co-op members have diversified production and produce red beans only for household use. Various agricultural networks are working to change policy to achieve a better balance between prices for urban consumers and profits for farmers.

H. THE SUSTAINABILITY OF KNOWLEDGE

Conservation agriculture and microfinance in the form of community savings groups are likely to be the most enduring impacts of C4P and A4N among the beneficiaries, based on feedback in interviews.

"*What stays in the community is the learning, using good farming practices and knowing the alternatives to expensive agro-chemicals*." (CRS project director)

One community found that organizing into groups was initially difficult. During the field visit, they said groups and collective activities were the "greatest gains of the project."

"A4N was a great experience. When other projects ended, there was nothing. With this project we are continuing. Before, any small problem, we went to the técnico. Now, no. We are like children starting to walk….Now that we are organized, we can keep on making our way." (CIAL member from Cerro de la Mina, Nicaragua)

LESSONS FOR FUTURE INVESTMENT

- *Focus on Soil Health*: Rural families seem to be adopting soil improvement practices and conservation agriculture more readily than even 15 years ago. This shift indicates a new readiness for learning and uptake of these practices.

- *Invest in Extension*: Well-designed extension inputs and services should encourage conservation agriculture and soil and water conservation.

- *Adopt an Intergrated Approach*: Extension should focus on diversified, resilient, rain-fed farming systems, not just monocropping. Risks are too great, and markets too volatile to depend on a few crops.

- *Marketing Requires Long-Term Commitment*: It takes more than five years to build marketing skills. Farmers have to build production capacity, organizational capacity, understand the market, manage credit and build relationships with other value chain actors. It takes more than several seasons (years) to make this work well. Marketing is the key to moving out of poverty, so without it, benefits are limited. More time is needed for ongoing assistance, but it is difficult to attract resources in the out-years. A key question for investigation and/or a pilot is how to make marketing support sustainable.

- *Engage Women's Participation*: Agriculture and rural development efforts should routinely include specific activities and trainings that engage and empower women for maximum impact. These include savings groups; diet and nutrition training paired with technical assistance for multi-story gardens; and agricultural activities that women dominate, such as poultry or small livestock, food processing and production. The power of women's savings groups is becoming well known as a vehicle for engaging and empowering women, as groups are being replicated by other NGOs, government programs and more often required by donors.

- *Collaborate with Government from the Outset*: This is particularly important for influencing government systems to improve research and extension and reap the benefit of their experience.

INCREASING THE MARKET FOR SMALLHOLDER COFFEE PRODUCTION IN SOUTH AMERICA

The Borderlands Coffee Project is helping secure better livelihoods for more than 3,000 coffee-growing families on both sides of the Colombia-Ecuador border, an area with extreme poverty and prone to conflict. Borderlands works to influence policymakers and private-sector decision-makers to develop more equitable and inclusive public policies, public spending priorities and trading practices.

On the Colombia side of the border, the project serves 1,600 smallholder farmers in the department of Nariño, known for both the extraordinary quality of its Arabica coffees and the complexity of its humanitarian challenges.

Nariño is the leading coca-producing region in the country, home to two active guerrilla movements, a number of other armed groups and the site of active conflict and significant numbers of internally displaced persons.

On the Ecuador side, the project serves 1,500 smallholder farmers growing Robusta-variety coffee in two provinces in the low-lying Northern Amazon region. The border province of Sucumbíos is affected directly by the conflict in Colombia—it lies on a strategic supply route for drug trafficking, sustains influxes of refugees, and its remote areas serve as training grounds for Colombian guerrillas. The province of Orellana, to the south, is populated by large numbers of indigenous Kichwa people fighting to defend their traditional practices and the biosphere reserve where they live against environmental degradation.

In the field, CRS is helping smallholder coffee growers in both countries compete more effectively by strengthening market skills, adding value through quality improvement and certification, and capturing value through new and improved trading relationships with other actors in the coffee chain.

Borderlands pilot efforts are also designed to engage the marketplace and influence public policy to further support smallholder coffee growers.

In the private sector, a Borderlands Advisory Council for each country comprised of coffee industry leaders ensures field operations are aligned with commercial interests. In Colombia, this contributed to commercial successes in 2013 during the project's first year of operations in partnership with Starbucks Coffee Company. Borderlands' farmers engaged in a Fair Trade Certification pilot which represented the first time participants ever organized to bring their coffee to market collectively.

Four roasters on the Colombia Advisory Council also purchased small lots of coffee of exceeding quality, rewarding the farmers who grew them with prices as high as three times the next-highest rate in the local market. The Borderlands Advisory Council for Ecuador in turn worked with project staff, partners and participants in 2013 to convene an event to explore opportunities for Robusta coffees.

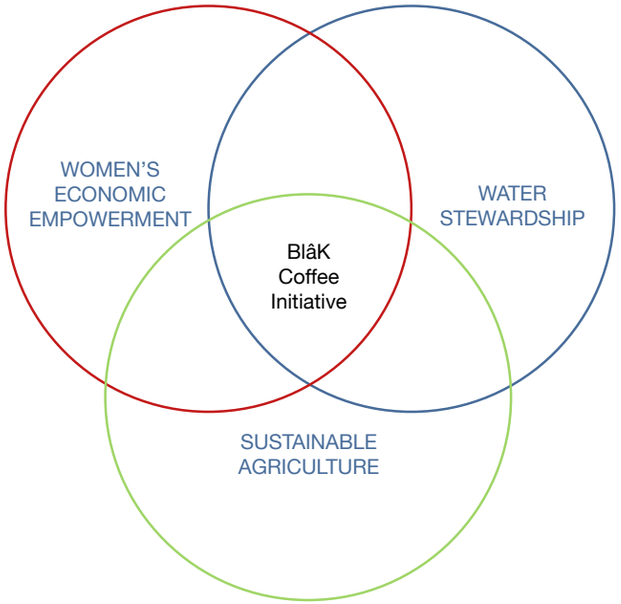
Workers in Nicaragua dump coffee beans onto sieved racks to remove stems, dirt and sediment.

In the public sector in Colombia, the project's focus on expanding value-added opportunities for smallholder farmers has influenced public spending and is beginning to shape coffee-sector policy. In Nariño, the project facilitated a participatory analysis of the regional coffee chain that included representatives from leading public, private and non-profit actors in the local coffee sector. The process produced a competitiveness strategy for Nariño's coffee sector and led to the formation of a group that will advise the government of Nariño on coffee policy and coffee sector investment beginning in 2014. In the meantime, the government of Nariño has pledged financial support for one of the central innovations of the project: collective coffee mills that will help farmers improve the quality of their coffee, reduce the environmental impacts of their coffee processing operations and organize more effectively for the marketplace.

INCREASING THE MARKET FOR SMALLHOLDER COFFEE PRODUCTION IN MEXICO

In partnership with The Coca-Cola Company and Heifer International, the Foundation's PROMESA-CAFÉ will work to provide 2,000 smallholder farming families in Chiapas, Mexico, with the opportunity to build more sustainable livelihoods and bolster the economic and social well-being of their communities.

Participants will learn how to improve coffee productivity using conservation agriculture and adopting more sustainable practices, including improved wet milling techniques for better watershed management, and agroforestry conservation and management techniques. Ultimately, the project is intended to help smallholder farmers connect to the private sector market by meeting the production and quality needs of The Coca-Cola Company's BlãK Coffee, offering these farmers a market-driven way to improve their income potential.



By working with financial partners such as Root Capital, PROMESA-CAFÉ will help fledgling coffee cooperatives develop business skills, increase financial literacy, improve governance and facilitate access to markets. Participating cooperatives should gain experience and knowledge from The Coca-Cola Company on how to meet quality standards and ensure disciplined delivery while the initiative should help Coca-Cola meet its purchasing goals and increase its learning on sourcing from smallholder farmers.

The vision of success for PROMESA-CAFÉ is to transform the lives of resource-poor farming families through improved market access in a profitable and inclusive value chain. The project will also ultimately provide a blueprint for replicating and scaling up the model more broadly. It will hopefully serve as a catalyst for market-driven approaches to sustainably increase the productivity and income potential of smallholder farmers.

FROM COFFEE TO CACAO IN EL SALVADOR

A recent study by the International Center for Tropical Agriculture (CIAT) and CRS assessing the vulnerability of smallholder coffee farmers in Central America to variable weather trends concluded that "the suitability of coffee growing regions in Nicaragua, Honduras and El Salvador will be reduced towards 2050, with the highest decrease in El Salvador…furthermore, farms located at lower elevations will have a higher decrease in suitability." The study reinforced the results of a 2012 vulnerability analysis by CIAT's Coffee Under Pressure project, which concluded that 68 percent of the coffee producing families in the municipalities of Ahuachapan, Tacuba and Santa Ana in western El Salvador are vulnerable to variable weather and increasing temperatures.

Coffee production in El Salvador has suffered a steady decline in competitiveness over the past 20 years, due to fluctuating prices, aging plantations, poor farm and cooperative management, limited research and extension support, and failures of institutional and coffee sector governance. In 2013, Central America experienced an outbreak of a coffee plant disease, *leaf rust*, which negatively impacted over 50 percent of the coffee areas in the country and highlighted the fragile state of the sector. It also underscored the vulnerability of coffee farmers at lower elevations (2600 feet/800 meters above sea level or lower) who seemed to be more affected by the disease. Yet there is a growing opportunity to revitalize cacao in El Salvador. Cacao grown at a national scale has the potential to contribute significantly to restoring El Salvador´s degraded resource base and provide an alternative for low elevation coffee growers and other smallholder farmers seeking to diversify production.

The Foundation is partnering with CRS on a four-year pilot project to understand what it will take to transition 500 smallholder low-elevation coffee farmers into cacao production. The initiative will convene and facilitate an inter-institutional support and advisory group from the outset to leverage the learning from the project and engage key public sector institutions in developing a broader diversification strategy for low-elevation coffee farmers. It will also serve to pilot key aspects of a potential national cacao development strategy by validating cacao agroforestry training materials and approaches for building capacity of technical field staff and promoters; testing and adapting the cacao genetic material sourcing and multiplication process; building the capacity of municipal and national government technical support teams that will be critical to the sustainability of national cacao revitalization efforts; and testing and developing financial products for smallholders with financial institutions such as Bandesal, Root Capital and Triodos Bank.

The four-year pilot will allow 500 smallholder coffee farmers and their cooperatives to establish at least 625 hectares (1,700 acres) of diversified cacao-based agroforestry systems, establish a producer-owned cacao collection and processing center, and generate a strategy to boost public sector support for future cacao diversification efforts.

SAFEGUARDING THE RIGHTS OF MIGRANT WORKERS

2013 marked the final year of Jornaleros SAFE, a three-year effort to reduce and prevent abuse of migrating H-2A guest workers from Mexico, implemented in partnership with CRS. Jornaleros SAFE documented incidents of abuse, worked to educate workers on their rights and supported development of policy to better protect workers. As part of this effort, the Jornaleros SAFE team became involved with a large-scale abuse case involving a recruiting company called Chamba Mexico Agencia de Empleos (Chamba).

Chamba advertised and recruited over 3,000 applicants for temporary agricultural work in the U.S. Applicants were asked to provide official documents, including passports and birth certificates, and to pay approximately USD $560 each for an agricultural visa, which they never received.

In December 2012, Chamba's fraudulent practices came to the attention of organizations conducting research on farm workers who were part of the Jornaleros SAFE project. In February 2013, Jornaleros SAFE presented the cases of five victims to the Mexican Department of the Interior and Department of Foreign Affairs to initiate an official investigation. In March 2013, before the official investigation began, Chamba vanished.

Jornaleros SAFE launched a media campaign to exert pressure for government action in the Chamba case. The media attention opened a dialogue with relevant government agencies and led to government-sponsored national campaigns to raise awareness on the problem of recruitment fraud in Mexico.

Jornaleros SAFE is still working with the victims of the Chamba case and utilizing their testimonials to engage the media and advocate for regulation of recruitment agencies in Mexico to prevent this type of fraud in the future. The Foundation is providing limited support to Jornaleros SAFE in 2014 to cement the gains made in 2013 and assist the Mexican federal government in institutionalizing new protections for migrant workers.

Migrants workers in Fresno, California, spend long days in the hot sun picking vegetables that will end up in grocery stores across the U.S.

The Foundation's U.S. food security strategy can be divided into two broad categories: 1) research and advocacy to promote conservation–based agriculture; and 2) advocacy to enable direct support for hunger relief and raise awareness about hunger in America.

In agriculture, our research through the Sequoia Farm Foundation informs our advocacy, while our advocacy and interactions with U.S. farmers helps identify information gaps for future research. Our primary advocacy vehicle for promoting conservation-based production systems and soil health is the *Harvesting the Potential* campaign, which provides information and case studies targeted to U.S. farmers.

