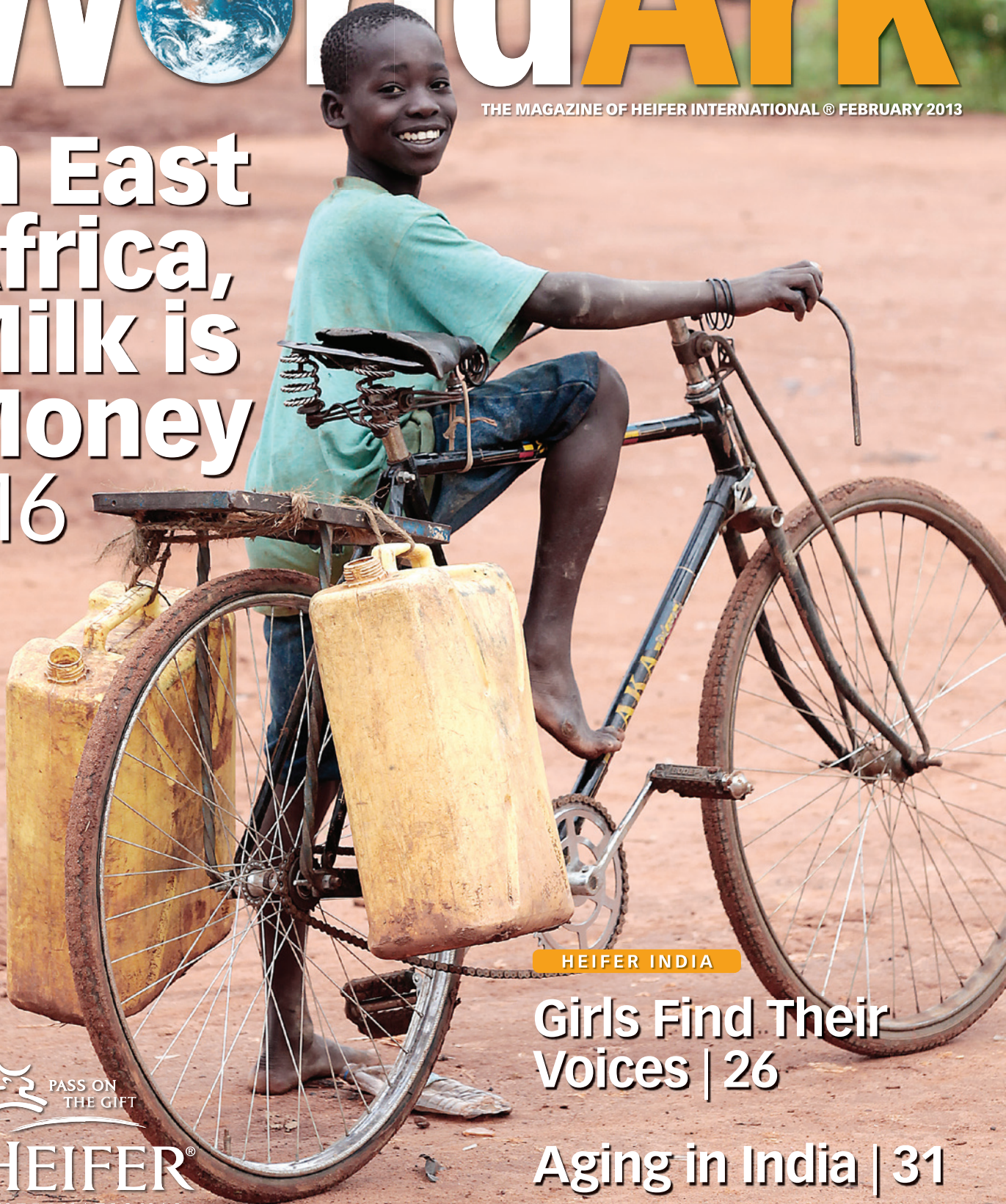


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WorldArk

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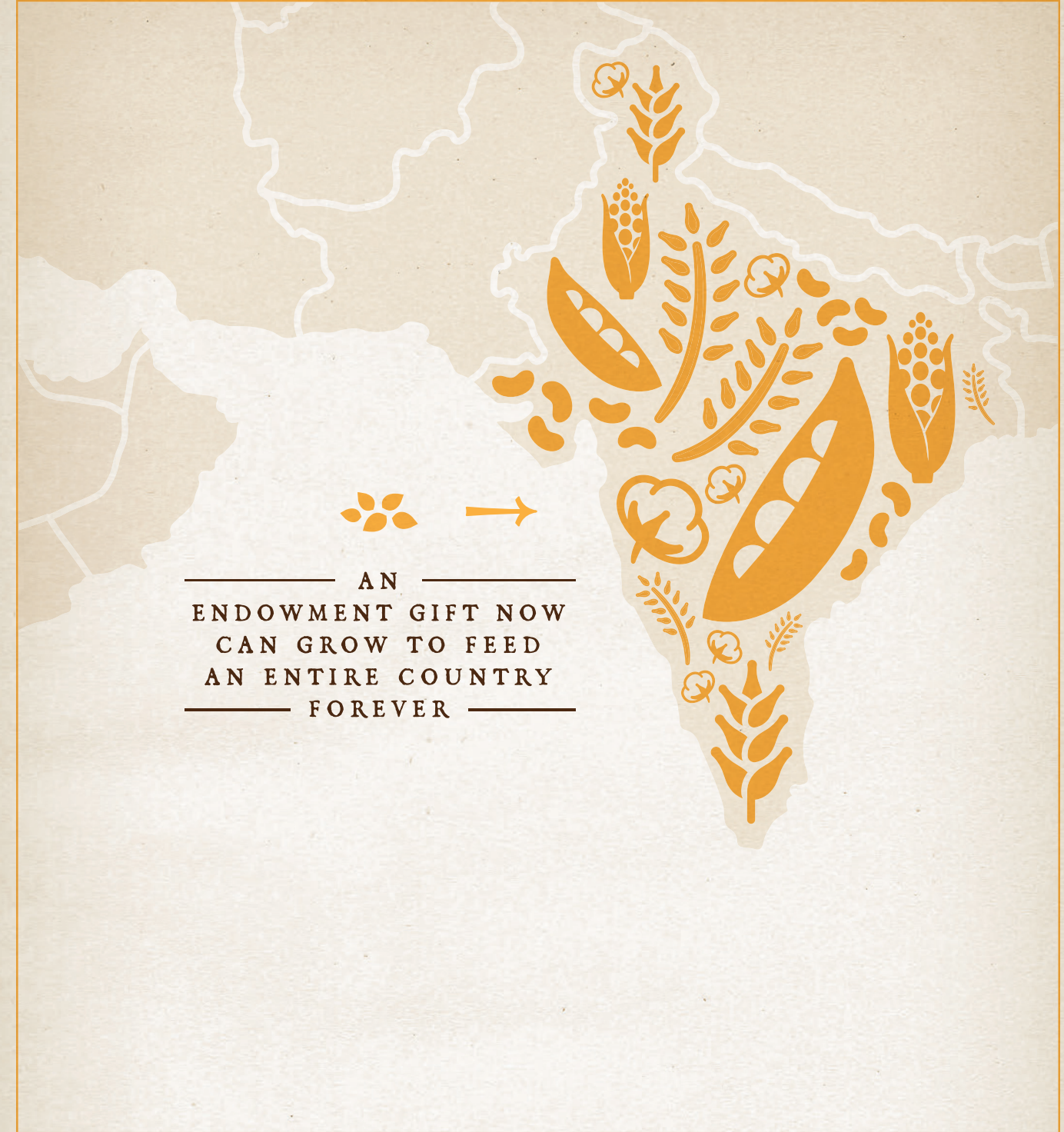
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— AN —
ENDOWMENT GIFT NOW
CAN GROW TO FEED
AN ENTIRE COUNTRY
— FOREVER —

World hunger and poverty can't be eliminated overnight, but you can leave a legacy that provides resources for Heifer's work for years to come. Gifts to our general endowment allow Heifer to be flexible in responding to changing needs throughout the world and provide long-term support for our proven approach to ending hunger and poverty. Endowment gifts grow over time, becoming the gift that keeps on giving. To find out how your gift can have a longer-lasting impact, visit www.HeiferFoundation.org.



Dear Fellow Activists,

A NEW YEAR means fresh opportunities and new challenges for us all. Yet it's also good to reflect on how far we've come together over the past year. I am especially pleased with the advancements that Heifer has made toward scaling up our program impact to support more families in need.

Last year we focused on enhancing our approach with new thinking and new collaborations. We learned that to successfully eliminate poverty, we need both market-driven development and the deeply embedded social engagement that springs from Heifer's 12 Cornerstones that build each community's core values into every project. Economic growth and social growth cannot be separated. They must go hand in hand.

Heifer's market development is sustainable because of its basis in community development. We provide the structure and tools—including animals and training—that families need to compete successfully. Then, we go one step further and work with them to ensure access to the suppliers, producers, processors, wholesalers and retailers who can help them sell their products at market for a fair price.

In this issue, you'll find an update on our first venture of shifting to larger-scale projects—the East Africa Dairy Development project with the Bill & Melinda Gates Foundation. With this project, and others we have since implemented, we have enabled smallholder farmers to better support their families by building small businesses. The success the farmers experience produces “ripple effects” that create improved economic stability and food security for entire regions. It is essential that Heifer team up with like-minded organizations to work on a larger scale, with more efficiency to help more people.

In my travels through Asia, I met Jag Kuwen Magar, a project participant in Cambodia. She said, “It is easier to bring about change when we are in groups. Our ancestors say that if groups are together, the villages are together, and if villages are together, then the country is better.”

As part of a population of more than 7 billion people, we all have a role to play in making this world a better place, which is why I am motivated by the increase in younger generations becoming more involved. Here in the United States, we are seeing a renewed interest in farming, a grow-



President and CEO Pierre Ferrari visits an East Africa Dairy Development project in Kenya in 2010.

ing concern for where the food we eat comes from and an increased effort to source locally. But this isn't just an American phenomenon. As you will also learn in this issue, Heifer country programs, such as in India, are working with their youth to create dynamic changes within their communities that encourage girls to get an education and pursue their own goals with confidence.

Smallholder farmers are working to first become self-determining and self-sustaining, and second to connect and contribute to markets and local economies so that they can help feed the world. To accomplish this, your support is vital to these farmers. Your generous gifts initiate the cycle of change. These farmers and their families are key to ending hunger and poverty, and thanks to you, Heifer can continue to help them achieve their goals.

Yours for a better world,

Pierre U. Ferrari






Pierre U. Ferrari, President and CEO



worldark for tablet

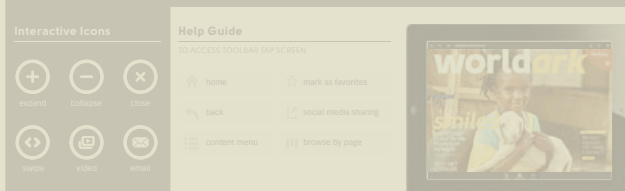
**Helping feed families
with the swipe of a finger.**

Highlights include:

-  tablet-only interviews
-  videos from around the globe
-  slideshows that take our supporters to the field
-  book reviews about cutting-edge development work
-  digital alternative gift catalog for honoring loved ones year-round.



Join Heifer International as we contribute in new ways to conversations about hunger and poverty.





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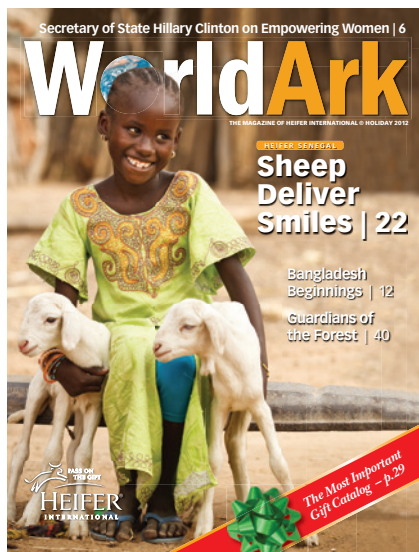
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Cover: Rogers Ssenkasi, age 10, transports milk by bicycle in Kinyogoga village, Uganda.

Cover and top photos by Russell Powell

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KIND WORDS

Just wanted to tell you how much I enjoy reading your magazine. Unlike most of the other charities I support, you take the time to educate me on the issues—in this case poverty, hunger and the environment—in addition to letting me know how you are using my donations. This makes me want to continue contributing. I also like the fact that you work in long-term development to help people get out of poverty.

KATHRYN WHITBOURNE
Atlanta, Ga.

As a former missionary to what is now Bangladesh, and as a peace activist and women's rights believer, I applaud the so appropriate values-based and value-spreading work of Heifer. Your training and Passing on the Gift boost emotional and physical well-being, help build community and save lives. I could write much more. God is using you all in so many ways.

FRANCES CLARK
Lake Wales, Fla.

