The rest of the Report will bring readers up to date with Waterlines’ recent activities. As always, none of this could be possible without the support of extraordinarily committed volunteers and donors.

But first I’d like to convey a more personal point. My work with water began in 1985, writing magazine articles about the global drinking water issue. I was stunned by the casualty toll taken by 20 diseases associated with inadequate water and sanitation—cholera, typhoid, schistosomiasis, guinea worm, trachoma, amoebic dysentery, hookworm—to name just a few.

During the 1980’s I interviewed hundreds of water experts, but I didn’t know enough then to call the problem by its right name: the most serious public health problem in the world. These diseases caused by inadequate water and sanitation kill and sicken more people than AIDS, TB, and malaria and astonishingly cause half the world’s malnutrition.

This should be unacceptable. TIME recently noted that 40 percent of the world has worse water than Romans 2,000 years ago. More than 2.5 billion people have no way to dispose of their human wastes safely. Think of that statistic for a moment, because, as Rose George notes in *The Big Necessity*, too few people who could help care to.

How do children attend school successfully when, as UNICEF points out, half the world’s schools lack safe water and latrines? How do women live productive lives when they must walk three miles for household water daily?

Waterlines’ work, like most nonprofits’, seems a drop in the ocean in this sea of need. But in rural communities where Waterlines provides help, water has arrived. And we measure annually what is working (and what is not), thanks to such volunteers who have recently visited projects in Kenya, Ethiopia, Mexico and Panama. Letters handwritten by communities vividly confirm the advantages that clean water brings.

Waterlines helped launch Water Advocates (described later). That organization, the U.S.’s first full-time advocacy organization for worldwide drinking water and sanitation, would not exist but for the actions of Waterlines’ volunteers and donors over the decades.

Thanks to you all for what you do—making site visits, tracking projects, writing checks—to address portions of what remains in 2009 the world’s most serious public health problem. And one the world knows how to solve.

David Douglas, President
Update on Water Projects in Panama

“Without Waterlines’ help, we couldn’t have water at home right now”

The community of Pedregoso, Panama after water has arrived

Seventy water projects now completed

Waterlines’ volunteer, Father Robert Cumberland, accompanied on site visits by Lam Ho from Souder Miller Engineering, notes in his 2009 Panama trip report that the past year saw advances not only in the number of people served “but also in the quality of help that the water committees and Waterlines are providing.”

As Father Robert notes, “It is always so obvious when we go to a community which has an active or at least functioning water committee.”

In the past 15 years, Waterlines has worked to extend drinking water to more than 70 rural communities in western Panama, primarily in the provinces of Chiriqui and Bocas del Toro.

The gravity-flow drinking water projects have been community-led and are variously overseen by the Catholic Sisters of Llano Nopo, Peace Corps volunteers, and community organizer Marcial Mendoza of Llano Venado.

A letter from one water committee reads: “Without Waterlines’ help, we couldn’t have water at home right now. We started the construction of this project since 1984, but had failed it twice.

“We want to mention the great participation of Mr. Nicholas Arcia who led this project. We saw and learned with him that with love and work we can get done wonderful things. Along with those men, day after day, who worked and believed in this project to make it a reality. We are thankful to Waterlines.”

Update from Mexico

Eight Chiapas projects

In recent years Waterlines has supported eight drinking-water projects in Chiapas in projects overseen by Kees Grootenboer, Bill Muldrow and the Sisters of Altamirano Hospital.

In February, 2009, Souder Miller’s Ramon Lucero, a volunteer with Waterlines and Water Engineers for the Americas, evaluated new project sites and visited the most recent gravity-flow project in the remote jungle community of Benito Juarez.

Ramon notes, “The water system in Benito Juarez was completed during the summer of 2008. Those elected to take care of the water system for this year have done a very good job.

“Since the waterline between the spring and the community is above ground, monthly inspections are necessary to insure that trees have not fallen on the waterline and that ties holding the lines to the trees are not constricting it. The spring produces an enormous amount of water.”

