Volume 5, Issue 1

Winter 2010

Watershed Management Group

Watershed Moment

Dear Readers,

Sanitation is an issue that touches us all –no matter what part of the world we live in—we each need to be informed about how human waste is managed and how it impacts our health and water resources. At WMG, sanitation education is a priority issue, so we have decided to make it the principal topic of our first 2010 newsletter. Included is our feature article by WMG's Sanitation Specialist, Sowmya Somnath, along with guest articles by Diane Austin and David Omick with a special focus on composting toilets both in the U.S. and Mexico.

Also included in this issue are updates on WMG's latest work and upcoming program offerings including information about our Water Harvesting Certification Programs in Phoenix and Tucson, a project update on Burkina Faso, an interview with Co-op members, and a special Green Infrastructure training and Earth Day announcements.

We hope this issue inspires you to take action, both in your own life and to reach out and help those in need. - Lisa Shipek, Executive Director

Sanitation—It's No Joke

By Sowmya Somnath, WMG Sanitation Specialist

A quick internet search reveals dozens of variations of the joke where a man in a restaurant complains to his waiter about a fly in his soup. I couldn't find ANY jokes about poop in your drinking water. Just so you know, the latter situation occurs more frequently.

Video Clip: How does sanitation affect health and water supply?

http://www.good.is/post/transparency-drinking-water

Sanitation is the safe disposal or reuse of human excreta, wastewater and solid waste, and associated safe hygiene practices.

The World Health Organization has found that diarrhea caused by unsafe water and poor sanitation is the single most significant cause of the environmental burden of disease. Water receives a lot of focus – this article focuses on its counterpart: sanitation. The statistics on sanitation (and there are a lot of them) shock me anew every time I see them. A brief sample includes:

- Diarrhea caused by poor sanitation kills more children per year than HIV/AIDS, tuberculosis, and malaria combined.
- 1.2 billion people worldwide practice open defecation.
- Every day, diarrhea caused by poor sanitation kills 5000 infants and children.
- In the developing world, roughly 90% of sewage is discharged without treatment

(Continued on page 8)

Inside this issue:

Building Composting Toilets

Guest Article by David Omick

Composting toilets are simple, low-tech, waterless toilets. They are designed to provide favorable habitat for biological agents of decomposition such as bacteria, mold and fungi which break down feces and urine into compost. In addition to conserving water, this miraculously transformative process encourages us to move beyond the concept of mere "waste disposal". It opens an opportunity to use our own compost to grow food for ourselves and thus to close the nutrient cycle.

Simple outdoor composting toilet (right) with mulch clippings bucket on left. When 5 gallon bucket is full, it is added to a larger humanure compost pile.

Unlike the flush-and-forget technology most of us are accustomed to, a composting toilet is a hands-on technology that encourages us to become more involved in one of life's essential processes. Because of this, composting toilets work best for people who are not put off by the minimal but regular maintenance required. Fortunately, maintaining a composting toilet is relatively simple and if done correctly the toilet will be odorless and the resulting compost will be pathogenically safe.

Maintenance basically involves tending the bacteria that create the compost. This includes adding a source of carbon in the form of dry, fairly fine plant matter such as wood shavings, sawdust, chopped dry leaves, chopped straw, etc. Bacteria also require air, which is introduced into the compost in various ways depending on the design, often by turning a crank or using some type of aerating tool. This helps to distribute moisture throughout the compost as well. At the end of the composting cycle, the compost is emptied from the toilet and will have the appearance and smell of humus.

Indoor composting toilet

A wide variety of composting toilets are available. Broadly speaking, they can be divided into mass-produced (proprietary) models and homebuilt (non-proprietary) designs. Among the mass-produced models are some which are certified by an independent testing agency. The most notable agency is the National Sanitation Foundation (NSF). Any toilet with NSF certification is relatively easy to get permitted in Arizona. However, the certification process is not oriented toward non-proprietary toilets, so obtaining a permit for one of these is more difficult.