MAPPING IT OUT

As usual, we greatly enjoyed the holiday 2012 issue of the *World Ark*. Of particular interest was the "Who Cares?" set of graphics. I was positively appalled to see how little the donations from corporations amounted to compared to individuals and foundations. Why is it that, for the most part, those most able to help others fall greatly short in helping others? I was pleasantly surprised to see the amounts of donations from Alabama and Georgia, as these two states are not among the wealthiest. We will soon be making a donation of our own. Keep up the excellent work!

KRISTINE LAKE
Newport, Vt.

We received the *World Ark* magazine Holiday 2012 issue. On Page 5 there is a partial map of the United States depicting charitable giving. Three states are missing: California, Oregon and Washington. My family and business have donated to Heifer International in the past. Does the West Coast not count?

ANDREW EVANS
Bellingham, Wash.

Editor's note: The "Who Cares?" graphic lists only the top and bottom 10 states in regards to charitable donations from individuals. Charitable giving figures from the 30 states in between were not included, and because the West Coast states fell in neither the top nor bottom tiers, the artists saved space by zeroing in on states relevant to the statistics.

EMPTY STOMACHS

I was shocked at the poor condition of the sheep in your photo on Page 25 (of the Holiday 2012 issue). Ribs sticking out, pelvic bones with taut skin over them. Some of these animals are two meals away from starvation. How

can these unhealthy animals thrive when given to villagers? The lamb on Page 28 is also from an undernourished mother. Couldn't you find healthy stock? This doesn't encourage me to donate for sheep. And that well is scary, for the women and children who could fall into it. Yikes.

ROBIN YOUNG
La Habra, Calif.

Editor's note: Finding robust animals to distribute to Heifer project participants can be a challenge. Elizabeth Bintliff, Heifer's executive vice president for the Africa program, says there are no large-scale commercial livestock markets in West Africa, so animals are bought in the common market. Improving their health is something Heifer takes on with the farmers, to whom we teach improved husbandry practices. All animals are carefully selected by trained staff, and they are quarantined for 40 days to ensure they receive necessary vaccines and are disease-free. The need for assistance in this very poor area is clear, as the project will also help address water issues in the participating villages. The Ladoum sheep are common in West Africa; several readers noted their similarity to goats.

Q&A FEBRUARY

Do you think we in developed countries take education for granted? If so, how can that be changed?

Email your answers to worldark@list.heifer.org. Please limit your answer to 250 words or fewer, and include the city and state where you live. We reserve the right to edit responses for length, clarity and grammar.

Q&A HOLIDAY

Can educating women and girls contribute to world peace? How?

I love this Q&A because even though this world as we know it may not reach total world peace, it is a great effort and goal to seek! I believe that helping women and girls would definitely contribute to world peace. I believe there is a great portion of a female that desires peace; if this part is unleashed through being helped and educated, I believe women will share what they have learned with others who need it, getting us farther in our goal of peace!

ASHLEY BIRD
Keller, Texas

Educating, empowering and inspiring women and girls to become leaders in their villages, towns and countries not only can, but does, contribute to world peace. Women don't make better leaders, they make different leaders than men, and their voices must be at the table. Preparing women and girls to assume leadership roles provides them with the knowledge and confidence to make their voices and unique perspectives heard.

LOIS P. FRANKEL
Pasadena, Calif.

Women and girls are blessed, just as men and boys, with God-given talents, determination and dreams. However, a huge educational gap exists between males and females. In many cases, women are, due to a lack of education, unable to provide safe, nurturing environments for themselves and their children, and it is not possible for them to fully develop their talents and

to pursue their dreams.

Educating women and girls has significant effects. By attending primary and secondary school, girls in many places have enough education to enter the workforce and to obtain a job with decent wages. Having enough money to afford food, clothes, shelter and healthcare, women are able to support themselves and their future families. Women's health education contributes to family health and well-being. Mothers' knowledge of hygiene and simple cures for illnesses, along with knowing where to get help if more serious attention is needed, can prevent children from permanent injury or premature death. Also, mothers will know how to regulate their reproductive health, and, consequently, bear fewer and healthier children.

JENNA PELLEGRINO
Point Pleasant, N.J.

Brigham Young said, "You educate a man; you educate a man. You educate a woman; you educate a generation." I agree that education helps women contribute to world peace. To begin with, education is key to uniting nations, building a culture that allows countries to understand and learn from one another. Lacking education, many prominent figures in our world may not have impacted society. U.S. Secretary of State Hillary Clinton has truly changed our world, pushing women's issues, development and education to the top of the foreign policy agenda. She was able to do this because of her education.

BRYANNA SCHUCKER
Tinton Falls, N.J.

We want to hear from you! Please send your comments to worldark@list.heifer.org. Include your name, city and a telephone number or email address. Letters may be edited for length and clarity, and may be published online as well as in print. Because of the volume of mail we receive, we cannot respond to all letters.

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Since 1944, Heifer has helped 18.5 million families in more than 125 countries move toward greater self-reliance through the gift of livestock and training in environmentally sound agriculture.

Heifer International is a member of InterAction, the largest alliance of U.S.-based international development and humanitarian non-governmental organizations, and of Global Impact. Federal and state employees may designate gifts to Heifer through payroll deduction by entering CFC #12079.

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FARMING NEMO

FISH ARE FARMED

IN ENCLOSED PENS IN OCEANS & LAKES

MAN-MADE PONDS OR TANKS

AMERICAS

4.5%

EUROPE

4.5%

ASIA*

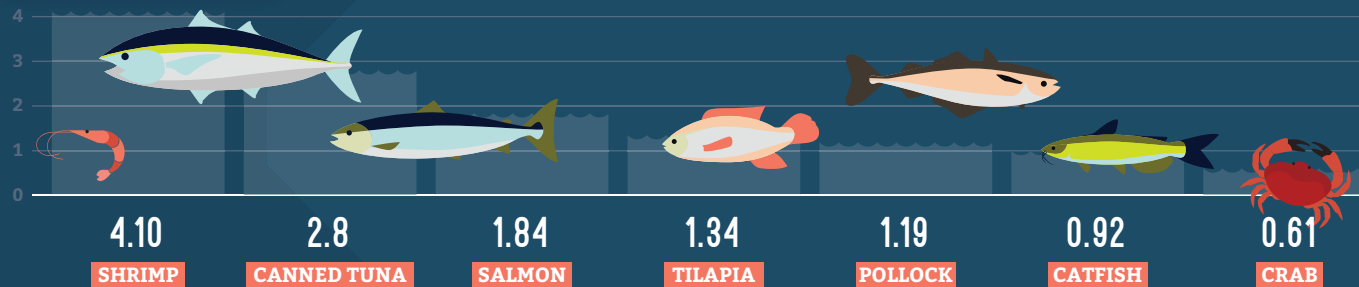
26%

CHINA

62%

*COUNTRIES OTHER THAN CHINA

TOP 10 SEAFOODS



AQUACULTURE

Can be input-intensive for carnivorous fish.

FARMED BLUEFIN TUNA

1 LB

REQUIRES
20 LBS

FISH AS FEED

1 LB

REQUIRES
3+ LBS

FARMED SALMON

Farmed herbivorous fish like tilapia eat feed made of plant protein, vegetable oil, minerals and vitamins.

Shellfish such as oysters, clams and mussels are filter feeders, meaning they eat plankton and other particles already present in the water.

Aquaculture, or raising fish under controlled conditions instead of catching them in the wild, is the fastest growing source of animal protein. Aquaculture accounts for roughly half of the world's food fish.

TO MEET CURRENT CONSUMPTION RATES

40 MILLION TONS

OF SEAFOOD WORLDWIDE NEEDED PER YEAR BY 2030

WORLD'S OCEAN FISHERIES ARE

52%

WILL BECOME DEPLETED IF PUSHED BEYOND CURRENT LEVELS

DEPLETED OR OVERFISHED

32%

FISH FIGHT BACK

A number of fish will reportedly feast on human flesh.

PIRANHAS

GIANT SNAKEHEADS

PUCA

EVERY YEAR

50-70

SHARK ATTACKS

5-15

FATALITIES

CONSUMED BY AMERICANS IN 2010 (LBS/PERSON)

0.44

COD

0.43

PANGASIU

0.34

CLAMS

Aquaculture began on Chinese silk farms around 3500 B.C.

CARP FED ON SILKWORM WASTE

POTENTIAL FOR ECOLOGICAL DAMAGE

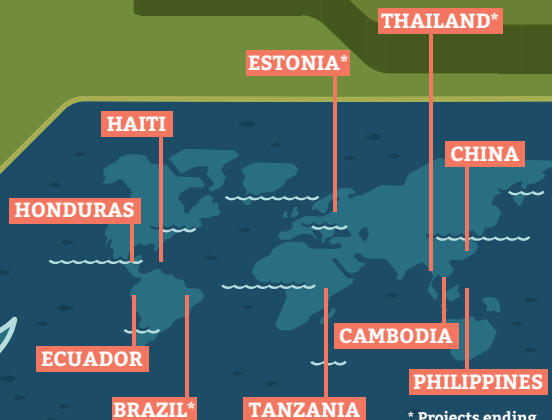
Fish that escape can spread disease, compete for food and habitat and breed with local fish.

HEIFER INTERNATIONAL

Heifer International supports many aquaculture projects around the world. Farmed species include tilapia and crabs, and the farmers frequently combine the fish with plants to create a low-impact, symbiotic environment.

HEIFER CURRENTLY SUPPORTS 63 AQUACULTURE PROJECTS

SOURCES — THE UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION, THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND "AQUACULTURE SCIENCE" BY R.O. PARKER





ISTOCKPHOTO

Disastrous, **Deadly**, Delicious

Giant cannibal shrimp or marauding swamp beavers can ruin the day for wildlife biologists, but the rest of us may as well make the best of it. Animals like these are invasive species, non-native flora and fauna whose presence threatens the environment and sometimes even human health. And while government agencies use nets, poisons and traps to try to wipe them out, plenty of chefs and diners are doing their part with grills, forks and frying pans.

Invasive species are such a nuisance largely because they have no natural predators to keep populations in check. Enter “invasavores,” people who hunt and harvest invasive species for food. If you just spent your weekend shooting wild hogs or plucking dandelion leaves and are looking for recipes, try eattheinvaders.org. The site features recipes like blackened snakehead with piña colada salsa and strawberries, pickled purslane and kudzu blossom sorbet. There are also recipes for other edible invasives, including burdock, periwinkle, bullfrogs, lionfish and green iguanas.

A Rough Period

Many women in developing countries face a monthly challenge because they lack resources to help them cope easily with their periods. Not only can they not buy tampons and pads, but many of them also don't have access to adequate water and garbage disposal options. So what do they do?

Some rely on homemade pads put together with scrap fabric, leaves, cowhide or other materials they have on hand. These options aren't always reliable, and evidence suggests girls and women often skip school or work when they have their periods to avoid embarrassment. And then there's the issue of cleaning these supplies or disposing of them. Women who use rags don't always have access to the water they need to wash them, and the taboo of menstruation can prevent them from hanging the rags to dry where others might see.

A number of organizations are stepping in to provide solutions, including donating supplies and developing low-cost disposable pads that can be manufactured locally from agricultural waste. For information on how you can support these initiatives, visit sheinnovates.com or womendeliver.org.

I Doo

Young Indian women don't necessarily expect their future husbands to treat them like queens, but a throne is non-negotiable. In a push to improve sanitation, the Indian government is urging single women to turn down proposals from men who don't have toilets inside their homes. Only half of Indian households have indoor toilets. Aside from the obvious sanitation issues, the lack of toilets presents safety concerns for women who must go out in the dark for privacy.



PHOTO BY DARCY KIEFEL

Egg-Conomics

If you're thinking of adding chickens to your household, make sure you're doing it for love, not money. When you factor in the costs of shelter, bedding, supplements and other supplies, a brood of hens can cost thousands of dollars. A number of urban homesteaders have shared the numbers on their backyard broods, and they're steep. Ellen Reese, author of the book *Bake the Bread, Buy the Butter*, said that after she had to install fencing to keep out predators, her per-egg costs reached \$2.12. Others came up with smaller figures, but plenty of small-scale chicken fanciers reported they saved no money raising their own, and probably went a bit in the red.

Reese gladly kept her birds though, despite the hefty capital outlay. Like many urban chicken ranchers, she held on to her birds for entertainment value and because she grew to love them as pets.



CORNERSTONES IN ACTION

For more than 68 years, families and communities around the globe have used the principles of Heifer's Cornerstones to build successful projects and become self-reliant. What exactly are these principles, and how can they help strengthen and enrich our own lives? *World Ark* features a different Cornerstone in each issue, along with suggestions on how to put them into practice.

The 12 Cornerstones form the acronym PASSING GIFTS. This month:

Full Participation



HOW IT WORKS: Virtually everyone in communities where Heifer works has something to contribute. Heifer calls everyone to the table, especially women living in cultures where they have traditionally been excluded or undervalued. Decisions affect everyone, and therefore must take everyone's opinions into account.

