



USAID
FROM THE AMERICAN PEOPLE

USAID 50 ANNIVERSARY

VOLUME 02 ISSUE 05 OCTOBER 2011

GLOBALWATERS

BREAKING THE CYCLE OF DESPAIR

in the Horn of Africa



ALSO IN THIS ISSUE

**Building Bridges with Water
The Economics of Drought
Bringing Water to Tajikistan**

& more ▶



USAID
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WELCOME TO GLOBAL WATERS MAGAZINE

You may notice we've made some changes...

Welcome to the inaugural edition of *Global Waters Magazine*, USAID's online publication devoted to the agency's water-related efforts in the developing world. In order to provide you with more in-depth reporting on our programs and progress, we have expanded our bi-monthly newsletter to a quarterly magazine. Each edition will include more extensive articles about the agency's efforts to address the water crisis, introduce you to our implementing partners and the beneficiaries of those programs, and offer an inside look at our challenges, successes, and lessons learned as we work with our partners in the field. The magazine should also serve as a useful resource to help our readers locate other water-related publications and activities, both within and outside the agency.

In this edition—

Sadly, this edition comes at a time when famine in the Horn of Africa has reached epic proportions. In this issue, we report on the socio-economic complexities of extreme drought and some of the tools USAID and our partners are developing to monitor and mitigate these harsh conditions, in hopes of minimizing the toll they take on future populations.

On a different note, our story *Building Bridges with Water*, takes an extensive look at the powerful role water can play in peacebuilding among groups in conflict who must depend on the sharing of natural resources for their survival.

Our Real Impact interview takes us to Tajikistan to meet three very grateful women who have seen their lives and their families' welfare vastly improved with the installation of safe, running water in their community, and the health and hygiene education they've received from USAID and our partners there.

As part of our expanded format, we are also opening the lines of communication for our readers' comments and feedback on our Ripple Effect page (see p.29) in hopes that we'll get to know you and your interests and concerns about the water sector a little better.

We remain committed to transparent and analytical reporting on USAID's water programs and to sharing insights and information about the agency's long-term efforts to promote effective, sustainable, and integrated water resources management in the developing world.

The Water Team
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ON THE COVER: Local tribes band together and search nomadically for water after being displaced due to severe droughts in Ethiopia.

Photo Credit: Kamren Charpentier, Courtesy of Photoshare

ON THE WATERFRONT

BREAKING THE CYCLE OF DESPAIR *in the Horn of Africa*

LISTENING AND LEARNING: USAID Administrator Rajiv Shah speaks with recently arrived women and children at Dadaab camp in Kenya.

Photo Credit: L. Meserve, USAID



AT THIS TIME LAST YEAR, RESIDENTS IN SOUTHERN SOMALIA WERE STARTING TO WORRY. THE ANNUAL DEYR RAINS WERE LATE, WATER SUPPLIES WERE DRYING UP, AND PASTORALISTS WERE BEING FORCED TO VENTURE INCREASINGLY LONG DISTANCES IN ORDER TO FEED AND WATER THEIR LIVESTOCK.

Over the next eight months, the situation continued to worsen. Not only did the Deyr rains fail completely, but the 2011 Gu rains from April to June were also far below expectations – leading to what has become Somalia's worst drought in decades.

A similar story has played out across much of the Horn of Africa. The lack of rainfall and subsequent water shortages lie at the heart of the ongoing catastrophic drought and famine gripping much of the region, which has claimed tens of thousands of lives, including 29,000 children in the past three months alone. Today, there are more than 13 million people across Somalia, Ethiopia, Kenya and Djibouti in need of humanitarian assistance, and in Somalia, a child dies every six minutes.

Though the situation is bleak across much of the Horn, it is perhaps most acute in southern Somalia. A complex web of factors fuels the ongoing famine there including degradation of the natural environment, and now, severe water shortage, which are sharply exacerbated by the effect of the two decades of conflict and the lack of a functioning



DRY SPELL: A woman in Somalia provides a drink for her goats in the dry season, using water from a community well.

Photo Credit: FAO/SWALIM

central government following the collapse of the Somali state in 1991. Today, the country is experiencing its worst annual crop production in 17 years, and prices for staple crops like sorghum and maize are at record highs. In some parts of the country, grains are 350% more expensive than last year. When combined with high livestock mortality and curtailed labor demand, the situation is dire.

Driven by these trying circumstances, over 680,000 Somalis have fled for refugee camps in Ethiopia and Kenya. In July, USAID Administrator Rajiv Shah visited one such camp in northeastern Kenya: "I met one Somali woman who traveled by donkey cart with her two children for 12 days looking for food. It is hard to believe that she was counted among the lucky, as many families have lost children along the way."

In terms of emergency assistance, the US is currently the world's leading donor to the Horn. In fiscal year 2011, USAID provided approximately \$650 million in humanitarian and food aid, bringing relief to more than



PULLING TOGETHER: Villagers in Korkoor, Somalia, collect water from a borehole, which will be used for both human and livestock consumption.

Photo Credit: FAO/SWALIM

4.6 million people across the region. USAID works closely with its partners to provide emergency water, sanitation and hygiene interventions. This includes trucking water to drought-affected communities and rehabilitating water supply infrastructure. With recent outbreaks of cholera, USAID is especially focused on ensuring that communities have access to clean water, as well as education on how to minimize their risk of exposure to disease.

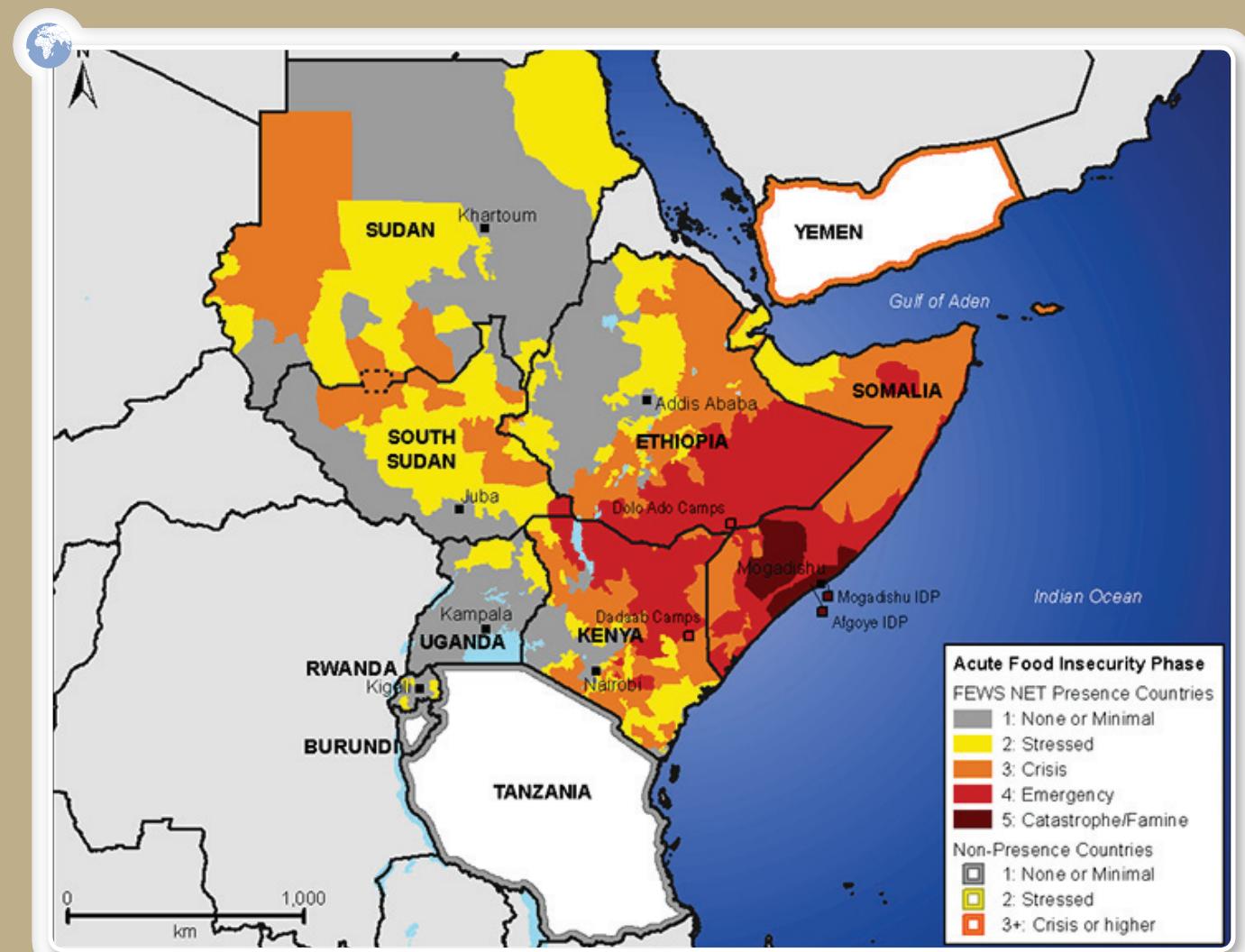
USAID also funds the Famine Early Warning System Network (FEWS NET), which for over twenty-five years has monitored weather changes in food-insecure regions worldwide and acted as a harbinger of impending climactic events. The information allows humanitarian organizations, national governments, and regional institutions to prepare for crises—for example, by pre-positioning food supplies, vaccinating livestock, and strengthening safety net programs.