“The spring produces an enormous amount of water”

Working on Benito Juarez project
**Update on Water Projects in Ethiopia**

**Ethiopian Work Ripples Out**

Waterlines’ volunteer, Bill Muldrow, reports from Ethiopia on his site visits in December, 2008 to spring-protection projects in the Western Wollega Province:

“Five projects (three of which are completed) are scattered throughout the province in isolated, largely roadless areas... Hand work and labor was contributed by communities, with work supervised by technicians employed by the Western Wollega Bethel (Presbyterian) Synod. . .

“I was extremely gratified with what we saw of the completed projects. The quality of the work is excellent. The improvement that clean water makes in the health, spirit and productivity of the communities never ceases to amaze.

Bill also visited the Bekilomanekiya Spring project near Zembo, in Ethiopia’s West Gojam Province, the latest work overseen by Shimeta Ezezew.

The project consists of a large spring-protection concrete box, two symmetrical cylindrical storage tanks, continuously flowing outlet pipes, a clothes washing stand and two showers.

Bill notes: “The workmanship is very fine. ... The entire community greeted us upon our arrival. They are highly pleased with the project and with the convenience and safe drinking water that it provides them.”

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**Water Advocates Update**

**A Waterlines-related Voice in Washington**

Set up as a “Supporting Organization” to Waterlines, Water Advocates began in 2005 as the nation’s first fulltime advocacy organization on behalf of worldwide safe drinking water and basic sanitation.

With a sunset clause of December 31, 2010, Water Advocates (www.wateradvocates.org) works to increase funding for these missing basics from Congress, foundations, corporations, and civic and faith groups.

Nearly one billion people lack clean water, 2.5 billion lack even a basic latrine, and by 2025 more than 3 billion people are expected to live in water-stressed countries.

This past year Water Advocates and other organizations helped to increase U.S. Congressional and private support for long-term safe drinking water and sanitation internationally by over $100 million.

Long accustomed to taking water for granted, more Americans recognize its importance not only for global public health but children’s education, women’s rights and environmental sustainability.

Many look forward to the U.S. regaining leadership in this key development sector as it responds to President Obama’s Inaugural pledge: “To the people of poor nations, we pledge to work alongside you to . . . let clean waters flow.”
Update on Waterlines Projects in Kenya

by Mark and Diane Reimers

Rainwater Harvesting

It would seem that lush, tropical Africa with 25 to 50 inches of rainfall should have plenty of drinking water, is a comment frequently overheard in the US.

But what often is lacking is a system that collects rainfall and stores it from one rainy season to the next. Utilizing metal roofs on existing buildings to funnel water via gutters into tanks, rain harvesting provides a significantly improved water resource for Kenyans compared to open streams and polluted springs.

A biosand filter or other purification method in an adjacent building may be utilized to provide an additional level of protection.

Typically, Waterlines receives completed applications from local water committees that will raise 25% of the overall cost. (Total cost for a 30,000 liter tank, or 8,000 gallons, for a primary school averages $2,200, while a 50,000 liter tank for a secondary school averages $3,000.)

In projects overseen by one of Waterlines three Kenyan facilitators (Joel Mitei, David Langat and Richard Kayla) ferro-cement tanks are built onsite at schools, health clinics, churches, and for women’s self-help groups.

Protection of Springs

Even with expert work, spring protection cannot increase water flow but it can protect the quality of the water from contamination.

Spring boxes with pipes can make water available for collection without contamination.

The area is then fenced to keep livestock away, with water diverted to an adjacent drinking area for animals. The site must be on public land, to ensure community access.

A strong management committee raises 25% of the construction cost, maintains the area, and manages...
the use of the spring, which can serve several hundred families.

Working with Tenwek Community Health and Development and the Ministry of Water, Waterlines funds three to five spring protection projects annually.