WHAT YOU CAN DO: Think about who will be affected by the decisions you make, and be sure those people's perspectives are considered. More broadly, remember that the fight to end hunger and poverty calls us all to action. Educate yourself. Reach out. Donate. Enlist your friends.

In Balance

Planning your garden with care not only encourages plant growth and soil balance but can also begin to counter the effects of climate change and heal the Earth. Permaculture expert Eric Toensmeier can show you how.

PERMACULTURE is an agricultural method that combines multiple techniques to create sustainable and self-perpetuating food-production systems. Developed from studies of home gardens in tropical regions where trees, livestock and annual crops are arranged around a household in such a way that the benefits and wastes of each component aid the others, permaculture systems are durable, low maintenance and perennially productive.

Interview and photos by Erik Hoffner, World Ark contributor

WORLD ARK: *How do you describe permaculture?*

ERIC TOENSMEIER: It's a system for meeting human needs while improving ecosystem health, but it's more than just having an orchard near a fishpond. It's also about the relationship between the trees and the fish and how the waste products of one are used as inputs for others. So in permaculture, all the pieces are placed in the right relationship to each other, and practices from all over the world are used.

Practices like agroforestry?

Yes, which can be as simple as straight rows of timber trees that provide shade and nutrients to crops growing between the rows.

Sounds like shade-grown coffee.

Yes. And although permaculture can add much more to a system like that one, I think agroforestry is the most exciting part of permaculture. It has a great ability to meet human needs, repair degraded land and capture carbon dioxide. While agroforestry usually focuses on rows of nitrogen-fixing trees with beans and grains growing between, there are well-known perennial crops, like bananas and breadfruit, that can also be grown this way. Other useful examples are lesser-known plants like peach palm and the Andean tree bean *chachafruto*, which produces unbelievable amounts of edible beans, something like three times that of soy—on a perennial tree! Mesquite is another one that creates edible pods, and you can also use these pods as great fodder for livestock. Systems like these will work anywhere there's



Eric Toensmeier checks a persimmon tree in his garden. He writes about his urban "Paradise Lot" in his latest book released in January.

enough moisture to grow trees. If it's too dry, rotational grazing works great for producing food while capturing carbon. Heifer has done a lot to encourage such systems.

Are there other benefits of permaculture?

Beyond the "Five Fs" that (Indian food activist) Vandana Shiva talks about—food, fuel, fodder, fiber and fertilizer—I'd add medicine and construction materials like bamboo to that list. There can be opportunities for revenue from systems like this, such as in Burkina Faso where the skin care company Dr. Hauschka helped create a shea butter cooperative, and growers now cultivate crops under the shea trees. Providing such opportunities creates self-determination. My utopian vision is of creating many low-maintenance

agro-ecosystems like this where livestock do much of the work for you and much of the food is grown on perennial plants, so that people have more time to do other things, like getting an education or attending community meetings. As with Heifer, the goal is not just feeding people but also empowering them to be full citizens of the world.

How and where do you teach permaculture, and how is what you do similar to Heifer's approach in communities?

As I understand it, Heifer's model starts by identifying what people want and working with what they already know. That's a great way to teach permaculture, too. I recently taught a workshop in Guatemala for a Mayan group my wife works with, in a very dry area, and I was able to identify all kinds of permaculture practices in use in the village already, because so many of these are common sense. In a case like that, the task is to figure out how to encourage those and plug in new practices that support the vision that the people already have.

Is the time it takes to establish permaculture projects a challenge?

Systems can be created with annual crops, so not necessarily. But in the case of the tree-based systems, which to me are the coolest kind of permaculture, yes, although papayas and bananas can yield a crop in 18 months. In that case you'd plant an annual crop around the trees while you're waiting for them to grow. Heifer has programs that provide useful, productive trees, in which case passing on the gift can consist of sharing seeds or cuttings. You can even buy trees like these in Heifer's gift catalog.

What is the Bosque Comestible project?

The Apios Institute, which I'm on the board of, built a website that lists cold climate perennial plants that can be grown in useful combinations with other plants or with livestock.

Now we're piloting a Spanish language version (*Bosque Comestible* means edible forest) that lists useful perennial plants for the climate types of Mexico, which are, broadly speaking, all of the climate types of the tropics. People elsewhere in the Americas where I go to teach have expressed interest in seeing this expanded to their regions, too. For the many rural communities that lack reliable access to the web, there will be a print version.

What else does permaculture focus on?

There's more to it than perennial crops. It also touches on transportation, economics, buildings, green energy and wastewater management. An example of the latter comes from Zimbabwe where the proven technology of composting toilets was used in a campaign that successfully turned around the country's cholera epidemic.

How does the practice of permaculture help communities address climate change and work to improve the environment?

Permaculture provides a toolbox for communities to address climate change and meet human needs while improving ecosystem health. Some permaculture strategies help reduce emissions by reducing farm inputs like fossil fuels and chemical fertilizers, which contribute to climate change, or by providing clean energy sources like wind and solar. Many permaculture practices help take excess carbon back out of the atmosphere and store it in perennial plants and in soil organic matter. Finally, low-maintenance perennial crops, the "slow it, sink it, spread it" approach to rainwater management and other practices help communities adapt to the increase in extreme weather events that appears to characterize the new climate regime.

Erik Hoffner has written for National Geographic News Watch, Yale Environment 360, Earth Island Journal, and Orion. www.erikhoffner.com.



Eric Toensmeier is one of the foremost U.S. practitioners of permaculture, teaching in English and Spanish throughout the Americas. He is the author of *Perennial Vegetables*, named the American Horticultural Society Garden Book of the Year, and co-author of *Edible Forest Gardens*. Eric met his wife, Marikler, when she came to work at Heifer's Overlook Farm in Massachusetts from her native Guatemala, where she also worked for Heifer. The couple lives in Holyoke, Mass., on a tenth of an acre plot that is home to 200 species of edible or useful annual and perennial plants, fish, bees, chickens and silkworms, all growing on formerly degraded soil.



Growing Kindness

By Austin Bailey, *World Ark* senior editor

Illustrations by Lauren Wilcox Puchowski

THE CLASSIC CHILDREN'S BOOK *The Giving Tree* has its critics, and honestly, I can see their point. Look beyond the sweet storyline and charming artwork and you'll find some serious dysfunction. That enabling apple tree takes generosity to its gruesome extreme, winding up maimed, exhausted and still shouldering the weight of the voracious child who takes and takes and takes. The giving tree might be happy, but the taking boy certainly isn't.

Whether this level of martyrdom is the pinnacle of good parenting or a recipe for sociopathy is a popular debate with psychiatrists and mommy bloggers. Some say the book is a simple tale about motherly love, but if so I have a few questions. Why didn't the boy grow up to model mama tree's benevolence? Was it the tree's fault that the boy ended up gruff and alone? What exactly went wrong?

The tree teaches us that giving is the path to happiness; the shame is that she didn't teach this lesson to the boy. I think *The Giving Tree* was meant as a cautionary tale, a reminder that children arrive with a sense of entitlement, and that it's our job—as parents, teachers, neighbors, etc.—to foster a sense of responsibility, too.

Research backs up that theory. A McGill University study that tracked 75 people from age 5 to adulthood shows that children whose parents are big on nurturing but not so big on setting limits and encouraging self-sacrifice tend to become adults who lack compassion. This study, which debunked the conventional wisdom at the time, came out in 1990, 26 years after Shel Silverstein published *The Giving Tree*.

If he meant his book as a warning about the perils of parental overindulgence, he was ahead of the pack.

In defense of Silverstein's tree, let's admit that when it comes to adorable little people, it can be hard to take the hard line. I know this because there are two adorable little people living at my house. Amos, now 5, would gobble donuts for every meal given the chance, and I'm not sure if he would offer to share with me. The 2-year-old Puck, left unchecked, would decorate all walls and floors in Technicolor scrawl, without any thought to the aftermath. And as all parents come to learn, giving in and then scrubbing teeth and walls afterwards is the easy way out. Speeding past the donut shop despite pleas from the backseat and confiscating errant Crayolas take resolve considering the tears and whining sure to follow.

I'm not too worried my boys' aptitude for gluttony and vandalism will lead them down a path that ends with them at middle age, lonely and living in my basement. They're children after all, and underneath the "gimmies" that pop out so quickly in the toy aisle at Target, children are inherently good, brimming with empathy. To show it, they simply need opportunities and encouragement. I know this from watching how my boys smother our arthritic golden retriever in snotty, slobbery kisses, and how when one boy cries, the other often joins in.

More concrete proof of children's built-in empathy pops up in my inbox virtually every day. The cows, goats, seeds and training Heifer International sends out around the world are paid for partly by the car washes, living gift markets and lemonade stands or-

cheestrated by children who may whine for a donut but would gladly give half of it away to someone who was genuinely hungry. The inclination is there; children just need paths to channel it.

Erin Welsh found her path during a church retreat to Heifer's Overlook Farm in Rutland, Mass., where she realized her luck at having plenty of food and a sturdy house. At just 14 years old, this high school student from West Seneca, N.Y., organized a community of musicians to put on a series of fundraising concerts for Heifer. Erin herself headlined each show, singing covers and her own original songs as she strummed her signature red guitar. Zoe Smith of Chapel Hill, N.C., now 15, started even earlier. She was still in elementary school when she started making and selling jewelry to raise money for Heifer. Her contributions total \$25,000 so far.

Our job as adults is to teach children about need and offer them opportunities to help, said Beth Rafferty, the youth director at the Orange Congregational Church in Orange, Conn. "The best way to teach children the importance of giving is to get them involved with charity work as young as possible and as often as possible." Small children are limited by short attention spans, but they can make Valentine's Day cards for people who are confined to their homes or sing Christmas carols in a nursing home, Rafferty said.

Lisa Sundean, a mother of two in East Hartford, Conn., had her boys hang mittens on a mitten tree for people who needed them and deliver clothes to a shelter when they were small. During the elementary years, the family volunteered together at a soup kitchen. The lessons took. "Our sons know it's not what we have that matters, it's what we give that matters," Sundean said.

My first shot at getting my then 4-year-old son interested in helping others was a slam dunk, probably because it involved worms, rotten pumpkins and lots of dirt. I knew it was important to make his first official volunteer event a fun one, so we agreed on a service day at a community education garden. Our job was to smash a pile of rotten pumpkins using a shovel, then feed the slimy chunks to the worms. I'm not making this up, although if you asked me to choose a perfect chore for a 4-year-old boy I doubt I could come up

with anything better. Amos' favorite part came when we opened an infested worm bin and dozens of roaches poured out.

My attempts to explain to him about where food comes from and the importance of making sure healthy food is available to everyone didn't get much traction. He was too distracted by the chicken coop and a makeshift tunnel wrapped in gourds and twisting vines. And even if he wasn't, food deserts and sustainable agriculture are lofty topics for the preschool set. He understood that he was helping, and he had lots of fun. A pretty great start.

In keeping with the dirt theme and encouraged by our day with the worms, the boys and I planned a backyard garden, the fruits of which we planned to deliver lovingly to a homeless shelter. Amos chose envelopes of watermelon, cilantro and sunflower seeds and squash and broccoli starts, and he did a fair job helping to turn the soil and mark the rows in our tiny plot. The sunflowers sprouted up to about a foot high before bugs ate their tiny leaves and the stalks curled back down to the ground. The squash shriveled before we could pick them, and nothing ever came of the watermelon seeds. Too much Arkansas heat, not enough sun and clouds of hungry bugs left us with nothing but a handful of tough-skinned cherry tomatoes.

The volunteer coordinator at the shelter suggested that we bring some homemade treats instead, so Amos helped mix batches of brownies and rice crispy treats. He didn't seem disappointed, and sharing treats was an easy concept for him to grasp.

We've made lots of smaller gestures, too. I tried to follow Sundean's advice to weave giving into the everyday by asking Amos to round up toys he no longer played with so we could donate them, and to make artwork for a sick relative. He went along with these things but didn't say much, and I wondered if I was being too preachy, or if maybe I wasn't asking him to do enough. What if I missed the elusive balance between fostering empathy and annoying my kid to the point of apathy? Parenting in the information age means books and websites full of expert information are readily at hand, and instincts are easily buried in statistics and contradictory advice.



But then, on a morning at the end of summer, Amos spied a turtle crossing the road, and he yelled for me to stop. By the time I pulled into a neighbor's driveway he was fidgety and straining at the straps of his car seat. We waved our arms to alert a car driving by, then held hands and plucked the turtle from the pavement. Amos wanted to get a water bottle out of the car to douse the turtle, and I had to explain to him that not all turtles live in ponds and the ocean. Then Amos put the turtle down in the grass and watched him trundle away.

That afternoon when we got home, Amos still had the turtle on his mind. He grabbed my arm and

tugged me down the street to where we'd last seen it, wanting to make sure he was still safe. The turtle wellness check wasn't my idea, and I didn't push it. I only needed to put my hand out so he could pull me along.