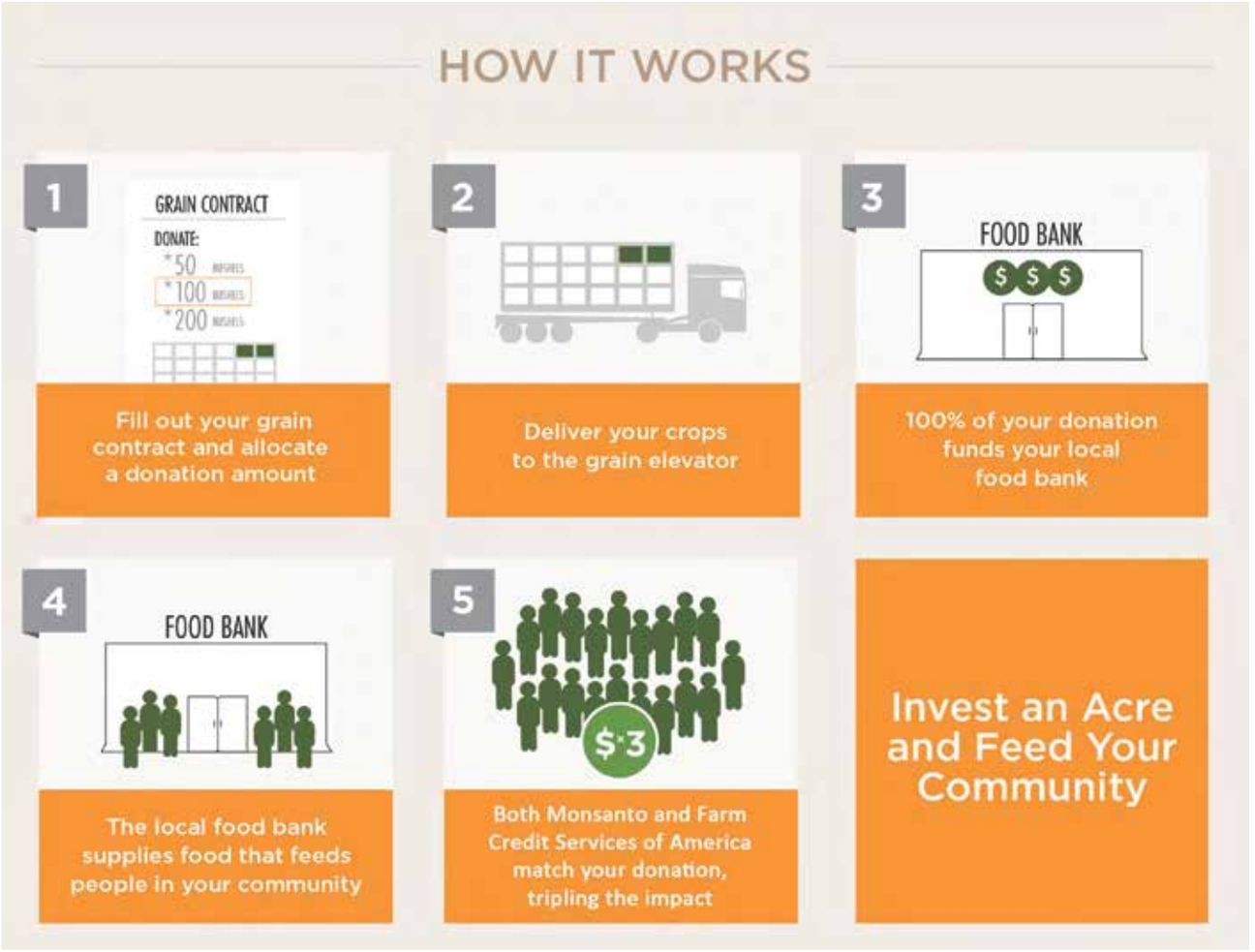
We also advocate for expanded support for hunger relief in the U.S. through our *Invest an Acre* campaign and raise awareness about the problem of U.S. hunger through *Map the Meal Gap* (**www.mapthemealgap.org**) and an annual hunger study, both in partnership with Feeding America.

INVEST AN ACRE FOR A HUNGER-FREE NEBRASKA

In 2013, Invest an Acre targeted one of the country's largest food-producing states, Nebraska, to raise awareness and support for the one in seven Nebraskans who regularly experience hunger.

Farmers in Nebraska are encouraged to donate one acre's worth of their annual harvest to address hunger in their neighborhood. With the Foundation's support, 100 percent of the proceeds of every donation will go directly to the Feeding America food bank or agency serving that farmer's local community. Grain elevators and cooperatives also play a crucial role in the success of achieving a hunger-free Nebraska.

The goal is simple: put hunger out of business in Nebraska.



FOOD AID REFORM

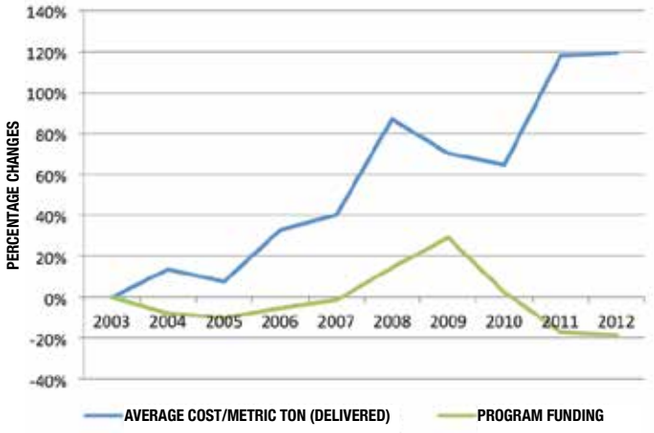
Excerpted from "Food Aid Reform" by the Howard G. Buffett Foundation and the ONE Campaign. Visit ***www.ONE.org/40Chances*** *to read the complete policy brief.*

With nearly 850 million people in the world facing food insecurity and 34 countries in need of food assistance, food aid and agricultural development are paramount to achieving global food security and preventing hunger-related conflict.

Today, the U.S. Government is the world's largest food aid donor by far, providing aid through a program called Food for Peace, commonly known as P.L. 480. Authorized in 1954 under the USDA and implemented through USAID, this program has fed more than 3 billion people in 150 countries over its lifetime.

FOOD FOR PEACE (P.L. 480 TITLE II)
FUNDING LEVELS AND
AVERAGE COST/METRIC TON (DELIVERED)

FY2003-FY2012



Source: USDA Annual Budget Summary

However, times have changed since the 1950s, while the food aid program has not, resulting in poor resource allocation, administrative inefficiencies and delays in shipping food to emergencies. Over the past decade, Congressional appropriations for this program have ranged between $1.18 billion and $2.32 billion. However, due to rising costs in shipping and transport, and of the commodities themselves, the same amount of funding reaches only half as many people as it did five decades ago.

Three aspects of the program need reform: 1) monetization; 2) delays in delivering food aid; and 3) the requirements of Agricultural Cargo Preference.

MONETIZATION

Emergency assistance is primarily provided through the World Food Programme (WFP) and NGOs, typically referred to as "private voluntary organizations." Based on the nature and location of emergencies, private voluntary organizations may not use all of the agricultural commodities they receive for emergency food aid. P.L. 480 allows them to "monetize," or sell, excess commodities on local markets to finance their non-emergency development programs. Between FY2008 and FY2010, $219 million in food aid resources was lost as a result of low cost recovery rates in monetization activities. In addition to the inefficiency of the program, some evidence suggests that monetization has the potential to damage local agricultural markets when food aid shipments constitute over 10 percent of domestic production.

DELAYS IN DELIVERING FOOD AID

Shipping food aid overseas also requires more time, inhibiting the ability of the U.S. to respond to pressing emergencies. In 2009, the Government Accountability Office (GAO) analyzed WFP data and found that shipping U.S. commodities to Africa delayed food aid arrivals and cost more than purchasing commodities from local traders and farmers.

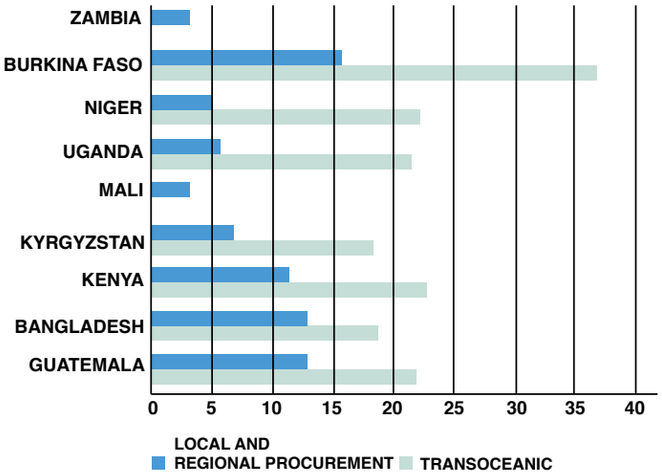
This analysis looked at 10 sub-Saharan African countries for the period 2004–08 and found that the median delivery time when sourcing locally was four months shorter and cost 34 percent less than traditional methods.

AGRICULTURAL CARGO PREFERENCE

In an effort to support national security interests and "buy American," the Cargo Preference Act requires that 50 percent of food aid must be transported on "U.S.-flagged vessels." In reality, only 12 percent of eligible ships are defined as "militarily useful" by the Department of Transportation Maritime Administration and the best available research estimates the number of American crew members on these ships at just 1,414. The most recent data available, from FY2006, shows that compliance by USAID and USDA with the Agricultural Cargo Preference rules increased food aid cargo costs by 46 percent, or approximately $140 million that year.

DELIVERY TIMES, IN WEEKS, OF LOCAL AND REGIONAL PROCUREMENT VS. TRANSOCEANIC FOOD AID

(IN WEEKS)



Source: Lentz, E., Barrett, C., Gomez, M. (2013)

THE OPPORTUNITY TO REFORM

Reforming the U.S. food aid delivery system would drive cost-efficiencies in a current climate of austerity. As government agencies are being asked to "do more with less," the following recommendations for food aid reform represent straightforward policy improvements:

- *End monetization*: Ending monetization would allow private voluntary organizations to accept cash vouchers in addition to commodities, enabling development partners to have more options to make the best choice for a given situation.

- *Expand local and regional procurement*: Cash vouchers present private voluntary organizations with an opportunity to source food aid locally, where appropriate. Evaluations of local and regional procurement show that this approach can help food reach beneficiaries months faster, while requiring fewer resources, responding to beneficiaries' preference for local food and bolstering economic development.

- *End agricultural cargo preference*: Reforming Agricultural Cargo Preference requirements would reduce costs associated with shipping food aid and would allow the U.S. to reach more beneficiaries at the same (or even lower) cost.

- *Ensure adequate levels of food aid – and that cost savings from reform remain allocated to food aid*: Given the constrained budgetary environment in the U.S. and recent trends of declining funding levels for P.L. 480, the U.S. Government should maintain or increase current funding levels for the program and ensure cost savings from reforms are directed back towards P.L. 480.

MAKING THE CASE FOR CONSERVATION AGRICULTURE

All life forms depend on healthy soil, which, like many natural resources, is not readily renewable. According to the Environmental Protection Agency (EPA), it can take 500 years or more to produce an inch of topsoil. U.S. farmers oversee one of this country's most valuable assets, its farmland. It is also an asset that the world depends on. According to the American Farm Bureau Federation (AFBF), 23 percent of raw U.S. farm products are exported each year.

While American farmers have made incredible strides producing more food with fewer inputs (262 percent more food with two percent less labor, seeds, feed, fertilizer, etc., according to the AFBF), opportunities to improve the sustainability and productivity of U.S. farming remain.

The Foundation's research farms in Illinois and Arizona support research in conservation-based farming practices including minimum tillage (no-till or strip-till); resource management (nutrient, residue and water management); and improved cropping systems (crop rotations and cover crops).

In Illinois, Sequoia Farm Foundation (SFF) partners with Southern Illinois University (SIU) to conduct research to demonstrate the benefits of conservation agriculture practices at a scale and over a time period that is relevant to U.S. farmers. While the research is still in its early stages, results from the first few years of study are building the case for reducing input use to maximize a farmer's return on investment. In Arizona, SFF partners with Penn State University, Purdue University and Texas A&M.

Photo: Daniel Sheehan

SFF, funded by the Howard G. Buffett Foundation, uses a 60-foot roller crimper to kill a cover crop in research designed to achieve standard corn yields using no synthetic fertilizer. This roller crimper is likely the widest in use in the world. It is designed to fold to less than 12 feet in width for transport so it can be used in a traditional farm operation.

Photo: Howard W. Buffett

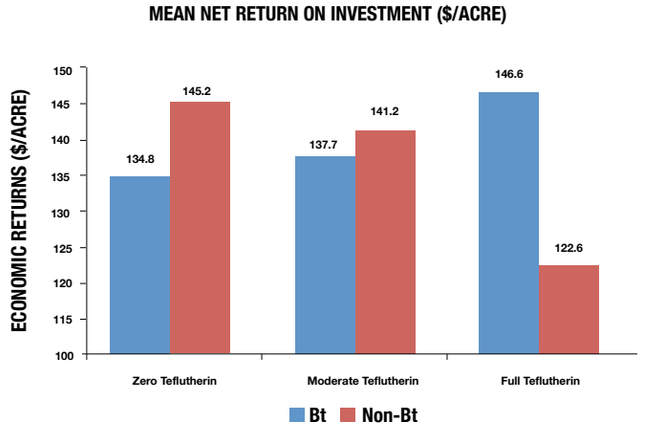
This field is managed using conservation agriculture practices. Following harvest, the crop residue will be left in place in order to maintain a protective cover on the soil and save moisture.

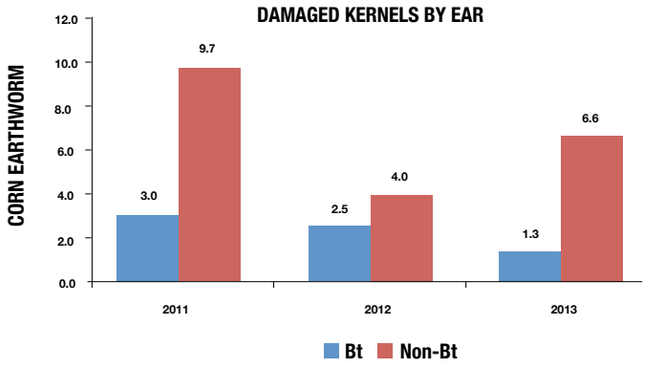
INTERACTION OF BT TRAITS AND SOIL INSECTICIDE ON CORN PEST MANAGEMENT

The majority of farmers in the U.S. depend on Bt (bacillus thuringiensis, a soil dwelling bacteria that acts as a natural pesticide) seed products for their corn crop. Similarly, an increasing number of these farmers utilize different forms of costly artificial insecticides, such as teflutherin, to limit the degree of pest infestation on their farms and to improve yields. Given this developing trend, farmers have expressed concerns over pest management issues related to increasing insecticide resistance and the net economic returns to farmers at the end of the growing season. This research investigated the relationship between a farmer's economic return using Bt corn and the increased use of soil insecticides.

The initial three years of experimentation has presented some preliminary results. First, non-Bt corn produced more damaged kernels per corn ear than did the Bt corn, confirming that Bt corn reduces crop damage from pests. Second, the study yielded initial insights into the economics of using teflutherin at three universally standard application rates (zero, moderate and full teflutherin) for Bt and non-Bt corn. In the zero and moderate application scenarios, net return on investment per acre was higher for non-Bt corn. However, in the full application scenario, net return on investment was lower for non-Bt corn.

Preliminary conclusions are that Bt corn does help reduce crop damage; however, unless a certain minimum rate of teflutherin is applied, farmers will have a lower overall return because the higher cost of using Bt seed alone does not sufficiently minimize corn damage. This study is ongoing and will be updated with additional data in the coming years.