It is really a community celebration (singing, dancing, tongue trilling and speech making), with chiefs, government officials, and local citizens attending, when a spring's flow of water is finally protected.

Water at Schools, Churches and Dispensaries

- **Schools:** Six years ago, the Kenyan president announced free public education for primary school children, resulting in large increases in children attending school.

  Kenya has used financial resources to rebuild old schools, build new classrooms and employ additional teachers, but water and latrines are often missing.

  In our experience, the typical rural school (even those with enrollments as high as 800 students) lacks a water source, so students must carry whatever they need for the day. Waterlines has helped build tanks for 200 primary and secondary schools over the years.

- **Churches:** It sends a shiver up the spine when a Kenyan minister evokes the name of God and creation when thanking Waterlines for assistance in building a rain-harvesting system at a church.

  Baptism references are cited and the water is an answer to prayer. Frequently a church center is the 'mother' for three or more smaller, dispersed congregations which meet at the center periodically. Typically the church feels called to provide water to the wayfarer, or stranger. This water can be received as a 'sacred gift.' Waterlines has helped build 55 tanks for churches over the years.

- **Dispensaries:** A medical facility needs a water source, and indeed water is a requirement for licensing of dispensaries, yet often Kenyan community medical clinics are constructed without a water source.

  Waterlines has helped 15 clinics/dispensaries build rainwater collection tanks over the years.

Celebrations marking the completion of a water project always bring happy smiles from children, joyous parents, and teachers. With the additional use of sand filters, sanitary latrines, and hand-washing procedures, children are much healthier and are able to attend school more regularly. And they don't have to spend valuable time hauling water.
Half of the world’s schools, according to UNICEF, lack safe water and latrines, and hygiene. The new WASH-in-Schools Initiative, launched by Water Advocates and others last year at the National Geographic Society, expands ways for Americans — through their own schools, Congress, foundations, corporations, faith and civic groups — to reduce this staggering statistic by sponsoring in developing countries WASH projects implemented by well-regarded non-profits. (See www.wateradvocates.org)

As part of this larger global WASH initiative, Waterlines has begun its own expansion beyond water provision into sustainable sanitation and hygiene programs for school children.

Waterlines’ pilot program for WASH-in-Schools is taking place in 15 Kenyan schools in the southern Rift Valley Province, in a program overseen locally by Tenwek Community Health and Development (CHD), with funds from Waterlines’ donors and the schools themselves.

In addition to the usual rain-harvesting tank and bio-sand filter, Waterlines’ support now includes gender-specific latrines and a hygiene program, backed by health clubs and hand-washing training.

Tenwek CHD already had an active program of community development, involving rain-harvesting systems in schools and community hygiene training.

Mark and Diane Reimers visited nine of the schools while evaluating in detail the pilot program with Tenwek staff in February 2009.

A brief summary of their findings? “Very good progress at each of the schools with the rain harvesting system. Medium progress, but ongoing, with improved latrines. Good work in hygiene and school health clubs. The challenge has been hand washing.”

Monitoring of the program is ongoing and will continue over the years.

Waterlines will add 10 more Kenyan schools to the WASH program in 2009.
### Contributors to Waterlines in 2007

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<thead>
<tr>
<th>Name</th>
<th>Amount</th>
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<tr>
<td>Edna Currie</td>
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**Total Contributions in 2007: $368,422**

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*... I was panting, panting, panting of thirst, but oh from a distance I saw an extended hand---It was a hand of a friend promising to help to quench thirst. This must be a true friend and how I look forward to the future---future when I can quench my thirst without risk or fear illnesses. But what can I give in reciprocation, except a big tank, tank of thanks. Thank you and God bless you."

---

*When we see the tanks each day we are thankful. You are letting us use our budget for development not medicine. Thank the Lord for speaking to you and for listening. Clean water and firewood go together as women’s work. You have relieved half our burden."

