

® THE MAGAZINE OF HEIFER INTERNATIONAL

FALL 2018 || HEIFER.ORG

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HEIFER GHANA

The Other Ghana

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PLUS

WATER AROUND THE WORLD

How much do we use? How much do we really need?



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Dear Determined Humanitarians,

Imagine, if you will, the anxiety and uncertainty of living in a place plagued by political corruption and systemic poverty and overrun by violence. While that description fits scores of areas around the world from the Middle East to regions across Africa, it has been true for the people of Central America for decades. It's no wonder families become so desperate they have no choice but to uproot and seek asylum in foreign lands.

Most recently, we've seen that play out close to home. The caravan of nearly 1,200 emigrants — many of whom were fleeing gang violence and lack of opportunity in Honduras or surrounding countries — riled our leaders and set the United States on edge, once again, in the immigration debate.

At Heifer, we understand the complexities that underpin the issue because we face them every day in our work, and not just in Honduras from where the majority of these emigrants fled. We face it everywhere. A lack of land, capital and opportunities to succeed have forced people to seek jobs or economic opportunities elsewhere.

After examining root causes, we equip families with tools, training or capital to help them stay rooted and earn an income that allows them to weather existential storms. In Honduras, which you'll read about in this issue, the work

looks different depending on community circumstance, desire and agricultural product. We're helping coffee farmers diversify farms for better production and boosting animal management techniques among indigenous Lenca communities so they can better market their beef and dairy products. We are working with cheesemakers, a Honduran donut bakery and a wooden toy maker all in the district of Olancho, where we're also boosting tourism.

All activities are contributing to stronger local economies. And when money stays in communities, more people prosper.

This issue also features our work in Ghana, a town that went to war with pesticides, a fascinating infographic on water use and a look at the first-ever goat festival held by our team in Nepal.

I hope you enjoy the issue and take time to consider the causes of complex issues like emigration that we deal with every day. No doubt these are issues that we all feel strongly about, but let's remember our common humanity and focus on where we can come together to strengthen and not further divide.

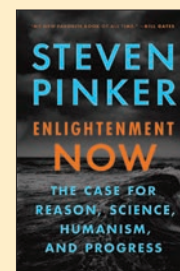
Yours for a better world,



Pierre U. Ferrari
@HeiferCEO

PIERRE'S PICKS

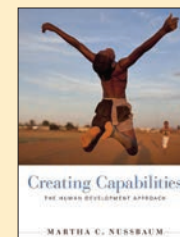
Pierre has been waxing philosophical lately, and you can join him in his favorite explorations of the nature of knowledge and humanity.



Enlightenment Now

by Steven Pinker

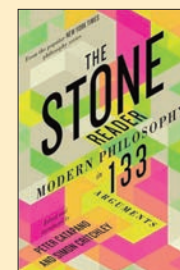
Progress is real, and science can prove it. Pierre's review: "Best book EVER!"



Creating Capabilities

by Martha Nussbaum

A Chicago University philosopher hits close to home, espousing similar ideals to Heifer's holistic approach to helping people.



The Stone Reader

by Peter Catapano and Simon Critchley
Think philosophy is just for academics and professors? Think again and read this collection of essays on modern philosophy originally brought to the masses by The Stone column in *The New York Times*.



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COVER

Martina Sabaar of Ghana is building a new home with money she earned selling goats. Photo by Geoff Oliver Bugbee

Top:
Mefore Kuunmwine prepares food at an open-air stove in her courtyard in Ghana. Photo by Geoff Oliver Bugbee

12 The Poison Apple
In 2014, the European town of Mals voted to ban pesticides. The author of *A Precautionary Tale: How One Small Town Banned Pesticides, Preserved Its Food Heritage, and Inspired a Movement* talks about what led Mals to become the world's first pesticide-free community.



18 Made in Honduras
In Olancho, there are a lot of hardworking, creative people finding ways to make a living. But it's not easy to sustain a small business in Honduras. Heifer is helping connect new entrepreneurs to training and larger markets.



28 The Other Ghana
Ghana's economy booms on oil and cocoa profits, but remote farming communities in the Northern Region are stalled out. Lacking resources and opportunity, people here have only two choices: leave or find a way to make their farms more productive. A Heifer project is boosting goat production and making staying home a viable option again.





GREAT JOB

Your Summer 2018 issue had many great articles. "The Dirt on Produce" gave a clear picture of what we need to do to restore our soil to support healthy food. *World Ark's* book reviews have led me to many good books on this and other important issues. Also, in this issue's letters to the editor, a concern was expressed about what happens to milk pouches from your school milk program. May I suggest that the recycling company TerraCycle might help with any recycling issues. Thanks for all you do!

LOUISE EVANS
Wynnewood, Pennsylvania

A DIFFERENT VIEW

The reader states "if you want to end poverty, you will provide long-acting reversible contraceptives to as many women as possible." She obviously hasn't been reading the wonderful stories of sharing and giving you write about in every issue.

The people in every country you help with every kind of self-help aid are happy, caring, sharing

people. Like the story about the women who gave a neighbor a goat even though Heifer didn't give her one to begin with. These people need their children to help with the animals, farming, carrying of water and numerous other tasks. Like the American farmers of old and in Europe, large families were the norm.

America and Europe are suffering from a zero growth rate because of long-lasting reversible contraceptives and abortion. Soon there will be fewer and fewer young people to support the elderly and the economy of these countries. Countries like China and India are experiencing a shortage of girls because of selective abortion.

The approach Heifer is taking, that is to help people help themselves, is the right thing to do. We have no right to tell these countries to limit their populations. Natural disasters, disease and wars take care of that and always have.

My suggestion would be to get the George Soros of this world to invest in Heifer and organizations like it to really give people the kind of help they want and need.

MRS. GIRA FREIBERG
Plainview, New York

In our Summer issue we asked readers to answer this question: "When Heifer International works within cultures where women are considered the inferior sex, should Heifer work to change that thinking? Why, or why not?"

The question concerning cultures who view women as inferior took me by surprise, I must say. This one should be a no-brainer. Whatever the cultural belief, the truth remains the same and transcends cultures:

Women are NOT inferior to men. Both sexes benefit when women are treated as equals. The idea that women are less valuable, less intelligent or otherwise inferior inevitably leads to spousal abuse, child brides and increased risk of living in poverty. In other words, a community will never thrive as it should when half of the population is uneducated, barefoot and pregnant with no choice in the matter. Heifer should seek to empower women in order to raise up the whole community. Livestock alone cannot lift families into a better life.

The truth, indeed, shall set us free.
DEBRA CARPENTER
Muncie, Indiana

Q&A FALL

In Honduras and other countries, Heifer International is supporting entrepreneurs and their families. What kinds of small businesses would you like to see Heifer support?

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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World Ark is the educational, informational and outreach publication of Heifer International. Its purpose is to further Heifer's goals to end poverty and hunger while caring for the Earth and to raise awareness of the issues involved in this work throughout the world. Heifer International is qualified as a charitable organization under Section 501(c)(3) of the Internal Revenue Code. Contributions to Heifer International are tax-deductible to the extent permitted by law.

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The good news is that 90 percent of people on the planet have access to “*improved water*,” which means they have water piped into their homes or can collect water from a protected well nearby. But there are still *663 million people in the world without easy access to clean water*, and their health is at risk.

WATER

WATER USE VS. WATER NEEDS

DRIEST CONTINENT



AUSTRALIA
is the driest continent

Africa comes second.

DRIEST COUNTRY



AFGHANISTAN
suffers the most

22% of Afghanis have access to clean, safe drinking water.

In some Asian countries, water is plentiful but often polluted.

FLOODING IS COMMON IN CAMBODIA



40% of the population relies on **unsafe water** sources.

IN BANGLADESH



80% of water that arrives in homes through pipes has **E. coli contamination**, about the same pollution rate as with surface water.

Water is scarce on about a third of the African continent.

AFRICAN CONTINENT



300 million African people face **daily hardships** in getting the clean water they need.

SUB-SAHARAN AFRICA



More than a quarter of the population in **sub-Saharan Africa** lives in households where someone must spend more than half an hour per round trip to collect water.

13
GALLONS OF WATER / DAY
what the UN says people need for drinking, food prep and hygiene.

80-100
GALLONS OF WATER / DAY
the average per-person use in the United States

OF THAT

Flushing the toilet
takes up the largest share.

Newer model clothes washers
25 GALLONS / WASH

To-the-brim bath
36 GALLONS / BATH





WATCH



LACK OF CLEAN WATER = DISEASE

1,500,000
CHILDREN

die each year from diarrhea caused by contaminated water and inadequate sanitation.

Contaminated water leads to:

- cholera
- guinea worm
- dysentery
- other potentially fatal illnesses

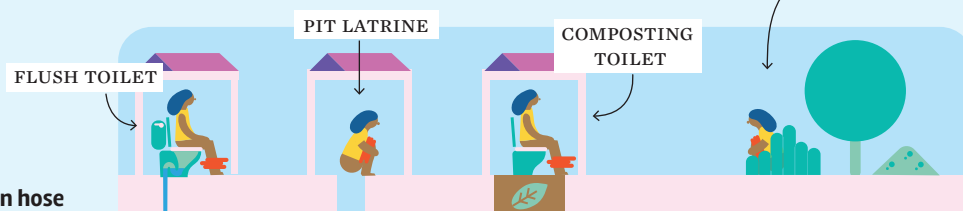
Clean water access and sanitation go hand-in-hand...