Amos was so proud that night that we had to call the grandparents to report on our successful turtle rescue. I anticipate plenty more reptile encounters, worm feedings and cookie deliveries in our future. When Amos doesn't take the initiative himself then I'll gladly nudge, which is always a mom's prerogative. In fact, it's her duty. The seeds of kindness won't grow and thrive unless they're well tended. ■

Pouring



It On



Launched in 2008, the East Africa Dairy Development project aimed to help 1 million people pull themselves out of poverty. The participants aren't the only ones reaping benefits. These dairy farmers are finding that when they do well, their entire communities do well, too.

PHOTO BY NEIL THOMAS

by Jennifer Wheary, *World Ark* contributor

Photos by Russell Powell

If you wanted to transform—not just somewhat alter or even slightly improve—1 million lives in Africa, where would you start?

Pour yourself a glass of milk and think about it.

The whole chain of events that put that glass of milk into your hands is a big part of the answer. By helping to build a functioning and profitable dairy industry in Africa, the Bill & Melinda Gates Foundation and Heifer are transforming lives for the long term.

For any glass of milk to get to market, a farmer needs to be able to buy a cow and keep it healthy. He or she also needs to be able to sell that cow's milk regularly and at a consistent price. Processors who buy the milk need to control quality and ensure safety. The farmers who produce the milk and the processors who buy it need to earn a profit. They require the means—whether it is by cash or credit—to purchase whatever inputs they need, things like veterinary services, land or equipment, to keep their businesses going and growing.

Since it began in 2008, the East Africa

Dairy Development (EADD) project has connected more than 179,000 small farmers across Uganda, Rwanda and Kenya to a larger circle of institutions and services that give them the collective resources and necessary infrastructure to do all of the above, in short, to earn a living raising cows and selling milk.

Behind every gallon of milk

bought and sold by project farmers, there is a behind-the-scenes infrastructure that makes the buying and selling of milk possible and sustainable in the long term. Economists often call this infrastructure a value chain. But EADD farmers and their families—about 1 million individuals in total—call it access to food, jobs, income, education and financial and medical services. Through the project, dairy farmers in Africa are developing the tools to build businesses and create ongoing opportunity for themselves and their children.

The work is not just about giving individuals opportunity. Important though it is to lift individual families out of poverty, what this project is doing in East Africa is much broader. The real foundational change the project is achieving is helping to build a middle class in a region of the world characterized by poverty.

While the income one needs to earn to be middle class differs from one region of the world to the next, one fundamental characteristic does not: Being middle class means having enough income to meet basic needs, afford a few extras and plan for the future.



Odong Emmy, age 10, enjoys a cup of milk with his sister Aber Lucky, age 5, in Acet Central Village, Uganda.



Jeremiah Kimno (at left) owns Metkei Agro-Vet Services Limited, a business that provides veterinary supplies to EADD dairy farmers in Kamwosor Centre Village, Kenya.

For EADD farmers, that includes educating their children, accessing healthcare, buying new seed varieties and investing in their businesses. While stories of individual growth are inspiring, when added together the impact becomes profound. The effect of 1 million people in East Africa having beyond-the-basics breathing room for the first time in their lives is what makes the work meaningful on a large scale. This is where long-term, sustainable change comes in.

As farmers struggle less for daily survival, they can engage in new business ventures, like selling other crops or starting small enterprises, such as

a convenience store. They can build or reopen schools and participate in making their lives and their communities better all around. The end result is a ripple effect felt around the region.

One of the biggest realizations for local farmers is that their economic activities are deeply linked with the opportunities of others and with the institutions that enable them. It only makes sense to grow extra crops for market, or open a store selling household goods, for example, if your neighbors have the extra income needed to buy them. The success of other non-dairy businesses that gen-

erate income, and the infrastructure that supports everyone's livelihood—things like banks, effective local government, roads, schools, electricity—become a community resource, and a community responsibility. As farmers continue to grow their businesses, they see that continued opportunity is not only born of good fortune and hard work, but is vested in their participation in the governance, society and economy of their respective communities.

As participants begin earning more income, they see more clearly that their opportunities are vested in the goings-on around them. From the perspective of those who have just transitioned from meeting basic survival needs to having something extra left over, this is a life-changing moment.



Symon Mwangi (above) removes caps from milk containers at the Tanykina Dairy Plant Ltd. in Kipkaren Salient village, Kenya.



Pius Ng'etich (right) gathers milk from farmers by bicycle and delivers to a chilling plant at Tanykina Dairy Plant Ltd. in Kipkaren Salient village, Kenya.



In East Africa, milk is **money**. When there was no healthy market for milk, there was no income. **Stores** were shuttered, and **schools** closed. Now that the project has started to unlock the **economy**, other **changes** are happening.

REMOVING THE GUESSWORK

Bringing consistency to small dairy farmers was EADD's first step in catalyzing this transformation. Project Director Moses Nyabila said that before the project, most dairy farmers in the region never really knew if and when they would be able to sell their milk, and for what price. Dairy processing plants would send agents on motorbikes or trucks traveling long distances to collect milk from individual farmers. Sometimes the agents or trucks arrived. Sometimes they did not. An agent would purchase perhaps a half-gallon to just over a gallon of milk from each farmer. With farmers spread over long distances, the collection process was slow and inefficient. Often the milk transported by agents or tankers was warm, and quality was poor.

Unreliable collection and the lack of quality control meant that prices were low. Nyabila estimated that farmers were able to sell perhaps 30 percent of the milk they produced. The rest went to waste or was otherwise forced onto the market, further driving down prices. Before the project, a dairy processing plant collected perhaps 20 percent of its capacity at best. Plants running at that low capacity were not profitable, creating no incentive or real opportunity to treat small farmers well. Farmers and dairy processors survived any way they could, often undercutting each other to survive in the short term. "The

relationships between farmers and processing plants were not strong," Nyabila explained.

One of EADD's first priorities was to organize groups of farmers into cooperatives to collectively invest and build milk-chilling plants. Dairy farmers own shares in their cooperatives, meaning they reap the benefits of ownership while also assuming the responsibility. These chilling plants serve as hubs, central locations where farmers can bring milk to be packaged and sold in bulk to larger processors. Dairy cooperatives have not only created a physical location to buy and sell milk of higher quality, they also serve as a central organizer and point of access for the training, technical assistance, services and other inputs that small farmers need to thrive and expand.

These dairy cooperatives have been able to negotiate larger contracts from dairy processors. "Now farmers are organized, and collection is consistent. When you make collection routes consistent, farmers know they will be able to sell their milk, and processing plants know they can rely on a certain level of production and quality. The relationships between farmers, collectors and processors are stronger. Everyone can invest and build a business," Nyabila said.

In part because of EADD, the buyers' market is shifting to a sellers' market. Processors now have to compete for milk and therefore

offer better prices. A whole collection infrastructure has come to life to serve cooperatives. Village banks and other businesses are growing. There is more trust and predictability within the market.

According to Nyabila, "The temptation that used to be there for an individual farmer to side-sell milk is gone. The cooperative provides a better relationship. It lets people get credit. If you need a loan, if you want a vet to see your cow, if you need money to pay for school, you can see your cooperative. Farmers can now lead a very predictable life. And they don't want to go anywhere else."

One chilling plant collected 132 gallons on the first day it opened. By the end of its first month it had collected nearly 4,000 gallons. Nyabila said that dairy processors have shifted from collecting 90 percent of their milk from individual farmers to purchasing 80 percent of their milk from cooperatives. "This creates a business relationship," he said. "That is the way that sustainability comes. People realize now they need each other." That ongoing cooperation is a big part of making sure the market functions.

In East Africa, milk is money. When there was no healthy market for milk, there was no income. Stores were shuttered, and schools closed. Now that the project has started to unlock the economy, other changes are happening.

There is more milk available for

purchase in villages, increasing access to good nutrition for everyone. There are also more stores where people can buy a range of food and household goods. Villages now have pharmacies and public and private medical clinics, improving access to healthcare. Many villagers have access to financial services for the first time in their lives through village banks established and cooperatively owned by dairy farmers. [See sidebar on page 25 on the importance of village banks.]

'A GODSEND'

Agnes Namusoke Mulindwa sees these types of changes firsthand.

Mulindwa is a 46-year-old dairy and vegetable farmer living in the village of Butale, Uganda. Together, she and her husband support 15 children. Five are their own, and 10 are nieces and nephews who became their responsibility when Mulindwa's brother died.

Mulindwa grew crops and raised livestock to support her family well before joining the dairy development project. Everyone in the household worked hard, but yields were often low and rarely supported the family. In 2000, Mulindwa received a Friesian cow through a community development organization. By 2002 she was barely able to maintain the heifer. She had no knowledge of dairy farming practices and limited access to the veterinary or extension services that would help her better take care of her cow.

Things began to change when she



Agnes Namusoke Mulindwa harvests cabbages.



Milka Leley, a bank teller with Kipkaren Community Financial Services, assists Salome Keino while Rose Koech waits her turn in Kipkaren Salient village, Kenya.

joined the EADD-supported Aggali Awamu dairy cooperative in 2008. Mulindwa received training on modern animal husbandry practices such as breeding with artificial insemination. She also learned how to better feed her cattle. She joined a study tour to Kenya in 2009 to learn about dry season feeding.

With increased milk production and profits, Mulindwa can save and invest for the future. She expanded her garden to grow cabbage, watermelons and tomatoes, harvesting these items not just to feed her family, but also to sell. She and her husband were able to build a three-bedroom house, and they can now pay school fees for their

children, including sending three of them to university.

Mulindwa describes cooperatives as a godsend. She says her dairy cooperative provides a market for her milk and essential knowledge to improve and grow her business. It also provides extension services, financial opportunities and regular encouragement from her peers, including other female dairy farmers. Mulindwa looks forward to the future and is saving to buy a van to carry her produce to market. Because her dairy cooperative established a village bank, Mulindwa has a secure place to save her earnings and get a loan if she needs one to expand her business.

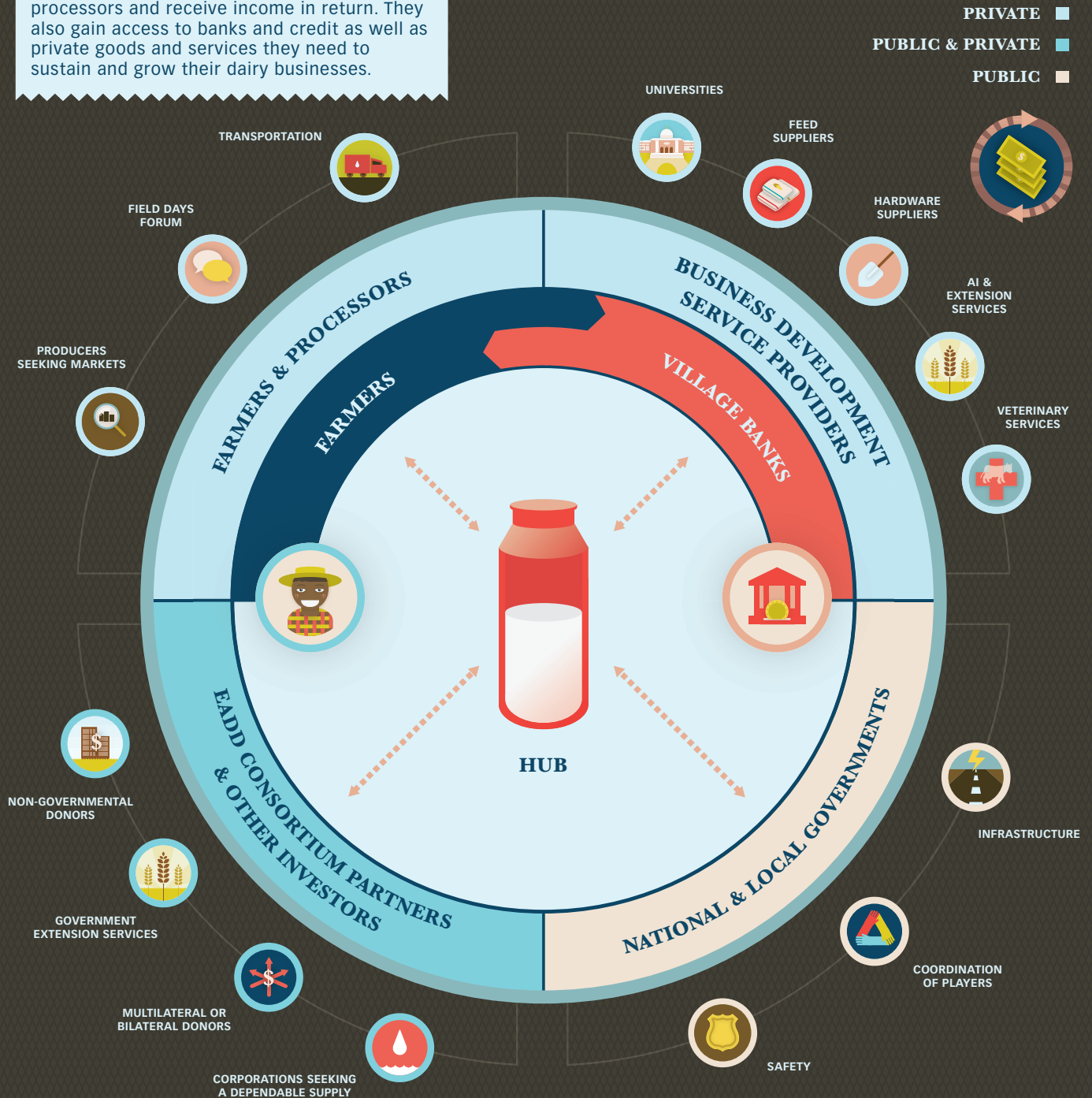
STAYING STRONG

As EADD director Nyabila explained, whole communities throughout East Africa are now invested in the success

EAST AFRICA DAIRY DEVELOPMENT PROJECT HUB MODEL

SHARING THE BURDEN

Smallholder dairy farmers buy shares in a milk-chilling hub through a regional business association. Through that hub, they sell a dependable, quality supply of milk to dairy processors and receive income in return. They also gain access to banks and credit as well as private goods and services they need to sustain and grow their dairy businesses.