According to Gary Eilerts, USAID's program manager for FEWS NET, the team detected early signs of the current Horn crisis in August 2010—many months prior to the first official drought declarations. This early alarm allowed USAID to position food reserves and initiate emergency programs in January 2011.

The program uses remote sensing imagery to examine rainfall and agricultural conditions, and can even monitor surface-water variability over time and space. “We use this type of remote analysis really heavily in a place like Somalia, where physical access is fairly difficult,” Eilerts adds. With such information, the group can detect (and predict) changes in food security, and levels of socio-economic stress that could lead to the disappearance of livelihoods.

“WE MUST IMPLEMENT LONG-TERM STRATEGIES THAT CAN HELP PREVENT THIS KIND OF SUFFERING ONCE AND FOR ALL.”

One product that helped crystallize international action is the Integrated Food Security Phase Classification (IPC) Tool, a classification system and map that depicts levels of food insecurity on the ground. In the Horn, the map played a valuable role



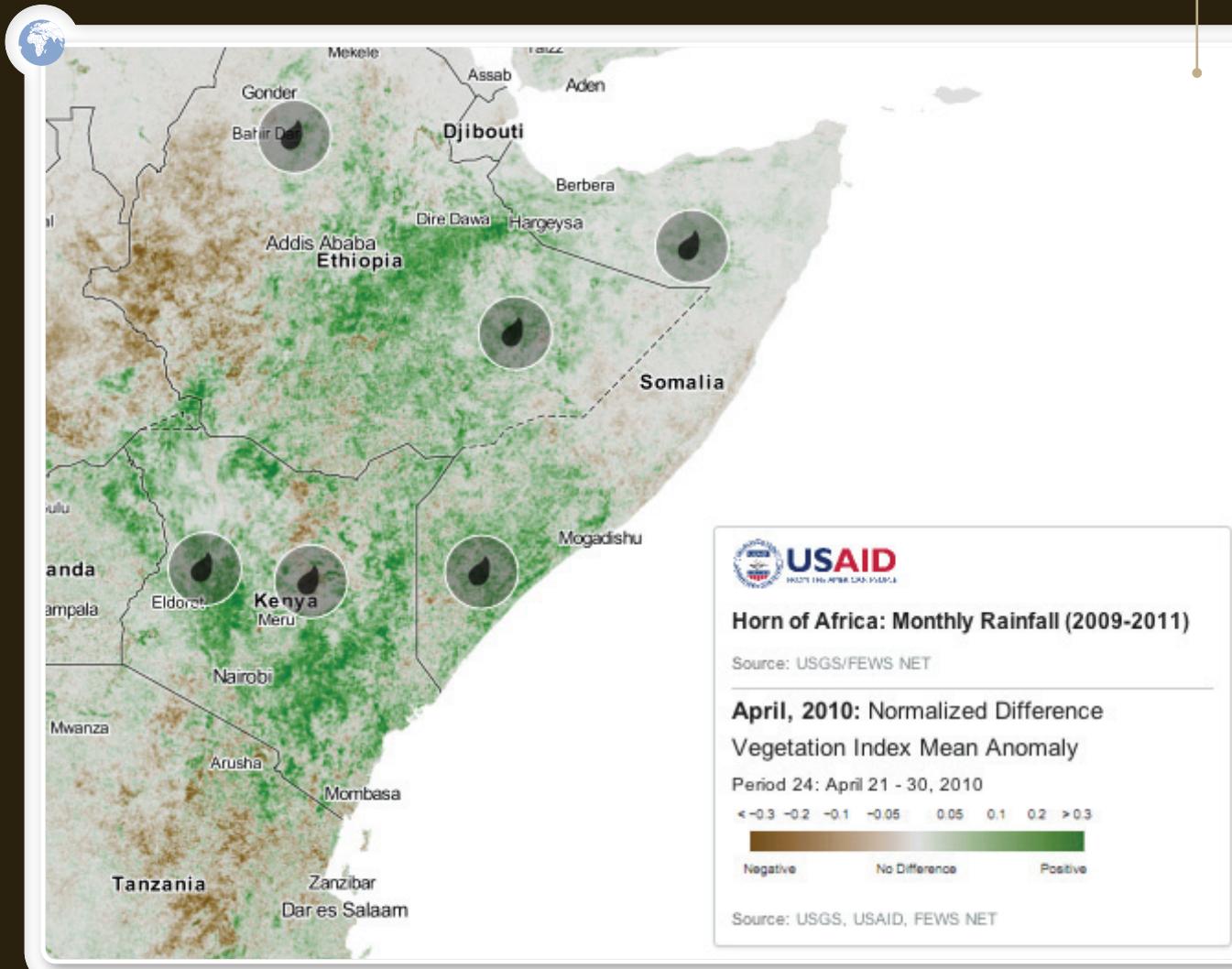
MAPPING IT OUT: The status of food insecurity across the Horn of Africa (as of September 5, 2011). Map produced using the Integrated Food Security Phase Classification Tool.