5 or less

GALLONS OF WATER / DAY
what people in some dry regions of Africa use per day.

An improved **sanitation facility** that hygienically separates human waste from human contact can protect human health.

46 million people still lack any type of toilet and must **defecate outside**, a dangerous practice that contaminates drinking water and spreads disease.



Watering flowers or playing in the garden hose

2 GALLONS
MINUTE

Dishwashers

6-16 GALLONS
CYCLE

Showers

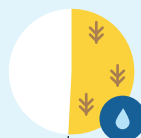
2 GALLONS
MINUTE

Access to improved sanitation:



URBAN
DWELLERS

82%



RURAL
DWELLERS

51%



INDIA

has the **largest number of people without access to toilets**, but the government is working hard to change that. The **"No Toilet, No Bride"** campaign encourages women to turn down marriage unless their suitors build them private latrines.



Canning is Her Jam

By Molly Fincher, *World Ark* writer

Teriney Tobler is the canning queen at The Root Café, a beloved restaurant in Little Rock, Arkansas, specializing in locally grown organic food. When summer comes along and fresh fruit and vegetables are in great abundance, Tobler is there to preserve that fresh taste of summer in the form of jams, jellies and pickles to be enjoyed year-round.

Tobler has been canning at home for eight years, ever since her son was born and her family came to visit and take care of her. They canned fruit, veggies and meat and stocked her whole kitchen. "I was fascinated from then forward, so I started dabbling," Tobler said. She started out with fruit she and her kids picked from farms during the summer and took off from there.

"I love making my own jams and jellies. I love knowing what's going into them versus buying them at the store. For the most part my kids eat only what I make and they love it. Since I can it, it lasts just as long as store-bought stuff. It has a fresher taste to it. And I like to jokingly say



Teriney Tobler, right, teaches Jason Woods how to preserve summer's bounty.

that it tastes better because it has lots of love in it!"

While Tobler concedes that making your own jam is probably more expensive and certainly more time consuming than buying at the store, she does it for the love of the craft.

"Regardless, it's about the process for me. For my home canning, my kids get to be a part of the process. We love going to the farms! Sometimes we are lucky and get to meet farmers and their kids. My kids love

that. They ask questions about the fruit, they learn about different varieties and then they get to pick the fruit. When we bring the fruit home my kids are able to help clean the fruit and do some prep work. They watch and observe the process and lastly are able to enjoy the fruit of their labor. In addition, my kids are learning a dying craft. This is something that they hopefully will be able to use in their homes in the future."





The Root's Lemon Strawberry Jam

INGREDIENTS

- 5 cups fruit (about 2 quarts fully ripe strawberries)
- 1 box SURE-JELL fruit pectin
- 1 lemon
- ¼ cup lemon juice
- 7 cups of sugar

TOOLS

Funnel, jar lifter and lid lifter (can be bought as a kit).



1. Wash your jars with soap and water.
2. Fill the jars with water and place in a large pot also filled with water so that the water level is about even with the tops of the jars.
3. Cover the pot and boil the jars for 10 minutes.
4. Wash your strawberries and trim the green off.

TERINEY'S TIP

Sometimes they have gushy parts, and you can just cut those bad parts off.



5. Process the strawberries by pulsing them in a food processor. You can also mash them up with

a potato smasher if you don't have a food processor.

TERINEY'S TIP

You want to pulse it. You don't want to blend it—I mean, you can if you want, but I prefer pulsed because it's still a little chunky.



7. Measure 5 cups of the processed strawberries into a pot.
8. Add ¼ cup lemon juice.
9. Grate in the rind of one lemon.

TERINEY'S TIP

I like a bigger [grate] so you get chunkier pieces, because I like the distinct flavor when you're eating it.

10. Place mixture on stove and add pectin.

11. Bring the mixture to a boil and give it a gentle stir.

TERINEY'S TIP

You don't want to stir too much. I find it creates more of a foam on your jam—which for home canning, I don't care, I use every bit. My kids don't care that there's a foam. But for canning for The Root, I want a real clean jam or jelly.

12. Let it come to a full boil and add 7 cups of sugar while stirring.

TERINEY'S TIP

A full boil does not lay back down [when you stir]. It just keeps going and going even while you're stirring it. Be careful watching it, otherwise it will boil over.





13. Bring to a rolling boil again and let it boil for one minute. Keep stirring gently during this stage.

TERINEY'S TIP

It happens very quickly. I know they say a watched pot doesn't boil, but they are wrong! If you're not watching it, it can boil over really quickly so I prefer to pay attention.

14. Turn the heat off on the jars. Pour some of the hot water in another pot to sterilize the lids. Clean the lids beforehand and cover them in this hot water to sterilize them. Do not boil the lids, because it will affect the plastic and compromise the seal at the end.

Keep the jars covered in the pot so they stay warm. You don't want to add the hot jam to cold glass jars.

15. Turn the heat off the jam and remove everything from the stove.

16. Pull out the jars with a jar lifter. Be careful—they are very hot!

TERINEY'S TIP

It's really important to take care with this step, with the sterilizing and then removing them, because we've just removed bacteria and we want to keep them that way. Because if you skip on these steps or compromise them, your jam could spoil. And that's no fun. And you could get botulism and die. That is not a fun part. But, seriously.



17. If you don't want foam in your jam, skim the foam off the top.

TERINEY'S TIP

It tastes fine, it's just a visual thing. You can add a little bit of butter to your mixture to reduce the amount of foam, but for The Root we don't add the butter to it.



18. Fill your jars with jam using a funnel and leave about a ¼-inch space at the top.

19. As you get toward the bottom part of your batch, you can see ripples in your jam where it's started to cool and solidify. When you see the ripples, you know for sure it worked!

TERINEY'S TIP

It's always a relieving point to me when I've made a giant batch, and I get to the point where I can see that, and I'm like "Ah! It worked!" I honestly think I do it every time even though I've made tons. It's such a relief when I see that little ripple.



20. Carefully wipe the sticky off the outside of the jars with a wet paper towel. Be careful not to touch the inside of the jars.

TERINEY'S TIP

You want to make sure that it can seal properly, and if there's sticky strawberry on it, it will not.

21. Place lid tops on the tops of the jars with a magnetic lid lifter.

TERINEY'S TIP

We're still trying to keep everything sterilized. So you want to make sure you're not touching the undersides, the edges, but you can touch the top. When I put them in my pot, I always make sure I layer them, because they're easier to pick up. Because if they're all dumped in there, it ends up being a big clump and hard to separate. And this way it ensures I'm not going to have to touch anything.



22. Screw on the lid rings. The jars are still very hot, so use a towel to hold on to them.

TERINEY'S TIP

With the rings, you don't want to use all your muscle weight to tighten them. They call it the two-finger test: you basically just use two fingers [index and thumb], and that's as tight as you want to go. Because if you go too tight, you can have sealing issues.

23. Put the jars back in the big pot of hot water. Make sure that the jars are covered by at least an inch.

24. Bring to a boil, cover and let the jars of jam boil for 10 minutes.



25. Turn off heat and let jars sit for a minute before removing your jars of delicious jam with your jar lifter! Each jar will make a popping sound as they cool down and seal. You can also check to make sure they are sealed by looking at the top of the lid—it should be a smooth surface with no raised bumps.

26. Wait 24 to 48 hours to open a fresh jar and enjoy! Your jam will last at least a year.

TERINEY'S TIP

Watch the tops of the cans. If they start to pop up, they're bad.

"When you eat your jam and it's all gone, which will happen, you can reuse the jars, you can reuse the rims, but you cannot reuse the lids. You can buy the lids separately.



Teriney's Favorite Jam

"I love peaches because anytime I make peach jam for people they always tell me it reminds them of their grandma's jam. They say, 'Oh, I used to eat this with my grandma!' 'This reminds me of my nanna,' whatever, every time. And it is the first jam that goes. Because I make it at home, for myself and for my kids, and it is the first one that everyone eats. And I've started adding liquor to some of them to spice it up, and they love it!

Take peaches, boil water, drop them in boiling water for a little bit. Immediately transfer to cold water, and the skin is supposed to peel off. That doesn't always work for me; sometimes I like to just peel it with a peeler. Cut it, pull out the pit, then process it in your food processor. Then go through the same process as you would with your strawberry or any other jam. You're going to add your peaches, add your lemon, 5 cups peaches, ¼ lemon, then add pectin, bring it to boil, add sugar, bring to boil for one minute and then at the end you can add whatever flavors you want. Like at the end of mine I add liquor, because that's what I like. But I've seen spiced, I've seen ginger peach. There's all kinds of varieties that you can make.

If I'm adding something with a high alcohol content, I'll add it at the end so the flavor is still there and strong. But if you wanted [something] like a vanilla, you could add your vanilla pod while it's boiling. If it's a liquid with high alcohol, I add it at the end so that taste is still there, but if it's like a spice or a vanilla, I add it while it's cooking so that it's really cooking into it."



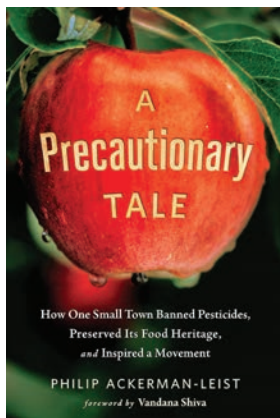


How One Town Settled the Pesticide Debate

Interview by Erik Hoffner, *World Ark* contributor



PHOTOS COURTESY OF PHILIP ACKERMAN-LEIST



Mals is a town of 5,300 residents in the Italian Alps, nestled against the borders of both Switzerland and Austria. In 2014, the town made headlines when its citizens voted to ban pesticides, sparking a new round in the international debate over certain chemicals in the food system. This debate rages in the U.S., too, where farmers, consumers and environmentalists butt heads over what amount of genetic engineering, pesticides and herbicides are safe.