Loviusa Jemeli Kosgei, age 8, (left) and her sister Lyne Jepkorir Kosgei, age 6, feed their family's calf in Kemliet village, Kenya.

of their dairy cooperatives. As part of EADD, Heifer and its partners—International Livestock Research Institute, Technoserve and African Breeders Services—help cooperatives develop tools and expertise to make sound business decisions and plan for the long term. Sustainability will come through good governance, good planning and good communication between dairy cooperative managers and farmers.

To stay strong, dairy cooperatives must continue to benefit cooperative members, Nyabila said. Right now cooperatives pay farmers about 90 percent of the price they receive from dairy processors. “When you take care of your farmers, pay them on time, pay them dividends on time, when they participate in [board] elections and see this as their own enterprise, that means they will continue supplying milk,” he said.

Having an accurate, functioning accounting system, good governance and consistency in all business prac-

tices is essential to the ongoing success of dairy cooperatives. Partners and member farmers need to be able to trust and rely on each other.

In rural Africa, achieving this trust and reliability has its challenges. As Nyabila put it, “Boards must remain clean and be able to supervise operations, manage money and manage growth. They are managing maybe \$3 million to \$4 million a year. This is a huge amount in rural areas. As they grow, operations are becoming more complex. They need to hire the right people and have the right people on their boards to handle the increasing complexities.”

“That is where we are,” Nyabila said. “Management, governance, planning.”

This is right where the project needs to be to continue to make a lasting, large-scale difference in East Africa.

EADD farmers understand that their participation ensures their own health and growth, and is permanent-

ly altering the East African economic landscape. The change will be felt not just for this generation of farmers. The ability to hope, and to plan, for the future is already being taken up by their children, children who are being educated both in schools and by the example of their parents as successful entrepreneurs making their own decisions, growing businesses and taking ownership of their communities. ■

Jennifer Wheary is a senior fellow at Demos, a New York-based public policy organization. You can follow her on Twitter, @edteachpolicy.

For a story on EADD at work in Kenya, please go to www.heifer.org/worldark. To learn more about Heifer's progress in the EADD project, visit www.heifer.org/eadd.

Why Village Banks Matter

Before the East Africa Dairy Development project, less than 10 percent of dairy farmers in Kenya, Rwanda and Uganda banked or had access to credit. That meant that they had no secure place to receive payments or hold their savings. They also had no access to loans, financial planning resources or insurance.

Thanks to the establishment of local financial service associations (FSAs), also known as village banks, today more than 80 percent of EADD farmers in Kenya have bank accounts. This is not only good for individual farmers. It offers banks in Africa an expanded customer base, helping to grow and strengthen the overall financial service sector, a key to stabilizing the whole region in the long term.

Dairy cooperative members establish and own shares in the village banks. Working with partners such as the Cooperative Bank of Kenya, village banks can offer services tailored to members' needs. Because dairy cooperatives have set contracts to sell milk to larger processors, they can ensure that individual farmers have regular income to deposit in savings accounts. They can also guarantee the repayment of loans. This enables larger banks to offer financial products and other general banking services to the village banks at wholesale rates. These loans make it possible for farmers to access credit for goods and services like artificial insemination, animal health services, feed and seeds.

A project farmer signs an agreement with a provider to receive needed services or other inputs on credit through the village banks. The village bank pays the fees to the service provider on the farmer's behalf, and the agreed-on amounts are deducted from the farmer's regular payments for milk sales. This check-off system provides an interest-free, hassle-free extension of short-term credit.

Village banks also offer dairy cooperative members loans with terms more favorable than other commercial bank loans. An EADD farmer can receive a loan from their village bank at an interest rate of about 18 percent, explained Ann Mbiruru, EADD's regional communications officer. The same loan at a commercial bank would have an



Village banks help dairy farmers pay for services, save for the future and receive loans to expand their businesses.

interest rate of 29 percent.

Stephen Musyoka, relationship manager at the Cooperative Bank of Kenya who works with the project, explained that the relationship between a village bank and a large bank is valuable to both sides. In addition to financial products, banking partners provide consulting services to help dairy cooperatives engage in more effective business planning and financial decision making. They also help analyze operations, evaluate potential investments and identify and hire professional management. As Musyoka put it, by working with village banks, his bank and others are creating a culture of savings where farmers are "able to budget and utilize their finances better."

For the larger banks' benefit, working with thousands of farmers organized into a dairy cooperative hub creates a central point to recruit and interact with a larger number of customers. "Since dairy cooperatives are managed by professionals whose goal it is to have the companies remain profit-making organizations," larger banks face less risk, Musyoka said.

—Jennifer Wheary



Lakshmi, 13, smiles as she details how getting an education has provided her with opportunities she never thought she'd have.

Finding Their Voices

STORY AND PHOTOS BY **MAGGIE CARROLL**,
WORLD ARK CONTRIBUTOR





BIKANER, INDIA—Bouncing along a bumpy desert road as we made our way to Bikaner, India, I thought back to a conversation I had with my 13-year-old sister a few months earlier.

“How was school today?” I asked.

“Fine,” she said.

“OK. Learn anything new?”

“Just the usual,” she replied.

At the time, that conversation hadn’t struck me as atypical. We exchanged niceties about her school day then moved on to what we believed qualified as more interesting conversation.

But as I traveled for hours to a small village so that I could meet with several young girls about their lives and education system, the conversation with my sister suddenly meant so much more. Is education such an ingrained part of everyday life that I was satisfied with “fine” and “usual” as descriptive responses? Do we take school for granted in the Western world?

Nearly the entire village greeted us. Smiles and chatter surrounded our Heifer India group as we made our way to the meeting area. A village member guided us to our seats, a carefully arranged tapestry on the clean, dirt floor.

I looked around. Where were all of the children?

I soon learned that many of the girls and boys were still in school and was asked if I wouldn’t mind waiting for them. As the translator, Deepika, and I got comfortable, several of the women from the local self-help group sat down with us for a chat. “You know,” one of them began, “if you had come a few years ago this would be different. We didn’t use to send our girls to school.”

I learned from the group that Heifer’s work over the past few years has focused on girls’ education and women’s empow-

erment. The women admitted that at first they thought sending their girls to school would be a waste of time. The time would be better spent cooking, cleaning and working around the home. Since working on their own empowerment and confidence, the mothers of these girls now understand the importance of education for all of their children.

As I sipped chai and fumbled for words in my limited Hindi vocabulary, Deepika informed me that the girls were returning from class. I turned to the entryway and saw a group of beautiful young women giggling and talking as they approached the meeting space. Once inside, they were suddenly quiet. “Nervous,” Deepika whispered to me. “Let’s try to make them feel comfortable,” she said.

They were colorful and vibrant, even in their silence. They whispered their names after some encouragement and smiled as Deepika relayed that I wanted to ask them a few questions. Three girls were nominated by their peers as representatives of the group, and they shyly but happily scooted to the front.

The smallest girl offered her name and age first. “Suman. I am 12 years old,” she said. “And your favorite subject?” I asked.

Suman, who, like most other girls here, goes by one name only, grinned and looked at her friends. They cheered her on, but erupted in nervous laughter. I looked to Deepika for an explanation. “No one ever asks them things like this. They are feeling important but also embarrassed,” she told me. She prompted Suman to continue, assuring her that she could take her time and that I was excited to hear her response.

“I like science, social studies and Hindi lessons,” she told me. “*Dhanyehvad*,” I said, thanking her in Hindi.

I looked over to the other girls.

“My name is Lakshmi and I am 13 years



“We enjoy learning, but school gives us another opportunity. It allows us to delay marriage because if we don’t study we get married off quickly. Then we have to have kids; we could fall sick.” —Suman, 12



The women admitted that at first they thought sending their girls to school would be a waste of time. Time better spent cooking, cleaning and working around the home. Since working on their own empowerment and confidence, the mothers of these girls now understand the importance of education for all of their children.

old. I enjoy my science and English courses.”

“I am 14 years old and my name is Manju. I like math and science.”

I learned that they begin their school day at 7 a.m., take a break around 10, and then end their school day by 12:30 in time to return home to do their household work. Suman explained that they clean, cook, wash and simply do whatever needs to be done. Lakshmi joins in, “when I get home I also help take care of the goats.”

One mother and group member sitting nearby smiled at the mention of *bacri*, or goats. The women in the group purchased goats with their savings and involve their families in their care. The girls are happy that their families have received goats and tree saplings to feed them with because of their mothers’ work in the group.

Suman could hardly wait her turn. “My mother has become more vocal. She isn’t so hesitant anymore. Now she can even sign her own name to papers,” she said. All this talk about self-help groups and their mothers’ confidence roused the girls’ pride in their responses and the discussion about their lives in this village.

They told me that while they have a lot of housework to do, they make sure to study before going to bed by 10 p.m. They wake up at 6 in the morning. They talked excitedly about school, telling me that they don’t just learn in the classroom but also take field trips to neighboring cities and towns.

Thinking back to the conversation with my sister, I pressed for more. “Do you enjoy attending school and completing your homework?” I asked.

“We like going to school, and we like to study,” Manju said, but looked expectantly at Suman. The girls both looked around at the group trying to decide if they should share more. Suman decided she should, and continued her friend’s thought. “We enjoy learning, but school gives us another

opportunity. It allows us to delay marriage because if we don’t study we get married off quickly. Then we have to have kids; we could fall sick.”

What? That wasn’t in my list of prepared questions. These young girls, my little sister’s age ... married? I closed my mouth, composed myself, and asked Suman around what age girls usually marry in the village. “Fourteen,” she answered me quickly.

Lakshmi frowned. “That is too young now,” she said. “It is illegal. You are supposed to be 18 when you get married.”

I surprised myself. The emotion I felt wasn’t sadness or anger as I expected. I was happy and excited. Happy that these young women are opting to go to school and learn, even with all the work they have waiting for them at home. Excited to see them use their education and apply it to their lives.

The next day I had the pleasure of meeting with another group of girls in a neighboring village. I asked the chatty girls when they have opportunities to talk and laugh together. “During our walk to school,” responded Raju, 14. “We have fun and talk because when we go home we have to do our work.” She explained that the girls do not leave their homes after school.

“We have to do everything. We wash, clean, sweep, and we help out in any way we can,” said Sontoosh, 15, reiterating a sentiment that the girls had expressed the day before.

I looked over at a group of boys watching quietly; didn’t they have work to do?

“And the boys?” I asked. Keetu, 18, smiled and replied politely, “The boys, they don’t do anything.” The group agreed with this and commented that girls and boys play together when they are young, but girls are expected to stop playing and start working at a very young age.

“We use to play *Cabati* (traditional village game)” said a group member, and the girls



Girls listen closely to their friends' responses to questions about how their lives differ from boys'. While these girls are allowed to attend school, they are often still expected to perform many household duties in addition to completing their school work.



Two young boys listen in on the girls' conversation. The boys "don't do anything" in comparison to the tasks girls are given, said group member Keetu, 18.



Manju, 14, (right) along with other girls from her village were reluctant at first to share much about what education means to them. Attending school allows them to understand their strength and self-worth.

laughed, remembering the fun game. An 11-year-old looked at me and clarified, “we don’t play that anymore; we are grown up now.”

The girls didn’t seem to mind too much that their days of *Cabati* were over, because they can finally study. Since their mothers joined the local self-help group, when the girls sit down to study, they aren’t interrupted to cook or clean. Their families respect their right to an education, equal to the boys.

As I packed up my things and got ready to leave, I looked up to find Sontoosh staring at me. She fired off a question at me in rapid Hindi, and I turned to Deepika for help. “She wants to know if they can ask you some questions as well.”

I laughed and told them that of course they could! I hadn’t ever had this happen, and welcomed the exchange. They asked about school in my country, what kind of clothes I normally wear and what types of chores I have to do. I answered their questions and sadly left with Deepika and the Heifer staff.

Months later, I was back in the United States talking with my younger sister again. After looking at my photos of the girls, she had so many questions. Where do they get such pretty clothes? What do they do in a normal day? To my surprise, she excitedly

asked, “What are their schools like?”