CARBON INCENTIVES FOR SUSTAINABLE AGRICULTURE

The Foundation partnered with the Environmental Defense Fund (EDF) to try to quantify the Green House Gas (GHG) reduction potential using various conservation agriculture management practices for corn production in the Midwest. The goal was to adapt existing economic models to understand the "carbon credit" value of improving farming practices, including efficient nitrogen management, cover crops and no-till, so that farmers could then sell these credits into California's cap and trade program.

The geographic region studied is identified by the National Resource Conservation Service (NRCS) as Land Resource Region M – "Central Feed Grains and Livestock Region" - based on soil survey maps. It covers more than 280,000 square miles across 12 states and encompasses several climates and a number of soil types. To understand the GHG reduction potential of changes in corn production in the Midwest, the project collected nitrous oxide (N2O) data from scientific studies of corn production systems and incorporated daily weather, soil texture and land management information. Using the biogeochemical Denitrification-Decomposition (DNDC) model to estimate reductions, this data was used to simulate carbon (C) and nitrogen (N) fluctuations between the atmosphere, soil and vegetation and calibrate and validate the model for the specific crop (corn) and region (LRR-M).

In general, the study found the DNDC modeled N2O emissions matched the measured data, in that modeled emissions increased as N fertilization rates increased and emissions from no-till tended to be lower on average than emissions from conventionally tilled farm ground.

Unfortunately, the study also found that all of the emissions estimates had large associated uncertainties because of: 1) a lack of available information on daily variations in GHG emissions; 2) the range of agricultural management practices; and 3) the variability due to the wide ranging soil and climate zones in the studied region. Linkages among the microbial, physical and chemical variables that influence nitrification, denitrification, decomposition and N2O transport in soils occur over many years and across a broad geography, which makes interpretation of N2O measurements and forecasting challenging.

The project highlights the need for farm-level rather than regional-level data and analysis to better understand the relationship between improved agricultural practices and GHG emission reduction. It also reinforces the Foundation's perspective that there is no "one size fits all" model for improved agricultural practices and that any analysis or intervention must be necessarily tailored to the local farmer and local growing conditions.

ENVIRONMENTAL IMPLICATIONS OF FERTILIZERS AND PESTICIDES

U.S. agriculture is increasingly reliant on fertilizer and pesticides; however, not enough attention has been focused on understanding the environmental effects of nitrogen and phosphorus under different management scenarios. In addition, there are no long-term studies examining the fate, transport and effects of nutrient and chemical residues at a watershed level. To answer some of these questions, the Foundation is funding research to determine the movements of nitrogen and phosphorus fertilizer and pesticides in ground and surface water under different application scenarios across three watersheds in southern Illinois.

The four-year investigation applied the watershed approach using a corn and soybean rotation, as recommended by the EPA. With two years of soil and water samples collected, some preliminary findings are emerging.

The results show field variability and biological levels typical for agricultural sites. Although soil moisture levels conveyed no statistically significant differences, higher concentrations of total phosphorous and nitrogen were detected in one of the three watersheds, which had significantly higher slopes and more erodible soils. Similarly, this same watershed had the greatest yields in both years and for both crops. Preliminary results suggest slopes affect nitrogen, phosphorous, and pesticide movements within the soil.

This research helps identify reasons for nutrient and chemical transport and determine the effects of these substances on crop development, grain yields and profitability. Following the completion of the study, the hope is the results of this research will help farmers develop best practices to continue to improve soil health, reduce erosion and better manage watersheds.

FARMING FOR THE FUTURE

Published in *American Soybean,* Summer 2013.

SoyForward

Farming for the Future: The Brown Revolution

During the twentieth century, the United States built a powerful economy as a result of an agricultural and an industrial revolution. Later, production techniques developed in the U.S., combined with advances in crop breeding, brought a "Green Revolution" to many parts of the world. Going back centuries, agriculture has been the backbone of every society, and when it has been neglected, civilizations have literally failed.

We have learned much from the Green Revolution, but it is now history, so we must ask: what is the future? I believe the future requires a "Brown Revolution," which advocates for the design and adoption of context-appropriate farming systems that increase yields while addressing soil health, water quality, and environmental impact. With today's technology and knowledge, there is no reason the Brown Revolution cannot be greater than the Green Revolution. It must be if we are to defeat global hunger.

All farmers, but especially soybean farmers, will be critical to this success. There are simple things that farmers have done for decades that contribute to the goals of the Brown Revolution. Crop rotations and continual soil cover are two of them; both are practices very familiar to most soybean farmers.

American farmers have long been global leaders in advancing agricultural production and in providing commodities to support critical food relief and emergency food aid worldwide. However, we face new challenges, and we must continue to be leaders.

Our challenges are intensified as the world becomes smaller, both as the number of farmers decreases and as communications have become prolific. When those communications misrepresent facts or advocate for a broken status quo, they hurt not only farmers, but also those who are hungry. We need to tell our story, not let others frame the debate. That is why the Howard G. Buffett Foundation is working with university partners such as Penn State, Purdue, Texas A&M, Southern Illinois University, and others to find ways to increase productivity while minimizing our environmental footprint.

Our foundation's research demonstrates that we can modify our actions without disrupting the basics of our agricultural systems. We are using new tools and new approaches because investment and innovation are paying off. Efficiency and flexibility have reached new levels.

Our industry's knowledge of no-till, strip-till, cover crops, and nutrient management has gone from experimentation to implementation. We have more opportunities ahead of us than the successes we are leaving behind us. But we must recognize that society expects more from us, and our environment demands it. Even at the local level, we each carry a global responsibility.

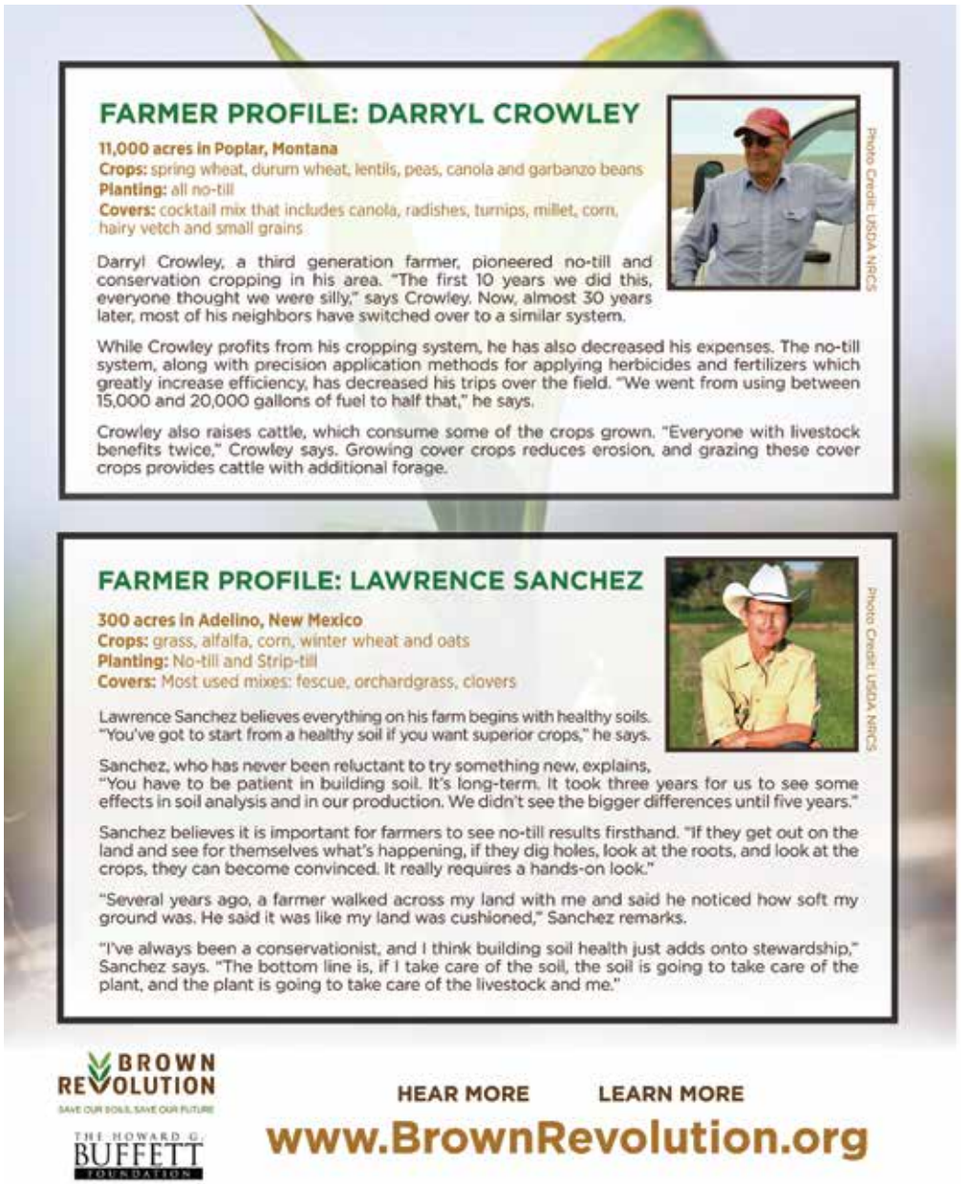
If we want to control our own destiny then we need to provide our own solutions. If we do not act with urgency, we will face even greater scrutiny and regulation, as well as misinformation from uninformed sources and critics that have misguided agendas. But we are not without fault. If we did not include the soil erosion savings gained through the Conservation Reserve Program (CRP), we would be facing the worst soil erosion numbers in history. That isn't the legacy I want to leave; it isn't a legacy the world can afford.

As farmers, we all understand the importance of time. Each of us has about 40 chances, or 40 growing seasons during our farming career to get it right. We all must do the best job we can, by growing the best crop we can, while looking toward the demands of the future. As we face these challenges, there is no group of individuals I would rather put my faith in than American farmers. I am proud to say that, as soybean growers, we are already on the path to the Brown Revolution. ◘

Howard G. Buffett

UNLOCKING SOIL HEALTH

Published in *Farm Futures,* August, 2013.



WATER SECURITY

According to the International Fund for Agricultural Development (IFAD), irrigation for agriculture consumes approximately 70 percent of freshwater in the world while providing a disproportionate amount of food. Irrigated farmland provides 40 percent of production on only 20 percent of land under cultivation.

THE FIRST FIVE YEARS OF THE GLOBAL WATER INITIATIVE

2013 marked the first full year operating our Global Water Initiative (GWI) under its new strategic mandate to focus exclusively on advocacy for improved management of water use for agriculture. The year also provided an opportunity to reflect on what we learned about integrated water resource management from GWI's first five years in Central America, West Africa and East Africa.

CENTRAL AMERICA

GWI's first five years of work in Central America, led by CRS, helped develop insights on water issues in two key areas: 1) making water services sustainable; and 2) reducing conflicts from water.

According to official figures, the percentage of Central Americans with access to improved water has progressed rapidly over the past two decades, increasing from about 60 percent to about 80 percent. However, progress in the water sector is likely to backslide in the coming years for several reasons: first, the way water service indicators are currently measured exaggerates progress; second, there are serious threats to water quality; and third, current infrastructure is degrading rapidly.

Problems related to water access and availability in the region are generally problems of poor water management, not scarcity: water resources are wasted, contaminated, and distributed inequitably as a result of poor policies and management at micro, local, national and regional levels. These problems disproportionately affect the poor in the region. There is an emerging consensus among leading organizations and think tanks that the sector needs to shift its focus from infrastructure to sustainable and financially viable water services.

GWI demonstrated that to achieve sustainable water services for everyone the sector must focus primarily on two goals: 1) make water services financially viable and equitable; and 2) protect water sources for current and future water demand.

The sustainability of water sources is tied to the management of those sources. One of the chief conclusions CRS reached three years into the implementation of GWI was that conflict is inherent in water management. CRS encountered conflicts in virtually all of the communities where it worked and addressing these conflicts required significant time, energy and other project resources. Examples of these conflicts included:

- In Matagalpa, Nicaragua, rural communities trying to protect water sources to ensure lasting access to safe drinking water were thwarted by large tobacco producers who continued to pollute local ground water aquifers, frustrating the communities' efforts.

- In San Juan, Honduras, communities near the newly constructed water system vandalized infrastructure to protest their exclusion from the project.

- In Jocoaitique, El Salvador, extreme political polarization led to the formation of rival water committees, both of which claimed to be the sole entity in charge of the water system.

Based on GWI's experience in Central America, we have learned that proactively anticipating and managing for conflicts ultimately helps achieve water management outcomes that are more efficient, equitable and environmentally sustainable.

Irrigation is one of the most critical resources for smallholder farmers in Central America. Most secondary crop production requires supplemental water and could not be sustained with rainfall alone.

WEST AFRICA

GWI's initial work in West Africa, under the leadership of the International Institute for Environment and Development (IIED), focused on water access issues for pastoralists and communities affected by large-scale water infrastructure projects (dams). Some of the key lessons learned inform the work going forward, particularly on policies around dams.

Many West African countries are planning to construct new large dams in order to meet their energy and water needs and to promote food security against an uncertain backdrop of climate change. If these new dams are to offer development opportunities for all and avoid social conflict over land and water management, then lessons must be drawn from historical projects that have not been successful.

Dams represent a significant investment for developing countries with limited resources. They are often proposed in response to national development needs; for example, to provide the necessary electricity for the country's economic development, reducing its dependence on imported energy and improving food security.