Philip Ackerman-Leist, a sustainable agriculture professor at Green Mountain College in Vermont, was working in Mals as the fight over pesticides unfolded. He chronicled the conflict and considered how it fits into the global debate over chemicals and food production in his book, *A Precautionary Tale: How One Small Town Banned Pesticides, Preserved Its Food Heritage, and Inspired a Movement*.

WORLD ARK: How did you get involved with farming?

PHILIP ACKERMAN-LEIST:

My closest connection to farming was through my grandfather, Dr. Carlyle Clayton, who was a plant pathologist and breeder of peach tree varieties for the southeastern U.S. In addition to creating more than a dozen peach tree varieties, he also developed pesticide spray programs for various fruits in the

Southeast. While he was breeding for disease resistance and characteristics that would please consumers, he believed pesticides were the short-term solution that would complement what the slow process of plant-breeding hadn't quite achieved. The farm specialized in peaches, but Grandad grew every fruit he could in the Sandhills region of North Carolina, including grapes, nectarines, plums and melons, along with vegetables and a fruit tree nursery. Grandad



The town of Mals is nestled against the Alps

wasn't shy about using synthetic pesticides, and we had a lot of long conversations about the challenges of organic fruit production. I kept looking for examples of successful organic fruit operations, which were few and far between at that time but much easier to find now.

What led you from North Carolina to northern Italy?

In 1983, I went to the South Tirol

region of northern Italy for a study abroad program at Brunnenburg Castle and Agricultural Museum, a place dedicated to preserving the disappearing traditions of agriculture in the region. I was immediately smitten by the diversified agriculture I saw at the time, with farmers and their livelihoods clinging to incredibly steep mountainsides with a tenacity afforded only by deep ecological

knowledge of how to survive in such harsh terrain and weather. I kept returning and eventually settled into farming there for three years in the early 1990s. Part of my job was also to take American college students to various valleys to study the nuanced agricultural history of those topographical niches. Brunnenburg Castle is perched at the entrance to the Vinschgau Valley, and Mals is at the far upper end of the valley, about



a 90-minute drive from the castle. The 95-square-mile municipality of Mals always stunned my students, with its array of castles in various stages of ruin, the compact splendor of each of its 11 villages, the patchwork of pastures and hayfields, the fields of traditional grains, and iconography and architecture dating back more than a thousand years.

What kind of farm were you working on?

I was working in the vineyards and orchards of Brunnenburg Castle and Agricultural Museum, at the lower end of the Vinschgau Valley. While it was a diversified farm, much of my focus was on caring for the grapes and the wine. During the summer, I was charged with spraying the vineyards with pesticides, primarily against fungal diseases but sometimes against



the European red mite. I was one of the only people in the village who wore a respirator and one of the only ones who wore much in the way of protective clothing. After three years of spraying, I decided I couldn't do it anymore and came back to the United States to try and find organic approaches to agriculture.

When did you notice the shift from traditional diversified farming to monoculture apple farming in Mals?

From 1983 forward, I watched apple orchards take over more and more of the South Tirol region, and the orchards and their trellised infrastructure kept appearing in higher and higher elevations of the Vinschgau Valley. At the upper end of the valley, Mals became one of the last bastions of traditional diversified farming in the area. Friends of mine had a rustic farmhouse on a mountainside overlooking Mals, and I would go there to get away from all of the intensified fruit production that was commandeering virtually

every open space in the village where I was living. I basked in the beauty of the patchwork of agricultural possibilities that Mals put on display down below.

Was climate change somehow implicated in this upslope movement of apple orchards?

The upward march of apples was the result of a twin conspiracy led by climate change and handsome profits. As the valleys and mountainsides have warmed, even in the 35 years I've been going to Mals, apple growers have seized upon the possibility to grow apples where they'd not been grown previously, and they were afforded that opportunity by the high profits they could earn even from a few acres.

Why do you call it "Big Apple?"

"Big Apple" ironically represents the conglomeration of power created by a collection of smallholder farmers who started forming apple cooperatives in the early



Fences can't keep out pesticides.



Local farmers grow traditional grains.

20th century — cooperatives that became highly successful marketing engines, propelling the South Tirolean apple industry to becoming the largest contiguous apple-growing region in Central Europe within a matter of decades. If you eat an apple in Europe, there's a 1-in-7 chance that it comes from the South Tirol. While most apple farmers own fewer than a dozen acres, when almost every farmer converts his or her land to apples, then the monocultural realities step in. Once you create a large-scale habitat for pests and diseases — and especially when it's a "perennial habitat" that doesn't allow for crop rotation to outwit the "enemies" — then you've created an imbalance and find yourself reliant upon an armory of fungicides, insecticides and herbicides.

In the book, you describe the Mals community as being largely organic by tradition. What were the practical impacts of Big Apple's drifting sprays?

With a mere 10-foot spray buffer between adjacent properties, organic farmers stood no real chance of avoiding pesticide drift, especially in a valley known for its wind that can blow for up to three weeks without ceasing. But conventional livestock farmers also didn't want their animals consuming hay or grass that was in close proximity to apple orchards. As one dairy farmer told me, "The cow is the filter," and no farmer, organic or conventional, wants unhealthy livestock. The grain growers in the valley were just embarking on a renaissance in growing the traditional grains of the region for consumers, bakeries and restaurants, and they felt that coexistence with conventionally-managed apples was impossible. Finally, analyses of schoolyards in the region began showing that multiple pesticide residues were present at levels that alarmed the local medical community.

And women played a huge role in the campaign, bringing

vitality and a positive vision?

While a number of men in Mals had been organizing forums to discuss a vision for the future of agriculture there, they hadn't really captured the attention of the media or the regional politicians. They were also speaking in terms of possible pesticide bans. So when a few women began discussing their frustration that there was little response from the media and politicians, they decided to mount a letter-to-the-editor campaign, which elicited a strong note of concern from government officials and the apple lobby. They were so successful that they then embarked on a guerilla arts campaign that couldn't be ignored. They decided to turn bedsheets into banners and mounted a stealthy stenciling campaign among concerned families. As they prepared their banners, a local beekeeper, Pia Oswald, reminded her colleagues that they needed to promote a positive vision of the future, not a polarizing campaign that would



Residents came together to protest pesticide use.



Residents protested "Big Apple" farming.

result in finger-pointing. At that point, the campaign evolved into calls for a pesticide-free future for Mals. Banners were hung up under cover of darkness late one summer night, and the next day, banners were hanging from balconies, fences and even in front of the local monastery.

The citizens of Mals believed that their calls for a pesticide-free town were tightly aligned with the "precautionary principle," meaning that those who produce potential toxins or other dangers must prove the safety of the product instead of putting the burden of proof on citizens to prove the associated risks. The U.S. has been slow, at best, in adopting the precautionary principle in comparison to the rest of the world, and the story of Mals is yet another example of why we need to inform the public about the merits of thinking in this manner, both as voting citizens and better-informed consumers.

How would you characterize the dialogue between the farmers of Mals and the apple

growers moving in below?

Many of the farmers in Mals expressed to me that it's generally the right of a farmer to decide what to do on his or her own land. However, when those actions infringe negatively upon others, the farmer doesn't have the right to continue those practices. Pesticide drift creates a negative impact for neighboring farms, in some cases jeopardizing their entire income, as in the case of organic farmers who not only can't sell their products if they are contaminated with pesticide residues but can also risk losing their organic certifications if the pesticide residues persist.

There were, of course, some tempestuous debates, and even some threats of bodily harm. Some of the people promoting a pesticide-free future had their homes and other property vandalized. Nonetheless, those advocates tried to maintain open dialogue and find common ground. I certainly got an earful from fruit-growing friends in the village where I lived further down in the valley. While

there were a few people outside of Mals who championed the pesticide-free initiative, most of my former fruit-growing colleagues considered the Malsers to be a fringe element from a place where people had always thought and behaved a little differently. Few suspected that the Malsers would pass a referendum with a stunning three-quarters majority, much less be able to enact precedent-setting ordinances to hopefully guarantee a pesticide-free future.

Do you know if that decision has had an effect beyond the town?

If "Big Apple" and its allies had ever suspected Mals would leap into the international spotlight, they would have paid much more attention to what they treated as the follies of "a bunch of green crazies." Mals has become not just a beacon of hope for communities seeking to ensure the health of their people and landscapes, but also a model for how ordinary, untrained citizens can become effective advocates for sustainable agriculture. Mals is now



Cover crops prevent erosion.



Mals celebrates a unique food culture.



Morning deliveries of local milk still happen daily.

touted as the world's first pesticide-free community by way of a public referendum and upheld as a model throughout the European Union. Documentary filmmakers from Japan, Australia, Germany, Austria and elsewhere have descended upon Mals to tell this incredible story.

When we talk about sustainable agriculture, is the goal always to use no chemicals at all? Or are chemicals sometimes necessary?

