in this issue: the power of information in Burundi • ECHOcommunity.org celebrates 1,000,000 • deep-litter pig pens • intern spotlight: Kirsten Lackey
“In the beginning, God created the heavens and the earth . . . God saw all that He had made and it was very good.” Genesis 1

Another interpretation of the original Hebrew version of this last line is “and God saw that it worked exactly the way He intended it to work,” ... and it all functioned beautifully!

I was thinking of this interpretation as I reflected on our work around the world. I recently visited our research program in South Africa and I was amazed at how some of the things that our team is doing have increased crop production and improved the soil at the same time, all in natural ways. We have been alternating rows of corn and beans which have resulted in a higher than average yield per acre (for Africa) while planting half the space!

In other areas of our research, we have added manure and activated charcoal to the planting stations of some of the plants. Within just one month, the health of the plants was visibly better. These are ways in which we are demonstrating growing systems that use natural materials for “fertilizer” (that most farmers can find for free) and planting at a spacing that works with the land’s capacity. These work to produce an amazing amount of food and build the soil at the same time.

A woman in Tanzania named Ndetaniswa learned about some of these growing systems from an ECHO farmer exchange program and began to change the way she did agriculture. She now gets more corn from a much smaller plot of land and is growing fruit trees and vanilla vines on the land that she used to have planted with corn only. Using less land to produce more food gave her the opportunity to diversify her agriculture and generate more income. Her family’s agricultural practices have even made it possible to fully support their oldest child’s college education.

We are seeing similar lives changed around the world as ECHO shares techniques with small-scale farmers that allow them to produce more nutritious food in ways that leave the land healthier after the harvest than it was before.

This is the way God intended our planet to work when He created it. It is productive, affordable, and truly sustainable. This is what ECHO shares with the world.

Thank you for participating in making it possible for farmers to care for their land and their families. It is through your help that ECHO is able to make this happen.
please join us in prayer for West Africa

Ebola is a devastating disease, devastating bodies, families, villages, countries, economies, and even to some extent, the continent. Tourists are cancelling their scheduled excursions to places thousands of miles away from reported cases, “just to be safe.”

Well acquainted with individuals affected by the outbreak, ECHO sends our prayers out to families still struggling to cope.

In addition to the direct effects of the disease, Ebola is affecting small-scale farmers in other ways. Fields are empty though there is work to be done. Village markets are deserted or just beginning to recover. Borders are closed and transportation of food and goods has slowed to a trickle. According to a recent report by The Economist, the price of cassava has multiplied several-fold due to lack of supply.

In the midst of these challenges, ECHO West Africa is moving forward. Our re-scheduled Francophone Forum will take place in Burkina Faso at the end of January. A corresponding Anglophone Forum is scheduled for the end of March in Accra, Ghana.

Please pray with us that these events will provide practical solutions and tangible hope amid continuing loss and challenges across the Region.
The Power of Information

Photos courtesy of Rod Sebastian and Josh Guenther

Have you ever tried to bake bread from scratch? Did someone show you how, or did you follow a recipe? Imagine that you knew that baking bread was possible, and you had a few of the ingredients but no one to show you. Could you figure out the recipe on your own and bake a tasty loaf of bread? Isn’t it always easier to have someone walk you through it?

Through ECHO, staff and network members from around the world collaborate to provide step-by-step guidance, much like a recipe, to both common and unique challenges in sustainable agricultural development. ECHO provides training, technical documentation, research, and seeds. Through ECHO resources, development workers find a wealth of practical and tested information to help improve efficiency, productivity, and nutritional diversity in sustainable agriculture with a focus on smallholder farmers in the developing world.

Rod Sebastian is an ECHO donor and volunteer who also is incredibly passionate about sustainable international agriculture. Having grown up on a farm in the Midwest, he is intimately familiar with the challenges of farming both in the US and the world. As he travels, he seeks to both learn and share what he has learned.

When Rod attended ECHO’s Tropical Agricultural Development courses in 2012 he received a USB flash drive filled with copies of 253 ECHO technical resources. These documents include scores of plant information sheets, 50+ issues of ECHO Development Notes, Best Practice Notes, and our Amaranth to Zai Holes Reference Book in its entirety. This drive is obviously a valuable resource, but Rod was not sure what to do with it once he downloaded all the files that he needed.