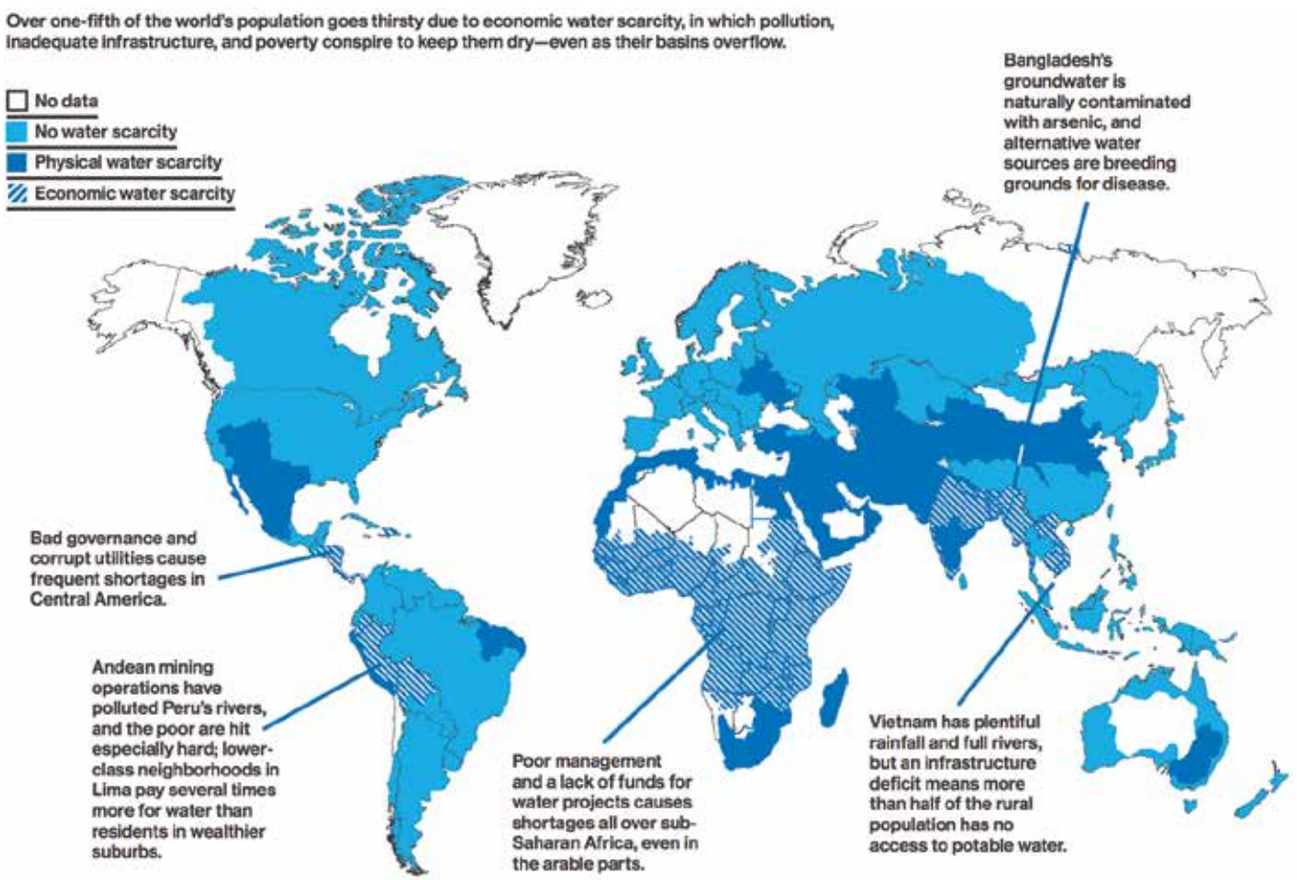
More rarely, they may also have a regional development objective: modernizing local production systems, opening up the region and developing new activities such as fishing or tourism.

Hydroelectric dams are often considered fairly successful in terms of achieving their national-level objectives: they provide the expected electricity, sometimes even more than expected if the climatic conditions are right. Irrigation dams often have more mixed results because irrigated agriculture involves a highly complex set of technical, economic, organizational and cultural factors that governments find more difficult to master than electricity production and distribution.

The dams transform the areas where they are built. They change the landscape and ecosystems but also, and more importantly, we have learned they change the local socio-economic context. Increased activities and economic opportunities lead to sizeable influxes of migrants, completely transforming local traditional societies.

Paradoxically, the local people are often unhappy about the effects the dams have had on their lives. Although this can be explained partly by traditional society's resistance to the rapid changes caused by these dams, this does not go far enough to explain all of the discontent and frustration that local people express when they are consulted.

FULL STREAMS, PARCHED NATIONS



Graphic by Bloomberg Businessweek Data: International Water Management Institute

West African countries have built over 150 large dams on the region's rivers to support economic development, with many more planned. GWI works to ensure the most vulnerable and marginalized populations have a voice in the process and equitably benefit from these dams.

Ensuring that local people benefit from the dams does not have to be incompatible with broader national development objectives. It does, however, require the political will to implement the following:

- Ensure that the local people affected by the dam are involved in the benefits it creates, and thus in the decision process that is taken with regard to its construction, relocations, compensation, support programs and investments;

- Replace compensation policies aimed at reproducing previous living conditions with local development policies that support local players to adapt to the changes the dam will bring to the region, and to benefit from them;

- Promote the development of local production systems by ensuring access to land and natural resources through agreements and regulations that are compatible with both positive and customary law;

- Establish local regulations negotiated with and validated by all local stakeholders, thus enabling a fair and sustainable use of the natural resources;

- Encourage fair access to the dam's benefits for local people by establishing preferential access terms (for example to the irrigated plots or electricity), promoting apprenticeships and organizational dynamics that will help local people to adapt, and establishing a local development fund financed by the dam's economic activity.

EAST AFRICA

GWI in East Africa, led by CARE, operated in some of the most barren and underserved areas of Kenya, Tanzania, Uganda and Ethiopia. These are areas characterized by low levels of access; high levels of nonfunctioning infrastructure; weak capacity of communities and local authorities to independently and effectively manage their water-related resources and mitigate water-related climatic shocks and conflict; and very low levels of appropriate hygiene and sanitation behaviors in the home and at schools.

Despite these challenges, a number of lessons learned over the five years remain relevant for the future work of GWI and others:

- *Real participatory processes require understanding and accounting for the full picture of power dynamics:* Good development processes require strong participatory approaches which encourage ownership and thereby ensure appropriate solutions and sustainable transformation. However, organizations and communities are inherently unequal and what works well for some might not work well for others. When GWI partner staff came into a community to discuss support, there was already an inequality in place with community representatives looking up to the more educated, often more wealthy "visitors." Consciously or subconsciously, the same applies in the other direction with field staff feeling more knowledgeable and that they have the 'right' solutions. The same hierarchy also appears to operate within communities (e.g. the lack of women's representation) and organizations. All this is further complicated by the relationship between citizens and local government. Occasionally, government is held accountable to its citizens (e.g. when it comes to voting). Most often, government officials are feared by communities. Community members want to stay on good terms with their governments to ensure receipt of services and to avoid incurring the displeasure of powerful people.

- Add to this other layers such as who is more articulate, more liked, and from what cultural, religious, age and gender background, and it is understandable that real participatory processes are difficult to achieve. Addressing these nuances and applying methods that help surface and create discussion around these power dynamics should be explored in the future.

- *Real collaboration takes active management and patience:* A multi-agency implementation model is complex and challenging, given the varying organizational policies and procedures among the different partners. It requires flexibility and patience for all involved, a process that takes time. The building of functioning relationships is in itself an activity that must be adequately planned for and managed.

It's not unusual for young African girls to begin hauling water to meet family water use needs as young as age five or six. Water sources are often miles away by foot, putting them at risk and keeping them out of school.

- *Broader inclusion upfront requires commitment and investment, but pays off in the long term:* The GWI partners increasingly employed more participatory methods of engagement with local governments and promoted greater levels of inclusion across a larger cross-section of the communities. This was a time-consuming process which took longer than desired (and planned) and was a cause of frustration to many who wanted to get on with the implementation phase. However, the additional time investment (in many cases) was crucial and led to greater commitment, operational support and more symbolic co-investment through contributions from communities and local government.

- *It's important to proactively manage for a balance of investments in "hardware" vs. "software":* Given the complexity of the program, the diversity of activities, partners' relative strengths in infrastructure and lesser experience in governance and risk management, it is not surprising that investments in hardware dominated over software. This was exacerbated by local governments and communities who tended to request the hardware components as opposed to the software-related skills building and governance. Nonetheless, partners could have done more to manage and balance by getting out of their comfort zones, hiring the right types of expertise to ensure more progress and learning in the governance, multiple use and environmental protection components and, overall, hastening the transition from a narrower focus on water, sanitation and hygiene to a more integrated water resource management approach.

To ensure a 10-year picture of positive outcomes, GWI will continue to collect and analyze data from the 298 water systems developed during the first iteration of GWI to monitor progress against three objectives: 1) governance; 2) multiple uses of water; and 3) resilience. The goal is to better understand the factors that contribute to sustainability of investments in water infrastructure, particularly the relationship between good governance and functionality.

GWI'S SECOND FIVE YEARS: SPOTLIGHT ON WEST AFRICA

The evolution of GWI in West Africa is a great example of how the first five years of GWI are informing and shaping the second five years. Today GWI in West Africa, led by IIED in partnership with CARE and the International Union for Conversation of Nature (IUCN), is focused on influencing policy and investment decisions around dams and ensuring equitable benefits for smallholder farmers and pastoralists, building off past successes and influence.

First, it is questioning the development effectiveness of intensive large-scale investments in irrigation infrastructure. Current evidence suggests that large-scale, state-of-the-art, expensive irrigation systems, designed to produce food, are not doing so at competitive prices or at good economic rates of return, nor are they adequately meeting household livelihood security needs. Alternative agricultural investments are available that may offer better returns and broader food security in semi-arid countries.

Second, CARE is exploring how smallholder farmers operating within existing large systems can best be supported to sustainably improve agricultural practice and productivity when innovation is shared and adopted. The underlying assumption is that poor system performance is caused primarily by insufficient and poorly developed linkages between the different actors in the agricultural innovation system. Improved agronomic and market knowledge needs to get to those who need it, in a form that can be used for social learning.

The third objective is aimed at improving the governance systems around current and future investments in dams so that all local water users share water and land equitably; exploit opportunities for investment in diverse activities; avoid conflicts; and foster secure and sustainable livelihoods for pastoralists, farmers and fishermen.

The underlying advocacy theme throughout GWI is that individual smallholder farmers with secure land tenure are the key to long-term household, and ultimately national, food security through conflict-free conservation, management and use of water resources. Working with the most efficient and appropriate irrigation technologies and governance tools, empowered smallholders can support food security goals.

The overall vision puts smallholder farmers at the center of policies for efficient water management and secure and sustainable livelihoods.

WATER USE IN THE UNITED STATES

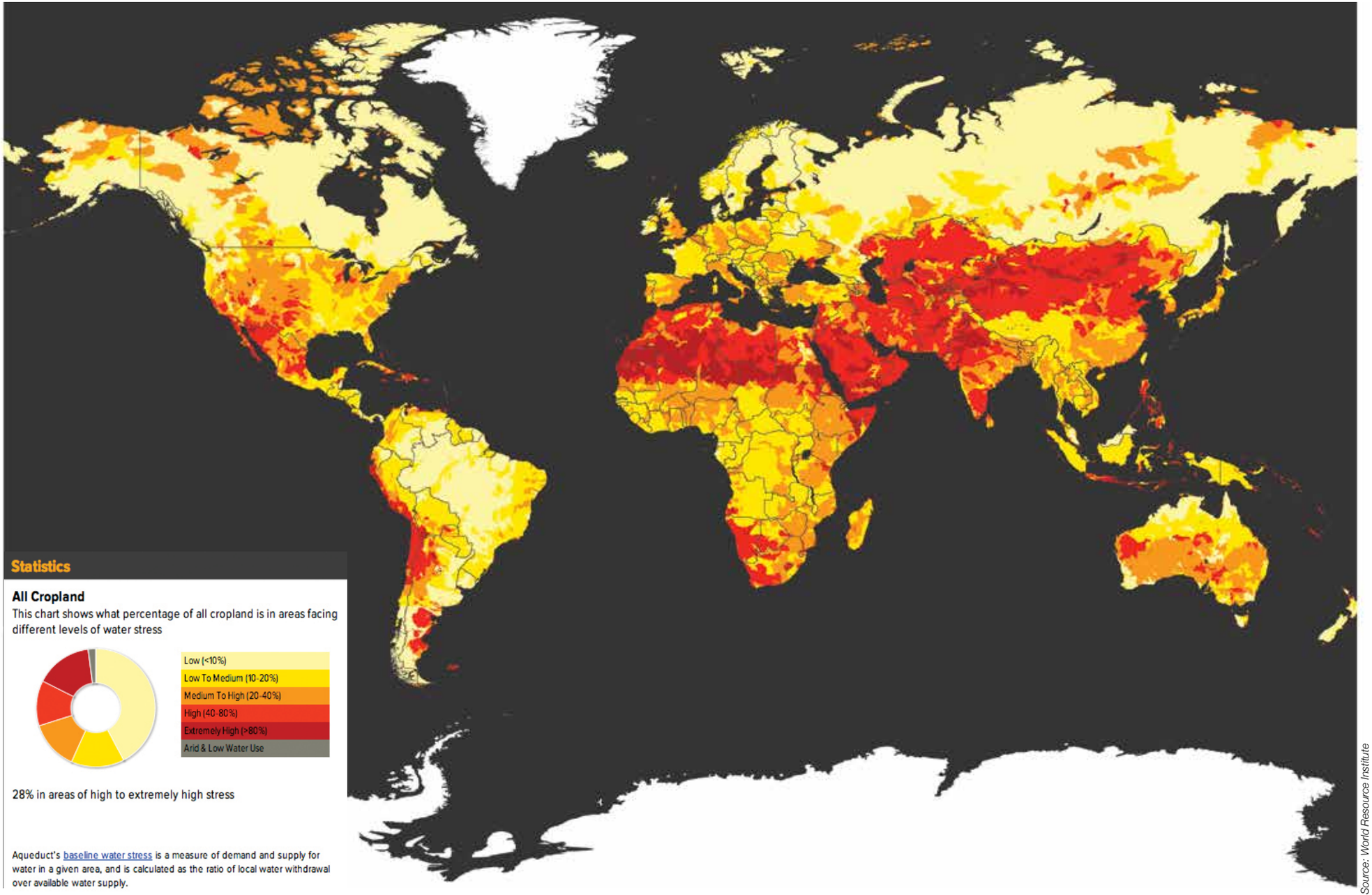
Water is a limited and diminishing resource. According to the USDA, agricultural water use accounts for nearly 80 percent of water consumption in the U.S., and as much as 90 percent in western states where agriculture is a major industry. The scarcity of water and its increasing cost is a growing problem for farmers, particularly as the western U.S. goes into the 2014 planting season under extreme drought conditions. The pressing question for both policymakers and farmers is what can be done to ensure more sustainable use of our limited water resources while securing our food needs. One potential solution in the U.S. is technology. There is some evidence that as much as 10 percent to 15 percent water savings can be achieved through real-time irrigation monitoring with additional savings from upgrading application methods.