"Sustainable agriculture" is used to describe a number of management approaches, but most experts tend to agree that farming without synthetic pesticides depends upon an ecological system that is in balance, both within the farm system itself and with the surrounding

ecosystem. The best approach to a pest or disease issue is to assess that ecological balance, make any necessary changes and then follow up with any necessary organic interventions. In some cases, a farmer may decide to intervene with targeted use of a specific synthetic pesticide — a different approach to pesticide use from what the citizens of Mals were confronting. They found themselves facing an influx of apple farmers applying pesticides at quantities virtually unrivaled in Central Europe. The massive conversion of the landscape to a vast monoculture meant that pesticide drift from dozens of different chemicals sprayed 20 or 30 times a year posed a serious threat to human and environmental

health in the town of Mals.


When I left my respirator and rubber suit behind in the South Tirol 25 years ago, I left behind an approach to agriculture that I was no longer willing to participate in as a farmer. What I didn't have at that point were time-tested models for economically successful farms not reliant on synthetic pesticides. Now I'm focused on exploring beyond the farm scale and unveiling the narratives of the communities that have consciously adopted a pesticide-free future.

If there's one lesson I've learned from the story of Mals, it is that we have to move beyond the idea of organic farms as the answer — "organic communities" are the more sustaining and resilient objective. ■

Made in



Honduras



In the Department of Olancho, Heifer is equipping entrepreneurs to meet their full potential. But the strategy doesn't end with individuals—the end game is to boost the economy of the region as a whole.

By **JASON WOODS**, *World Ark* senior editor

Photos by **CHELSEY LOUZEIRO**
Heifer communications specialist

CATACAMAS, HONDURAS — The week cousins Jorge Sanchez and Randal Nieto planned to throw in the towel on their cheesemaking business and find new careers, a stranger came looking for them. Assuming he worked for the Ministry of Health and that the visit would now be a waste of time, the business owners tried to send him away. But the stranger politely persisted.

"Heifer came and asked for time," Jorge Sanchez said. "They said, 'Hang on and we will try to solve these problems together.'"

Olancho gives off a distinctly Texan vibe. Raising cattle is big business in the region, and cowboy hats and boots are common among local men. The department, which is about the size of El Salvador and known for its spirit of self-reliance, nearly became an independent republic in the mid-1800s. That spirit leads to a naturally entrepreneurial mindset among its people. But opportunities aren't always readily available.

At the time, Jorge Sanchez and Nieto thought emigrating to the United States, where they have family, was their next move. "It is a reality that we face in Honduras that only the strong survive," Jorge Sanchez said.

Francisco Sanchez sells his handmade wooden toys with the help of Heifer Honduras.



PHOTO BY RUSSEL DUBREE

Jorge Sanchez (left) and Randal Nieto (right) in front of Prolau, their dairy processing business.

But three years later, the cousins are still in business with their Prolau Processing Plant. "Now we are telling our family to come back," Jorge Sanchez said. "We have jobs for them. They no longer have to be foreigners."

Jorge Sanchez and Nieto began operating Prolau in 2013 with energy and ambition. But for two years, the processing plant didn't turn a profit. During that time, Prolau increased the amount of daily milk processed from 60 liters to 1,000, but the cousins didn't know how to price their cheese, and poor production processes stifled their business's potential.

A lack of access to markets meant Prolau had to sell the cheese to middlemen who paid much less than the product's worth, then hiked prices up when they resold it. Now

"Now we are telling our family to come back [from the United States]. We have jobs for them. They no longer have to be foreigners."

— JORGE SANCHEZ, co-owner of Prolau Dairy Processing Plant

that Jorge Sanchez and Nieto have more knowledge about the business, higher quality standards and official legal certifications, Prolau can sell its cheese directly to buyers.

The project is different than many Heifer projects from years past in that no tangible resources are given. Instead, Heifer technicians focus on giving participants the knowledge and expertise to navigate credit and loans, create a product identity, and improve the accounting and

production practices of the business.

As Heifer Honduras worked with Prolau, Jorge Sanchez and Nieto have reinvested earnings into plant equipment to continue growing. Currently, the plant turns 4,000 to 4,500 liters of milk into cheese daily and supports eight full-time jobs.

About 300 families provide milk to Prolau. The co-owners work with the farmers to teach them the best practices for milk production and collection. They also pay the highest



Milk is filtered for purity.

PHOTOS BY DEREK ODELL



All milk is tested for safety.



Blocks of cheese await packaging.

prices in the area for milk.

"We pay 50 cents more per liter than other plants," Nieto said. "We sacrifice some of our profits to invest in our producers." Prolau also donates sweet whey byproduct from the plant to farmers for feeding pigs.

The next step for Prolau is getting cheese into supermarkets, which will increase profits and help the business continue to grow. Jorge Sanchez and Nieto are hopeful about the future of the business because of the work they've put into their product.

"We are confident that our cheese is really good," Nieto said.

Olancho Pride

Francisco Sanchez longed to start a business based on his passion for woodworking. His love for

the craft began at 12 years old and hasn't yet faltered. "Wood is something beautiful," he said.

Though experienced and motivated, Francisco Sanchez had no business experience and didn't know how to make his dream a reality. So a friend put him in contact with Heifer Honduras technicians.

Francisco Sanchez met and politely listened to the Heifer representatives. At the end of the meeting, he bluntly said, "I drastically do not believe in these projects. I'm not interested." He had seen too many local projects from other organizations come and go, leaving little of value.

But the technicians, assuring Francisco Sanchez of Heifer's seriousness, asked him to think it over. "I talked to my spouse about it,"



Heifer Honduras has helped develop an "Olancho Pride" seal (top) for services and products made in Olancho, like Francisco Sanchez's wood carvings.



Francisco Sanchez holds one of his handmade wooden toys.

"Heifer has helped me realize what I can do."

— FRANCISCO SANCHEZ, woodworker

Francisco Sanchez said. "And she said, 'What are you going to lose?' I said, 'You're right. I won't lose anything.'"

He began specializing in carving toys, which gave him a creative outlet and a product uncommon to the area. With Heifer's business development support, Francisco Sanchez has been successful so far.

"With Heifer, I've learned—maybe the word isn't 'learn.' Heifer has helped me realize what I can do."

Francisco Sanchez's woodcarving business and the Prolau Processing Plant are just two of the 104 small enterprises Heifer Honduras supports in the Department of Olancho.

Heifer Honduras's assumption is that the strong businesses it supports will not only help the families who own them but also provide steady paychecks to the farmers who provide the milk, corn or meat needed to make the products. At the beginning of the project in January 2016, participating businesses worked

10 Facts about Honduras



1 Honduras means "depths" in Spanish and most likely refers to the Bay of Trujillo's deep waters. The apocryphal story is that Christopher Columbus, after surviving a tropical storm and docking in what is now Trujillo, exclaimed, "Thank God we have escaped these treacherous depths!" and named the area Honduras.

2 The country's Bay Islands sit on the second-largest coral reef in the world.

with 499 suppliers. As of December 2017, 3,366 farmers supplied the project businesses. In the same time period, the 104 businesses hired almost 1,200 employees.

Tourism is another part of the economy-boosting strategy in Olancho. The department isn't known as a tourist destination, partly because its history is scarred by violence related to drug trafficking. But as Olancho becomes increasingly safer, travelers are starting to enjoy its natural parks, distinct culture and friendly locals. One of the highlights is the Talgua Caves, also known as the Cave of Glowing Skulls for the calcite-covered skeletal remains that eerily reflect light. The cave is thought to be a burial site from around 1,000 B.C.

Heifer Honduras is working with tour companies, hotels and restaurants to attract tourists to the area and raise the quality and capacity of businesses.

Heifer Honduras helped create

an "Olancho Pride" seal to certify products and services that come from the area and are made with local materials and labor. Visitors to the area can also collect passport stamps from all the municipalities they visit. A professional chef is helping recover and refine traditional Olancho recipes for restaurants in the department. One meaty traditional dish, tapado olanchano, uses the pre-Columbian indigenous tradition of using plantain leaves to cover salted and smoked meats and sausages as they cook.

"We're promoting products and services with a cultural identity," said Beatriz Pozo, Heifer Honduras project manager. "We're distinguishing Olancho from the rest of Honduras, developing this brand."

Doughnuts to Dollars

All the small businesses supported by the Heifer project in Olancho make products culturally or historically important to the region. For example,



Heifer Honduras supports small-scale food vendors.



Artisans are capitalizing on their skills.

3 Honduras's Mosquito Coast isn't named after the insect but the indigenous Meskito people. When the British came, their pronunciation attempts begat "mosquito."

4 The Copán Ruins in western Honduras preserve what was once one of the most densely populated cities in Mayan civilization. The ruins were named a UNESCO World Heritage Site in 1980.

5 There are more than 200 species of mammals in Honduras; a little more than half are bats.



6 In the center of the Honduran flag sit five stars—one for each country of the former United Provinces of Central America. The two blue stripes represent the Caribbean Sea and the Pacific Ocean.

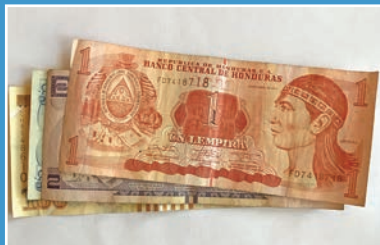


Maria Bonilla and Alex Gonzalez started their own bakery.

7 In 1969, Honduras and El Salvador fought a one-month war known as the Football War, because it coincided with riots during FIFA World Cup qualifying games between the two countries.

8 Expatriates send \$4 billion in remittances back to Honduras every year. For context, Honduras's gross domestic product is about \$22 billion.