The answer came to him while packing for an international trip. He’d be cycling extensively through Rod on his cycling trip across Burundi

Visit www.echonet.org/echoes to watch a video highlighting The Power of Information from Rod Sebastian’s personal perspective.
Burundi, a landlocked country in Southeastern Africa, bordered by Rwanda, Tanzania, and Democratic Republic of the Congo. Rod decided to bring the flash drive along on his trip in case he had the opportunity to pass it along to someone who needed it.

Burundi is one of the five poorest countries in the world with one of the lowest per capita GDPs of any nation, according to the Historical Dictionary of Burundi by Ellen Eggers. The country has suffered from warfare, corruption, and poor access to education. Burundi is densely populated and has had substantial emigration as young people seek opportunities elsewhere.

In the Global Hunger Index of 2013, Burundi has an indicator ratio of 38.8, earning the nation the distinction of being the hungriest country in the world.

It was in this beautiful but struggling nation that Rod met a medical missionary named Josh. Josh and his wife, both registered nurses, are serving with Burundi Youth for Christ. They came to Gitega, Burundi, to start Shammah Health Center, serving the rural community with excellent, affordable, and compassionate healthcare. Rod introduced Josh to ECHO and the resources that were available to him free of charge. Then he pulled out the flash drive from his pocket and handed it to him. Not knowing quite what he held in his hand, Josh promised to look at it.

Three days later, Josh fervently sought out Rod to thank him. “Man, I have to hug you!” Josh said excitedly. “I did not realize that there was an organization out there that was putting together agricultural information that people like me can use—right now—in our work here in countries like Burundi.”

Josh and another staff member, Claude, had just started a malnutrition project and garden, a first for the Shammah Health Center.

Rod shared how honored he was to spread the “ECHO effect” in Burundi. “I was really grateful for the opportunity to share that information with Josh and get that kind of feedback from him. I was also able to tell him about the Highlands Symposium that ECHO held in Burundi in October, and it was really encouraging to me that Josh and Claude both attended.”

And the story doesn’t end there. After the symposium, Josh contacted Rod to share what he learned. Rod says, “Josh was very excited with the relationships that he made during the networking opportunities that the symposium provided. He realized that he was no longer out there alone, doing things by himself, but he had people around him that he could connect with on an ongoing basis that he could share problems, issues, and share information.”

Claude continues to lead the Nutrition Garden project. More seedlings have been planted, vegetables are growing, and more land is being farmed. Claude is very passionate about this program and with the support of ECHO will continue to help it grow.

Information is powerful, but unless it is in the hands of those who need it, it is wasted. God wastes nothing. The simple act of sharing information on a flash drive can be key in ECHO’s mission of helping those working to improve the lives of many others. Thank you for your role in helping ECHO provide life-saving resources around the world.
Intercropping Corn and Legumes
Research for Impact in Sub-Saharan Africa

By Dr. Tim Motis

Many small-scale farmers struggle to produce enough food to meet the basic needs of their families. Population growth means farmers have less land on which to grow their crops, and that there isn’t always enough space to rotate crops or let parts of their land lie fallow in between grain crops. Consequently, more and more farmers have no other option but to grow their crops on land that is degraded and depleted of fertility.

Our research in South Africa has demonstrated the amazing potential of tropical legumes to thrive under poor soil conditions. Over the past year, we have built upon that knowledge by exploring ways to grow legumes and corn together during the same growing season. By intercropping corn and legumes together, a farmer can produce a grain crop each year while also reaping the added food and soil-related benefits.

In our research, we have endeavored to combine the advantages of legume intercropping with those of proven conservation agriculture systems in which fertility inputs (e.g., cattle manure) and seeds are placed in small holes called planting stations. This approach concentrates fertility and soil moisture close to crop roots. With corn and legumes planted in alternating rows of planting stations, we found that a legume combination (cowpea and lablab bean) can be planted at the same time as corn with no loss in grain yields from competition with the legumes. The cowpea vines grow quickly and then die back, after which the slower-growing lablab takes over with vines still growing after the corn is harvested.