The girls of Bikaner and their story had sparked us to talk about education from a different angle. My sister was shocked to find out what a struggle it was for the girls just to sit down and study at night, or their view of education as a privilege, not a barrier to summer and winter breaks. The conversation with her reminded me of my conversations in India, the young girls in different countries, giggling and talking in similar ways.

Heifer India is truly working to realize the potential of all self-help-group members. The women are bringing out the best in each other and becoming stronger with every girl they send to school. I hope the conversation does not remain limited to these middle school and high school girls. Conversations like the ones with these amazing young women can lead to real change and understanding. Heifer is providing them an open forum to speak with the power and strength they always had inside. 🌸

Maggie Carroll is a second-year student at the Clinton School of Public Service. In India, she provided film, photos, articles and social media posts for the Heifer India staff as part of the school's International Public Service Program requirement. Upon graduating, she hopes to continue freelancing and pursue a career in journalism.



Girls and boys play together when they are young, but girls are expected to stop playing and start working at a very young age.—Keetu, 18

AGING

AS YOUNG FAMILIES MOVE TO PURSUE MODERN JOBS IN THE CITIES AND LIFE EXPECTANCY INCREASES, INDIA STRUGGLES TO ADDRESS A GROWING, HEARTBREAKING GAP IN ELDER CARE.

INDIA

Story and photos by
KATYA CENGEL,
World Ark contributor

Destiny abandoned Jetan Kanwar the day her husband died.

She was 18.

As a widow living in the rural village of Piplai in northern India, Kanwar understood there was nothing left for her in this life. She knew, she said, that she would “live like a destitute and die in the same manner.”

She never remarried. She couldn't. Kanwar belongs to the Rajput caste, an upper caste, legend holds, descended from ruling Hindu warriors that does not allow widows to remarry. Rigid caste rules also kept her from working outside her home. She supported her young daughter by selling her land and accepting handouts from her extended family.

Champa Devi falls below the poverty line but does not receive a pension.

Her daughter married and moved away long ago. The land is gone and Kanwar uses the crumbled stone home she lived in as a newlywed to store dried dung cakes to be used to fuel fires. Now 60, she has white hair and creased skin. She wears a pink sari and a clumsy pair of black glasses. Two months ago she gave 100 rupees (\$1.99) to a middleman for cooking gas. The gas has yet to arrive and the 500 rupees (\$9.95) a month pension she receives from the government is barely enough to cover two meals a day.

Few visit the single-room structure adjacent to her old home where Kanwar lives. She is a widow without a son, both bad omens. The village girls sometimes collect kindling for her, but she must fetch her own water from a nearby hand pump. It is a difficult existence, but one that is not uncommon for India's growing elderly population.

When Kanwar was born in the early 1950s, the life expectancy in India was 42 years. In 2011, it was 65.

Increased life expectancy and improved child survival rates, coupled with declining fertility and mortality rates, are causing a demographic shift in India, one with a progressively increasing number of elderly. A decade ago, those over 60 accounted for 6 to 7 percent of India's population, said Valerian Pais, program manager of the nonprofit HelpAge India's Mumbai office. Today they make up 9 to 10 percent of the population, and by 2050 they are expected to account for 20 percent, he said.

The shift has caught the government and society unprepared, said Syam Prasad, a post-doctorate fellow at the Indira Gandhi Institute of Development Research in Mumbai whose work focuses on India's elderly. Unlike in developed countries where a social security system is in place to care for the elderly, there is no such system in India, Prasad said. The majority of the

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THE DEMOGRAPHIC SHIFT IN INDIA HAS CAUGHT THE GOVERNMENT AND SOCIETY UNPREPARED.

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population, he explained, work in the private sector, rarely making enough to save for retirement. The sector also lacks an organized pension system. It is widely reported that only 10 percent of the elderly receive government pensions. In addition to retired government employees, elderly who fall below the poverty line and have an annual family income of less than 18,000 rupees (\$354) or consume less than 2,000 calories a day, are supposed to receive a pension, said Prakash N. Borgaonkar, director of HelpAge India's Mumbai office. But securing one can be difficult. Government workers are supposed to travel to rural areas to collect this data, but those interviewed said that does not happen. Even those who do manage to get on the pension list, like Kanwar, struggle to make it on the money they are allotted. In the past their families might have helped, but today, migration, modernization and urbanization are increasingly breaking joint families into nuclear families.

And the challenges will continue to grow as the population ages.

"In 2040 there will be 324 million elderly; that means only three countries will have a total population more than the population of our elderly—China, the U.S. and Pakistan," Borgaonkar said.

Government and non-governmental sectors are working on ways to meet the need. A national elderly policy was established in 1999, and a welfare act requiring that adult children monetarily support their impoverished parents was passed in 2007. However, districts have been slow in setting up the tribu-

nals where the elderly can make claims without having to pay expensive court fees. Individual states, including Maharashtra, are working on their own policies on everything from mobility issues to elder abuse.

HelpAge India has lobbied for the passage of such bills and worked to involve communities in the effort. Like HelpAge India and other nonprofits, Heifer India serves the elderly by improving the situation of entire communities. Heifer India focuses on women-centered self-help groups that encourage members to pool their resources and support each other on small ventures that will help support their extended families. Heifer's livestock and agricultural gifts and trainings allow rural families and communities in Rajasthan, Bihar and Odisha states the extra cushion to help them to care for the more vulnerable members of society like the young and elderly.

CHANGING DEFINITION OF HOME

When K.L. Sharma established the Indian Gerontological Association in the late 1960s, few in the country knew what gerontology was, he said. At the time, India's elderly population fell below the 7 percent required to define a population as having begun aging, said Sharma, a retired psychology professor who lives in the northern Indian city of Jaipur.

Things have changed rapidly since then. Improved medical care and sanitation coupled with the absence of war have increased lifespans dramatically, explained P.K. Dev, vice president of the Gerontological Association. Though the health trends should be good news, the government did not have the corresponding infrastructure in place to cope with the new challenges. Its limited resources were being devoted to the support of impoverished mothers and their babies. That focus has helped improve child survival rates, Dev said.



When it is cold, Jetan Kenwar sits in the sun in front of what remains of the home that she lived in when she was first married.



Nivruti Sadu Gaikwad and wife, Radhabai Nivruti Gaikwad, (in orange) and a friend compare medicine they received from HelpAge India.

At the same time, the family structure that once cared for the elderly is under threat. As recently as the 1990s, when the government approached Sharma about establishing more homes for the aging, he told them not to bother because families cared for most of the elderly.

“Now I’m of a different opinion,” Sharma said. “I think now we need old-age homes.”

In Hindu tradition, sons care for the elderly, Prasad said. But modernization, globalization and urbanization mean many young people are abandoning rural villages for work in cities and abroad, putting the tradition of three generations living under one roof under increasing threat.

Maria Dias stays with her two daughters occasionally, but for a reason she will not, or cannot, explain, she said, she can’t stay with them too long.

“I miss them, but what to do?” she said.

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THE FAMILY STRUCTURE THAT ONCE CARED FOR THE ELDERLY IS UNDER THREAT.

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For the last two years and three months, her home has been All Saints Home in Mumbai, a Christian home for elderly women. She is 66 and shares a small room with one other woman. Her belongings are stashed in a cabinet.

Marie Netto isn’t exactly sure why she chose to come here 28 years ago, but it probably had to do with the fact that she didn’t get along with her in-laws and didn’t want her daughters-in-law to suffer under the same circumstances. Netto, who is 86, struggled to recall certain words during a visit.

“I’ve forgotten now; I don’t talk to anyone or anything,” she said. Her husband and three sons are deceased, and

her daughter lives in Australia.

Netto is well taken care of at All Saints, but her body aches and she routinely asks God: “Why do you keep me so long?”

Thirty years ago maybe 10 percent of the elderly population lived in old-age homes, said All Saints’ superintendent Sharda Joel. Now, she said, the homes are “very badly needed.” In Mumbai there are only 120 to 150 old-age homes for 1.1 million elderly, Borgaonkar said.

All Saints takes women of all faiths and charges families that can afford it—about 15 to 20 percent—a 30,000 rupee (\$590) donation, a 10,000 rupee (\$196) medical fee and a monthly fee of 1,500 rupees (\$29). The medical fee is collected at admission because sometimes families “don’t reach out” after admitting their mother, Joel said. Although the 55 women who stay at the home are outwardly cheerful and upbeat, they are also sad.

Because of the lower status women

CHANGING DEMOGRAPHICS

Life expectancy in India

1950 42

2011 65



Percent of population over age 60

2002 6 to 7%

2012 9 to 10%

2050 Estimated 20%

In 2040 there will be 324 million elderly in India. That means only three countries will have a total population more than the population of India's elderly—China, the United States and Pakistan.



occupy in Indian society, elderly women have always been particularly vulnerable, leading to the establishment of homes such as All Saints that are devoted solely to their care. Elderly men may have savings or property that can help support them, but the traditional role of women as workers inside the home means that many elderly women lack income, savings or property and are more reliant on others for their care.

"All these years they have served for the children, how they will be happy?" Joel said. "They will not be happy. They want to stay along with their children."

Pune's Matoshri Old Age House has 80 seniors on its waiting list. Residents sleep three to a room and keep their personal belongings in lockers. On winter afternoons they gather outside, the men, including Gajanan Joshi, in one area, and the women in another. Joshi is 91 and has four sons and one daughter. He worked as a city government clerk for 32 years and can remember the exact day he arrived here—Nov. 2, 2011—but he has difficulty explaining why he came. Tears were the only answer he could provide.

GOVERNMENT INVOLVEMENT

About half of Matoshri's 120 residents stay for free. Although the government established the home and was supposed to fund it, it receives no money from the government, said Jayant Savlekar, who manages the home. Instead it must depend on private donations. This was confirmed by a state government official who explained that the political party that established Matoshri is no longer in power, and the political party that replaced them chose not to fund the home.

"So that's why you will find most of these old-age homes not functioning. They have closed," the official said.

Traditionally political parties have not paid much attention to senior citizens because they provide the parties little benefit. In India, caste is still a major factor in elections, so political parties pay more attention to platforms that benefit certain castes rather than a population like the elderly that is made up of many different castes.

Thanks to the formation of senior citizen interest groups and nonprofits, the situation is changing. But progress remains slow, said D.N. Chapke, secretary of All India Senior Citizen's Confederation, a private organization devoted to senior issues established in 2001.

In 2011, more than a decade after the central government established a National Policy on Older Persons, only seven of the country's 35 states and union territories had partially accepted the goals it defined, such as expanding social and community services for the elderly. The situation is no better when it comes to the 2007 "Maintenance and Welfare of Parents and Senior Citizens Act" which requires that adult children provide monetary support to impoverished parents. HelpAge India found that only three states had put the act into practice almost three years after it was passed by parliament.

Maharashtra state, which encompasses both Mumbai and Pune, is expected to pass its first state senior citizen policy in the near future. They are working on amendments that would require buildings to add ramps and elevators to be more senior- and handicapped-accessible, said Dinesh Waghmare, secretary

of the state's social justice and social welfare department, which handles elderly issues. The state is also looking at programs that would use volunteers in partnership with the police to check up on homebound elders. But there is only so much the government can do, said Waghmare, whose department also handles other groups such as women and children.

"Government does not have that kind of funding to support all senior citizens and give all facilities to them," said Waghmare. "Community involvement is a must."

The impoverished are theoretically able to receive medical care at government institutions, but access is often difficult, especially for the elderly who must wait in the same long lines as everyone else and see doctors who are seldom trained in geriatrics, Borgaonkar said. HelpAge India has partially filled this gap with 74 mobile medical units that provide a doctor, pharmacist and free medicine to specific locations around the country.

COMMUNITY HELP

Few of the seniors who visit Dr. V.R. Srinivasan's converted ambulance in the Mumbai slum of Laldongar know their age. Nivruti Sadu Gaikwad and his wife, Radhabai, are in their 70s. They raised 10 children together, six of whom are still living, but none of whom support them, they said. Nivruti's plastic glasses are tied on with a string and his wife's arms are dry and knobby. Like the majority of India's elderly, Nivruti worked in the private sector, in his case as a laborer, and does not receive a pension. The couple are poor enough to qualify for a government pension, but they do not know how to get one. They have been visiting the mobile medical unit once a month for almost as long as the 20 years it has been coming to the area. Radhabai is treated for asthma, and her husband receives medicine for stomach pain.

Sukhdev Thorna can barely walk up the back steps of the old ambulance the mobile unit operates from. She is in her mid-60s, with a sweet round face and legs hobbled by arthritis. Her husband is dead, and due to mobility issues she is no longer able to work as a cleaning woman. When Dr. Srinivasan asked about her living situation she broke down. She insisted her tears were not from sadness but from happiness that the doctor had talked with her.