9 Short story author O. Henry coined the term "banana republic" while in Honduras, writing about the fictional Anchuria, a stand-in for Honduras.



10 In 2011, the Honduran government passed a law banning smoking in closed spaces, both private and public, and requiring smokers to stand at least six feet away from nonsmokers in any open space. Under the provision, family members or even visitors who are bothered by second-hand smoke can call the police to stop someone from smoking in his or her own home.



Alex Gonzalez demonstrates how his wood-powered oven works.



Maria Bonilla processes ingredients.



Rosquillas are ready for sale.



Rosquillas are often eaten with morning coffee.



The bakery churns out 3,600 doughnuts a day.

"Now our product is all over. We can go everywhere we want."

— MARIA BONILLA, co-owner of Rosquilleria D'Cata

Olancho is Honduras' largest artisanal dairy producer and home to the country's largest forestry resources, so those businesses are traditional occupations.

When Maria Bonilla and Alex Gonzalez started a bakery, they found their best seller wasn't loaves of bread but a particular regional specialty. Rosquillas look like doughnuts, but they are crunchier, made from corn and not as sweet. Typically, they are eaten with coffee in the morning or after lunch. Although rosquillas are popular throughout the country, Olanchano rosquillas have a reputation for being particularly tasty.

Bonilla and Gonzalez began working with Heifer Honduras right around the time they changed their focus to rosquillas. They named the

business Rosquilleria D'Cata in honor of Bonilla's mother, Catalina, who helped start the business before she passed away.

Heifer helped the couple develop a brand and jump through all the legal hoops necessary to register their business with the government and obtain a bar code.

"Now our product is all over," Bonilla said. "We can go everywhere we want, supermarkets and gas stations."

Rosquilleria D'Cata now counts seven employees—all within the family. Together, they bake 3,600 doughnuts a day, using 350 pounds of corn meal. Bonilla doesn't mind the work. "I like my job a lot," she said. "I don't get bored." In fact, in her free time, she usually just finds more work to do.

Bonilla says marketing is her business's biggest weakness, but in two years, with hard work and Heifer Honduras' expertise, they will be able to compete with the biggest bakers in the area.

"Heifer is here today but won't be tomorrow," said Adalberto Castellanos, Heifer Honduras field technician. "The people already know what they need. We don't do things for them, we teach them how to do it." ■

**BETHANY IVIE, DIGITAL
ENGAGEMENT SPECIALIST,
AND MISTI HOLLENBAUGH,
CREATIVE SERVICES
INTERN, CONTRIBUTED
TO THIS STORY.**

How to Make Pupusas Like a Pro

Honduran pupusas topped with encurtido and pickled onions.

In the fall of 2013, Luis Vasquez traveled from Sabana Grande, Honduras, to volunteer at Heifer Ranch in Perryville, Arkansas, for a few months, mainly to improve his English. The next year, he went back to the Ranch for another three-month stint.

"Three months turned into six months, six months turned into a year," Vasquez said. "And then a year turned into just moving to Arkansas, living here and making this home."

At the Ranch, Vasquez discovered a love of cooking. "One day at the Ranch, my housemates wanted to make tortillas. I didn't want to make tortillas, but they started making them, and I was like, 'You're doing it wrong.'" Vasquez helped make the tortillas, refried beans and pico de gallo. Soon, every Friday night turned

into taco night. "I realized there that I liked to cook for other people."

After his time at the Ranch, Vasquez looked for a job in a restaurant. Eventually, he began working at The Root Café in Little Rock, Arkansas. As of August, Vasquez is the kitchen manager and Honduran cuisine specialist for new Little Rock restaurant Dos Rocas, which specializes in Latin American street food.

Pupusas, or stuffed corn tortillas, are one of the foods Vasquez misses the most from home. "In Honduras, everywhere you go, you see pupusas," he said. "I love pupusas—they have everything I need in a meal, and they fill you up. You can add literally anything you want in them."

Dos Rocas, at 1220 S. Main in Little Rock, is open for lunch and dinner



PHOTOS BY PHILLIP DAVIS

Luis Vasquez, kitchen manager at Dos Rocas in Little Rock, shows World Ark senior editor Jason Woods how to make pupusas.

Tuesday through Sunday. Vasquez made sure pupusas are on the menu at Dos Rocas, but if you're not going to be in Little Rock any time soon, he shared a recipe you can try at home.

Pupusas (Makes 8)

Ingredients

- 2 cups Maseca or other corn flour masa
- ½ cup vegetable oil
- 1 cup warm water
- 1 tablespoon salt
- ½ tablespoon cumin
- 1 pound Oaxacan cheese, salted mozzarella or Honduran quesillo, shredded

1. Mix dried ingredients (masa, salt, cumin). Add oil and water to the dried mixture and mix by hand. Add more water if necessary.
2. Divide mixture into eight balls.
3. Grab a ball with your hands and make a hole in it, add cheese, then close the hole. By hand, flatten the ball into a tortilla.
4. Grill for three minutes on each side.



Refried beans

(You can add refried beans to the pupusa filling, or you can serve them as a side.)

Ingredients

- 16 ounces canned or two cups cooked red beans
- ¼ cup vegetable oil
- ¼ sweet onion

1. In a cast iron skillet, warm oil.
2. Add onions and cook until soft.
3. Add beans and simmer for 10 minutes.
4. Put beans into a food processor and pulse until smooth. (Alternatively, you can smash the beans with a potato smasher or by hand).
5. Put beans back in the skillet and cook for a few more minutes.

Encurtido

(Topping for the pupusas)

Ingredients

- ½ medium cabbage
- 1 carrot
- cilantro
- salt and lime juice to taste

1. Grate the cabbage and carrot, chop the cilantro.
2. Mix together.
3. Add salt and lime juice.

The



Other Ghana

Accra dazzles with shiny new construction and a bustling populace making the most of a booming economy. But far away from the capital city, momentum slows. Heifer International is bringing resources to remote communities getting left behind.

BY **AUSTIN BAILEY**,
WORLD ARK MANAGING EDITOR
PHOTOS BY **GEOFF OLIVER BUGBEE**

No road to the community of Sidontenge even existed until a few years ago. And today, the dry riverbed that connects paved road to the remote cluster of mud-walled huts is still impassable to all but the most skilled and well-equipped drivers. Vehicle traffic on the road is rare. The orange dirt is packed smooth, though, by women toting charcoal and shea nuts for sale in the nearest town of Tuna, a four-hour walk away.

This tiny community with no electricity, schools or stores feels worlds away from Ghana's capital city, 300 miles to the south. Accra sparkles with tower cranes and new construction funded by offshore oil drilling and cocoa profits. Swarms of walking street vendors do steady business selling food, electronics and toys to drivers held up in dense traffic. Judging from all the bustle, it's no surprise that Ghana's economy ranks among the fastest-growing in the world.

But in Sidontenge and other remote communities in the country's Northern Region, some families find their fortunes stalled out, or even getting worse.



Paulina Dikontey
shares breakfast
with her grandsons.



The job of fetching water falls most often to girls.

Climate change and declining soil fertility make farming less productive, forcing families to scale back to one meal a day some parts of the year.

Climate change and declining soil fertility make farming less productive, forcing families to scale back to one meal a day some parts of the year. Water sources are becoming dirtier and less reliable. And although primary education is compulsory and free of charge in Ghana, school remains out of reach for children in remote areas who would have to walk for hours each way, or who have to help in the fields if they hope to eat that night.

Heifer goats only recently arrived in Sidontenge, passed on from women in neighboring communities who are already realizing the perks of raising goats for money and meat. As this chain of giving fans out across needy communities, project

participants hope their herds will grow, and that proceeds will yield enough money so they can afford to eat more than just one meal a day. It seems like a modest goal, but in the Northern Region, resources of all kinds can be remarkably hard to come by.

Starting with Nothing

There are no shops in Sidontenge, and even if there were, Nkaanyine Jielta has no money to spend. Nevertheless, she gets herself and her family through each day despite the utter lack of the basics: food, clothes, medicine. Her home, like those of all her neighbors, is a u-shaped configuration of squared-off mud rooms topped with mud-and-branch roofs, all surrounding a swept dirt

courtyard. The homestead teems with people but not much else. There are plenty of children, but no toys for them to play with and hardly any clothes for them to wear. With no wells or boreholes in the community and the streambeds reduced to a trickle awaiting the annual rains, there's no water to wash clothes with, anyway. The sour smell of fermentation tinges the dusty air. No electricity means no refrigeration, so many of the foods the family eats are fermented to prevent spoiling. Dawa dawa, a meatball-like high-protein food made from the seeds of an indigenous tree, ages in a bowl on the roof. And the makings of pito, a sorghum-based beer, marinate in a calabash bowl in the corner.



From left, wives Nkaanyine, Denenbe and Akua Jielta with husband Sodor.

Nkaanyine Jielta is one of three wives of Sodor Jielta, and the family has 20 children in all. Polygamy is more common than not in some rural parts of Ghana, and not necessarily related to any particular religious practice. It's an economic strategy borne of laws and tradition that favor male control of land, and the necessity to have as many hands working that land as possible. This system is changing as many young people leave the family farmlands to find work in cities and on cocoa farms, negating the need for larger families. But for many people remaining in the rural communities of Ghana's Northern Region, the tradition of men marrying more than one woman continues.

"If he marries one wife, one wife alone cannot do all the work on the farm," explained Stephen Dery, a cultural interpreter translating from Birifor, one of the more than 250 languages and dialects spoken in Ghana. "When you have two or three wives, you have more hands."