As a result, an increasing number of people are building and using non-proprietary composting toilets "under the radar." Although illegal, this can be safe for people and the environment if done correctly. A good design and quality construction should feature a watertight composting chamber built of durable materials and should limit access by disease-spreading organisms (vectors), such as rodents and flies while also providing a healthy composting environment.

Finished compost can be deposited in mulch basins around fruit trees, grapes, etc., where the edible portion is not in contact with the compost. We have been using composting toilets for over 20 years and feel safe using the compost in our salad garden. We're still awed by the transformation of "waste" into some of the healthiest salad vegetables around. By conserving water, closing the nutrient cycle and contributing to delicious food, composting toilets help us to live more harmoniously with the desert we call home.

David Omick has been building and experimenting with composting toilets, rainwater harvesting, and gardening since 1990. He was active in helping to rewrite the composting toilet rules for the Arizona Department of Environmental Quality. David currently lives half the year in Cascabel, Arizona and half in Oregon. Check out his website at: http://www.omick.net/

Water Harvesting Certification Course—Accepting Applications for First Phoenix Program and Tucson Summer Course

Developing a green economy requires building skills, knowledge, and resources from the ground up in concert with the local environment. To facilitate green job training in Arizona, Watershed Management Group (WMG) is expanding its Water Harvesting Certification program to the Phoenix area in partnership with a Phoenix-based non-profit, Arizona Home Grown Solutions (AzHS).

WMG is currently accepting applications for the Phoenix Water Harvesting Certification program; the application date for the course has been extended to February 26th or until the course is filled. WMG is also accepting applications on a rolling basis between now and March 15th for the May intensive course in Tucson.

The WMG Water Harvesting Certification program is the only one of its kind in the nation, providing some 65 hours of hands-on training in design and installation of water harvesting earthworks, cisterns, greywater systems, and sustainable landscaping. The program is geared towards professionals, educators, business entrepreneurs, and community leaders. Courses are taught by WMG staff along with distinguished professionals in the field. A curriculum advisory board made up of water harvesting designers, consultants, and contractors provides guidance for the course's curriculum.

Entering its third year, the program has attracted a diverse range of participants from professional hydrologists and landscape architects to educators, general contractors, and people starting their own water harvesting businesses. Phoenix resident, Nick Irvine, a water harvesting entrepreneur and graduate of WMG's Certification program, has been instrumental in bringing WMG and Arizona Home Grown Solutions together to offer the certification program in Phoenix. AzHS provides a community building forum to address and implement solutions to resource conservation issues including sustainable use of water and energy, and food security.

WMG's train the trainers model, unique hands-on approach, and a growing interest in green job training have all contributed to the program's popularity. To meet increasing demand for training, WMG is offering the Certification course in Phoenix for the first time this Spring.

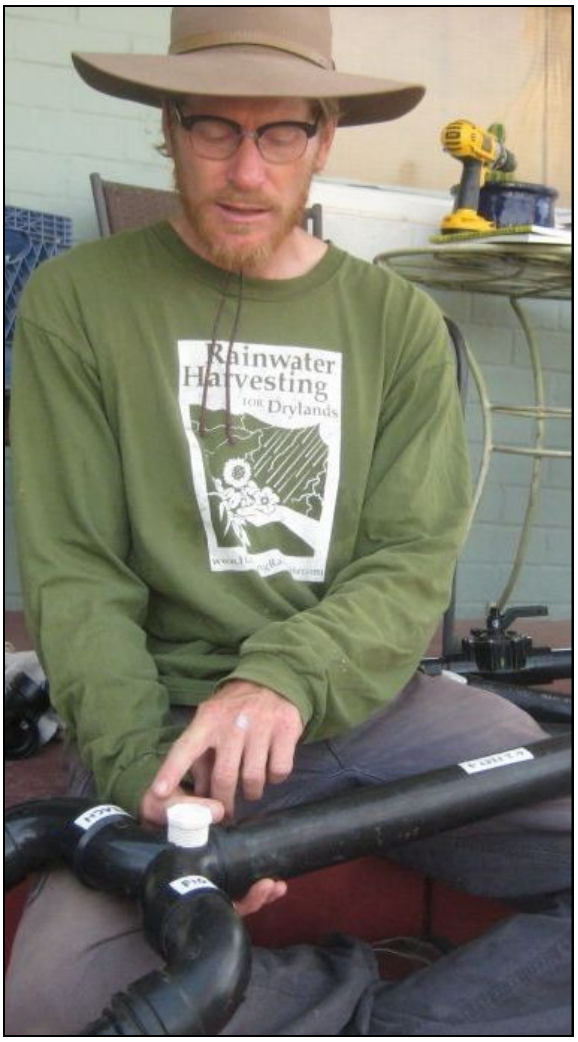
Applications and full details on the program are now available on WMG's website at www.watershedmg.org. For more information on the Phoenix program, please contact Catlow Shipek at catlow@watershedmg.org or 520-396-3266.