Photo Credit: USAID/FEWSNET

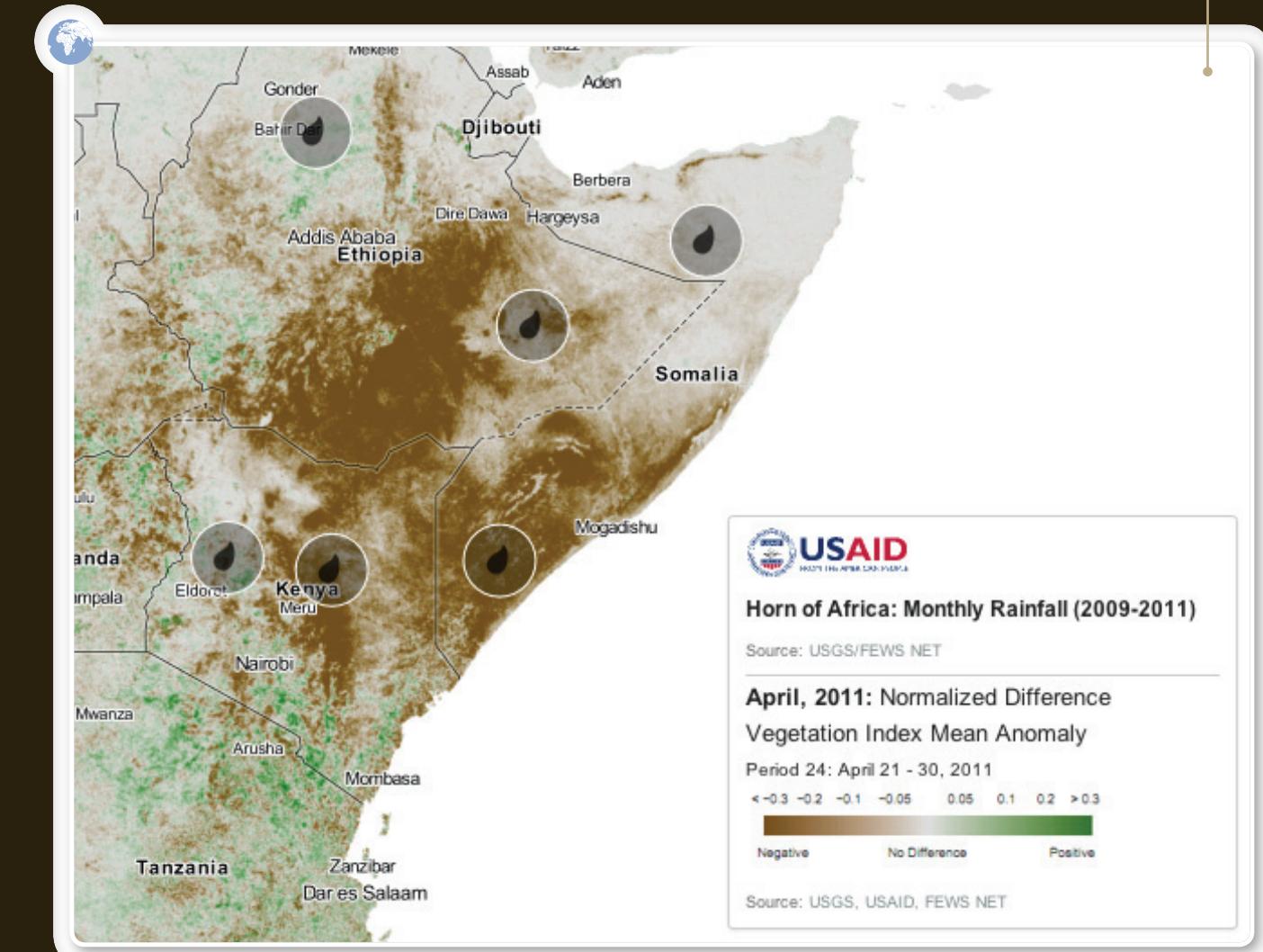
THE EFFECTS OF DECREASING RAINFALL ON VEGETATION IN THE HORN OF AFRICA 2010 - 2011

Comparing rainfall maps of April 2010 and April 2011 illustrates the dramatic impact lack of rain has had on vegetation in the region.

MONTHLY RAINFALL
APRIL 2010



MONTHLY RAINFALL
APRIL 2011



RAINFALL AND DROUGHT: Millions of people in the Horn of Africa rely on rains each spring and fall to water their crops and feed their livestock. While the region is usually dry, lower than expected rains in the fall of 2010 began the descent into drought.

Photo Credit: USAID/FEWSNET



INSTRUCTING OTHERS: A pre-war rain gauge observer demonstrates how to install a rain gauge in Hargeisa, Somaliland.

Photo Credit: FAO/SWALIM

in generating consensus and allocating relief supplies, a process FEWS NET plans to replicate elsewhere in the world: "People have seen the [IPC tool] and understand how it helped concretize and define the nature of the problem. I am absolutely positive it is going to be much easier to [generate consensus] going forward in other food crises, at least in Africa."

While early warning signals help relief agencies prepare emergency responses, there is also a need to focus on interventions that improve long-term water availability.

Dr. Gabriel Senay, an Ethiopian-born researcher with USGS believes that one solution is creating more water storage facilities: "Many people think of East Africa as a very dry region, but it is not – especially the mountainous parts of the region. There is a lot of rain, but it falls over *three months* essentially. Then when the dry period comes, there is not a drop of rain for several months. So you need reservoirs of different sizes – from farm ponds to lakes – to meet human, livestock and agricultural needs."

In areas that receive low rainfall, untapped groundwater supplies might be a possible solution. According to Senay, groundwater in southern Somalia is "absolutely being underutilized. And do you know where the water that seeps into the groundwater system ends up? The Indian Ocean!"

Though relatively little is known about the status of southern Somalia's groundwater supplies, this is starting to change with projects like the UN Food and Agriculture Organization's Somalia Water and Land Information Management Program (SWALIM). As explained by SWALIM's Water Coordinator, Dr. Hussein Gadain, "One and a half decades of civil strife in Somalia have resulted in the loss or damage of most of the water and land-related information collected in the previous half century." In response, SWALIM is conducting extensive hydrogeological surveys, which will hopefully help increase the success rates of future drilling efforts.

Senay and Gadain also stress the need to understand *how people utilize water*, especially in arid areas like the Horn. According to Gadain, "Keep in mind that for a pastoral community in Somalia, water supplies are used more for livestock than for human beings."

Understanding water use patterns will also help identify stakeholders to include in decision-making processes. "Water collection is very much in the women's domain within the region. So when we think about how to improve water availability, we need to remember that women need to be part of that conversation

"MANY PEOPLE THINK OF EAST AFRICA AS A VERY DRY REGION, BUT IT IS NOT – ESPECIALLY THE MOUNTAINOUS PARTS OF THE REGION. THERE IS A LOT OF RAIN, BUT IT FALLS OVER THREE MONTHS ESSENTIALLY."



RESTORING MEASURES: A community member conducts a survey to reinstate one of the staff gauges on the Juba River in southern Somalia.

Photo Credit: FAO/SWALIM

from the very beginning," says Carla Koppell, USAID's Senior Coordinator for Gender Equality and Women's Empowerment, who is just back from the region.

Tragically, the water situation on the ground is expected to worsen before it gets any better. "We're fearing a double-dip drought," explains Gary Eilerts, and in some of the hardest hit pastoral areas, "we know that nothing will get better at least until the next rainy season – roughly April 2012..."

Though USAID continues to play a major role in emergency relief, according to Rajiv Shah: "...that is no comfort today to those who have no food or water for

their children, or for themselves. We must implement long-term strategies that can help prevent this kind of suffering once and for all." Clearly that goal and the concerted effort it demands are top priorities for USAID and its development partners in all corners of the globe.

L.K. ole-MoiYoi

FOR MORE INFORMATION VISIT:

- <http://www.usaid.gov/fwd>
- <http://www.fews.net/Pages/default.aspx>
- <http://www.faoswalim.org/>

IN FOCUS I

UNDERSTANDING THE ECONOMICS OF DROUGHT



“A hunger crisis is not solely an act of God,”

said Secretary of State Hillary Clinton in an address on the drought and famine in the Horn of Africa at the International Food Policy Research Institute on August 11, 2011. “It is a complex problem of infrastructure, governance, markets, education.”

The complexities involved in what is being called the worst drought in 60 years have placed more than 13 million East Africans in urgent need of humanitarian aid. While relief efforts tend to the pressing crisis, new and ongoing projects by USAID and its partners aim not only to provide immediate support for refugees and others affected by the current drought, but also to supply the economic, technological, and instructional tools that communities and individuals need to weather the next drought—and the one after that.

Displaced Families, Displaced Livelihoods

Rain equals wealth in much of the Horn. For pastoral people, whose livelihood is tied to their livestock, green pastures are crucial for healthy, valuable animals. For agropastoral communities, rainfall provides the main means of watering essential crops. When the rains fail, as they have this year, so do the “banks” of many individuals. Drought-induced losses not only render families unable to supply their own food, but also leave them lacking in revenues from livestock and crop sales to obtain food in the marketplace.

WATER MANAGEMENT: A water-harvesting catchment near Borama, Somalia, helps quench the thirst of pastoralists' livestock. Such catchments, which collect and store runoff from a larger drainage area, provide one way to conserve water for times of drought.