It was Nkaanyine Jielta's sister wife, Akua Jielta, who heard about Heifer International's work nearby and started talking up the possibilities. Women from all the surrounding households joined together to ask for Heifer's help, and group members received their West African dwarf goats last year. The animals all have covered, mud-walled pens to sleep in, and they get vaccinations and veterinary



Widow Paulina Dikontey holds one of the goats she's raising to sell.

care when needed. A few project participants have sold goats already, but most are waiting for their goats to reproduce enough so they can first fulfill Heifer's requirement that they pass on the gift to other families. Caring for the goats so they will thrive and produce offspring to sell is top priority in the Jielta household, where the pen gets swept clean twice a day and teams of children watch over the goats while they graze.

"We hope for relief from our burdens," Nkaanyine Jielta said, cradling her dozing baby daughter Biiboro in her lap. Ill with malaria, Biiboro was limp and listless. While malaria medication for children costs only about the equivalent of \$1 U.S., the medicine was still out of her reach. So the baby's treatment



Watching over grazing animals is a day-long chore for many boys in Ghana's rural areas.

While malaria medication for children costs only about the equivalent of \$1 U.S., the medicine was still out of her reach. So the baby's treatment consisted of what her family could afford: wild herbs and prayer.



Nkaanyine Jielta holds her daughter, who is sick with malaria.

consisted of what her family could afford: wild herbs and prayer. "A doctor would be better," Biiboro's mother acknowledged. Once some goats are sold, she said, she will have money to enroll the whole family in Ghana's national health insurance plan so they can go to a doctor and get medicine whenever they need it.

All Work, All the Time

It's not that school isn't important to families here, or that the children of Sidontenge don't want to go. But crops and animals survive only when tended, and everyone has to work to keep cooking pots filled. So for now, only two of Laafar and Mwinlier Kuutapoma's seven children reliably take the mile-and-a-half walk to school each day.

Twelve-hour shifts herding the cattle usually keep the slingshot boys



The slingshot boys of Sidontenge take their lunch break.

of Sidontenge too busy for studies. Sons Mwinkaa, 10, Darno, 11, and Laaporo, 12, along with their 11-year-old cousin Kojobele, slip away from the house around 6 each morning with slingshots in hand and roughly stitched sacks slung around their necks. The sacks are to carry the shea fruits they pluck off the ground and snack on to keep their bellies full. The slingshots are meant for birds or lizards that might be roasted for dinner. The boys return home around 11 a.m. for a quick lunch of tuo zaafi, or TZ, a soft, cooked dough made of unsalted millet and maize flours. They will have the same meal for dinner, augmented with a green soup made from wild leaves and possibly a roasted bird if they managed to shoot one that day.

While the boys are out herding, family members left at home are working, too. Daughter Gifty, 16, treks to the dry streambed 100 yards from the house multiple times a day. Water is scarce as the dry season drags on, and Gifty has to dig down into the ground with a broken calabash shell



Mwinlier Kuutapoma has to dig down into a streambed to access water during the dry season.

and wait for the hole she's made to fill up before she can scoop out enough cloudy gray water to make the trip worthwhile.

Like mothers the world over, Mwinlier Kuutapoma shoos children out of her way as she ticks off her daily tasks. Slender and elegant, with dangling earrings and hair wrapped on top of her head, Kuutapoma

attributes her good looks and good health to a husband who pitches in around the house. "He takes good care of me," she said. The affection between them is genuine. Men in the community traditionally give cows to the families of their wives as a dowry, and six cows is the usual gift. But Mwinlier liked her husband-to-be so much that she convinced

her family the two cows he could offer was plenty. And Lafaar never took another wife.

The family's workload increased now that the family is part of a Heifer project. Keeping livestock is not new for them, but Heifer training encourages far more hands-on care than they were used to. Before they could take ownership of the new goats, the family had to build an enclosure that would keep them secure at night. This was a big change in a community where goats were usually left to wander free and fend for themselves. "I never knew of animals to have houses before," she said. "I never knew that you needed to provide them with water." But these new high-maintenance goats are worth the efforts invested. None have died or gone missing, and she's already been able to sell two of them.

Money from the goat sales paid for food, which Mwinlier Kuutapoma stores in her new garage-sized granary that she learned to build in a Heifer training. The flat-roofed, mud-walled chamber keeps harvests of sorghum, rice and other grains dry and pest-free. The opening where the grains are poured in is on top, accessible by climbing up a roughly notched tree trunk to get on the roof. Granaries in Sidontenge would normally be empty by the end of the dry season, when food stores run out and families go hungry until the rains start falling and they can plant again. But this year, money

from goat sales bought enough grain to keep the Kuutapoma family fed.

Some of the benefits from the Heifer trainings were less tangible. Workshops on gender equity chipped away at a rigid tradition that relegates women to secondary roles. "It was thought that only men were intelligent. It was never done before that women were leaders." But now, women are stepping up.

Hope Dries Up

"I feel sad that I don't have enough food and water," mother of seven Chibemena Dobaar said, speaking through a translator. "I don't know why God made me a Ghanaian. I don't know why God made me African." The afternoon temperature has climbed to 102, pushing Dobaar into a narrow sliver of shade in the dirt courtyard of the mud-and-stick compound that also houses her husband, her sister wife and their combined 15 children.

The dry season is winding



The sale of a goat helped the family buy enough grain to last them through the hungry dry season.

"It was thought that only men were intelligent. It was never done before that women were leaders."

—Mwinlier Kuutapoma



Laafar and Mwinlier Kuutapoma are Sidontenge's power couple.



Chibemena Dobaar hauls water in her courtyard.

down, with sporadic evening storms sweeping through. But the chalky streambed where Dobaar takes her buckets each day is barely viable, giving up only minimal amounts of cloudy gray water. Temperatures regularly climb past the 100 degree mark, making the water shortage even more acute. "It has never been easy to live here in the dry season," Dobaar said. Tapeworms and diarrhea contracted from contaminated water plague the young people of the village. Last year, two children from Sidontenge started complaining of stomach pains and diarrhea and died before they got to the hospital. Animals also routinely fall sick from the dirty water. Dobaar worries about the murky water but has literally no alternative. So she does the best she



Chibemena Dobaar (middle, in purple dress) sits in the shade with family.

can to keep her children healthy by having them sleep in the open air of the courtyard during the dry season and under mosquito nets when the rainy season begins and malaria spreads.

Harvesting shea nuts and making charcoal, the activities she and her neighbors look to for money when food stores run low, still aren't lucrative enough to keep bowls filled as the dry, hungry season stretches on and on. The five goats passed on to Dobaar from Heifer project participants in a neighboring community saved her from begging this year, as she did in years past when food ran out. "I was ashamed when I had to do it but sometimes we needed food. I did this for years, begging around the community. There are so many children to feed," she said. This year she sold two goats and bought enough grain to last



With few jobs available, many women make charcoal to sell to buy food.

them through a harvest.

"The only help I need now is with water," she said. Digging a borehole in Sidontenge would likely cost 8,000 Ghanaian cedi or more. That's about \$2,000 U.S., an unfathomable amount, even if all community

members pool their money. But just as the rain will eventually fall so crops can grow, Dobaar hopes careful tending of her herd will end of years of scarcity. "My prayer is that my animals will multiply so I have more to sell," she said. ■

Ghana at a Glance

There's no doubt daily life can be challenging in Ghana, with more than half of all households in the country's Northern Region living in poverty. But the country also boasts some pretty great stuff: wild elephants, kente cloth, chocolate farms and gorgeous beaches. And because English is the country's official language, getting around is easy for American travelers. Here's hoping Ghana's upward economic trajectory continues.



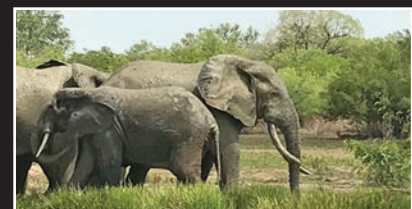
Ghana's current flag was adopted in 1957, the year Ghana gained independence from Britain. The red represents blood spilled in the fight for independence, the gold represents mineral wealth and green symbolizes the country's rich forests. The black star is a symbol of African emancipation.

The currency unit in Ghana is called a "cedi," a word that means "cowry shell." That's because cowry shells from sea snails were once used as money in Ghana.



Ghana was once known as the Gold Coast because of its rich stores of gold. In 2007 a black gold rush was on after oil was discovered off the coast.

Ghanaian women effortlessly mix the boldest prints and colors, with invariably stylish results. The secret, they say, is just to wear everything with confidence.