Please contact James MacAdam for more details on the Tucson program at james@watershedmg.org.

Upcoming Certification Programs

- **March 19th —May 8th 2010**
- **Weekend Course, Phoenix**
- **Accepting applications until Feb 26th**

- **May 7th –16th 2010**
- **Intensive Course, Tucson**
- **Accepting applications on a rolling basis until March 15th**



Brad Lancaster, an instructor for WMG's Water Harvesting Certification, points out the clean-out feature of a branched drain greywater system.

WMG Updates

New WMG Program Manager

Catlow Shipek joined WMG this January as the Senior Program Manager for the Greening Urban Watersheds program. This umbrella program includes the WMG Co-op, Schoolyard Water Education, Green Streets-Green Neighborhoods, and Community Demonstration Sites programs. As Senior Program Manager, Catlow will be focusing his efforts on fundraising, strategic development, and staff development for the aforementioned programs. Catlow also serves as WMG's webmaster, leads public workshops, teaches Certification workshops, and assists with international projects.

Update from the Field: India

In India, the weather has turned cool and the country settles in for a long pause in the rains. The WMG team is on the eastern leg of its program development tour, currently visiting some of the most impoverished and underserved areas of the country, and we are seeing a lot of scope for WMG to have an impact.

In the state of Orissa for example, people suffer from fluorosis - a debilitating condition brought about by high levels of fluoride in drinking water. Communities there need help testing water supplies and finding new sources of safe water. In the state of Assam, sanitation (sanitary toilet) coverage is low, and civil society groups are looking for organizations that can build awareness and demand for sanitation infrastructure.

These are just a few of the potential roles for WMG in these areas. We are also finalizing the numerous administrative tasks required to open an office in a foreign country, such as registration of the business – a most lengthy and tedious process that teaches us much about how much patience and persistence we possess!

Fall '09 Schoolyard Projects Completed

Over the Fall semester of 2009, WMG partnered with two Tucson schools to implement water harvesting technology for native habitat creation. At Manzo Elementary, a TUSD school, two 1,400+ gallon cisterns were installed, framing the main entrance of the school and making a strong statement about Manzo's ethic of conservation and environmental education. At Youth Works, an ACE Charter School, high school students participated in the installation of a 1,400+ gallon cistern to capture water to irrigate its extensive horticulture program. Both schools participated in classroom education sessions focused on water education and local water resources, as well as in hands-on habitat creation installing water harvesting earthworks and native gardens.

Visit the link below to see an Arizona Illustrated special on Manzo Elementary's integrated environmental education curriculum:

http://tv.azpm.org/kuat/segments/2010/1/7/kuat-manzo-garden/

Participate in a Composting Toilet Study

Have a composting toilet? Interested in having one, but haven't done it yet? Evan Dick, a graduate student at the University of Arizona, is working on a master's thesis researching the use of composting toilets in Tucson and Pima County. If you are interested in sharing your experience, please email Evan at edick@email.arizona.edu.