---

*Now I can go early to the shamba to work rather than gathering water. We are well from typhoid. We want to finish the tanks so that we can use money for development."

---

*Composed and recited by Kihote Jeremy. Mulot Full Gospel Church, Longisa for the family of Mrs. and Mr. Mark Reimers of WATERLINES from USA*

*Sebet Women’s Group*

*Iruna Women’s Group*
Contributors to Waterlines in 2008

Charles and Awanda Whitworth $12,000
Ann and Dick Rowe $200
Lois and Bud Redding $225
Fred and Susie Harburg $12,000
Lawrence and Mary Gurley $1,100
Betty and Ray Kersting $1,100
Dick and Judy Crawford $100
Clifton Presbyterian Church $3,000
Carolyn Stupin $500
Steve Werner $150
Janice and Michael Beech $500
Robert and Nita Chapuran $400
Gary Thurman $500
John Stephenson $1,000
Michael and Angela Chapuran $200
Schuyler Schell $75
Natalie Whitted $30
United Church of Los Alamos $5,430
Pat Brandenburg $2,000
Elizabeth Hancock $250
Richard and Wendy Aceto $100
George and Lana Staples $1,000
Match from Exxon Mobile $1,000
Laura Holt and Pat Waginaar $100
Rob Elliott Family Foundation $1,000
Westfield Presbyterian Church $4,000
First Presbyterian Women—Santa Fe $50
Westminster Presbyterian Church—Santa Fe $465
Jane Hanna and Frank Shuck $50
Dan Tallman $2,000
Weathertop Foundation $10,000
Bob and Janet Adamski $200
Wardle Family Foundation $25,000
First Presbyterian Church of Santa Fe $700
Daniele Agostino Foundation $5,000
John Leinenweber $1,000
Beth Burns $100
Stillwater, OK’s Sangre Ridge 3rd Grade Class $1,025
Pat Noonan $2,500
Pete and Elizabeth Bowles $120
Les Douglas $101,071
Riverside Foundation $20,000
Market Square Presbyterian Church $1,433
Denise Barham $15
Dennis and Kathy Wellman $10,000
Clifton Lions Club $1,500
David Kremenak $2,000
Michaela Oldfield $100
Joyce Meister $2,700
Amber and Eugene Fayenberg $100
Philip and Barbara Seeger $250
Seton Foundation $12,300
Deborah Douglas $485
Anne Wright $50
Anonymous $25
Alice Bullough $500
Robert and Jennifer Dolan-Waldman $150
Andrew Family Foundation $5,600
Linda Policarpio $20
Oppenheimer Brothers Foundation $20,000
Montview Presbyterian Church, Denver $15,000
Betty Graham $80
First Presbyterian Church of Freeport, NY $500
Woods Architects-Builders $2,700
Peggy Ater $100
Sarah Miller $200
Faith Garfield $60
Carol Fallis $20
Alan and Ellie Lamb $60
St. Andrew’s Presbyterian Church, Yuba, CA $1,000 (Chris and Becky Kersting)
Mary Jo and Arvid Lundy, $1,000
John and Bonnie Hustler $100
Alternative Christmas donors $946
Merlin and Ada Kersting Randall $50
Tess Kersting Reis $50
Ralph Veatch $200
Al and Kay Forsyth $50
Diana White $50
Matthew Babcock $300
Ann Overbeck $100

Total Contributions in 2008: $297,133

Waterlines’ 2008 Project Expenses:
Kenya ($153,095), Ethiopia ($42,407), Panama ($57,605), Nepal ($485), Mexico ($2,866), WEFTA in Peru, Bolivia ($25,000), Miscellaneous (including wire transfer and bank fees $1,149)

Total Expenditures During 2008: $282,607

Beginning Balance, January 1, 2008: $85,762
Contributions deposited during 2008: $297,133
Funds available for 2008: $382,895
Expenditures during 2008: $282,607
Beginning Balance, January 1, 2009: $100,288