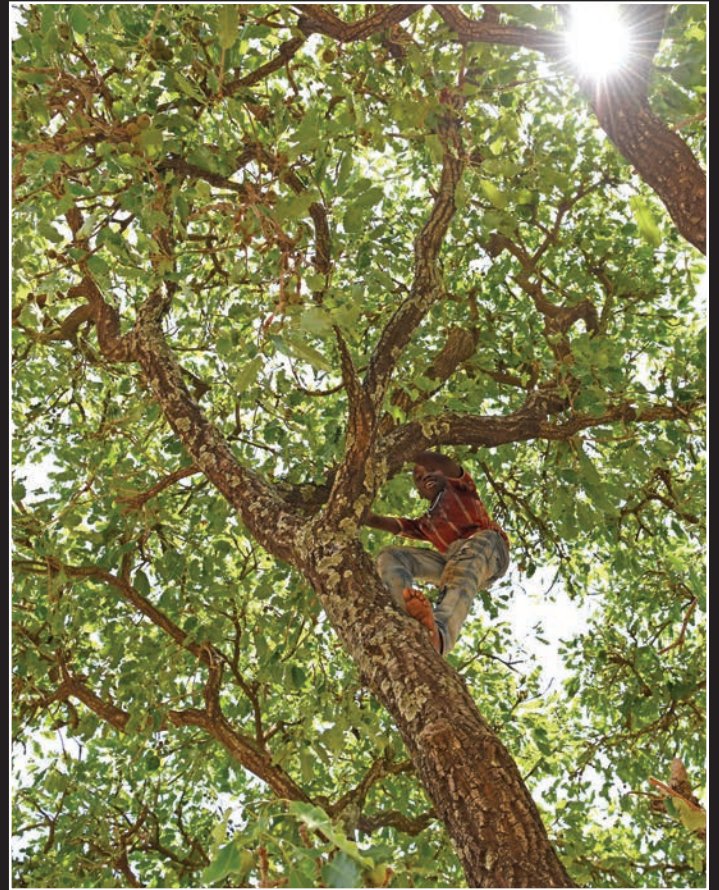


Spotting elephants is almost guaranteed for visitors to Mole National Park, Ghana's largest wildlife refuge. The park is also home to lions, hyenas, warthogs and leopards.

Ever wanted to eat soup with your hands? That's the standard method in Ghana. Just break off a piece of banku, a fermented corn and cassava mash, and use it as a spoon/sponge hybrid.

Shea-ving off the Years

So many women in Ghana look decades younger than they really are, and some of the credit goes to shea butter. Processing the kernels found inside the edible fruit of shea trees is a go-to money maker in Ghana's barebones Northern Region, where other paying work is hard to find.



Shea fruits grow on trees and fall to the ground when they're ripe, although they often get a nudge when boys climb the trees and shake the limbs. The fruit inside is edible, and it's a common snack and breakfast food.



The large shea nuts are boiled clean, then left out to dry in the sun for days.

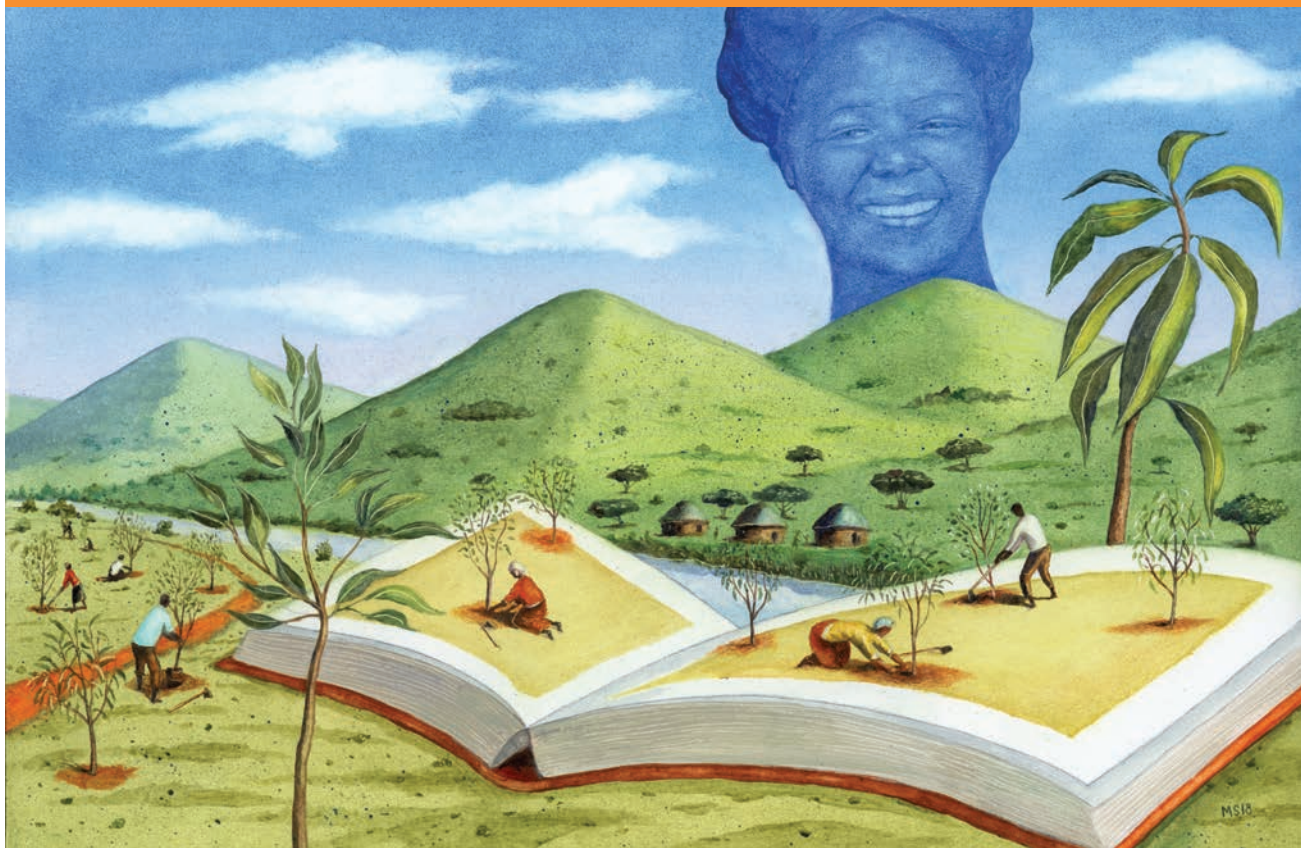


Once dry, the shea kernels are broken into small pieces and roasted. They then go to a mill to be ground into a paste. The paste is then boiled, bringing the fat to the top where it can be skimmed, leaving any residue behind in the pot. Once it cools, the shea butter is ready.



Bedtime Stories for a Better World

By **Ragan Sutterfield**, *World Ark* contributor



In the evening, after the electric toothbrushes have buzzed across their baby teeth and nightgowns with just the right princesses have been selected, my girls settle into bed, ready to

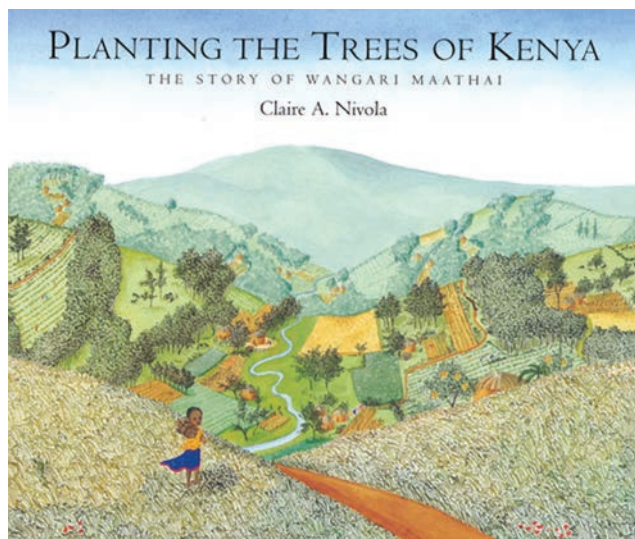
read. The basic routine goes like this: three or four picture books and then a chapter book.

Under the glow of lamp light, we enjoy a time of togetherness, but it is also, in the guise of good stories, a time

of learning. This is one of the key moments in which we expand our daughters' imaginations while teaching them about this world that is vast and varied, small and connected.

Among our favorite

stories are those of real people, people who we want to hold up as ideals in this world that is both broken and beautiful. Long before we met, my wife and I had both studied the work of the late Wangari



Maathai and the Green Belt Movement. Maathai, who organized women to replant deforested lands in her native Kenya, is the sort of role model we are interested in offering our daughters. Thankfully, there are a number of wonderful children's books written on Maathai's work.

Among our favorites is *Planting the Trees of Kenya: The Story of Wangari Maathai* by Claire Nivola. While many books show the heroic work of Maathai replanting trees, this book gives a hint at underlying economic problems that caused massive deforestation in the first place: "Wangari noticed that the people no longer grew what they ate but bought food from stores. The store food was expensive, and the little they could

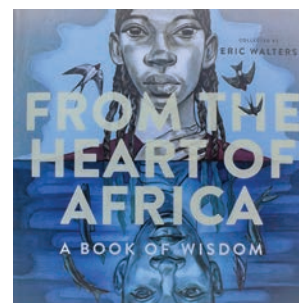
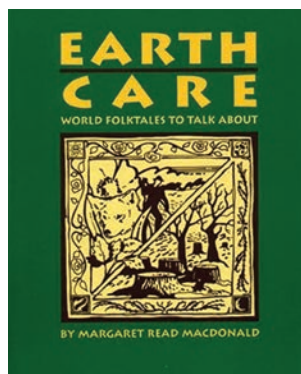
afford was not as good for them as what they had grown themselves, so that children, even grownups, were weaker and often sickly."

It is difficult to teach children about the complexities of colonial economies (the book points out that much of the land was being used for export tea plantations) or the dangers of deforestation, but Nivola offers a story that includes the necessary touch points to begin the conversation. Our 6-year-old daughter seems more than able to grasp the fundamentals and also became excited as Maathai and the women of the movement begin to bring healing to the land.