WMG Launches New Website

www.watershedmg.org

WMG's website is newly re-designed, re-organized, and re-energized! The new site was designed to engage visitors through content updates, increased imagery, and easier site navigation. Further changes will be coming soon which will include online event registration. Be sure to check out our blog! where you can receive updates on the latest WMG project developments directly from staff working on the ground with communities near and far.

WMG Co-op Thriving

Halfway through its second year in operation, WMG's Co-op is in fine form. We've doubled the number of projects hosted over last year's total and now have a total of 120 households involved. Members have already volunteered 1300 hours helping each other to get irrigate landscapes with rainwater, restore native habitat, expand local food production, recycle greywater resources, and much more. We'll be announcing the Co-op's Spring Subsidies for Low-Income Households shortly; applications are due March 1st. We're pleased to have Rhiwena Slack on board interning with the Co-op - our sincere thanks to her for all that she has already contributed to the organization.

WMG Announcements

WMG Makes April "Earth Month"

WMG is offering the Tucson community a hot line-up of activities to celebrate Earth Day throughout the whole month of April! Mark your calendars now!

Feld Davis Pocket Park in Rincon Heights during February rain

Green Streets Block Party

- Saturday, April 10th, 4pm to 7pm
- Rincon Heights Neighborhood, Feld Davis Park
- This event will be a party in the street including tours of green infrastructure, BBQ dinner, and live entertainment.

Green Infrastructure Workshop

- Saturday, April 17th, 8am to 1pm
- Samos Neighborhood
- This event will be a hands-on workshop to implement street-side stormwater harvesting features with native plants. This workshops will also include live music and a catered lunch.

Water Harvesting/ Green Infrastructure Bike Tour

- Sunday, April 18th, 10am to 2pm
- Central Tucson
- This is your opportunity to take a tour of water harvesting sites while enjoying a Sunday bike ride. Tours will be led be led by WMG staff, and this event corresponds with Tucson's first ever Cyclovia event - where the City will be closing down streets in central Tucson to car traffic to encourage bicycles and pedestrians.

Co-op Workshops and Bartering Bazaar

- Saturday, April 24th, 8am to 1pm
- Central Tucson, Mansfield Park
- Come participate in one of WMG's Co-op workshops or take a tour of the action. After the workshops finish, we will host a bazaar where Co-op members and the public can barter food they grow in their backyard with other backyard producers.

Workshop to Share Green Streets Model with other Southwestern Communities

This April, WMG invites community leaders and advocates from the Southwest to a day-long, hands-on workshop to learn about implementing green infrastructure strategies in arid regions. The workshop is targeted to southwestern community or neighborhood leaders and professionals participating in urban/suburban watershed improvement efforts beyond the City of Tucson. Green infrastructure practices are vegetated features that use natural processes to provide services like stormwater infiltration, cleaning air and water, and reducing urban heat islands, while helping to create more livable neighborhood environments.

This workshop marks an important contribution to the field of green infrastructure, which is well-developed in wetter regions of the US, but is only just beginning to be adapted for arid regions like the Southwest.

Trainees will participate in WMG's award-winning Green Streets – Green Neighborhoods program, through which WMG has created a neighborhood-scale model for improving water quality in urban southwestern neighborhoods. The model program includes hands-on education and installation of green infrastructure along with training of neighborhood watershed leaders.

The workshop will involve a tour of Tucson's green infrastructure sites, a presentation on sustainable stormwater management strategies, and a hands-on workshop installing vegetated basins that collect stormwater from a neighborhood street.

Those interested in the April 17th workshop can read a more detailed announcement on WMG's website, at www.watershedmg.org/green-streets. Or, contact James MacAdam at james@watershedmg.org.

Co-op Member Profile: Mai Ho & Wil Schaefer

By Rhiwena Slack, WMG Co-op Intern

In the fall of 2009, the WMG Co-op helped Wil and Mai Ho Schaefer install an innovative rainwater harvesting system that the couple hope will supply 100% of their domestic water needs. WMG recently caught up with the duo for an interview at their home.