The Foundation is working with California State University -Fresno to provide farmers and policy makers with a scientific assessment of the water use savings potential using real-time field monitoring tools based on field data collected from 440 farm operations located throughout California, the Pacific Northwest, Arizona, Texas, the southeast and central Mexico. The monitoring record extends from 2006 to 2011, and represents over 3,500 field monitoring stations collecting information at 15-minute intervals. One output of the analysis will be a public web-enabled water use efficiency calculator for farmers and water districts.

Through this study, HGBF will confirm the potential benefits of increased adoption of real-time irrigation monitoring technologies, which in turn can increase the sustainability of farming by reducing water use; validate options for policy makers to help farmers while also conserving water resources; increase water district efficiency and demand management; and provide policy makers with a more cost-effective solution for water conservation. The analysis will be released to the public in 2014.

According to the USDA, agriculture is a major user of ground and surface water in the U.S., accounting for nearly 80 percent of water consumption on average and over 90 percent in many western states. In the U.S., 17 percent of cultivated land is irrigated, producing nearly 50 percent of crop revenues, yet some of the most important aquifers and rivers providing water for productive, irrigated areas are slowly being depleted.

OVERALL GLOBAL WATER RISK



Source: World Resource Institute

CONFLICT MITIGATION

A Congolese military (FARDC) tank on the main road to Goma, August 2013. It is not uncommon to see children playing alongside soldiers and tanks in Eastern DRC, a constant reminder of the daily reality of living with conflict.

A Congolese government (FARDC) soldier in Goma, the most populated city in Eastern DRC. The FARDC, with the support of African Union members of the first of its kind United Nations' "intervention brigade," successfully defeated the M23 armed group in late 2013, more than a year-and-a-half after the rebellion started in April 2012. Lasting peace, however, remains elusive, as a result of the dozens of other armed groups operating in the area and few specifics around demobilizing and reintegrating former fighters.

The Foundation continues to invest in higher-risk conflict and post-conflict countries where we have a base of experience and implementing partners we value and trust. We look for the best ideas with the potential to have significant impact, with a clear understanding that the risk of failure is high but so is the potential opportunity for those ideas that work. Our Africa Great Lakes Peace Initiative continues to be a top priority as we added significant commitments in 2013. We also continue to make opportunistic investments in other conflict and post-conflict areas where we see an opportunity for our funding to be catalytic. Our efforts to support agricultural development in Sierra Leone, Liberia and South Sudan continue on, primarily through our support for the Partners for Seed in Africa (PASA), which is an organization created out of AGRA's Program for Africa's Seed Systems (PASS); and we continue to focus on capacity building to improve governance in those countries in partnership with AGI.

THE AFRICA GREAT LAKES PEACE INITIATIVE

In 2013 we committed an additional $31.5 million in funding to support efforts to achieve lasting peace in Eastern Democratic Republic of Congo (EDRC). With last year's investments and the 2013 ideas that will continue into 2014, we have committed just over $100 million to peace and development in EDRC and the Great Lakes region since 2012, in addition to the $75 million we have invested since 2000.

Our goal in EDRC is to invest in economic development in partnership with local populations, local governments and local implementing partners, amidst active conflict, to test the theory that when people have hope and the possibility of a better future, they are less willing to take up arms and more likely to demand peace.

While our efforts are not formally tied to either the Peace, Security, and Cooperation Framework commitment for peace and development agreed to by 11 East African countries in Addis Ababa in 2013, or the more recent Nairobi Declaration that ended the M23 rebellion, we do see our efforts as real-life examples of what needs to happen in the region to translate words into action.

We are concentrating resources in North Kivu, and specifically Rutshuru, an area at the center of the most recent conflict. At the heart of this "mini-Marshall Plan" is a $20 million investment in a hydroelectric plant that will generate 12.5 megawatts of power – providing electricity for 130,000 rural residents and attracting private sector investment in agribusiness. In addition to providing the possibility for thousands of jobs, the investment will demonstrate how Virunga National Park can serve as the financial engine for economic development for surrounding communities when protected and used sustainably. DRC is rich in natural resources yet little of that wealth reaches the general population. This investment is designed to show the people of DRC a different reality is possible.

We could not make such a significant commitment to EDRC and the Great Lakes region without a key trusted partner in Emmanuel de Merode, the park warden for Virunga National Park. Emmanuel provides critical oversight and guidance for our efforts and his organization and park rangers, the Institut Congolais pour la Conservation de la Nature (ICCN), remain in the field to support our investments no matter the circumstances on the ground.

Our overall engagement in the region is across five main areas we believe are collectively required to achieve enduring peace and development:

Investments in Peace and Stability
Basic peace and stability is an important starting point for long-term development. We are making a number of investments in improving stability in EDRC on a number of fronts including:

- Increasing park ranger capacity in Virunga National Park to counteract the armed groups operating in the park;

- Building a Peace Institute in partnership with local Congolese and the Conflict and Development Center at Texas A&M;

- Supporting peace talks and other efforts to engage and peacefully neutralize armed groups and regional stakeholders;

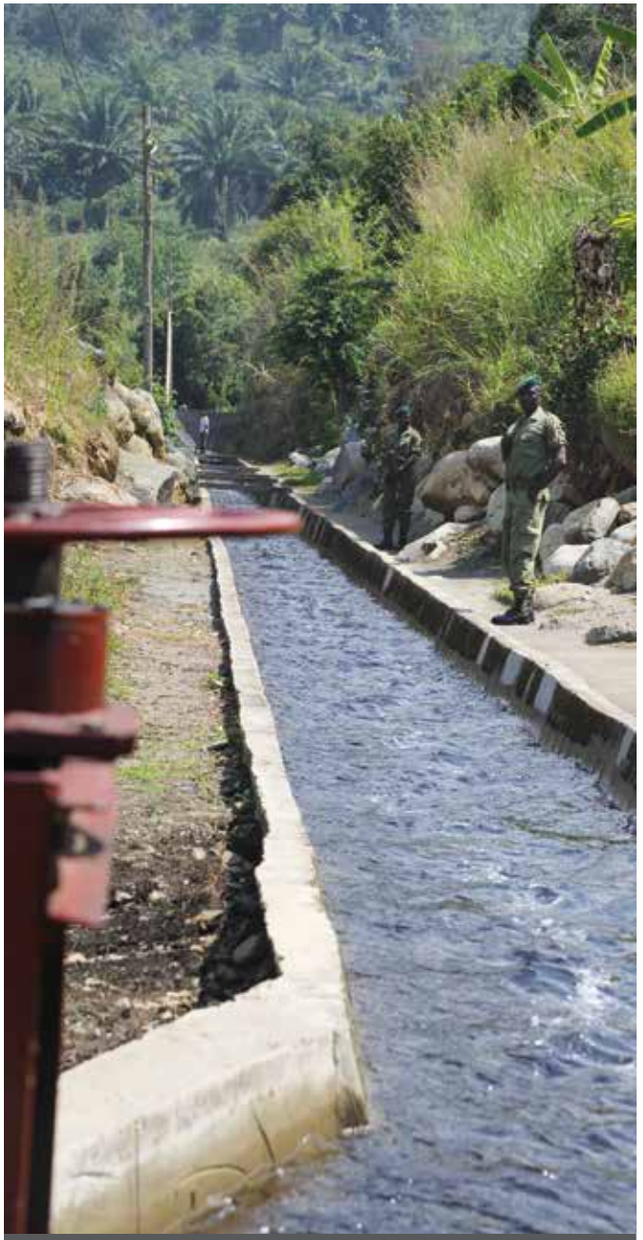
- Opportunistically funding a handful of humanitarian efforts to minimize displacement and the negative effects of conflict.

The first 110 of 200 new park rangers for Virunga National Park complete basic training in Ishango, DRC. The group includes the first four female park rangers in DRC. The rangers will undergo several more months of training before being deployed to support and secure the park.

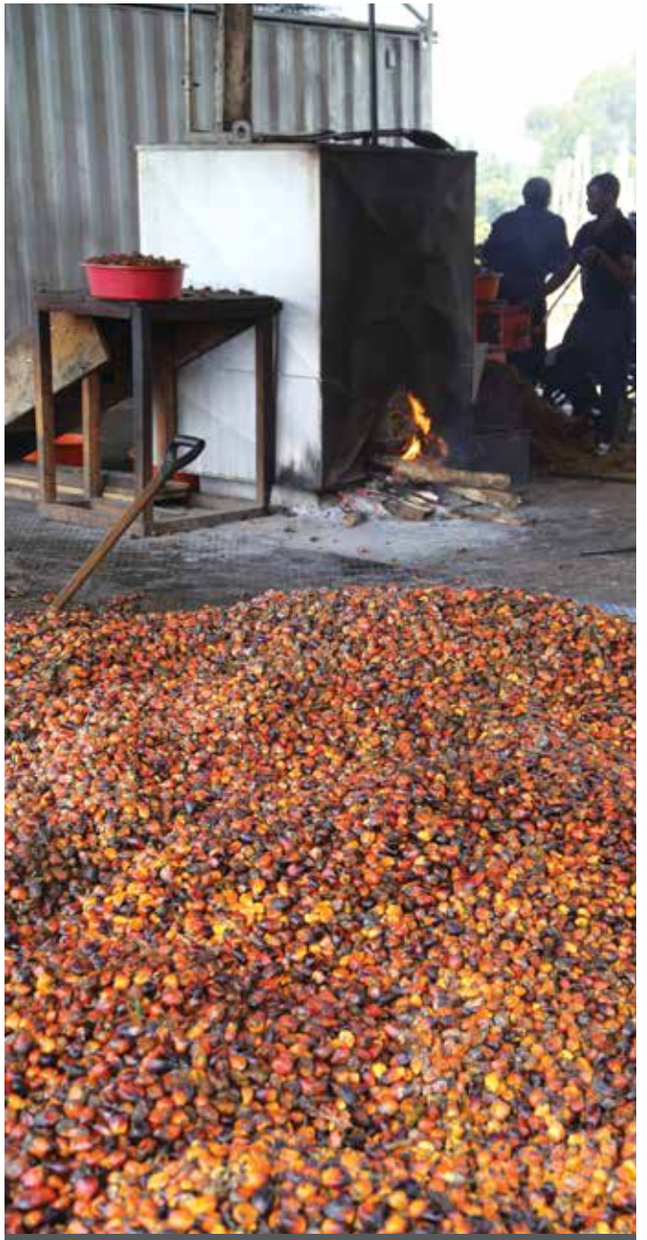
Investments in Demobilization and Economic Development

Peace will never last if people remain poor and desperate, without options to improve their lives and the lives of their families. We see job creation – both short-term temporary employment and longer-term, market-driven employment – as critical components of any effort to demobilize and develop the local economy. While our investment in hydroelectricity in Rutshuru will not come online until 2016, it holds the possibility of creating market-driven employment in the thousands. We are already seeing this in the 400 kilowatt hydroelectric plant that is operating in Mutwanga – two agribusinesses in soap production and papaya enzyme extraction will create 1,000 or more jobs, even as 7,000 rural households already have electricity for the first time. We are also investing in a number of areas that will create short-term employment and longer-term improved livelihoods including:

- Supporting smallholder farmer development and creating market linkages in cocoa and coffee;
- Building markets for improved seeds and other agricultural improvements;
- Initiating public works projects in water systems, roads and airports to create temporary employment while improving community infrastructure;
- Investing in longer-term strategies for building tourism.



This small 400 kilowatt hydropower plant in Mutwanga, DRC – built by hand over three years and owned by the park – serves as a pilot project to prove that Virunga National Park's natural resources can be used sustainably for the benefit of local communities. 7,000 rural households now have electricity.



The availability of electricity prompted two agro-based businesses to develop in Mutwanga: soap from palm nut oil (shown here) and papaya enzyme extraction. Eventually the business owners estimate they will create 1,000+ new jobs.

Photo: Jeannie O'Donnell

The Vice Governor of North Kivu, Feller Lutaichirwa Mulwahale, and Foundation Chairman Howard G. Buffett lay the first brick for a 12.5 megawatt hydroelectric plant in city of Rutshuru. The electricity will bring power to an estimated 130,000 area residents and create jobs by attracting investments in agribusiness.

Investments in Democracy and Governance

Ultimately development efforts must be government-led and government-owned. We are identifying ways to build local and national capacities for improved democracy and governance. Current efforts include:

- Supporting a USAID/National Democratic Institute (NDI) effort to build capacity for political discourse in DRC;
- Democracy building in North Kivu in partnership with the McCain Institute and the Foundation-funded Peace Institute;
- Building strategic capacity for civil administration in the government of Rwanda in partnership with AGI.

Investments in Regional Economic Integration and Cooperation

While peace and development within the borders of DRC are ultimately the responsibility of the government of DRC, the situation is complicated by the history of conflict with and among its neighboring countries. We are funding efforts to create regional cooperation and shared economic interests between DRC and its neighboring countries including:

- Supporting completion of a feasibility analysis to rehabilitate and expand the Central Corridor Railway across Tanzania, which would unlock the enormous economic potential of the region;
- Improving opportunities for cross-border interactions by understanding barriers to trade between Rwanda and DRC, in partnership with Search for Common Ground, and by improving border infrastructure at the Gisenyi, Rwanda/Goma, DRC border;
- Exploring ways to expand joint park patrol operations between DRC, Uganda and Rwanda in Virunga National Park.

Solange Kahambu Malelisa, one of Virunga National Park's first four female park rangers, holds a Peace One Day sign that says, "Who will you make peace with?"

Investments in Advocacy

We are encouraging new thinking and new solutions to peace by sharing our ideas and supporting efforts to raise awareness among key stakeholders and the general public. On April 1, 2013, we published an assessment of the 2012 United Nations Group of Experts report on the DRC, and Foundation Chairman Howard G. Buffett regularly travels to the region to meet with key stakeholders in DRC and neighboring countries.