Photo Credit: Frank Nyakairu, FAO



PROTECTING LIVESTOCK: Army team veterinarians and community animal health staff work together to treat a young camel in Negele, Ethiopia. More than 25,000 chickens, cattle, camels, and donkeys received multi-vitamin injections and treatments for various parasitic diseases.

Photo Credit: Captain Jennifer Pearson

"The assumption that the poor produce most of their own food is not correct," says John Scicchitano, USAID program manager for the Famine Early Warning System Network (FEWS NET), a USAID-funded organization that provides predictions and analysis of food security status in regions around the world. "We understand now that the poorest rely on markets for a lot of their food, and may buy 50 percent or more of their food." With livestock in poor condition and prices for staples soaring as much as 240 percent over five-year averages, many people in the Horn have found themselves unable to afford enough to eat.

The resulting crisis has forced families to separate. "Most of the refugees are children and women," says Emebet Kebede, head of the FEWS NET Ethiopia field office, because men have often stayed behind to tend to remaining herds. "The level of social impact caused by separation of families, detachment from the communities, and the loss of family members due to malnutrition and disease outbreaks is very significant," she adds. In southern Somalia, that distress has been further aggravated by the controlling presence of militant groups motivated by personal interest who restrict humanitarian access and impede the development of a secure and stable state.

Seeking a Brighter Horizon

Yet USAID Administrator Rajiv Shah and others have noted that although the current drought is likely the worst the region has seen in decades, the famine could easily have been worse than it is—a result Kebede attributes to aid mechanisms that have successfully mitigated the worst impacts in Ethiopia and Kenya. Through these existing and new endeavors, USAID is equipping communities with the social, economic, and market-based tools needed to avoid a vicious cycle of drought and food insecurity. Among the agency's strategies:

Monitoring

In addition to hydrological monitoring (see feature article), FEWS NET also keeps decision makers in USAID and elsewhere informed of market conditions and food prices in vulnerable areas in 224 markets around the world through its Price Watch tool. The data allows FEWS NET to predict where and when food insecurity may arise, thus serving as an early warning system that can trigger targeted aid from host governments, USAID, and others. FEWS NET also monitors livestock prices relative to food prices. "For pastoralists that's a very important indicator," says Scicchitano. "If livestock goes down and food goes up, their ability to buy food will be impacted dramatically."

Pre-crisis Support

Ethiopia's Productive Safety Net Program is one mechanism that connects individuals with financial support before food insecurity is imminent. A government-donor program organized by the World Bank's International Development Association and funded in part by USAID, the program's first phase employed local people in infrastructure development, including improvements to irrigation, surface water runoff collection, and conservation measures that

raised groundwater levels. The second stage of the program has involved providing small cash grants that allow Ethiopians to access credit and invest in agricultural tools, boosting farm productivity. During the droughts of 2008, the safety net program was credited with helping to ward off severe food shortages in Ethiopia. Today, FEWS NET's Kebede reports that the program, which offers distributions each year from January to June, is functioning in many of the areas currently affected by drought. "This has a direct impact on the market as it stabilizes prices," she says, "allowing thousands access to affordable food." Through this safety net system approximately 7.5 million individuals in the region have been spared from the worst effects of this year's drought.

Linking Suppliers with Markets

USAID's East Africa Market Linkages Initiative—a two-year program, which just ended in September—worked in Kenya and seven other countries to link small farmers with regional and national markets and storage facilities. Through the initiative, 33 grantees received more than \$4.5 million to improve crop handling, buying, storage, and marketing. Such efforts helped recipients leverage many more millions of dollars of private sector investment which funded training of village networks in agricultural techniques to boost crop yields.

Instilling Resiliency

Feed the Future, an interagency initiative of the U.S. government that is being spearheaded by USAID, is

applying the specialized knowledge of more than 400 experts to shore up the resilience of communities by providing veterinary care and supplemental food for livestock, sharing fertilizers and drought-tolerant seeds that improve agricultural yields, and focusing empowerment efforts on women—who are responsible for 70 percent of farming labor in much of Africa—to pass on training to their communities. Feed the Future also seeks to reduce barriers to trade and diversify livelihoods, which may help pastoralists and agropastoralists avoid food insecurity when the next drought cycle arrives.

With forward-thinking and capacity-building programs such as these, USAID and its partners are seeking to move from reaction to preparation and, as Secretary Clinton notes, "to doing development differently," allowing Africa to feed itself.

K. Unger Baillie



FOR MORE INFORMATION VISIT:

<http://www.fews.net>

<http://www.worldbank.org/ida/africa/index.html>



BARREN FIELDS: The eastern Horn of Africa is currently experiencing its worst drought since the 1950s. Crops have failed, livestock has died, and prices in local markets are too high for most people to buy what is needed to feed their families.

Photo Credit: Kimberly Flowers, USAID

BUILDING BRIDGES WITH WATER



UNIFIED JUMP: Mayors and activists from Israel, Palestine, and Jordan “jump” into the Lower Jordan River in a united call to the three governments to rehabilitate the Jordan River.

Photo Credit: FoEME

The Palestinian village of Wadi Fuqin, located west of Bethlehem, is home to fewer than 2,000 people and lies between an Israeli settlement in the West Bank to its east and an Israeli town over the Green Line in Israel to its west. Residents in this community rely on a nearby series of springs to provide water for their agricultural fields. Two years ago, the survival of these springs was jeopardized when a proposed security barrier, designed to provide protection for the nearby Israeli town of Tzur Hadassah, threatened to impede groundwater recharge and in effect, cut off the flow of water to the village. Aware this situation could further intensify existing hostilities, EcoPeace/Friends of the Earth Middle East (FoEME), a USAID supported non-governmental organization comprised equally of Israelis, Palestinians, and Jordanians, stepped in to help mitigate the potential conflict through the use of environmental peacebuilding, with water serving as the building block to cooperation.

FOEME's Good Water Neighbors (GWN) program works in 29 cross-border communities to promote cooperative efforts aimed at protecting the shared environmental resources of the region. In Tzur Hadassah, FoEME initiated a campaign of educational activities to raise awareness of damages taking place to the area's water supply and the environmental responsibilities that link surrounding communities.

"All our main water resources cross one or more boundaries, which creates the reality of interdependence," says Gidon Bromberg.

the Israeli director of FoEME. "We build on the interdependent nature, particularly of water resources, to try and change the mindset as 'just Israeli', or 'just Palestinian', or 'just Jordanian'."

FoEME is supported with a grant provided by USAID's Office of Conflict Management and Mitigation (CMM) and highlights the importance USAID places on integrating sustainability and peacebuilding into its development work. According to Cynthia Brady, a senior conflict advisor in CMM, the office provides assistance to USAID's projects around the globe to ensure development efforts are thoughtful about the often complicated contexts of conflict and instability in which they may be working and generate peacebuilding efforts where possible.

"In my opinion, development and peacebuilding go hand-in-hand," says Dr. Sandra Ruckstuhl, senior specialist for sustainable development at Group W Inc, who has worked extensively on the interplay between water issues and conflict. "For development to be sustainable you need peace and sustainability. How can we deal with certain shocks to the system if the system is not resilient enough? Peacebuilding helps communities deal with these shocks."

Critical to working in an area affected by conflict is understanding the driving forces behind it. "We must undertake some kind of conflict

analysis," says Brady. "It is important to go beyond the obvious manifestations of violence or contestation in order to really understand the underlying issues, including identifying the deeper sets of grievances at play, the key actors with influence, and the upcoming events that might instigate conflict or possibly trigger peace." Also key is the need for continued analysis throughout the life of the program. "We as practitioners need to continue to do analysis on the fly so we can course correct," says Ruckstuhl. "Once you're in the field you learn a lot – this is often a missed opportunity if we don't adapt as we get new perspective."

The need for adjustment of a program's focus in response to changes in partner priorities can be seen in the work of USAID's Environmental Cooperation-Asia (ECO-Asia) project, which works with the Mekong River Commission (MRC) to develop tools and capacity for collaborative planning and decision-making, and integrated management of transboundary resources.