Wil and Mai joined the Co-op in March 2009 after reading about it in a newspaper and have now been involved in over 20 projects with WMG. The couple have been living in their current home for about 10 years and it is clear that they have been water and energy conscious for a long time. Gravel covered berms designed to slow, capture and allow surface water to infiltrate into the soil double as pathways weaving their way through the strikingly dense, colorful, mostly native landscape.

Wil describes the 0.8 acre that surrounds their house as a work in progress as the couple salvage and share plants with their neighbors. They have chosen plants that encourage wildlife, are low-water users, and discourage human trespass. Wil states that they have gained more knowledge regarding 'best' plants, through participating in the Co-op workshops. They have recently planted native mesquites, which they hope will grow quickly and provide shade for their home.

Through conservation and use of rainwater and greywater, the couple typically uses just 400 to 800 gallons of municipal water each month. For example, they collect shower water in a bucket for flushing toilets and watering plants. When their new cisterns fill they hope to use none at all. Typical water use in the U.S. is between 2,000 and 3,000 gallons per month per person.

Prior to the cistern installation, they collected rainwater from their 2,900 square foot roof in a more time consuming way. Day or night, when it rained they would place 6 gallon buckets, donated by a local source, under their gutters, replacing them as they became full. According to Wil, they generally had on hand 1000 to 1600 gallons at any one time stored in these covered containers. Mai is now offering these containers to other households to encourage the practice of rainwater harvesting to spread amongst people who can not afford to install such a sophisticated system.

Wil and Mai may not recoup the money invested in this project with savings on their water bill, nonetheless they consider the undertaking to be common sense, and something Wil laments is not very common in this country. Both Wil and Mai have spent time living in countries where by necessity, nothing is wasted. On returning to the U.S. they have made a conscious effort not to be drawn in to the culture of over consumption, but also to demonstrate that people can live comfortable and fulfilling lives without a huge ecological footprint. Their house is spacious, comfortable, and fitted with all the modern conveniences.

Mai and Wil stand in front of their cisterns recently installed through the WMG Co-op

Following through with this common sense approach, they are considering installing a composting toilet, in part because they would like the compost, but also because they acknowledge that if the general populace was as restrained in their water use as they are, the sewers would clog up with solid waste.

Though the Schaefers themselves need no encouragement to live sustainable lives, they see the work of WMG as vital in bringing about change. Wil stated, “even though the U.S. is way behind much of the rest of the world, NGO's like the Watershed Management Group are a darn good beginning, and with their education program we may have a cadre of people who can do what we did.” When asked what they most enjoy about Co-op workshops, Mai adds that she “enjoys working with committed 'greenies' and helping others join us in preserving our rapidly diminishing ground water”. They hope to retrofit their home with either insulation or solar panels as their next project, and would love to be able to educate themselves partially through workshops, just as they did through the WMG Co-op.

Composting Toilets in Nogales, Sonora: A New Way Forward

Guest Article By Dr. Diane Austin

We all recognize that water is one of our most precious resources. Many of us have also wondered, at one time or another, why we use this precious substance to flush human waste -- which itself is a valuable resource -- into complex systems where, through the application of energy, more water, and often chemicals, it is rendered "harmless."

Unfortunately, it is difficult to foster change in places where such systems are in place and appear to be functioning well; the costs are largely hidden from view. However, situations of rapid growth and change can offer opportunities to challenge the status quo. Such is the case of Colinas del Sol, a neighborhood of about 2,000 households in Nogales, Sonora. Nogales Sonora is located along the US-Mexico border, across from its sister city, Nogales, Arizona.

Residents in the outlying neighborhoods of Nogales, Sonora are unlikely to have either piped water or sewer connections and generally use latrines or open pits even in dense, rocky soil with poor drainage. These pose significant public health risks, especially when rainfall causes the pit latrines to overflow, discharging raw sewage directly into the neighborhood and the Nogales Wash, ultimately flowing through both Nogales, Sonora and Nogales, Arizona and into the Santa Cruz River.