In 2013, we also made a large investment to raise awareness of the conflict and opportunity for peace in EDRC by engaging Jeremy Gilley, founder of the organization Peace One Day. Jeremy and Peace One Day have embarked on a multi-year effort to achieve a day of peace in EDRC and the Great Lakes region, building on his organization's past successes in Afghanistan and the estimated 600 million people from around the world who engaged in World Peace Day on September 21, 2013.

DRC: 2013, A YEAR OF HUMANITARIAN CHALLENGES

Map on page 71 provided courtesy of the UN Office for the Coordination of Humanitarian Affairs.

Although 2013 saw an end to the M23 conflict, peace in DRC is not complete. The scale of the humanitarian situation and the lack of government control over the region makes lasting peace, stability and economic development elusive. The Foundation believes it will take new ideas, more strategic investments in sustainable development, accountable governance, and less dependency on the UN and aid organizations for EDRC to move forward and achieve its economic potential.

DR Congo: 2013, a year of humanitarian challenges (January 2014)

OCHA

2013 mirrored previous years with repetitive armed clashes destabilizing millions of people.
More than 2.9 million people were displaced, 60% of whom in the Kivus.
In a volatile environment facing financial constraints, aid agencies provided relief to millions of people.

KEY EVENTS

- **JAN.** Humanitarian Action Plan 2013: **893 millions USD.**
- **FEB.** 80% of IDP return to Hauts-Plateaux of Kalehe.
- **MAR.** **Mary Robinson** appointed as Special of the UN for the Great Lake Region.
- **APR.** Report on protection of civilans in the **Katanga "triangle of death"** released.
- **MAY** Joint **Ban Ki Moon** (UN) & **Jim Yong Kim** (World Bank) mission.
- **JUN** Hundred of civilians maasacred in Pinga during fightings between Maï Maï Cheka and APCLS.
- **JUL.** Renewed fighting in north of Goma between FARDC and M23 and important displacement of population.
  Deployment of 3,000 peacekeepers of the MONUSCO intervention brigade.
- **AUG.** **Martin Kobler** appointed Head of MONUSCO.
- **SEPT.** Nord-Kivu reached **1 million IDP.**
- **OCT.** **Interagency mission** of 7 humanitarian organizations.
- **NOV.** **M23** declares end to its armed struggle.
- **DEC.** Launch of the first drone MONUSCO Katanga Province reached **400,000 IDP.**

KEY FACTS

2.9 million[1] internally displaced people

201,698 [2] refugees in DRC

438,869[2] Congolese refugees in African countries

251 incidents [3] against humanitarian workers

2 million[4] severe acute malnourished children

6.7 millions[5] food insecure people

164 incidents due to LRA activities[6]
36 people killed
180 abducted comprising 26 children

27,000[7] **Cholera** cases
491 deaths

89,603[7] **Measles** cases
1,392 deaths

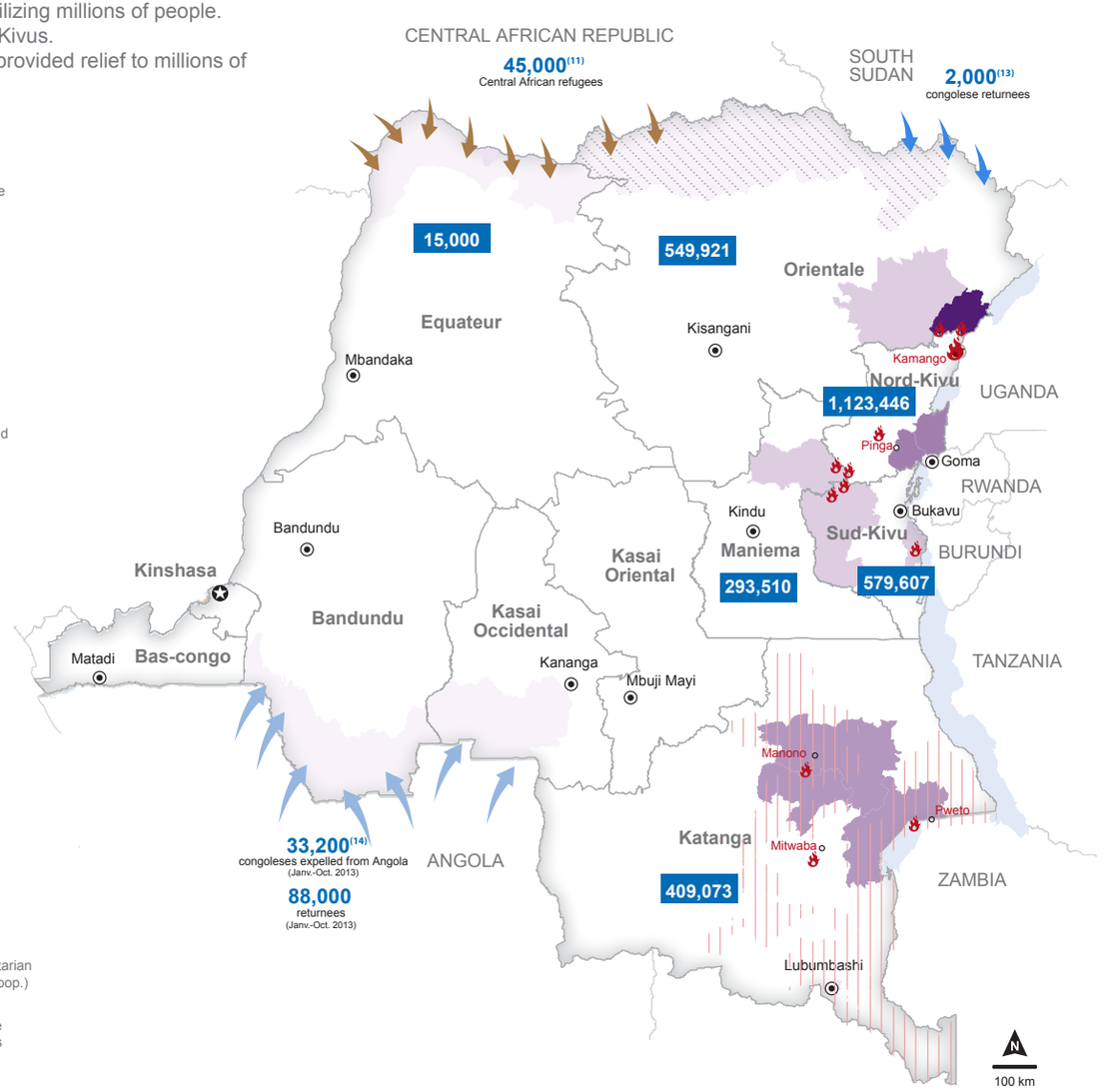
$78.2 million[8] Financing of 109 projects by the Pooled Fund

$618 million[9] total fund received by the HAP 2013 (69.2%)

2014

6.3 million[10] people in need of humanitarian assistance (8.1% of total pop.)

4.7 million[10] people targeted by humanitarians (6% of total population)



(1) CMP: Commission Mouvements de Population, Dec.13 (2) UNHCR, Nov. 13 (3) OCHA & Partners, Dec. 13, (4) UNICEF, Dec. 13 , (5) IPC , Dec. 2013, (6) OCHA & Partners, Dec. 13
(7) Ministère de la Santé, Dec. 13 (8) Pooled Fund DRC, Dec. 13 (9) FTS, Dec. 13 (10) HNO DRC, Dec. 13 (11) UNHCR, Dec. 13 (12) OCHA, Jan. 14

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40 CHANCES TO END CONFLICT
BY HOWARD G. BUFFETT

Originally published on www.peaceoneday.org on World Peace Day, September 21, 2013.

Imagine a world where the conflicts in Syria, Egypt, Iraq, Afghanistan and Eastern Democratic Republic of the Congo no longer exist. Most of us can't. But I recently met a man who not only believes world peace is possible, he's spent the last 14 years working to achieve it.

This Saturday, 21 September 2013 is the International Day of Peace, a day recognized by the United Nations as a moment in time when conflicts big and small should cease. The day is also one of Jeremy Gilley's first achievements. In 1999 he created an organization called Peace One Day (www.peaceoneday.org), with the goal of getting the world to recognize and institutionalize the 21st of September as a day of global ceasefire and nonviolence. He figured if he could get the world to first agree to one day of peace, the other 364 days would be possible.

Last year, Jeremy persuaded an estimated 280 million people across 198 countries to support peace. This year, he hopes to double that figure, with a goal of reaching 3 billion people by 2016. Jeremy's dream is nothing short of a crusade, but he is no Don Quixote tilting at windmills. He understands what I also learned from traveling to 130 countries and investing hundreds of millions of philanthropic dollars trying to address human suffering: hunger and poverty thrive in conflict. Eliminate conflict or the seeds of conflict, and everything else gets easier – not easy, but easier.

Jeremy also understands that each of us gets a limited number of chances to do something important and meaningful in life.

Howard G. Buffett announces a $10 million commitment to Peace One Day to support peace in DRC and Africa's Great Lakes region at the Peace Palace in The Hague, Netherlands, on International Peace Day, September 21, 2013.

Photo courtesy of Getty Images.

As a farmer, I learned to think of crop production not as one continuous repetitive cycle of planting and harvesting but in terms of having about 40 chances – or 40 crop years – to get the best harvest I can out of my farmland before I hand the job over to someone else. Our Foundation also has only 40 chances to get the most out of our grantmaking before we voluntarily go out of business in 2045.

That's why this Saturday I will be center stage with Jeremy using one of those chances at the 100th anniversary celebration of the Peace Palace in The Hague, to show my commitment to Jeremy's vision and issue him a new challenge. Our Foundation is committing $10 million to Peace One Day to raise awareness and support efforts to achieve peace in eastern DRC and the Great Lakes region.

This commitment is part of our Africa Great Lakes Peace Initiative, where we have to date invested $140 million to support peace, stability, economic development, regional economic cooperation, and to raise awareness of the conflict and lasting solutions to end the conflict. It is a region our Foundation has been working in since 1999, and it is an area that has rarely seen peace in our lifetimes. The cycles of violence have been devastating to the people of Eastern Congo, with a 2007 study by the International Rescue Committee estimating that 5.4 million have died since 1996, with most of those deaths the result of disease, malnutrition and other causes related to conflict.

Jeremy is not satisfied with one day of peace and neither am I. He and I share a bigger dream: the end of conflict. It all starts with one day.

Protest graffiti, outlawed before the revolution in 2011, covers a wall across the street from Muammar el-Qaddafi's now demolished compound in Tripoli, Libya.

RECOVERING VICTIMS IN THE HUNT FOR JOSEPH KONY

The Foundation continues to provide funding for strategic humanitarian assistance for efforts to neutralize the LRA in Central African Republic (CAR), South Sudan and DRC. Our funding supports field efforts led by the African Union and the Ugandan People's Defence Force (UPDF), with critical support provided by the U.S. military and the Bridgeway Foundation. Very specifically, the Foundation funds transportation and K9 tracking units to find and recover victims kidnapped by the LRA. These victims include young boys forced to terrorize local populations and young girls coerced into serving as "wives" of LRA soldiers, as well as the innocent children born from these unions. In 2013, 51 LRA fighters and 318 defectors surrendered or were recovered from the field.

The Foundation also continues to support defection and "come home" messaging in partnership with Invisible Children. With funding support from the Foundation, the first Acholi-speaking shortwave radio station is under construction in a small village called Bobi, just 30 kilometers (18.6 miles) outside of Gulu, Uganda. As described by Invisible Children's Okello Willy Charles, Regional Media Manager, "The relatives of abducted people come on talk radio and say: 'I am your mother, I am your father—you know my voice. Don't be deceived that I am killed. We know you were abducted forcefully. When you come back home I can welcome you, we are wanting and missing you.'"

Invisible Children was able to repurpose the site of a former radio station abandoned decades ago when the LRA was still operating in Uganda. The new radio station has the capacity to reach the LRA in DRC, CAR and South Sudan.

This groundbreaking development will allow communities in northern Uganda to reach out to loved ones who were abducted years ago with "come home" messages spoken in their native language.

In addition to hearing the voices of their family and friends encouraging their return, LRA combatants will soon have access to northern Uganda's most popular Acholi radio station via a partnership with Mega FM. Transmitting Mega FM content into the region via shortwave will not only provide proof of a more prosperous life back in Uganda, but aims to provoke an emotional response from LRA combatants who have been increasingly isolated from their culture of origin.

The Foundation's support for counter-LRA activities will continue into 2014, with the hope for a permanent end to LRA terrorist activity and enduring peace and security for targeted communities.

Photo: Laren Poole

These women and children were rescued from the LRA on December 6, 2013 in CAR, thanks in part to humanitarian support provided by the Foundation, in partnership with the Bridgeway Foundation, including K-9 tracking teams and the helicopter pictured here. They were part of a larger group of 19 individuals that included a number of LRA soldiers and commanders.

JUNE 21, 1998
LRA rebels raided Lamwolode, Uganda, and brutally kidnapped a ten-year-old boy named Opondo. He was stolen from his family, forced to kill innocent civilians, and brainwashed into believing that escape was impossible.

MARCH 2013
15 years later, while listening to an Invisible Children sponsored program on UBC Shortwave radio, Opondo overheard former LRA member Ociti Doctor call him out by name. Ociti urged him to safely surrender and provided reassurance that he would not be harmed if he did.

MAY 2013
A group of hunters ran into a group of LRA near where Opondo was located. The group of LRA were not aggressive or violent, and immediately fled. Later that day, a letter was found by the road from the LRA group stating they wanted to surrender. Invisible Children heard about the letter and took immediate action by rallying supporters to donate to a Flash Action Alert. In just over 48 hours, they were able to raise enough to drop 20,000 "come home" fliers over the area near Garamba National Park where the group was suspected to be hiding.

JULY 31, 2013
Opondo came across one of these fliers and kept it with him for several months. However, despite Ociti's encouragement and the flier's instructions he remained fearful of escaping. On July 31st, Major Odano – the leader of LRA groups in Garamba National Park – exchanged fire with a group of local hunters and was killed as a result. Two women and two children were rescued from the LRA in the process.

AUGUST 2013
Invisible Children broadcast the news of Odano's death through UBC shortwave and other local radio stations. U.S. advisors flew over Garamba National Park broadcasting the news through loud speakers. Opondo heard these messages and realized that with his commander no longer alive, he could finally escape.