There are lots of advantages in this system. First, the farmer can plant early and take full advantage of the rainy season. Secondly, the early cowpea growth provides a living ground cover that protects the soil from erosion and high temperatures, while also producing edible beans that are ready for harvest before the corn matures. Thirdly, the lablab provides late-season mulch, as well as a source of animal feed and/or edible beans during the dry season after the corn is harvested. We are very encouraged to see that our research continues to shed light on affordable options that farmers can use to cope with the realities they face.
ECHOcommunity.org is ECHO’s online source for networking, connecting, resourcing, educating, and collaborating. In November, we celebrated an important milestone: 1,000,000 resources served!

What does this mean? It means that every minute, somewhere around the world, a person is opening an ECHO resource! It means that a woman struggling to feed her family can learn how to produce nutritious food throughout the year on the small yard outside her door. It means that a farmer whose crops are failing due to lower rainfall is finding ways to adapt, and maybe even increase, his or her food production. It means that a missionary or development worker serving villagers hamstrung by poor soil can offer practical solutions that will both produce food and improve the soil for years to come. It means that every minute, somewhere around the world, people in need are finding practical, proven solutions to their challenges. As a result, it means that hungry children have more food to eat. Ultimately, it means that those children’s potential to learn, grow, and thrive in the future has increased. This is hope made manifest!

Through your support of ECHO, this hope is spreading! Since the launch of ECHOcommunity in 2011, until now, usage has multiplied over 14 times. The number of countries from which people are searching this knowledge base during a given month has expanded from 52 to 155. Every month, strategic resources are being produced and translated into more languages, improving access for those who need it most. Ongoing improvements to the software are making it easier for people to find what they are looking for…and what they may need, but don’t know to look for. Over one million times, somewhere in the world, a person has accessed an ECHO resource – and, by God’s grace, this is just the beginning!

ECHOcommunity.org
A group of women leaders from churches in Kachin State, Myanmar, came to Chiang Mai through the Kachin Baptist Convention for a week of leadership training. They spent an afternoon learning about ECHO resources. Some signed up for ECHO Development Notes, and everyone took Chaya home.

In the Semi-Arid Region of the ECHO Global Farm in Florida, Intern Emmalee Allen demonstrates staple crops like sorghum.

Rice as New Crop in Village of Dora

Josué initiated rice production in the village of Dora. Today most of the people of his village are producing rice, adding greatly to their incomes and livelihoods.
Rebecca, Paw, and Toh attended and contributed to a LEAD (Language, Education, and Development) event. They shared about ECHO resources, led a breakout session on land restoration, and were also able to take participants to the Partners’ Farm to see a small farm resource center in action.

Paw teaches a workshop at ECHO Asia's Seedbanking Training.

The Karamojong keep cattle, sheep, & goats. ECHO has the privilege of involvement in an effort, through the TOGETHER project, which is pioneering introduction of East Coast Fever (ECF) Vaccination. ECF typically takes the lives of 50% of calves annually.
In our new Appropriate Technology (AT) area, we are creating environments that provide for visitors to ECHO an experience of being in a developing country. Organized around the basic human needs of food, water, and shelter, this experience will provide the perspective and context for our AT demonstrations. These theme areas create a village-like experience that helps people envision how AT is used around the world and enhance the learning and training aspect for key individual technologies.

The existing AT Center will serve as a staging area to introduce the concepts that will be covered. From there regional settings will be established to demonstrate lifestyles on various continents, focusing on accessibility of food, water, and shelter. Each area will have a traditional house to display how the technologies fit into daily life. These traditional houses will demonstrate various aspects of construction, as well as highlight the theme area technologies. In the center of this space will be a Village Market that serves to connect the areas and to display additional technologies.

By creating this village-based atmosphere, there will be additional places to facilitate training and utility. This will provide a multi-function aspect where we are able to both display technologies, like our stoves or threshing equipment, while at the same time, actually use them for cooking or processing rice. This expanded AT space will help us achieve our objectives of education and training by providing a tour experience that highlights and explores basic human needs and by providing suitable places to teach and allow people to gain hands-on experience. It will also assist in the general support of ECHO’s farm activities by providing functional work areas for staff to process farm products. In addition, we would like to take advantage of the opportunity presented by this expansion to create training experiences for the ECHO staff during construction.