The Mekong River supports the livelihoods of fishermen and farmers, generates electricity from hydrological dams, and allows for the transportation of goods for the MRC member countries, Laos, Cambodia, Thailand, and Vietnam, as well as for Myanmar and China.

"INDIVIDUALS AND COMMUNITIES NEED WATER EVERYDAY TO SURVIVE AND THAT CREATES A POWERFUL INCENTIVE TO COOPERATE."

While ECO-Asia's initial support to the MRC focused heavily on capacity building in conflict prevention and management, the project shifted its focus to developing tools for sustainable hydropower development when the construction of dams became a source of tension among the river's users. "In response to MRC requests for support, ECO-Asia is working with them and other partners to develop tools for comprehensive basin planning at the transboundary level," says Chief of Party Paul Violette. Responding to the changing priorities of the MRC was a critical factor in ECO-Asia's ability to maximize its impact.

According to Ruckstuhl, incorporating the knowledge of the stakeholders, even those not directly linked to, but still impacted by a project, is a critical step in gaining deeper insight and building a good working relationship with the people on the ground.



Dwindling Current: The flow of water in the Lower Jordan River has greatly decreased and is hardly visible today.

Photo Credit: Itamar Grinberg

Continued analysis must apply not only to stakeholder involvement in general, but to the underlying social, political, and economic factors that impact the stakeholders within the context of a particular conflict. This can particularly play out in conflicts at a local level, where natural resources can sometimes ignite violence between groups. Improving the economic opportunities for these communities can be an important factor in de-escalating conflict.¹

In South Sudan, USAID's Sudan Transition and Conflict Mitigation (STCM) program is proving successful at fostering inter-communal peacebuilding by building small-scale infrastructure, such as check dams, to mitigate conflicts between cattle-herding tribes who compete for scarce resources.

Access to water is vital to the livelihoods of the nomadic tribes living along the border with Sudan, but the search for water and grazing land can be difficult at times. In the dry months from October to April, a lack of rain reduces the availability of water, while the wet season brings flooding to some areas. Fights over the availability of water sources during the dry season often balloon into a cycle of revenge attacks, further exacerbating instability.



TRANSBOUNDARY COLLABORATION: The Mekong River is a vital resource to the countries that share its water, providing economic opportunities in fishing, farming, shipping, and hydropower generation.

Photo Credit: Kritsana.P, Shutterstock

¹ Ruckstuhl, Sandra. "Renewable Natural Resources: Practical Lessons for Conflict-Sensitive Development." The World Bank Group. The World Bank Group, September 2009, 51-52. Web. 31 August 2011. <http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1164107274725/RNR_PRS.pdf>.

² "Success Story: Dam Helps Reduce Conflict." USAID. USAID, 2010. Web. 22 August 2011. <http://www.usaid.gov/stories/sudan/ss_sd_dam.html>.



GUARDING LIVELIHOODS: Dinka-tribe militia men in South Sudan display their guns used to defend their cattle from the rival Nuer tribe.

Photo Credit: Basil A. Safi, Courtesy of Photoshare

STCM is working to mitigate tensions by providing job opportunities for youth, who often instigate violence by raiding the cattle of neighboring tribes. "It's the mindset you have to change and disarm," says Dr. Jaidev Singh, team leader of the Office of Transition and Conflict Mitigation in USAID's South Sudan mission. "Water helps, but you've got to disarm their minds. Water is a means to get peace. It's one element." Providing the youth with job opportunities, such as assisting with the construction of check dams², can help reorient perspectives and restrain these youths from resorting to cattle raiding.

In particularly contentious areas like South Sudan, this ability to ignite change at a local level is one of the benefits of focusing the attention of peacebuilding initiatives on water concerns. "Water issues are ultimately local. Individuals and communities need water every day to survive and that creates a powerful incentive to cooperate," says Brady. At the same time, she notes that while change at the local level can be critical and often essential to building relationships of trust, to achieve sustainable

"ONCE A COMMON INTEREST IS IDENTIFIED AND TRUST IS BUILT THEN THERE'S NO LIMIT TO WHERE THE TRUST CAN GO."

peace it's important to link work at the local level with reinforcing change at higher levels as well.

In the Middle East, where national governments often find it difficult to reach agreements and differences have led to war, FoEME has introduced a wide range of activities that engage stakeholders on a local level, from selecting youth residents to participate in "Water Trustee" groups, to involving community mayors to help build consensus around water management needs. "It's the people leading the leaders and encouraging them to take risks," says Bromberg.

And taking these risks can pay off. After FoEME began its activities in Tzur Hadassah, one-third of the residents signed a petition requesting that construction of the wall be halted on the grounds that disrupting the spring's recharge would actually hinder their security. Instead, Bromberg says the community requested

alternative safety measures, such as border patrols. The Israeli army responded to this petition by agreeing not to build the barrier, and to this day, the water continues to flow for the residents of Wadi Fuqin.

FoEME's cross-border efforts also include work with USAID/Jordan's water office and USAID/Egypt's OMEP office to assist with the rehabilitation of the Jordan River, which today stands at dangerously low levels of water flow and is heavily contaminated with sewage. According to Bromberg, FoEME's work along the river has significantly increased investment into local communities, led to the creation of environmental education centers, and initiated the planning and development of a peace park along the banks of the river, encouraging further engagement among the three groups.

Bromberg is optimistic about the ability water can have as a tool to help invoke change within the region, saying, "We don't think that our work alone is going to solve the conflict. It's an example to those wanting to move forward and willing to listen that we can live differently and benefit from problem-solving together. Once a common interest is identified and trust is built, then there's no limit to where the trust can go."

C. Gumann



ORGANIZED CONSTRUCTION: Workers building a catchment dam to collect water in Pibor County, Jonglei State.

Photo Credit: Andy Shaver, AECOM



FOR MORE INFORMATION

VISIT:

EcoPeace/Friends of the Earth Middle East: <http://www.foeme.org/www/?module=home>

USAID's CMM Office: http://www.usaid.gov/our_work/cross-cutting_programs/conflict/

USAID's work in South Sudan: http://www.usaid.gov/locations/sub-saharan_africa/countries/south_sudan/

USAID ECO-Asia: <http://usaid.eco-asia.org/index.php>

REAL IMPACT TALKING WITH THE WOMEN OF TAJIKISTAN'S SAFE DRINKING WATER PROJECT



TIME-HONORED CELEBRATION: Jumagul Olimova dances the traditional Tajik dance with a Persian melon.

Photo Credit: Ramzia Mamadnazarova, USAID/Tajikistan

In October 2009, USAID and implementing partner, ME&A, initiated the Tajikistan Safe Drinking Water Project (TSDWP), a program designed to bring access to safe drinking water and health and hygiene education to rural communities in Tajikistan. Health education training was provided to all members of the community, including the children, some of whom became Child-to-Child methodology trainers, teaching others about the importance of good health and hygiene. Now, two years later, the training has had a dramatic impact on the quality of life for residents in the region. Those most directly affected by the project are undoubtedly the women and girls who are tasked with finding and fetching water for their families on a daily basis.

Global Waters Representative Ramzia Mamadnazarova recently interviewed three Tajik women: Jumagul Olimova, Surayo Rajabova, and Hafiza Murodova. They spoke of the program's effect on their families, daily routines, and health. Here are excerpts from those interviews:

GW: As a mother and homemaker, what do you consider to be the major health problems facing your family and your village?

Hafiza: The last three years, all my children had problems with diarrhea and in our village there were a lot of people who had hepatitis.

Surayo: The biggest problem in my village is that we don't have a drain system for sewage and there are a lot of flies, so it may cause disease for people.

GW: How did you become aware of the safe drinking water project in your village?

Jumagul: We had several meetings with representatives of the project who explained it to us.



PRACTICING CLEANLINESS: Hafiza Murodova washes her hands with water that has just been made accessible to her through the TSDWP.