AUGUST 21, 2013
On August 21, Opondo, now 25, came out of the bush and surrendered to UN peacekeepers and Congolese security forces holding both a flier and his shortwave radio in his hands. After debriefing Opondo, U.S. advisors discovered that Opondo was the author of the letter written in May. He was reunited with his family shortly after his surrender.

LETTER FROM THE FIELD

A letter from Opondo, an LRA victim turned soldier seeking help to peacefully escape and surrender. His letter was prompted by defection and "come home" messaging delivered with support from the Foundation. *Timeline and letter courtesy of Invisible Children.*

In reference to the above date, this letter is addressed to Lachambeh of Kampala-Uganda. I thank God to have this opportunity to send to you this letter. The point is that I am a Ugandan in the bush and I want to defect and come back home. I have a fear reporting in Congo because they say once you report in Congo you are killed, but I am trying all my best and in all ways to ensure that I come back home safely.

If possible or if you care about me as a Ugandan, then do me a favor and acknowledge the receipt of this letter on U.B.C radio, advising me on how, when, and where to report.

I request that information should be sent to the area where you will direct me to report to; and if possible there should be some people waiting for me. Otherwise, surprisingly, I may be killed.

My radio is currently spoiled but I am trying my best to rectify it and I will be able to listen to your program.

I feel I can report in the following places; in Congo- in areas of Dungu, Duru, and Foradje unlike in Sudan in Yambio, Yei and Marich areas.

Do your best but with the help of God you will make it for us.

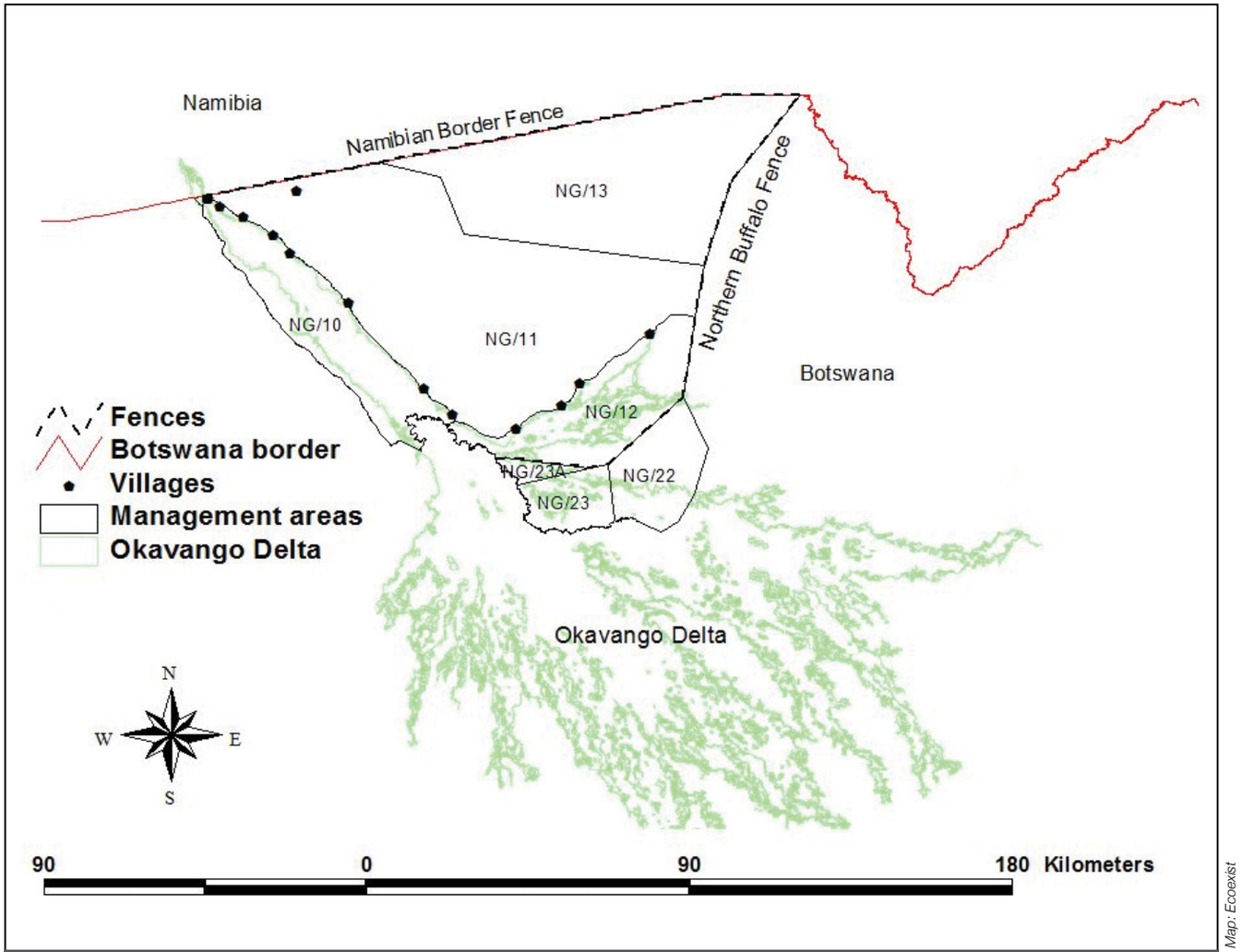
There are very many people in the bush who want to come out but there is too much fear in them that once you report in Congo or Sudan you are killed. So other people are waiting for more details, information, and guidelines from me as per my coordination with you.

The situation is difficult for us in the bush and we can not easily move from Central African Republic to Congo because there are many civilians in the villages who are armed with personal weapons and rifles. You can excuse me for the bad handwriting and also writing Acholi language is not easy.

ECOEXIST: MITIGATING CONFLICT BETWEEN PEOPLE AND ELEPHANTS

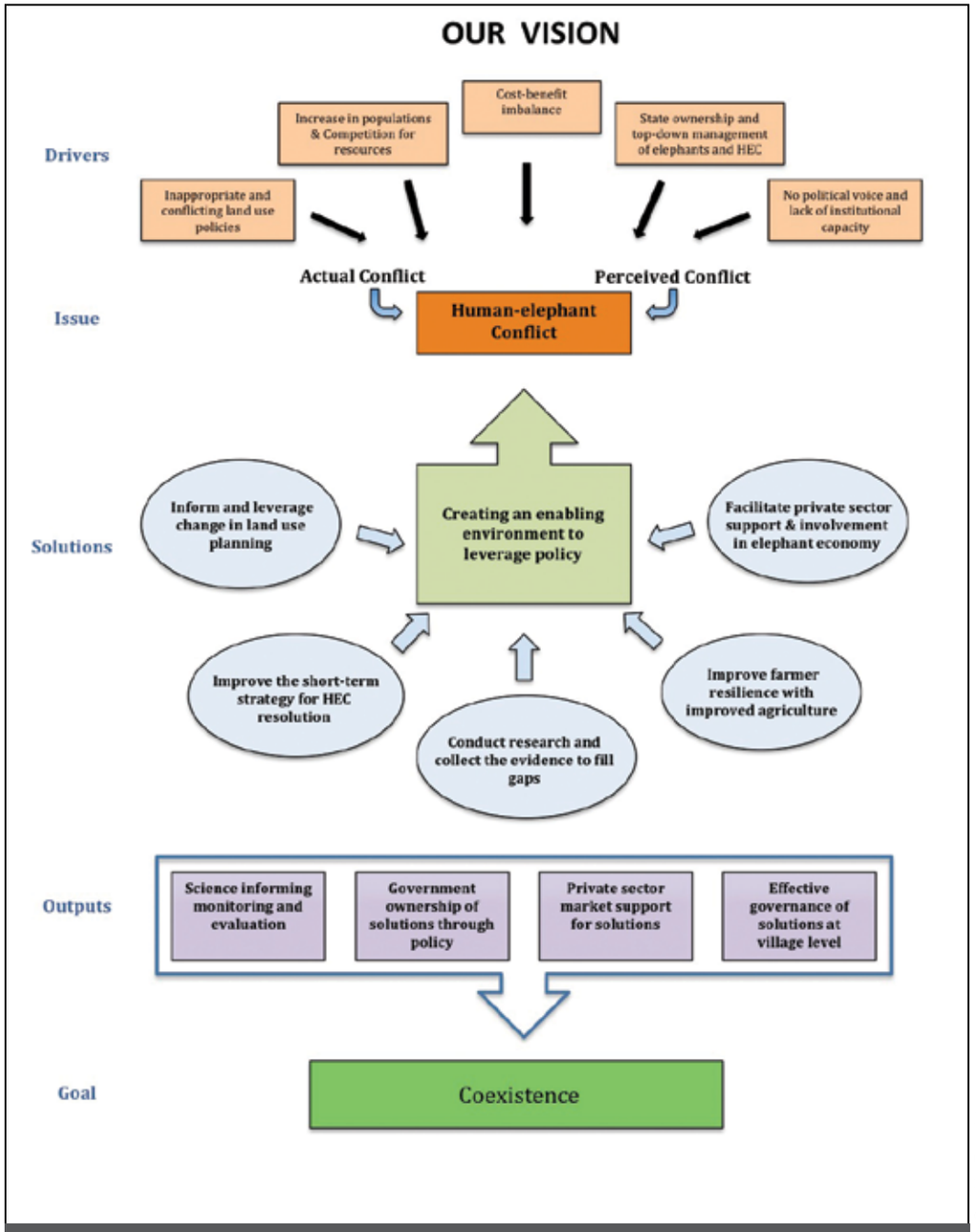
The largest population of elephants on the planet lives in northern Botswana. By recent estimates, 130,000 elephants roam the Chobe-Linyanti and Okavango wetlands and surrounding habitats. Roughly 15,000 of these elephants forage primarily in one part of northern Botswana: an area of 8,700 square kilometers (5,405 square miles) in the eastern Panhandle of the Okavango Delta. The Panhandle is also home to over 15,000 people in 12 villages. That's roughly one elephant for every person, with the elephant population growing at a rate of about four times the human population growth rate. As most of the rest of Africa struggles with elephant populations being decimated by poachers, this area of Botswana faces a unique challenge: how to foster peaceful coexistence between humans and elephants.

As more land is converted to arable farming and as the elephant range expands, interactions between people and elephants are becoming more and more frequent and Human Elephant Conflict (HEC) incidents have escalated. HEC is now one of the most serious and challenging wildlife management and conservation issues in Botswana and the surrounding region. The eastern Panhandle is considered a HEC hotspot: a place where the mere act of planting a field every year is a gamble for farmers, especially in light of crop-raiding elephants; a place where elephants roam beyond the boundaries of protected areas, yet are squeezed into smaller and smaller habitats every year as agricultural lands expand and human settlements grow.



Map: Ecoexist

The eastern Panhandle of the Okavango Delta is home to approximately 15,000 people who live in 13 villages and 15,000 elephants, all occupying an area of 8,700 square kilometers (5,405 square miles).



Ecoexist will target current barriers to peaceful coexistence between elephants and local populations to improve outcomes for both.

Graphic: Ecoexist

Ecoexist is a five-year effort to reduce HEC in the northern Okavango Delta and surrounding regions. Led by Research Director Dr. Amanda Stronza; National Policy Director Dr. Graham McCulloch; and Field and Program Director Dr. Anna Songhurst, Ecoexist seeks to create an enabling environment for policies and on-the-ground programs to foster coexistence between elephants and people. To achieve this goal, Ecoexist will also examine food security and economic development issues affecting rural communities, sustainable resource management and human-elephant conflict resolution strategies. It will connect science with policy, supporting informed decision-making through research and field-based evidence, and it will strengthen the existing work of government agencies, local communities, regional stakeholders and the private sector by facilitating collaboration, communication, capacity building and information exchange.

Ecoexist's priorities are designed to address the biggest policy barriers exacerbating human-elephant conflicts, as identified by an in-depth analysis of national and regional polices and in consultations with policymakers and leaders. The initial scoping work also highlighted research and data gaps affecting current policy decisions.

Ecoexist's primary goals are to:

1. *Conduct research through satellite collaring telemetry studies and population surveys* to fill gaps in current knowledge of elephant numbers and movements in northern Botswana, and inform national and regional elephant management strategies.

2. *Inform and leverage change in land use planning* to consider elephant movement corridors and allow people and elephants to share resources and space.

3. *Improve short-term strategies for conflict management* by working with and for the government and communities to develop a Community-Based Conflict Mitigation approach that incorporates shared responsibility, human-human conflict resolution, and a set of holistic and innovative mitigation techniques.

4. *Improve farmer resilience* to the effects of human elephant conflict by improving agricultural techniques, including short cycle crops and conservation agriculture.

5. *Facilitate private sector support and involvement* by creating opportunities for people to gain economic benefits from living in close proximity to elephants.

The long-term goal is to test and identify solutions that can be sustained through some combination of government ownership and private sector market support. To accomplish this, Ecoexist will collaborate with and provide capacity-building opportunities for local authorities, national policy-makers, and other national and international stakeholders, and will work in partnership with local communities living on the frontlines.

A elephant in Botswana's Okavango Delta lies decaying, the victim of conflict between area farmers protecting their crops.