This expansion is being funded by a generous donor who believes in the power of appropriate technologies to reduce hunger and improve lives through ECHO outreach. Concrete was also donated by Preferred Materials. Their local office in Fort Myers office provided the base to help construct our handicapped well display and village marketplace. We are truly grateful for these generous donations. 🍽️
Intern Update

Angela Boss ’02 is Food Security Technical Advisor with World Renew. She and Darren now live in Cumberland, BC. She says, “I am always happy to share resources and learn from other interns.”

Aaron ’06 and Emily (Andree) Iverson ’07 welcomed baby boy Andre Louis in November. Aaron is finishing his doctorate in ecology at the University of Michigan, graduating in the spring. Aaron is studying tropical agroecology, specifically biological control and biodiversity on coffee farms in Mexico and Puerto Rico. Emily has been working on an organic farm in Ann Arbor but is taking some time off now to be a mom.

Megan Johnson ’06 most recently worked as a greenhouse manager of a hydroponic lettuce farm. She is considering going back to school for an MA in Teaching English as a Second Language, to teach K-12. Her heart is still in the developing world, but for now God has her serving in the US. She says, “Life is a journey, that’s for sure.”

Laura Havenga ’09 just finished as a Peace Corps Volunteer and accepted a position as Program Training Specialist in the Sustainable Agriculture Systems Program for Peace Corps Panama. She says, “It’s a long title to say that I get to teach more PCVs about what a great resource ECHO is!”

Brandon Lingbeek ’10 and Kate Myers ’10 got married on January 2 and will be living in Stephenville, Texas, for the next year. Brandon is currently a graduate assistant at Tarleton State University. For his masters degree, he is studying the biodiversity of arthropods in the Mbour region of Senegal.

Patricia Lazicki ’12 taught soil science at Njala University in Sierra Leone until the ebola outbreak, and she is now at University of California, Davis, working for a cooperative extension specialist in fertility management, helping design fertilization guidelines for California crops for the next year.

Intern alumni/ae, please let us know what you’ve been up to. Send submissions to dflood@echonet.org and if possible, please also include a photo.
One of the newest additions to the ECHO Global Farm is the Natural Farming Pig System, located in the Tropical Lowlands area. This system was developed in Asia and showcases an innovative method of harnessing the impact of ‘good bacteria’, enhancing both crop and animal production systems for the benefit of the small-scale farmer. Either commercially derived or produced at home, good bacteria can improve soil quality, enhance health of crops, minimize livestock odor, and aid in the fermentation of animal feed.

ECHO’s Natural Farming Pig System is comprised of a deep-litter pen with a roof, in which hogs are raised atop a one-meter deep layer of bedding comprised mostly of sawdust, rice husks, and ground charcoal. By excluding rain, and preventing excessive spillage of feed and water, the bedding remains minimally moist, offering the pig relief on hot days. On cold days, the pig can comfortably burrow itself into the bedding. Wastes are mixed into the litter by the pig’s natural rooting instinct and are subsequently broken down by the bacteria. After eight to twelve months of use, the nutrient-rich litter can be removed for application as compost on the farm.

The pigs are fed twice a day with silage made from sliced banana stalks fermented with small amounts of brown sugar and salt. Contrasted to the labor-intensive, traditional method of harvesting, slicing, and boiling the banana stalks daily (as is commonly practiced in Southeast Asia), the silage stores well for over a week. The ECHO silage ration is mixed with a much smaller amount of commercial pig feed and fed along with excess ECHO fruit, vegetables, and forage. This method decreases reliance on commercial feed and lowers overall production costs. Additionally, we have observed at our ECHO Asia Regional Impact Center that balanced, silage-based diets create sturdy, leaner hogs, which are thought to taste better.

New Demonstrations in Florida

One of my favorite things to do with our guinea hogs (Humperdink and Groot) in the deep litter is to bury sugar cane pieces or corn into the deep litter and then watch them use their noses like shovels to dig the treats up. This rooting also helps aerate the litter, saving me the labor of turning my compost.

Out of the 100 hogs I have, our little guinea hogs are the most enjoyable to work with and train. They love when people visit and talk to them, enjoy belly rubs and scratches behind the ear, and will always accept treats.