To address the problem, Borderlinks Mexico (www.borderlinks.org) developed a pilot project to install and test composting toilets at its community center and in 14 households in Nogales, Sonora in 2002.

Composting toilet located at Borderlinks Mexico community center

In 2006, faculty and students from University of Arizona's Bureau of Applied Research in Anthropology helped evaluate the toilets at the community center and seven of these households. The results of the evaluation were used to improve the toilet design and develop a comprehensive pilot program to increase the likelihood that the technology would be more widely adopted. The project received a small grant from the US EPA Border 2012 Program to implement the pilot in Nogales. Colinas del Sol was selected as the pilot site because of the enthusiastic response of the leaders who began immediately notifying residents and gathering the names of people interested in participating.

Outdoor composting toilet in Colinas del Sol, Nogales

The project began with training workshops for interested residents, who were asked to contribute either money, materials, or labor for their toilets. The Friends of the Santa Cruz River (www.friendsofsantacruzriver.org) helped raise money to assist families with their contribution. From June 2008 to March 2009, 30 toilets were completed. With help from Nogales high school students, university participants designed and implemented a monitoring program to track residents' use of and satisfaction with the toilets.

In the spring of 2009, Nogales municipal officials contacted the project leaders about expanding the project using Mexican federal funds aimed at supporting unemployed workers. More than 20 additional toilets have been constructed in Colinas del Sol and the project is expanding to other neighborhoods. The first compost was removed from the toilets in May and had the odor and texture of organically rich soil; laboratory testing at the University of Arizona revealed neither harmful bacteria nor high levels of *E. coli*. Residents are currently using their compost at their homes

(Continued on page 11)

Young girl at school uses tippy tap (yellow jug) and soap to wash her hands. Tippy Taps are a low-tech method to provide 'running water' for hand washing where none is available.

(Sanitation, continued from page 1)

into rivers.

At any given time, almost 50% of people in developing countries suffer from a health problem caused by water and sanitation deficits.

What is sometimes hard to quantify is the impact of lack of proper sanitation in human terms. The statistics are impressively damning but the sheer scale of the numbers also makes them hard to comprehend. What exactly is the issue here? To put it bluntly, people are literally eating and drinking feces every day. They are getting sick and many are dying, most of them children.

Imagine this scenario: Due to a lack of infrastructure in your community, you have no running water at your home. You must walk 4 to 5 km every day to fetch water from a well or other remote source. That water, through improper handling, combined with open defecation practices in the area makes you sick with diarrhea. There is no bathroom and you must defecate outside with little privacy or dignity. The waste eventually dries and particles carried by wind find their way to your water source, your pots and pans and your hands. Additionally, there are no trash disposal services. The trash and stagnant wastewater outside your home and on your street attract flies and mosquitoes. You set it on fire to dispose of it and the fumes from the burning plastics cause to you to cough. Flies and mosquitoes feed on your trash, your wastewater, your fecal waste, your food, and on you. You get malaria, diarrhea, cholera, typhoid, hepatitis A or one of a whole host of disease that your environment and behavior have made you susceptible to. This, is the reality upon which these statistics are based.

What is frustrating about all of this is that we are not waiting for science or technology to hand us a solution. There is no new vaccine or medicine that needs to be discovered. It is both shocking and abhorrent that so many children die every year from improper sanitation because it is *totally preventable*.

So what is the solution? Is it as simple as building composting latrines and garbage cans? As much as the engineer in me is enthused to build things, this issue, unfortunately, cannot be solved by construction alone. Here's why: In India, for example, household toilet coverage is 60%, but actual usage is only around 28%. I've been to villages and seen people using latrines (constructed by well meaning authorities) to store chickens, goats and grain, while the people continue to defecate out in the open. This is where the "soft" component (vs. the hardware) of sanitation projects comes into play—focusing on changing people's behavior is the most important and difficult part of these projects but it is also the most critical to ensuring success.