BUILDING AGRICULTURE STORAGE CAPACITY IN SOUTH SUDAN

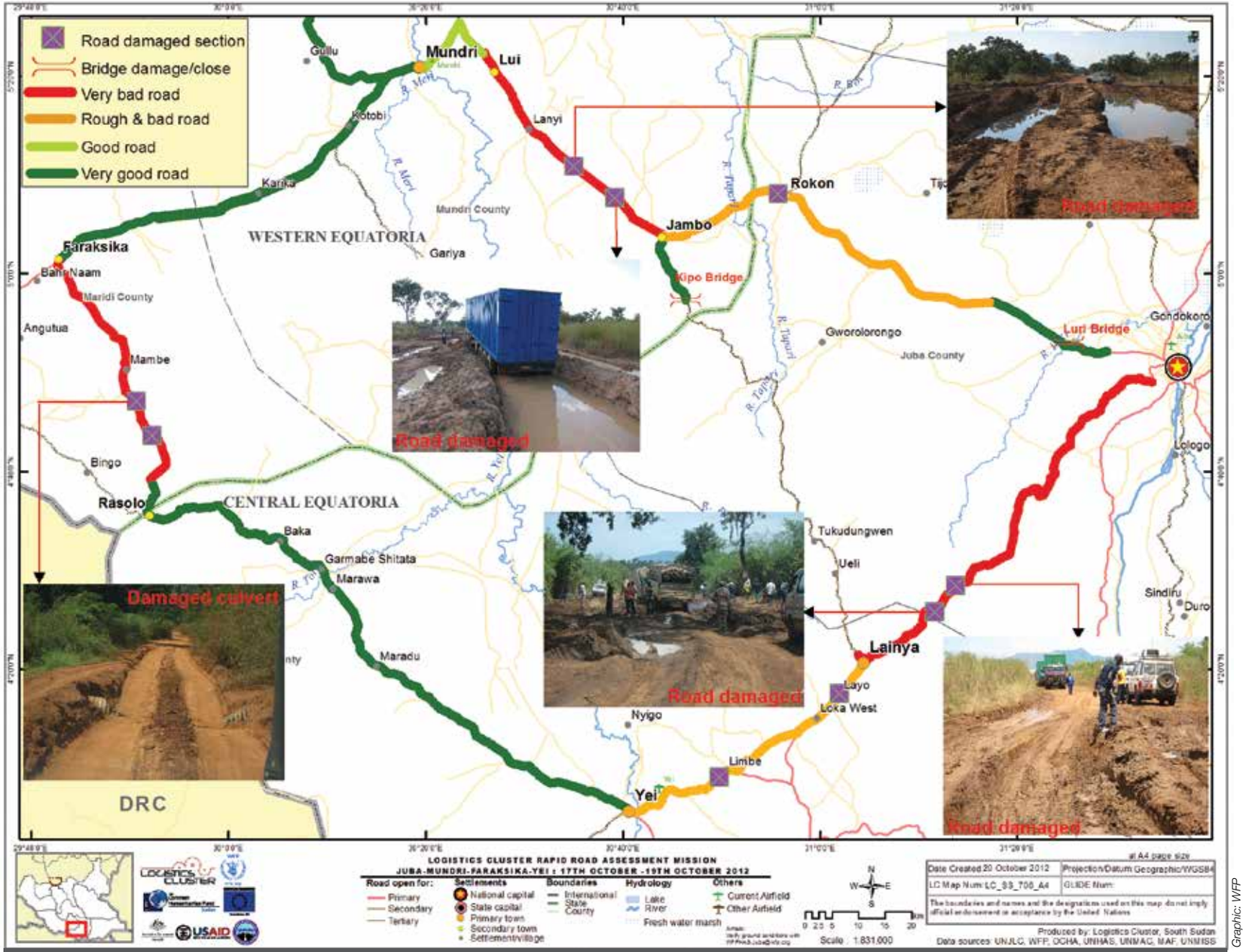
In 2007, the Foundation provided funding support to bring the WFP's innovative Purchase for Progress (P4P) pilot to three post-conflict countries: Sierra Leone, Liberia and what was then southern Sudan. P4P uses the buying power of WFP as a catalyst for connecting smallholder farmers to markets. In 2010, the Foundation made an additional commitment to address an urgent need for grain storage capacity in southern Sudan. In 2013, the P4P team in South Sudan, under the indefatigable leadership of WFP's Marc Sauveur, finally completed the last of a 12-warehouse network.

The main element of the program was the construction of the primary warehousing facilities network. Through the creation of collection points, P4P hopes to build up local capacities to aggregate and market food in locations offering surplus potential and enable warehouse operators to engage in the private market by offering a steady supply of quality food. Located on main roads, the warehouses will be an essential bridge within the supply chain and will directly contribute to increasing WFP's access to good quality grain over an extended period of time.

In areas where production remains low, where surplus production is erratic, and where few operators are structured enough to effectively mobilize and organize the collective marketing of grain produced by smallholder farmers, the warehouse facilities can serve as aggregation hubs.

Today, 12 collection centers are up and running with 12 operating partners in place. The goal is the collection centers will be utilized by the government and other development partners so that the work started here will continue to grow. In 2013, WFP purchased 1,300 tons of food from South Sudan; three years ago, it did not purchase a single ton from South Sudan.

The real story, however, and especially in light of the recent unrest in South Sudan, is the challenge Marc and his team faced getting these warehouses completed. It provides insight into the frustrations and risks of operating in conflict and post-conflict environments. In one report alone, critical roads and bridges were washed away by heavy rains; the supervising engineer was robbed at gunpoint and taken hostage and once released, left the country permanently; warehouse materials were damaged during transport due to careless handling; materials were delayed for three months by customs officials; and identifying reliable and trusting warehouse operators took longer than expected. Strong planning certainly anticipates such obstacles but it takes determined leadership by individuals such as Marc Saveur to work around and through them.



Graphic: WFP

WFP's P4P team in South Sudan completed construction of a 12-warehouse network despite a series of formidable obstacles. It remains to be seen how the most recent unrest in the country will affect plans to utilize these warehouses for grain aggregation and storage.


U.S. ARMY

OTHER GRANTS

The Foundation provides small grant support to conservation organizations like the Cougar Fund based on our history and experience, and the effectiveness of their approach, which includes public education, advocacy, research and policy monitoring.

The Foundation provides funding to ongoing, limited investments in conservation based on our history, expertise and trusted partners.

We also provide support to the communities in which we operate, which includes Cochise County in Arizona; Macon County and Shelby County in Illinois; and Nebraska. We consider these nonstrategic and discretionary investments that are nonetheless important and which we will continue to fund on a limited basis.

In 2013, 5.4 percent of our distribution was invested in small-scale grants to support local communities and conservation efforts.

Cheetah have experienced major contractions in their geographic range in western, central and northern Africa, with resident populations now in just nine percent of their historical range. The Foundation supports regional conservation efforts, which include mapping of existing populations to influence land use planning.

THE CENTER FOR RURAL AFFAIRS' RURAL ENTERPRISE ASSISTANCE PROJECT

A 2010 report conducted by the University of Nebraska-Omaha showed that immigrants in Nebraska generated between $1.9 and $2.4 billion worth of economic output as measured by their consumer spending. Immigrants from Central and South America were responsible for nearly half of that economic value. Given the Hispanic community's valuable and growing contributions to Nebraska's economy, the Foundation has partnered with the Center for Rural Affairs' Rural Enterprise Assistance Project (REAP) Hispanic Business Center to provide small business loans and training support to Hispanic entrepreneurs living in rural communities.

REAP training includes computer workshops and financial advice—ranging from investment guidance to how to open a new business. To support communities and increase opportunities for new jobs, REAP provides small business loans, including 13 loans in 2013 to small businesses as diverse as auto shops, restaurants, construction companies and others. REAP also developed and implemented in 2013 a new web platform, incorporating online technical assistance, training, networking and lending options in both Spanish and English. These and other REAP-sponsored trainings reached 1,149 people in 2013.

REAP continues to expand its reach to Hispanic individuals in communities across rural Nebraska with the goal that microenterprise development can pave a permanent way out of poverty. The Foundation's six-year commitment has provided business training for 4,016 Hispanic entrepreneurs, supported 54 small business loans and leveraged a total of $1.2 million in lending for individuals who otherwise could not access capital.

Immigration reform has become a highly politicized topic in the U.S., with calls for better enforcement, more deportations and improved efforts to secure the border. Here, a border patrol agent monitors the border between the U.S. (left of the fence) and Mexico (right). As a program like REAP demonstrates, immigrants also make important contributions to local economies, a fact that needs to also be considered in the debate.

Photo: Doug Oller

The Cochise County Sheriff's Search and Rescue (SAR) team maintains a close working relationship with the Arizona Department of Public Safety Air Rescue Division. The Department has rescue helicopters stationed throughout the state for search and rescue operations. The Cochise County Sheriff's SAR team is one of the few counties in Arizona qualified to perform the highly technical and dangerous helicopter rappel and shorthaul operation, typically used to extract seriously injured persons from remote areas or swift water situations.

THE COUGAR FUND

The Foundation provides general operating support to the Cougar Fund, an organization committed to protecting the cougar (also known as the mountain lion, puma and panther) and other carnivores throughout the Americas. The Cougar Fund supports public awareness and education programming; funds and promotes scientific research; and monitors state policies to ensure habitats are protected. The Foundation has provided support since 2002.

LOCAL LAW ENFORCEMENT AND PUBLIC SAFETY

The Foundation is committed to supporting public safety and law enforcement in the communities in which we operate in the U.S.

In Illinois, the Foundation supports the Sheriffs' offices of Shelby County and Macon County. Both counties have median household incomes of approximately $46,000, well below the state average of around $57,000. The Sheriffs' offices supervise highway safety and also work to address above average rates of violent and property crimes. Drug smuggling is another public safety issue, requiring special K-9 units, which are also used in all aspects of law enforcement. The Foundation supports operations, enforcement and technical capacity improvement and community outreach initiatives.

Four counties in Arizona stretch across 354 miles along the border with Mexico, including Cochise County. The primarily rural county averages 21 residents per square mile, well below the state average of 56 and the national average of 87. Nearly 17 percent of the population lives in poverty. Given these incredible demands, the Cochise County Sheriff's Office not only protects residents from typical criminal activity and traffic safety, it also cooperates with the U.S. Border Patrol to facilitate illegal immigrant apprehensions and drug seizures, including tens of thousands of pounds of marijuana each year. To assist these ambitious efforts, the Foundation supports enforcement operations and other special programs to address the area's unique challenges.

The U.S. Border Patrol and Cochise County Sherriff's Office work together to combat drug trafficking and human trafficking.

CLOSING THOUGHTS

Howard G. Buffett in Rugari, DRC, on December 17, 2013 at the public dedication ceremony for the water rehabilitation project funded by the Foundation. Rugari's 17,000 families have lived at the heart of eastern Congo's most recent conflict.

Photo: Jeannie O'Donnell

Sometimes to survive, you have to "charge the bear," like this black bear in British Columbia, Canada.

PUTTING YOURSELF OUT OF BUSINESS – ON PURPOSE
BY HOWARD G. BUFFETT

Originally published on LinkedIn.com, December 20, 2013.

I was once in British Columbia photographing a black bear as it descended from a tree, and I continually shot photographs until I realized the bear was coming straight at me–quickly. My instincts screamed RUN! But I knew how to react to aggressive black bears. As he got within 15 feet, I held my camera high in the air and waved my arms and started yelling. I took a deep breath and, staring right at the bear's eyes, I charged straight at him, screaming. The bear turned and ran away. My pulse pounded for hours.

I'm doing something right now at our Foundation that is similar to charging the bear. We are focused on improving food security and the quality of life for marginalized and struggling people around the world. The financial resources my father provided to my brother, sister and me have grown dramatically in the last few years–he's now pledged more than $3 billion to each of our foundations. But I have committed to spend the money and go out of business by 2045. Lately, we've been challenging other development organizations to operate as if they plan to go out of business, too.

Deliberately going out of business is as counterintuitive to most foundations and charities as it is for a human to charge a bear. Leaders want to preside over growing organizations that are "built to last". Managers often point to the number of people and programs they run as a sign of their effectiveness. Many foundations are explicitly designed to pass from generation to generation.

In business, steady growth and critical mass are appropriate goals. As the velocity of business speeds up, however, even most large companies find that they have to reinvent themselves in faster and faster cycles, often not only the products they make, but also how efficiently they make and market them. As my dad has pointed out, the free market has a mechanism to judge who is successful at doing that. Customers and eventually shareholders abandon those who can't change or reinvent themselves fast enough.

Unfortunately, the non-profit world does not have the corrective mechanisms of the markets. "Successful" non-profit leaders often are the best fund-raisers, not the best fund-spenders. Project numbers climb, headcount increases, overhead goes up, and yet the challenges are not reduced proportionately to the money raised and spent. In fact, poorly designed aid programs or short-term approaches can sometimes make things worse.

I've just written a book, and in it, I explain how I developed what I call my "40 Chances" mindset, the idea that all of us have about 40 chances, or 40 productive years, in life to make our contribution. Those are a lot of chances but not an infinite number, so there is no time to waste. I started thinking this way about 10 years ago, and it changed how I approach my philanthropic work:

- ***I think about risk differently.*** We take more and larger risks. Unlike NGOs that are dependent on fund-raising, we are not under pressure to provide only the success stories to donors. We can talk about failures so other people don't follow us down dead-ends. We take chances and fail fast so we can regroup and be smarter the next time.

- ***I hire and partner differently.*** I invest in people who are not risk-averse and who learn quickly from their mistakes. I look for partners who are smart, open-minded, flexible, and, most of all, share my sense of urgency. I invest in leaders who have learned from the past but are focused on a better future.

- ***I have changed the initiatives I support.*** I am no longer interested in supporting limited duration aid projects. They don't change the fundamentals. We want to improve the long-term growth and sustainability of communities and then move on, not build big bureaucracies or ensure that our families or employees have perpetual employment.

- ***I value broad experience in others.*** Since I was young, I have periodically reinvented myself. I think that gave me tools to challenge the status quo. I am or have been a farmer, an executive, a philanthropist, a photographer, a corporate officer and director, and an elected official. I've traveled extensively. I have a clear sense of what I understand how to do and what I don't. I used to avoid working in situations where I didn't have experience, such as governance; however, I now realize some of those capacities beyond my foundation's circle of competence are vital to support what we're trying to achieve, so we identify the best practices.

- ***I have a different sense of urgency.*** Reminding myself every day that I need to try to solve problems right now for people suffering right now creates a focus that makes us more driven.

When I challenge NGOs to deliberately put themselves out of business, it goes against most non-profit leaders' survival instincts. It scares people.

Humans aren't hard-wired to charge the bear. We tend to follow a pretty simple recipe for survival in the face of life-threatening challenges: either run or fight, sometimes hanging on to the bitter end. In development, too many people look for projects that seem less risky and provide short-term changes so they can claim a positive track record.

I wish that worked. But nearly a billion hungry and food insecure people in this world would suggest it doesn't. We need to reinvent how we attack pervasive problems like hunger.

In my opinion, we all need to periodically reinvent ourselves, our thinking, our organizations and everything else that tends to evolve into a comfortable, easy-to-follow recipe in life. Without market corrections, as my dad points out, "As long as you can convince others to give you money, you can go on doing things that really don't make any sense for a very long time."

The safest option would have been for me to only photograph bears I could see from inside my vehicle. But that's no way to get the best possible shot.

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