Photo Credit: Ramzia Mamadnazarova, USAID/Tajikistan

“WATER IS THE SOURCE OF LIFE, AND WITH PROVIDING THE WATER TO OUR COMMUNITY YOUR PROJECT GAVE US NEW LIFE.”

GW: Were you involved in any aspects of the safe drinking water project?

Jumagul: Yes, I'm a volunteer trainer for community citizens and we organized several trainings on prevention of waterborne diseases in our community. Also, last year I was involved in the organization of the Global Health Day on our street and we celebrated it here with children through performances of plays about good health and hygiene.

Hafiza: Yes, I am enthusiastic and have volunteered to become one of the Citizen Trainers in our community and have already conducted training on prevention of waterborne diseases and hygiene promotion.



A LIGHTER LOAD: Surayo Rajabova has more time to take care of her garden now that she doesn't have to fetch water everyday.

Photo Credit: Ramzia Mamadnazarova, USAID/Tajikistan

Surayo: I try to be involved in all trainings but my daughter is more involved, as she is a Child to Child Methodology trainer and always shares with us what she is doing.

GW: What did you learn from the health education training?

Hafiza: We have learned about personal hygiene and prevention of diarrhea, hepatitis, and typhoid.

GW: In what ways, if any, has this new learning changed the way that you do things?

Jumagul: As I have a large family and I have 19 grandchildren and most of them are living with me, now I always make sure that they wash their hands with soap and do not drink unsafe water.

GW: Have your children participated in any of the health education training? If yes, what do you believe they learned?

Hafiza: My children participated in all health education sessions that were conducted in school. I'm happy to say that now they always pay attention to their personal hygiene and don't want to be sick, because they have already had diarrhea and they know how difficult it is to have such diseases.

Jumagul: Of course, after several trainings we know how to prevent diseases just by following simple rules: washing your hands with soap and do not drink unsafe water. Last year in our community I personally observed a lot of diarrhea but this year it seems like I don't see any. Our community is not so big, and we are always aware of diseases in our community, and help each other if there are any health problems in families.

GW: Can you see any concrete results from the safe drinking water project in your village?

Hafiza: It is very important for our community to have safe drinking water. Before, we were busy with fetching water from another village and our children were not supervised, they used to drink unsafe water while their mothers were not there, and therefore there were a lot of diseases. Now, after participating in health education trainings, most of our children are aware about infections and they don't want to be sick any more, especially during summer vacations.

GW: Can you describe a typical day before you had access to water and a typical day now?

Jumagul: Before, we didn't have water in our community, so every morning before breakfast we had to go to another village for fetching the water, which took two hours of my time. And we couldn't carry enough water for the whole day, so after lunch we had to go there again. Everyday we spent five hours or more hauling water. It was very hard to lift all these heavy plastic containers during the very hot summertime and very cold winters. Our poor children were helping us on this all the time and they didn't have time for their schoolwork or playing. Children should have a chance to play and not to work all the time.

As for now, I'm so happy to have water in my community, I enjoy the time that I used to spend fetching water. My grandchildren have more time for doing their schoolwork and playing.

Hafiza: Before having the water system, I was terribly tired from fetching water all the time and not having time to take care of my small children and couldn't do my small baking business, properly. I spent half of my day just for collecting the water and bring it from another village. As for now, I have more extra time, and can take care of my kids and do my small business to help my family instead of fetching water.

Surayo: Before having the water system in my village, my typical day started very early with fetching water from another village. It was difficult for me, as I'm not so young, and sometimes I had painful problems with my spine. I had to bring water 3-4 times per day, and I was so busy with fetching water I didn't have time to do any other household work.



SANITATION EDUCATION: Hafiza Murodova and the other women learned about personal hygiene, prevention of diarrhea, and other diseases through the Tajikistan Safe Drinking Water Project.

Photo Credit: Ramzia Mamadnazarova, USAID/Tajikistan

Now, having water, I can afford to read books and to do crewel for sale and to do a small business.

Water is the source of life, and with providing the water to our community your project gave us new life.

FOR MORE INFORMATION VISIT:
http://www.mendezengland.com/site/index.php?option=com_content&view=article&id=92

CURRENTS

Currents provides a brief overview of selected USAID funded programs dedicated to water-related issues in the developing world. Each edition of Global Waters will highlight different programs from diverse regions and provide reports of the programs' recent activities, challenges, successes, and/or results. If you know of other USAID-funded programs that we might describe in an upcoming edition of Global Waters please write to us at: waterteam@usaid.gov.

DIV's WASH for Life Aims to Test Promising Solutions & Scale Proven Successes in Water, Sanitation, & Hygiene

USAID and the Bill and Melinda Gates Foundation have launched a new \$17 million program to support innovative approaches in the Water, Sanitation, and Hygiene sector. The partnership will be implemented through USAID's Development Innovation Ventures program, which will identify, test, and transition to scale promising approaches to achieving cost-effective, sustainable, and scalable water, sanitation, and health services in developing countries.

Given that diarrhea alone kills nearly 2 million people worldwide each year, of which 1.5 million are

children, WASH for Life will identify and rigorously test new WASH technologies and delivery models, and then scale and replicate those that are proven successful. Proposals from the private sector, academics, and NGOs will compete in periodic funding rounds. Although projects addressing problems in any WASH area or any country may apply, WASH for Life is particularly interested in interventions that address issues in the sanitation and hygiene sectors in particular, target beneficiaries earning under \$2 a day, and operate in Bangladesh, Ethiopia, Ghana, Haiti, India, Kenya and/or Nigeria.

USAID encourages partners with innovative and cost-effective projects to apply at:

[http://www.usaid.gov/div/washforlife.](http://www.usaid.gov/div/washforlife)



HYGIENE LESSONS: Children use a 'tippy tap' to properly wash their hands and reduce the risk of illness.

Photo Credit: USAID

Ecuador: Sustainable Coasts & Forests

Since its inception in 2009, the USAID Sustainable Forests and Coasts project seeks to conserve the remnants of high biodiversity areas along the Ecuadorian coast, especially in protected areas, by providing a series of incentives to rural communities, which include technical assistance, facilitating market access/linkages, and training in best practices, among others. The program works to protect endangered species and rainforests that are at risk because of insufficient capacity to manage natural resources, loss of habitats due to expanding agriculture and livestock, lack of economic opportunities, and effects of climate change.



PLANNING AHEAD: Community members work together on improving the soil for future fresh water harvesting.

Photo Credit: USAID/Ecuador

Environmental management plans are now in place to address environmental threats and local decision makers have come together to work toward common goals to protect watersheds and mangroves. Decision makers and community stakeholders have participated in developing a proposal of over 20 climate change adaptation measures for two protected areas to help mitigate the effects of climate change on their community, including strengthening waste management and reforestation activities that help restore damaged river banks. As a result of these successful practices, watershed and mangrove management goals developed with communities are currently being incorporated in multiple cities and communities in Ecuador.

http://ecuador.usaid.gov/index.php?option=com_content&view=article&id=81&Itemid=54&lang=en

Ghana: Water Access, Sanitation, & Hygiene for Urban Poor (WASH-UP)

WASH-UP is an urban-focused program seeking to provide poor communities with access to affordable and sustainable drinking water, improve sanitation in these communities, and educate school children on good hygiene behaviors. WASH-UP also promotes innovative economic enterprises in the areas of water and sanitation, while strengthening local governance for water supply.

Currently the program is working in five dense, urban communities



EASY ACCESSIBILITY: Women get their daily water supply at a community well in Ghana.

Photo Credit: Growmark Spirit

to create communal water storage facilities, devise new ways of transporting water from a central hub to individual households, and bring sanitary latrine practices to schools and the public. WASH clubs have been established in all mapped-out schools and members use their knowledge and skills to set up workshops for peers. Through these continuing projects, WASH-UP continues to improve community sanitation, hygiene, and water access.