But looking at sanitation solely through the health perspective is to miss the point; the impact of sanitation has much larger implications. For example, the physical health of a poor person is an economic asset—it allows them to earn a living. Protecting that health ensures survival not only of the income earner, but also of the family that depends on him or her. Additionally, human excreta can be composted to produce high quality manure that reduces dependence on petrochemical-based fertilizers, or it can be used in biogas plants to produce cooking gas. What other "waste" product can be made so useful with almost no money or energy inputs?
Evidence shows that improved sanitation in a community leads to empowerment of women and marginalized groups,

(Continued on page 11)

Become a Monthly Donor Today!

Become a regular WMG supporter by electing to give monthly! Monthly donations enable you to have a larger impact, through the power of recurring contributions. Your monthly donations will support WMG's programs with a dependable source of funding.

Set up a monthly recurring payment via credit card by visiting the "Contributions" page of our website at www.watershedmg.org/contribute. If you prefer to make your monthly donation by check, please contact the Executive Director, Lisa Shipek, or call 520-396-3266.

A Special Thanks To…

- Scott Calhoun for donating a Toshiba laptop
- Fourth Avenue Merchants Association for enabling the 4th Avenue Street Fair fundraiser to support WMG's Co-op
- Young-Jin Kim for assistance with new website development, website graphics, and website customization
- Lisa Cozetti for assistance with website graphic development
- Violeta Juodakis for donation of two office chairs
- Chelsea Holland for serving as a volunteer events coordinator

Watershed Management Group is a 501(c)3 not-for profit organization. All donations are tax deductible.

Suggested Individual Contribution Levels:

◊ Dewdrop: $25

◊ Silver Raindrop: $50

◊ Flowing River: $100

◊ River Basin: $500

◊ International Watershed: $1,000

Suggested Business Contribution Levels

◊ Sabino Creek: $100

◊ Rillito River: $250

◊ Santa Cruz River: $500

◊ Gila River: $1,000

See WMG's Sponsor Package

WMG Wish List

◊ Laptop & Desktop Computers

◊ Office desks & shelves

◊ Digital camera

◊ Garden tools (shovels, pick axes, hand trowels, etc.)

You may also make your tax deductible donation online at www.watershedmg.org on our Contributions page.

Watershed Moment is a quarterly newsletter written by WMG staff and guest contributors, with final editing by Lisa Shipek. If you are interested in submitting a story to The Watershed Moment, please contact Lisa at lisa@watershedmg.org or at 520-396-3266.

The mission of Watershed Management Group is to improve rural and urban livelihoods by integrating community development and conservation. We provide local residents and community groups with the knowledge and skills necessary to sustainably manage their natural resources.

Update on Burkina Faso: Save Lives - Sponsor a Tippy Tap

By Jared Buono & Sowmya Somnath

We're more than halfway to our fundraising goal for WMG's Burkina Faso Project. Thank you to all that have donated so far - through your support we have purchased two round trip plane tickets from India to Burkina Faso, where we will be spending 6 weeks on the ground working in Deou.

But **we still need your help** to raise $1500 between now and the beginning of March. Donations are still needed to ensure our success once in country. Please consider making a $10 contribution and sponsoring 2 Tippy Taps.

Tippy Tap

These simple, cheap and water conserving devices allow hand washing in a safe and efficient manner. We'll be teaching people to install these all over in the district of Deou - in schools, health clinics, and individual homes. Washing hands with soap could save 500,000 children's lives a year globally. Turning hand washing with soap before eating and after using the toilet into an ingrained habit could save more lives than any single vaccine or medical intervention, cutting deaths from diarrhea by almost half and deaths from acute respiratory infections by one-quarter. Help us bring this change to Deou, for just $10 (larger donations also welcome!). Visit WMG's "Contributions" page of our website, www.watershedmg.org/contribute, to donate online (*please indicate Burkina in the comments section*).