What is also helpful in Nivola's telling of the story of Maathai is the grit and

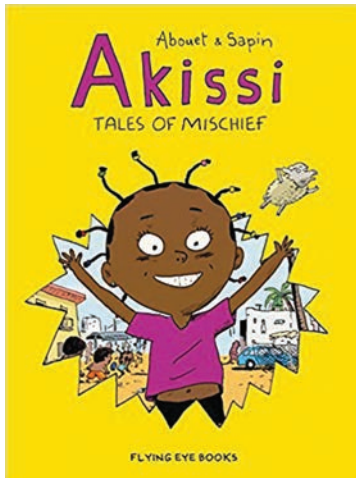
determination she offers. While other books offer an almost magical story of a gifted organizer who sees the evils of deforestation and has the brilliance to enlist women in planting trees, Nivola shows that Wangari's efforts often met failure, such as an early attempt at growing trees that resulted in nothing more than dead twigs. Maathai shows grit in the face of such failures—a lesson we want our daughters to learn, too.

In helping our daughters understand the complexities of the world, we also want them to get a sense of the wisdom various cultures offer. Folktales seem to be a good way for children to connect to different cultures. There are a wide variety of folktale collections, but one we like is Margaret Read MacDonald's *Earth Care: World Folktales to Talk About*. These ecologically focused folktales



provide wonderful stories from around the world that invite further conversation. This is not a picture book, but it is a perfect read-aloud book that will result in calls to "read another story!"

Wisdom is also often shared with children through sayings, and Canadian children's book author Eric Walters collects such sayings in *From the Heart of Africa: A Book of Wisdom* (Tundra: 2018). Beautifully illustrated, each page includes a conversation starter with the saying in large letters and its culture of origin and meaning below. Some are familiar, such as, "It takes a village to raise a child," but others have a more poetic feel that require some thought to decipher. One example is, "I pointed out to you the stars, but all you saw was the tip of my finger." My daughters are deeply interested in these sorts of sayings and are constantly asking about their meaning. This is a



book that invites the curiosity of children and offers a buffet of wisdom from the continent where humanity began.

Wisdom has its place, but foolishness can sometimes be a better teacher. That is the case with the cartoon-like stories of Ivorian graphic novelist Marguerite Abouet, *Akissi: Tales of Mischief*. Akissi is of a similar character as Dennis the Menace or Ramona Quimby, but instead of suburban America, Akissi lives on the urban streets of Ivory Coast.

Her antics and adventures are relatable to any child (my 6-year-old loved these stories more than any of the books mentioned here), but the context is often a far cry from the experience of most children in the United States. In one story, a young boy charges money for other kids to sit in front of his neighbor's television to watch a superhero show. When the neighbor is seen coming down the street, they all scramble to hide.

Nothing is made of the poverty behind the story, but it can be a good reminder to children in affluent America that a television is not a given in many parts of the world.

In another story, Akissi gets a stomachache from scavenging rotten vegetables in the market. The result is that she has to take medicine for worms. When she then catches one that emerges from her body, she chases her brother with it to torment him.

This mix of the strange and familiar, with the everyday realities of comparative poverty, are particularly helpful for teaching our daughters about the world beyond our family and our way of life. By reading about Akissi, they are able to see parts of life that are common to all humanity, despite our differences. They are also able to see the problems so many face that are simply not a concern to those who live in the industrialized West. As Akissi faces intestinal parasites, hair lice and dental problems, my daughters get some sense of how so many others in the world live. But key is that Akissi is a fun, bright child who invites no pity. She is, as they can see, a funny girl with whom they would gladly be friends if they had the chance.

In time, I hope to give my girls a deeper understanding of the challenges that face this world. For now, though, I want to kindle their affections so that they will be ready to love those they encounter, near or far—a care cultivated through stories. ■



READ TO FEED



Gwen Heinke, 9, is a student at West Elementary School in Plymouth, Massachusetts. She's not afraid of witches or tackling thick chapter books.

What is a book you enjoy reading? Why do you like it?

I enjoy reading the book, *The Witch's Boy* by Kelly Barnhill. I like the setting and the events that happen in the book.

What did you like most about participating in Read to Feed?

I like that it showed you that you could read books for a good cause.

What did you learn about how Heifer helps the families in their projects?

I learned they help families by giving them animals. It also helps people continue to move forward in life so they can make money and then buy their own stuff.

How does it feel to know that you helped change the world?

I like it, it makes me feel nice inside.

What would you tell other kids about why they should support Heifer or get involved with Read to Feed?

It feels great to know you're doing something good to help others.

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Thousands Flock to Nepal Goat Festival

By Sumnima Shrestha, Heifer Nepal



Heifer project participants in Sindhuli tend their goats.

PHOTOS PROVIDED BY HEIFER NEPAL

A pampered goat is a healthy goat, and healthy goats equal better nutrition and sizeable profits. So it makes sense that in-the-know farmers bombarded Heifer International's booth to learn about the latest innovations at Nepal's first ever national goat festival.

More than 30,000 people visited Heifer's booth during the 10-day event in Bidur. Farmers checked out a goat transportation truck designed

for the animals' health and comfort. They picked up tips about improved fodder, nutritional supplements and the benefits of breeding local goats already adapted to the region, rather than imported breeds.

Heifer International works in Nepal to help small-scale farmers, mainly women, tap into a thriving market for goats. The majority of goat meat eaten in Nepal is imported from neighboring countries. But by providing improved hygiene, fodder



Breeders learn how to boost production and health.

and sheds for their animals, Heifer farmers are successfully boosting the country's supply of indigenous breeds and establishing a foothold in the thriving market. ■



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The Sweetest Way to Support Farmers in Ecuador

By Austin Bailey, *World Ark* managing editor



PHOTOS BY PHILLIP DAVIS

Candy doyen Dylan Lauren learns about harvesting cacao fruit from farmer Eduardo Almeida Cevallos.



When you're in the business of making and selling candy, it makes sense to put Ecuador on your travel list. Confections magnate Dylan Lauren did just that in 2017 when she explored Esmeraldas, a quiet coastal state that's becoming increasingly famous for what some connoisseurs claim is the world's finest chocolate.

Now, she's supporting chocolate farmers in the region through the sale of boutique chocolate bars sourced from wild Ecuadorean cacao. A dollar from every sale of the special Heifer-themed chocolate at Dylan's

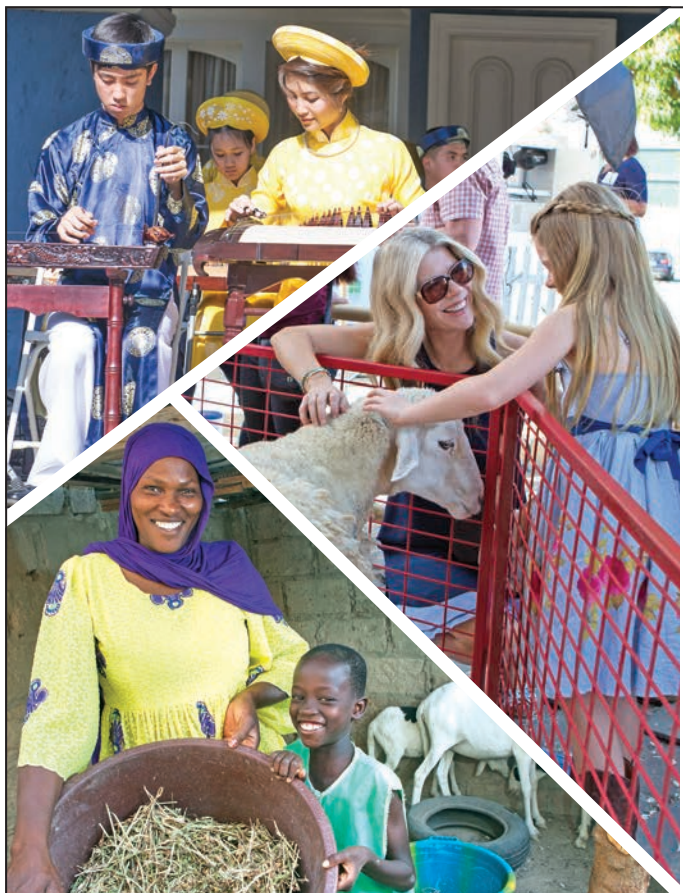
Candy Bar goes to support Heifer International.

Learning firsthand about the origin of South American chocolate and the intricate path from bean to bar was eye-opening, even for an accomplished candy connoisseur. "On my journey with Heifer International, we visited cacao processing facilities and farms. The trip from tree to chocolate bar is a long one, and it made me value the work that goes into a confection that we cherish and eat every day," Lauren said.

Lauren's special Ecuadorian chocolate bars come in two varieties,

cacao nib and passion fruit. Dylan's Candy Bar is supporting Heifer even further through the sale of a collection of Ecuador-themed accessories, including bracelets, pencil cases and keychains. A dollar from the purchase of any of these items will go to support cacao farmers. ■

Get a taste for yourself. These limited-edition candies and accessories are available in Dylan's Candy Bar stores and online at dylanscandybar.com



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PHOTO BY GEOFF OLIVER BUGBEE

"Is this water human beings should be drinking?"

—Akua Jielta, mother of 5

Families in Sidontenge, a remote community in Ghana's Northern Region, have more money for food thanks to a goat project that Akua Jielta helped start three years ago. But the goats and training haven't been enough to solve their most pressing needs. Without a well or borehole, residents must rely on streams that wither to a trickle in the dry season and yield water of dubious quality.



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