<http://chfinternational.org/node/33955>

Southern Africa: SAREP

The Southern Africa Regional Environmental Program (SAREP) is a follow-up to the Integrated River Basin Management (IRBM) project and continues its ecosystem-based, economic development work in the Okavango River Basin. The program's three major objectives are to expand biodiversity conservation, increase access to clean and safe water supply and sanitation, and to improve the livelihoods of people

in the basin. SAREP also promotes community-based natural resources management to bring awareness to local governance and ecosystem services in the basin.

Still in its early stages, SAREP has moved rapidly to introduce an Integrated Water Quality Management model in the Namibian portion of the basin that has already resulted in significant changes in water use behavior, from the community level to a regional government level. The model involves stakeholders in the management of their own water use and manages potential contamination risks in the river basin. Currently, the Okavango Basin Management Committee is looking to approach their counterparts across the river in Angola to promote the model there and share their successes in improving water quality, water demand management, and water allocation planning.

<http://www.icp-confluence-sadc.org/projects/southern-africa-regional-environmental-program-sarep>

WATER TABLES

CONSERVE
PRESERVE



One way to minimize your family's water usage is by replacing old appliances with water efficient models. These decrease the amount of water used when performing household tasks, saving water and money in the long run.

FACT:

*Of all the Earth's water, 97% is salt water found in oceans.
Less than 2% of Earth's supply is fresh water.*

CONSERVE
PRESERVE

Washing Machine: Running 2 loads/week



Regular: 4,888
gallons per year

VS.

High Efficiency: 2,808
gallons per year



Regular: 17,500
gallons per year

VS.

High Efficiency: 8,7608
gallons per year



Faucet Use: Running water 4min/day

(washing hands, dishes, teeth, etc.)



Regular: 5,840
gallons per year

VS.

High Efficiency: 2,920
gallons per year



Toilets: Flushed 12 times/day



Regular: 21,900
gallons per year

VS.

High Efficiency: 7,008
gallons per year



FOOD FOR THOUGHT

Farmer → Food Processor → Retailer → Consumer



53 gallons of water
are needed to make a latte in a
plastic to-go cup with lid.



403 gallons of water
are consumed per pound of rice.



1,500 gallons of water
are needed to produce one
pound of chocolate.



2,500 – 5,000 gallons of water
are consumed* per one pound
of beef.

*Consumed includes water that helped make the things you use.



A VIEW FROM THE FIELD



RIPPLE EFFECT

USAID Supports Senegal Village Pledge to End Open-Air Defecation

In our January 2011, *Global Waters* newsletter, we reported on rural water and sanitation infrastructure programs in Senegal. In addition to the work USAID/PEPAM have been doing to provide sustainable sanitation systems in this West African country, the USAID/Senegal Community Led Total Sanitation program is also taking measures to bring updated systems and hygiene education to six communities in Senegal.

The Community Led Total Sanitation program enabled six local communities to analyze their sanitation conditions and collectively internalize the terrible impact of open air defecation on public health and on the community as a whole. Before the program, open air defecation was the only option for rural communities. Implementation of the program and a total commitment to change made by the communities brought cleaner streets, appropriate water storage facilities, and community latrines to each village. With the end of open air defecation comes the need for latrine maintenance training and improved hygiene education. Since the program's end, team members have made regular check-ins to each community and will continue to explore other development needs, focusing mainly on water and sanitation.

Video link:

http://www.youtube.com/watch?v=_eE2QiMXCak



Have a comment about an article you've read here that you'd like to share with others?

Have an idea for a new article about a USAID program you think our readers should know about?

Please drop us a line...

The Water Team invites you to share our stories with your friends and colleagues and to let us know your thoughts, concerns, and ideas for future articles. Feel free to circulate the articles to your friends on Facebook, Tweet about what you read here, and send your comments directly to us to post on the Ripple Effect page in a future edition of *Global Waters*. You can email us at waterteam@usaid.gov. We'd love to hear from you.



LEND A HELPING HAND TO THE HORN

A MESSAGE FROM ADMINISTRATOR, DR. RAJIV SHAH:

FWD—stands for Famine, War, Drought: the three major crises that have led to this perfect storm of devastation in the Horn of Africa. The FWD campaign is our attempt to make our world smaller—to connect people with the clear knowledge and understanding of exactly what is happening in the Horn—and giving them a powerful way to respond.

If you go to USAID.gov/FWD, you'll see a number of new ways we're using to inform and engage with people. We're providing info graphics, interactive maps, and tool kits that people can use to learn about the crisis in simple, clear ways—and more importantly, share that information with others.

If you text "GIVE" to 777444, you can donate \$10 to famine relief. To help get the campaign started, General Mills has agreed to match the first 2,000 text donations that come through the FWD campaign, up to \$20,000.

But beyond donations, the most powerful contribution people will make will be to share what they learn. I ask that you encourage your friends and families to do more than donate. Have them visit USAID.gov/FWD and follow @USAID on Twitter so they can forward the facts.



UPCOMING EVENTS

If your organization is hosting a water-related event you feel would be of interest to our readership, please provide us with information we can post in our calendar to help promote your event. Event listings will be chosen at the discretion of USAID's water team and the magazine's editors.



November 14-17, 2011

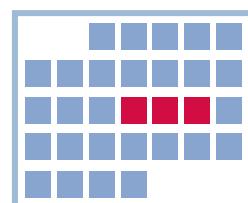
Sharjah, United Arab Emirates

The 2011 International Conference on Water, Energy, and the Environment

The goal of the ICWEE conference is to promote a global collaboration among faculty, students, engineers, and managers on ecological economics and water, energy, and environment resources management.

<http://www.aus.edu/conferences/icwes/>

November



November 16-18, 2011

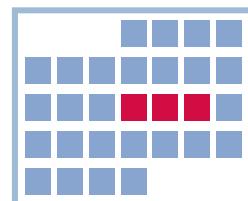
New Delhi, Delhi India

5th World Aqua Congress

Sustainable water management is a key environmental challenge of the 21st century. The theme of this meeting is developing and implementing innovative management approaches and how to cope with the increasing complexity and uncertainties associated with sustainability.

<http://www.worldaquacongress.org/>

November



November 16-18, 2011

Bonn, Germany

Bonn2011 Conference: The Water Energy and Food Security Nexus – Solutions for the Green Economy

This conference has three objectives: to develop policy recommendations based on multi-stakeholder consultations; to position the water, energy and food security nexus perspective in the forefront of participants' minds; to launch concrete initiatives to address the water, energy, food security nexus in a coherent and sustainable way.

<http://www.water-energy-food.org/en/conference/home.html>



February 14-15, 2012

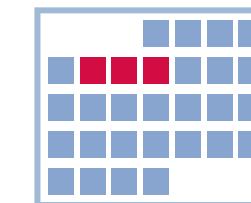
Hyderabad, Andhra Pradesh, India

Governance and Management of Drinking Water: Issues and Challenges

The proposed seminar is being organized to deliberate on the issues concerning availability, accessibility, and reliability of the supply of drinking water to the people.

<http://www.ipeindia.org/main/>

February



February 6-8, 2012

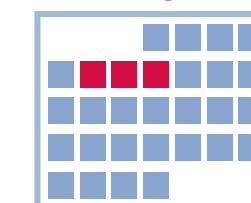
Jeddah, Saudi Arabia

First International Conference on Environmental Challenges in Arid Regions

The conference is organized to debate scientific and practical research advancements in three main areas: air pollution, water pollution, and solid waste management.

http://ecar.kau.edu.sa/Default.aspx?Site_ID=188020&lng=EN

February



February 6-8, 2012

Agadir, Morocco

Water and Wetlands in the Mediterranean

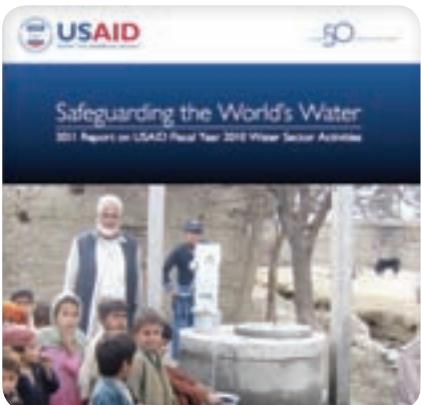
The symposium aims to review the current situation of water and wetlands, assess new challenges, and plan for the future through six thematic workshops and by bringing together key conservation and policy actors from various fields.