One of the main goals of our upcoming project in Burkina Faso is to train community members in watershed restoration and sanitation. If you have attended one of WMG's workshops, you know that we do most of our training in a hands on manner; in Burkina Faso however, our workshops will include a lot more 'dramatization'. Specifically, we will be staging street plays, starring school children and community group members, to bring watershed and sanitation principles and practices to life. Based on local scenarios, and including a lot of humor, the plays are key to raising awareness and mobilizing the community. We've had very successful outcomes (not to mention lots of fun) using this approach in the past and are excited to make it happen in Burkina.

Our Sincere Thanks to Donors & Corporate Sponsors

Individual Donations:

International Watershed Level:
Kim & Jim Afinowich

River Basin Level:
Paul & Jill Grimes
Jeff Lyon

Flowing River Level:
Robin Afinowich
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http://www.foodconspiracy.org/

Sabino Creek Level:

Desert Sky Home Repair
http://www.dshomerepair.com/

Milagro Cohousing
http://www.milagrocohousing.org/

Peace Supplies
http://peacesupplies.org/

(Nogales Composting Toilets, continued from page 7)

and are working with university students to organize a revegetation project at the neighborhood school.

Colinas del Sol residents have reported being very satisfied with their toilets and interest from other residents is high! Those who have them appreciate not only that the toilets don't smell but also that they do not require water. Consequently, they have been the best promoters of the program as they show their toilets to their friends and family members. Neighborhood leaders currently have a long list of names of people who want to receive a toilet.

Removing finished compost from toilet

Residents and leaders in Nogales recognize the immediate value of composting toilets in neighborhoods that lie beyond the reach of city water and sewer systems. Such toilets would be equally valuable elsewhere in Nogales and in Tucson where limited water resources and the high costs of constructing and maintaining wastewater treatment systems call for similar low-tech and effective alternatives.

For more information or to contribute to the Nogales project, contact Diane Austin at daustin@u.arizona.edu or 520 -626-3879 or Francisco Trujillo at kiko1022@prodigy.net.mx. Dr. Diane Austin is an environmental anthropologist at the Bureau of Applied Research in Anthropology at the University of Arizona (http://bara.arizona.edu/). Her work examines the impacts of the offshore oil and gas industry in communities along the Gulf of Mexico; addresses environmental issues along the Arizona-Sonora border, and supports Southern Paiute cultural resource and environmental monitoring and education.

(Sanitation, continued from page 8)

more schooling, more teachers accepting positions in schools, better diets, increased income, less money spent on buying water, families spending more time together, better grades in school, cleaner living environments, more family planning, and increased school attendance by girls. In a nut shell, improved sanitation leads to a better quality of life.

Video Clip:
How does water use in the US compare to Mozambique?

http://www.good.is/post/water

But sanitation issues are not restricted to developing nations. While nations like the US are held up as a model for providing safe drinking water and disposal of human waste, we need to analyze the sustainability of our solutions. We do not typically think of our waste after we flush a toilet, use a garbage can, or put our recycling out for pickup. But as we start to realize the increasing scarcity of our water supply, we are recognizing that using potable water to flush the toilet and then spending money and energy to make it drinkable and clean again makes little sense. And with the average American producing 4.4lb of trash every day and only 20% of that waste being recycled, landfills are filling up at an alarming pace, bringing with them a whole host of environmental and health problems.

More and more communities are recognizing that composting toilets, decentralized wastewater treatment systems, and reduction and reuse of solid waste are solutions we must pursue.

A recent poll conducted by the British Medical Journal asked over 11,000 people what they thought the greatest medical advance of the last 150 years. Want to take a guess at the answer? You got it – it may not be the punch line to any fly-in-soup jokes, but the top answer, the one that trumped antibiotics, anesthesia, and vaccines was…sanitation.

Sowmya Somnath is a WMG board member at large and works on issues of sanitation is in India and Africa for WMG. Send poop jokes and comments to Sowmya@watershedmg.org