"Nobody talks to me or asks," she said. "This is the first time somebody's asking about me." +

HELP + FOR + RURAL +

++++++By KATYA CENGEL++++++

The situation in the villages where 70 percent of the country's elderly live is even lonelier. Far from hospitals, government and other institutions, the rural elderly are often unable or unaware of how to access benefits, said Prakash N. Borgaonkar, director of HelpAge India's Mumbai office. Widows are especially vulnerable, he said.

HelpAge India encourages students to advocate for the elderly. Educating the youth about the importance of caring for the elderly and encouraging families to maintain the joint family system that supports them best are the organization's latest plans. Yet most of HelpAge India's efforts focus on urban centers where they can help the most people.

Heifer International works in rural communities to establish gender equity and improve conditions by promoting small female-based self-help groups that support each other economically and socially, explained Abhinav Gaurav, technical liaison officer for Heifer India. Heifer supplies women in the groups with livestock and seeds and trains them in agricultural practices and animal husbandry. Additional trainings on social and economic issues, literacy and hygiene are offered, and several women are trained to serve as community animal health workers, helping serve the community while also improving their own financial situations.

"Development is not just about distributing livestock or physical input, it's about transforming people and producing a deeper level impact," Gaurav said.

Rajesh Singhi, executive director of Ibtada, one of the organizations Heifer partners with in Rajasthan state, said several self-help groups honored local elderly with useful gifts such as shawls last year. By improving the economic situation of women, the whole family prospers, he explained.

ELDERLY



Nancha Meena's daughter-in-law borrowed money from a Heifer self-help group in order to buy him the medicine he needed for a respiratory problem. At 80, Meena is no longer able to work in the fields like he used to and most days he sits in the sun smoking a hookah.

"When I was young I was having physical power, physical ability. At that point everyone used to come and talk to me," Meena said. "But nowadays no one bothers to talk to me but family members. I'm just like a vestige in the community."



Champa Devi doesn't have any goats, but the women's self-help groups Heifer and a partner organization established in Piplai have helped her. Devi is in her 60s and falls below the poverty line, but she has yet to receive a pension. One of her sons beats her, she said, one is a drunk and the third is dead. She cares for her orphan granddaughter, Kali Kumari, a timid 8-year-old girl in a green dress. The women's groups that Heifer helped form in the village finance Kali's education, something Devi would not be able to provide otherwise.

Heifer participant Kesari Devi is 60 years old. She falls below the poverty line but does not receive a government pension. Instead she sells a goat when she needs money to buy medicine for herself and basic supplies like oil and spices.

"It's my saving," she said. "Goats are my saving."



REVIEW

The Ultimate Underdog Story

Review by Annie Bergman, *World Ark* senior writer

With a tried and true formula of hinting that the improbable—the impossible, even—could happen, a good underdog story hooks me nearly every time.

Judging by the few teasers of Tim Crothers' new book, *The Queen of Katwe: A Story of Life, Chess, and One Extraordinary Girl's Dream of Becoming a Grandmaster*, I knew that it was just the story for me.

And I really wanted to love the book. But I didn't.

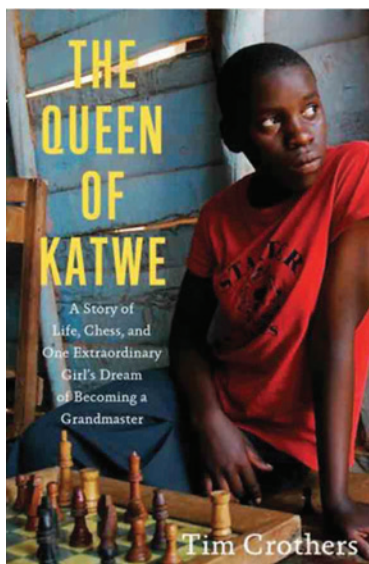
The Queen of Katwe explores the life of Phiona Mutesi, now 16, who lives in Katwe, the most notorious of the slums outside of Kampala, Uganda. Crothers profiled the chess phenomenon in a 2011 article for *ESPN The Magazine*.

Crothers does a nice job of conveying how remarkable a young woman his subject is, and it's clear he's in awe of the slight girl whom he introduces in Chapter 4—the tiny 9-year-old in ragged, muddy clothes, with a fierce spirit but quiet voice.

Though I was just as taken with this little girl as Crothers seems to be, I found Crothers' approach to telling Phiona's story maddeningly disjointed.

"Phiona Mutesi is the ultimate underdog," Crothers writes in the book, which was released in October 2012 and published by Scribner. "To be African is to be an underdog in the world. To be Ugandan is to be an underdog in Africa. To be from Katwe is to be an underdog in Uganda. To be a girl is to be an underdog in Katwe."

It's a paragraph that would have had me hungry to see what Phiona would have to overcome on her way to becoming a chess champion. But this paragraph doesn't appear until page 210, well after it's clear that Phiona has triumphed



The Queen of Katwe:
A Story of Life, Chess, and One
Extraordinary Girl's Dream
of Becoming a Grandmaster

By Tim Crothers
Scribner, 2012, \$26, 224 pages

over many demons that lay in her path.

While the chronological method doesn't always make for a compelling story, it would have benefited Crothers' readers, especially those unfamiliar with the magazine article.

Instead, Crothers chooses to open the story with a prologue of Phiona at 15, competing in the most prestigious of chess events, the Chess Olympiad, in Siberia. We start years into her journey, knowing already that she wins matches at the Olympiad.

He then launches into an exhaustive examination of Katwe: how it came to be, the people who moved there and why, and how it has shaped every aspect of Phiona's life, and also of the lives of the people that play key roles in the girl's successes.

The book continues in this fashion, returning to Phiona and how she came to play a game that has no name in her native language. In between are side stories that only marginally enhance and move the story along. Ultimately, the central story suffers from this fragmented approach.

After the spoiler of a prologue, Phiona doesn't actually appear until page 62. Slowly, the devastating details of her life emerge; how at age 9 she had already grasped the "survival of the fittest" idea that children of Katwe need; how she was welcomed by her future chess coach into playing and stayed because of her fascination with the chess pieces, particularly the queen (and maybe for a bowl of porridge).

It is this section of the book, particularly by page 120 when Phiona takes center stage, that the book is its most fulfilling. Still, the real Phiona seems out of reach. It's clearer

what her family and friends think and want for her than what she wants for herself.

At its core, *The Queen of Katwe* lives up to the “ultimate” moniker for underdog stories. It’s also an exceptionally good one when taken apart. It includes multiple gut-wrenching and moving parts—two extremely important elements to keep the reader rooting for the improbable.

For the most part, we see Phiona triumph, fulfilling a basic desire. Still, the story leaves Phiona, the Ugandan national chess champion, living in Katwe. Because of where she was born, her future is uncertain.

“Even if Phiona can somehow produce the means to leave Katwe, then history has proven that her struggle is just beginning. Nearly all the stories of people leaving Katwe end with their return,” Crothers writes. Not exactly the hope-filled ending I imagined.

But then again, chess is a sport that players can compete in well after injury and age have robbed other athletes of their abilities to perform. While we may not know Phiona’s fate for quite some time, it’s difficult knowing that she may once again be adrift in Katwe’s sea of poverty and despair.

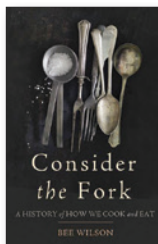
Crothers assures us he’s still reporting Phiona’s story. Someday soon we’ll know what’s become of Katwe’s chess queen. For now, I can hope that she just gets to enjoy being a kid.

NEW AND NOTEWORTHY

Consider the Fork: A History of How We Cook and Eat

By Bee Wilson

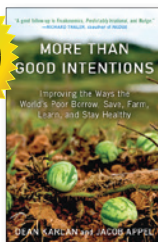
A study of the evolution of cooking around the world reveals the history of everyday objects like knives and plates, and how kitchen tools and techniques shape modern culture.



More Than Good Intentions: Improving the Way the World's Poor Borrow, Save, Farm, Learn, and Stay Healthy

By Dean Karlan and Jacob Appel

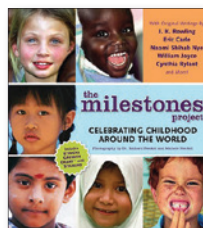
Karlan, a behavioral economist, and Appel, an aid worker, present innovative and successful development interventions, focusing on small fixes with big benefits.



FIVE FAVORITES ON:

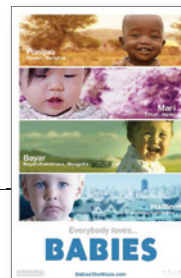
Childhood Around the World

Mickey Mouse, snack time and preschool characterize childhood in the United States, but children in other countries have far different experiences.

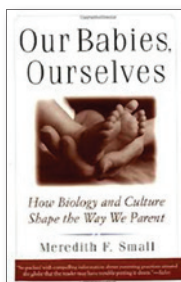


The Milestone Project: Celebrating Childhood Around the World
By Richard Steckel and Michele Steckel

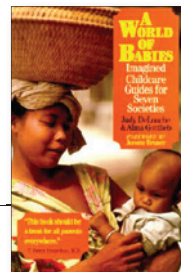
Babies (film)
Directed by Tomas Balmès



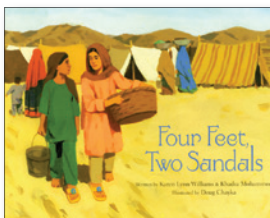
Our Babies, Ourselves: How Biology and Culture Shape the Way We Parent
By Meredith Small



A World of Babies: Imagined Childcare Guides from Seven Societies
by Judy S. Deloache and Alma Gottlieb



Four Feet, Two Sandals
By Karen Lynn Williams and Khandra Mohammed





Diversifying the Banana Farm: Beyond Fair Trade

By Brooke Edwards, Heifer International writer

Photos by Dave Anderson

MACHALA, Ecuador—Banana plantations, many guarded by electric fences, extend across this city known as the Banana Capital of the World. Farmers grow row after row for export under familiar logos like Chiquita, Dole and Del Monte. It's big business here: Ecuador's bananas represent 32 percent of the world's traded bananas and are the country's second-largest export after petroleum. The banana is the most popular fruit on the planet: Each year humans eat 100 billion of them. In the United States, the average person eats 26.2 pounds of bananas every year.

Yet high demand does not tell the whole story. Typical banana plantations on Machala's prime, flat real estate often pay low wages and offer few benefits to workers. Field workers are exposed to chemicals used to support the monoculture model (growing a single crop over a wide area). These high-production practices help keep bananas incredibly affordable to consumers; they sell for an average 60 cents per pound.

In the foothills of the Andes, just a quick drive from the flat, expansive plantations of Machala, a different model thrives. Small-scale farmers here brazenly fought their way into the international banana trade 15 years ago, and their fair trade, sustainable methods have taken hold.

In 1998, 14 small-scale Ecuadorian farmers made the risky move of shipping a single container (about 38,400 pounds) of bananas to Europe, hoping to sell directly to a supermarket. This first attempt was a success, and the Association of Small Banana Producers El Guabo was established, cutting out the middleman to gain direct access to the international banana market.



El Guabo member Alejandro Toro weighs bananas. Next they will be stickered and packed into a box for export.

Today, El Guabo unites 450 small-scale banana producers, divided into 14 small groups. The farms typically range from 12 acres to 25 acres. El Guabo exports bananas under fair trade conditions in partnership with Equal Exchange, a worker-owned cooperative that trades directly with farmer cooperatives around the world growing coffee, tea, cocoa, bananas and other products.

Membership in El Guabo brings a number of benefits. The fair trade certification earns a \$1-per-box premium, which the group uses to make social and environmental improvements in the community. Decisions on how to allocate the proceeds must be made collectively and democratically. For 2010 through 2012, the group decided 20 cents of every dollar would be spent to pay teacher sala-

ries for nearby schools, including a school for children with special needs.

In previous years, proceeds paid for a medical clinic, health coverage and a social security system. Working on a banana farm is risky. Farmers may climb ladders hundreds of times a week to check or harvest their crops or to put protective bags on the ripening bunches to keep individual bananas from falling to the ground. If a farmer falls off his ladder and breaks his leg, he can afford medical care under El Guabo. That's not a luxury afforded a typical commercial banana plantation worker.

While El Guabo farmers earn a better price for their bananas, a constant \$7.40 per box, they continue to live in relatively poor conditions. They farm on steep land and lack sufficient irrigation to increase their yields. Family diets lack nutritional diversity as most of the effort is put into growing bananas for export. This persistent poverty led El Guabo leaders to call on Heifer International for help.

Participants in Heifer's *Strengthening the Productive Diversity of Agro-Forestry Small Holders in El Oro, Azuay and Guayas Project* receive irrigation systems, livestock and agroforestry training. By growing five or six different crops—citrus and cocoa are common—they're not only

diversifying their sources of income, but their diets as well. The project also teaches participants how to grow vegetable gardens for family consumption (kitchen gardens are uncommon in this part of the world so focused on raising food for export), which will allow them to feed themselves and rely less on external markets for food.