<http://agadir2012.medwet.org/>



RESOURCE CENTER

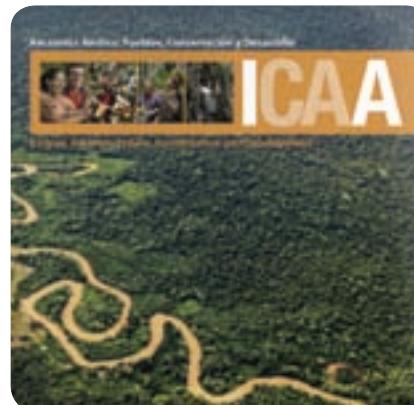
IN PRINT:



Safeguarding the World's Water

In late August, USAID launched Safeguarding the World's Water, the 2011 report on its FY 2010 Water Sector activities around the globe. The report offers detailed information about the agency's investments and partnerships. In 2010, USAID invested \$642.2 million in water-related activities, with most going to Asia, sub-Saharan Africa, and the Middle East. Most investments were in the WSSH sector, altogether reaching \$520.4 million. More than 2.8 million people were provided with improved drinking water supply and 2.9 million people with improved access to sanitation facilities. Nearly 12 billion liters of drinking water were purified using point-of-use treatment products, of which more than 10 billion liters went to residents of African countries.

FOR MORE INFORMATION VISIT:
[www.usaid.gov/our_work/
cross-cutting_programs/water](http://www.usaid.gov/our_work/cross-cutting_programs/water)



USAID ICAA: Andean Amazon: Peoples, Conservation and Development

Initiative for Conservation in the Andean Amazon (ICAA), USAID's biodiversity conservation program, has been working in Bolivia, Colombia, Ecuador, and Peru to implement conservation programs along the Amazon River. A book on the program's efforts and achievements features stunning images from the Amazon by photographer Thomas Müller. Interviews and stories from those impacted by the program are also included in the text. The first phase of ICAA recently ended and the second phase (2011-2016) is currently underway. It will support landscape planning, sustainable development, environmental governance, capacity building, climate change mitigation, and ecosystem protection in the four countries.

FOR MORE INFORMATION VISIT:
[http://issuu.com/
icaapublicaciones/docs/icaa](http://issuu.com/icaapublicaciones/docs/icaa)
<http://www.amazonia-andina.org/>

ONLINE:



State of the Planet: Water Matters

Columbia Water Center's blog from The Earth Institute reports on water-related issues around the globe. A main focus is to bring attention to water scarcity and poor water management, mainly diminished levels of fresh water in the agricultural sector. Major themes of the blog include groundwater management, climate change, global warming, sustainable development, and water conservation.

FOR MORE INFORMATION VISIT:
<http://blogs.ei.columbia.edu>

ONLINE: [cont.]



Water For People: The Current for Change

Water For People, a global NGO, believes everyone should have access to sanitation and safe drinking water everyday. The organization helps bring together communities and governments to establish creative, collaborative solutions that allow people to build and maintain their own reliable safe water systems in numerous countries in Africa, Asia, and Latin America. Their goal is to provide lasting programs for entire districts by examining problems and creating sustainable solutions. By installing hand pumps, digging new wells, repairing broken water pipelines, and educating communities on hygiene, Water For People is making a difference in water sustainability in developing countries.

FOR MORE INFORMATION VISIT:
<http://www.waterforpeople.org/>

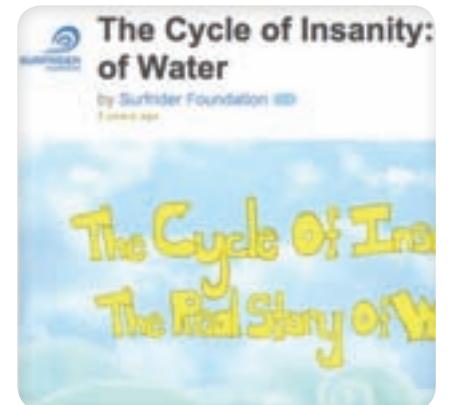
ON VIDEO:



Agencies Seek Immediate, Long-Term Solutions for Horn of Africa

Voice of Africa's short video puts a face on the drought in the Horn of Africa with interviews from those being hit the hardest. Consulting relief experts say long-term solutions are needed to address underlying problems with African agriculture. Feed the Future, a program launched by the U.S. in June 2011, aims at fighting food insecurities in the eastern Horn of Africa and will increase resilience among vulnerable populations by increasing the accessibility to staple foods, reducing trade and transport barriers, harnessing science and technology to assist populations in adapting to increasingly erratic weather patterns, and supporting efforts to reduce marginalization of certain populations.

FOR MORE INFORMATION VISIT:
[http://www.voanews.com/english/
news/africa/Agencies-Seek-
Immediate-Long-Term-Solutions-
for-Horn-of-Africa-125455258.html](http://www.voanews.com/english/news/africa/Agencies-Seek-Immediate-Long-Term-Solutions-for-Horn-of-Africa-125455258.html)



The Cycle of Insanity: The Real Story of Water

In this animated film from the Surfrider Foundation, the water cycle and how it has been altered over time is featured. Engaging and humorous at times, the video takes a very serious subject and breaks it down for the viewer: water management and usage must change or water scarcity will grow. By using the familiar "Reduce, Reuse, Recycle" in regards to trash, the film encourages people to apply the three R's to all of our most precious resource, water.

FOR MORE INFORMATION VISIT:
<http://vimeo.com/10328536>

SEEKING MORE INFORMATION ON WATER? VISIT THESE RESOURCES:
Water.org
Journal of Flood Risk Management
WASH Advocacy Initiative
WaterLinks

WE PAY TRIBUTE TO...

WANGARI MAATTHAI 1940 – 2011



Photo Credit: Green Belt Movement

**Poverty Reduction. Women's Empowerment.
Environmental Conservation. Nobel
Peace Prize Winner. Wangari Maathai's
accomplishments are too numerous to list here.**

In our May issue of Global Waters, we featured an interview with Grace Wanjiru, a member of Wangari Maathai's Green Belt Movement. The article provided details of the enormous contribution Dr. Maathai's program made to the environment, as well as to the women who were empowered through it, since its creation in 1977. The movement was initiated to bring improved irrigation, food, firewood, and poverty reduction to the women of Kenya who were struggling with limited resources as a result of extensive deforestation in the region. Millions of trees later, the program has gone on to be successfully adapted in numerous other countries throughout Africa and inspired the creation of similar programs throughout the world.

The Green Belt Movement was but one small accomplishment in the life of this extraordinary woman. Scientist, professor, author, environmentalist, women's rights advocate, peace activist, Nobel Peace Prize winner, Dr. Maathai was a role model for all and winner of awards too numerous to list here.

When asked where the idea for the Green Belt Movement originated, she responded:

"When I see a problem, I look at how you yourself can solve the problem. I don't immediately think, 'Go to the source.' I think, 'What can I do right here and now?' What we could do was to plant trees. We have the land, and trees are easy to plant. These women would have firewood and would be able to protect soil, and trees grow fast enough that women could use them as a source of income [by selling seedlings or the fruit that they produce]...Plus, a tree is a very simple thing. Everybody understands a tree—just dig a hole, and water the tree and protect it from its enemies. Everybody can feel empowered."

Indeed, Wangari Maathai empowered countless women and men and changed the face of conservation in the process. Perhaps her greatest accomplishment is that the seeds she sowed planting a few small trees so many years ago, will continue to reap benefits for so many for generations to come.

S. Galler