Heifer's work with banana farmers is similar to its work with coffee farmers in countries like Honduras. It is difficult to be a farmer raising staple crops for the rest of the world, even a crop like bananas that can be harvested nearly year-round. Working collectively and diversifying what they raise are two strategies that can serve these small-scale farmers well. With continued support and training, these Ecuadorian banana farmers and their families will finally be able to thrive on the lush land, instead of barely surviving. ■



Wilson Sanchez (left) demonstrates the bags used to protect growing bananas. Green "bio bags" are chemical-free but costly. Cocoa pods (right) grow on Sanchez's farm.

PHOTO BY BROCKE EDWARDS

WHAT'S IN A NAME?

EL GUABO REPRESENTS THREE TYPES OF FAIR TRADE BANANA FARMS:

CONVENTIONAL

Small family farms. Meet fair trade social requirements. Practice monoculture and use synthetic chemicals. Grow for export only.

ORGANIC

Meet all fair trade and organic standards, but still rely on the monocrop model. Grow for export only.

AGROFORESTRY

Meet fair trade standards and go beyond organic standards for biodiversity and environmental responsibility. Most farms are fewer than 25 acres and located in mountainous areas. Use traditional intercropping techniques to grow several crops together. Grow for export and local consumption.

The Ripple Effect

Big Moo Canoe's founder aims to reach rural Haitian families in need with every dip of a paddle on his marathon adventures.



PHOTO COURTESY OF ROB BEAN

By Donna Stokes, *World Ark* managing editor

He had us at “moo.”

Yet Rob Bean didn't stop there. He added a canoe. And as it turns out, when you drive around regularly with a large, cow-spotted boat on top of your car, people will ask questions.

That's the perfect setup for Bean, of Fort Collins, Colo., who is at his best as one of Heifer International's most passionate and persuasive ambassadors when he can share his enthusiasm with others.

“We chat about boats, canoeing, and our big [marathon canoe] trips for a while, and then I have a great opportunity to share why we do what we do,” he said. “Peo-

ple really seem to enjoy talking when there are multiple passions involved—a true passion for canoeing and the outdoors and a passion to help others find greater opportunity.”

Bean is the CPO, or chief paddling officer, of Big Moo Canoe, a multi-year effort to raise awareness and donations for Heifer Haiti. Specifically, he and his daughter, Megan, are raising money for the Haiti REACH program, which will benefit more than 20,000 rural households in the country over five years.

Though linking cows and canoes clearly has its silly side, Bean ventures deeper when tying the end purpose of



Rob Bean paddles his cow-spotted canoe along the Green River in Utah about 45 miles into his nearly 170-mile 2-River Challenge in May 2012. The marathon adventure included a 48-mile upstream leg. "Just like I have traveled many rivers over the years, Heifer has worked in so many communities that they know the best practices to help people achieve self-sufficiency," Bean said.

humanitarian work to visualizing success in any endeavor, including an epic float trip.

"I think that the metaphor of a canoe trip is very similar to how Heifer comes into a new community and shares the promise of what could be after planning, hard work and time," Bean said.

He notes that in canoeing, you typically shuttle a car to the takeout point down the river before the start, which allows you to see what the destination looks like.

"For me, it's a practical vision of assured success," he said. "You can imagine how nice it will be to be standing again in that spot after really earning the right to be there.

"In a very similar way, Heifer can come into a new community and know that though the road will be hard, with good planning and perseverance the community will find success. Just like I have traveled many rivers over the years, Heifer has worked in so many communities that they know the best practices to help people achieve self-sufficiency with the introduction of capital and training."

He chose the REACH project after reading a story about donor fatigue following the 2010 earthquake amid questions about how relief donations were spent. "It saddened me to think that Heifer's new project might be

negatively affected," Bean said. "Heifer is an organization that has always focused on positive results."

Bean said that most people he talks with have a vision of Haiti as a country that may never break the shackles of poverty and corruption. "I really believe that this does not have to be the case," he said. "Heifer's presence in the country can be a signal of hope to other groups, and they will see that it is a good place to invest."

The adventure started in 2007, when Bean decided to plan a 250-mile marathon paddle along the upper part of the North Platte River near Saratoga, Wyo. His longest effort so far had been about 50 miles.

"I got to thinking about how all of that energy (for training and preparation) could be harnessed for something beyond just my personal challenge," Bean said. He chose Heifer to support for his May 2008 challenge, and Megan joined in the effort with her own float a month later. In their first year, they raised more than \$8,000 from donors in 15 states.

"I thought it was over at that point," Bean said. "Well, by that summer it was clear I had been bitten by the Heifer bug" and that his desire to help families in Haiti had grown into something larger than himself. Businesses and Sun-

2-RIVERS CHALLENGE HIGH POINTS

- ♥ Watching the sun as it cast changing shadows across the canyons throughout the day.
- ♥ Seeing beavers crash into the water to scare us away.
- ♥ Watching the moon rise and set over the huge canyon walls, and camping on sandbars in the quiet of nature.
- ♥ Visiting Tri-Alcove Canyon where three canyons go off the river from a single point; it's such a thrill to take photos and video to share these remote places with people who could never visit themselves.
- ♥ Stopping at a spot along the Green River where a beaver trapper made an illustration of his paddleboat on the canyon wall on May 3, 1836, 176 years to the day when we made it.
- ♥ The final highlight, an interview on a local AM radio station, came after the trip. It was a fun opportunity to talk about Heifer for 10 minutes to a live audience.

For videos, photos and more on how you can support Big Moo Canoe, go to www.moocanoe.com.



day school classes joined in the fundraising efforts, which grew to include alternative giving demonstrations, lake day fundraisers, food drives and of course more adventures.

In 2010, he organized the ambitious MR340, a 340-mile, nonstop boat race across the state of Missouri, from Kansas City to St. Charles. Eight team members from five states joined in, achieving their personal paddling goals and raising more than \$11,000 for Heifer and \$1,200 and 300 pounds of cans for a food bank.

Today, Big Moo Canoe has raised more than \$25,000 for Heifer Haiti. In 2012, major projects included Bean's 2-River Challenge in May and daughter Megan's challenge in September to climb Colorado's 14,000-foot Mount Grays and Mount Torreys.

In the 2-River Challenge, Bean and a partner paddled 120 miles down the Green River to where it meets the Colorado River deep in the Utah desert. They then worked their way upstream 48 miles to a spot near Moab, Utah, spending 53 hours and 18 minutes on the water.

"We had four days to complete the event, and we used every hour available, often finishing around midnight under the light of the moon and on a remote sandbar in the wilderness. It was awesome," Bean said. Read the list

of his favorite moments in the box above.

His wife, Tracey, "can't imagine sitting in a canoe for hundreds of miles," but supports the effort by keeping things running at home with son Lucas, who has put in quite a few miles on the water as well.

"Rob and Megan have been doing Heifer work together since the beginning, and Megan was really excited about having her own project this year," Tracey Bean said. "It has been really fun to watch Rob and both the kids be involved with Heifer, and I definitely have a sense of joy when I see them succeed. Rob has a lot of drive and passion for the things he finds important, and it is not surprising that he has always included the kids in his crazy adventures. He wants the kids to learn about helping others while enjoying the journey together in the outdoors."

Despite his overwhelming success with Big Moo Canoe, he continues to focus more on the experience and relationships than the numbers. "It's easy to send an email out asking for money," he said. "But it's far more important to speak to people one on one and tell them why your chosen charity makes a difference in the world. When that is done with passion, people will go out of their way to help you."



Q&A with Megan Bean

In September, Megan Bean, age 11, climbed Mt. Grays and Mt. Torreys with dad Rob Bean and a special stuffed Heifer cow that made the entire trip on her backpack. The hike up the 14-ers, with an altitude gain of more than 3,000 feet, took nine hours, roundtrip.

Her dad said that when she made it to the summit of Grays Peak it was especially gratifying because he knew how hard she worked to get there. "To watch your child struggle is hard, but to also watch them stretch beyond what they think they could accomplish was really special, something I will never forget," he said.

Megan answered a few questions after the successful summit.

World Ark: What was the best part?

Megan Bean: The whole hike was fun, but the top was really cool. It was great to be up so high and be able to see across half of the state, but it was also a little nerve wracking to look back down the steep slopes to the valleys below.

What was the most challenging?

The hardest part of the hike was probably going down, because you kept turning each corner, thinking the hike would be over, but then you'd remember where you were, and we still had a few more miles to go.

Did you get any blisters?

Yes, the strangest blister I have ever gotten, right under my toenail. But it didn't slow me down.

Did you run out of water or get hungry?

No, we had just enough to make it up and down the mountain. My dad ran out of water, but I shared some of mine with him.

What kind of encouragement and support did you get from your family, friends and your community?

My dad helped me post pictures and videos on the Big Moo Canoe Facebook page, and many people left comments and encouragement there. A teacher at my school sent out a link to the interview I did, and now people at school know I am the Heifer girl, and they think what I am doing is neat. At church I received a lot of generous donations from people, and many of my family members helped out by sponsoring my climb. My dad was the biggest supporter of my project from the time I first got the idea until the time we got in the car to leave the mountain.



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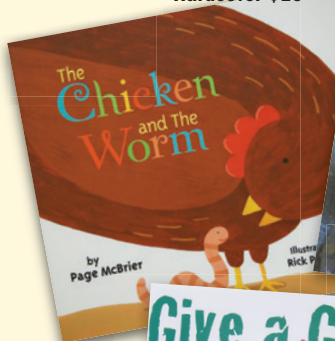
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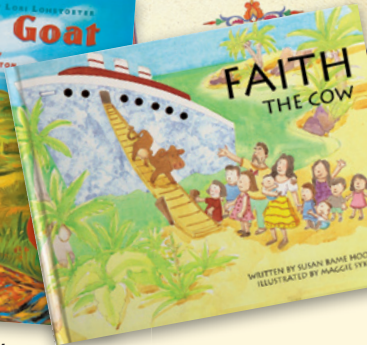
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Heifer Puts Twist On School Break

By Annie Bergman, *World Ark* senior writer

For many students, summer is a delightful three months off from the normal school routine. But last summer a group of seventh-graders from Hershey, Penn., opted for a very different kind of summer break.

Ten youth members at Fishburn United Methodist Church visited Heifer Learning Center at Overlook Farm to participate in a five-day alternative break program.

Alternative break programs at Heifer's Learning Centers combine experiential learning programs with service activities. The service allows participants to give back while experiencing something for the first time, like milking a goat or harvesting vegetables.

"Our subject matter and content is true to our mission, providing insight and awareness of hunger- and poverty-related issues and how individuals can help make a difference," said Paul Bertler, education manager at Overlook Farm in Rutland, Mass.

And Fishburn's group leader for the experience, Jenny Greene, echoed Bertler's perspective.

"Although churches still encourage summer church camps, by the seventh grade, most youth are now ready for a new experience and Heifer is a perfect alternative," Greene said. "It is a great beginning for youth and adults who have not gone outside of their comfort zone to stretch themselves. It was a wonderful way to share with 'city' kids the importance of farming and how to appreciate the Earth and to take care of it."

Greene had been to Overlook Farm 15 times and knew it would be a good fit for the youth. Greene said the church helped prepare the group before the trip to the farm, and while there the lessons from church were reinforced through Heifer's Cornerstones.

"Sharing and Caring and helping our neighbors is what Christ teaches us, and Heifer helps us see the world through other cultures' eyes. It is a wonderful place to share and discuss scripture," she said.

Greene said the group came away from their experience



PHOTO COURTESY OF FISHBURN UNITED METHODIST CHURCH

The group of 12 members of Fishburn United Methodist Church on their five-day alternative break at Overlook Farm in Rutland, Mass.

with a new outlook, and that Passing on the Gift took on true meaning for them. Since their visit, the church's Vacation Bible School started raising money for Heifer, and so far, Fishburn has donated a total of \$5,000 to Heifer.

And Greene says the students will probably make the alternative break program a yearly trip.

"They told their friends, and now it will be a trip to do again," she said.

Bertler encourages other church and school groups to check out the Learning Centers' alternative break programming.

"The issues we face are complex and urgent. The need for action is great," he said. "Our program participants leave with a better understanding of their place in the world. They develop empathy and respect for those who have less. And most importantly, they take away the motivation and tools to be agents of social change." ■

Contact Information

HEIFER LEARNING CENTER
AT **HEIFER RANCH**
Perryville, Ark. | (501) 889-5124
www.heifer.org/ranch

HEIFER LEARNING CENTER
AT **HEIFER VILLAGE**
Little Rock, Ark. | (877) 870-2697
www.heifer.org/heifervillage

HEIFER LEARNING CENTER
AT **OVERLOOK FARM**
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—Purity Jepchirchir Metto, age 28

Purity Jepchirchir Metto, of Kemeliet village, Kenya, sells her milk to the Tanykina Dairy Plant Ltd. She now earns a steady income to provide schooling and healthcare for orphans Cecily Jelimo, age 3, and Valary Jumutai, age 7. As a participant in the East Africa Dairy Development project, Metto was able to get a loan to open her own store.

Photo by Russell Powell
Interview by Christian DeVries



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