- Stacy Reader (ECHO Intern)
If you have ever shared your appreciation for ECHO with a friend, family member or neighbor, you ARE an ECHO Ambassador. Let us help you make your sharing more intentional by equipping and training you on March 6. Learn more about Ambassador Day by calling Danielle at 239.567.3312.

Ambassador Day
You Can Be A Champion of Change

STEP 1: Say Yes
We are holding our annual Ambassador Day, at the Global Farm, on the morning March 6, 2015. ECHO ambassadors are representatives who volunteer their time and skills to share the mission and impact of ECHO by engaging groups of potential donors to invest in this unique ministry.

If you would like to be a part of these dedicated agricultural advocates, we invite you to learn more about our ambassador program and say yes by attending Ambassador Day.

STEP 2: Learn about the Growth of ECHO’s Ministry
Ambassador Day will give you the opportunity to learn the most up-to-date highlights of ECHO’s ministry, as well as get more in-depth information about our mission as a whole.

We have seen amazing growth over the past year, with more people than ever reached at our Regional Impact Centers in Asia, East Africa, and West Africa. In 2014, our Regional Impact Team to Latin America and the Caribbean worked with farmers in Cuba, Nicaragua, and Honduras with additional consultations planned for Panama and Cuba this year. Plus, the multilingual ECHOcommunity website has served over 9,000 members with over 1,000,000 resources: our rich history of publications, access to research results, guides to the seeds offered at our three seedbanks free of charge, and direct access to our Technical Response Unit. It’s comparable to an ECHO conference and network available 24/7 in every corner of the globe.

With tools like these, ECHO partnerships are sought out by NGOs, academic institutions & research centers, and missions organizations who equip small-scale farmers. To maintain the growth and momentum we are experiencing, we need an increase in funding to meet growing requests worldwide for agricultural methods and training. Ambassadors are key in sharing ECHO’s mission and engaging new individual and church donors. In the past year, Ambassadors have directly raised thousands of dollars to further the mission of ECHO around the world.

STEP 3: Share and Exchange with Other Ambassadors
What kinds of people are ECHO Ambassadors? All kinds. From students to retirees, including those who belong to and lead clubs, groups, chambers, and more, Ambassadors share a common desire to make a difference by equipping the hungry with agricultural tools to feed themselves.

On Ambassador Day, there will be special breakout sessions for dialogue and exchange to help you get ideas from others. Bring your questions and ideas: “How do I approach my church?” and “How do I start up a conversation about ECHO?” as well as “Here’s what worked for me...”

STEP 4: Spread the Word and Make a Difference
There is joy in being part of the type of giving that New Testament saints termed as a koinonia, a “fellowship” or “mutual participation,” in the lives of the poor. We long to be able to say as he and the apostles did that “there was not a needy person among them” (Rom. 15:26; Acts 4:34).

ECHO is a source of great encouragement to many as we carry a holistic message of hope: We can be reconciled to God, to one another, and to the creation. Fortunately, when it comes to hunger needs, there are enough food sources and varied methods of cultivation for all to be able to feed themselves and their families.

Because fighting world hunger takes a team, you can help ECHO invite others to join us to restore land and people to a healthy abundance that yields bountiful harvests.
Hello! My name is Kirsten Lackey, and I work in the Monsoon area of the Global Farm. It was an unexpected turn in my life’s journey that brought me here to ECHO. As a missionary kid in Russia and Kazakhstan, I lived almost my entire life in apartment buildings, surrounded by bustling cities.

I went to the University of Colorado at Boulder to study Russian Studies, with plans to become a translator... or, if that failed, potentially a spy for the CIA (just kidding!) This was the trajectory of my life until my senior year of college, when food made its belated appearance. Don’t get me wrong, I had grown up eating. But, I had never given much consideration to my meal’s source or the vital role it plays in my well-being. The more I studied nutrition and other food courses, the more fascinated I became with the subject. I wanted my life to have a positive impact on people who live on the margins of society. What better way to help people physically and psychologically than through access to quality food?

My internship here at ECHO has been an incredible hands-on experience to walk through an entire food cycle: from sowing, to harvesting, to eating, and all the steps in between. I have gained a great appreciation for the skill, creativity, and dedication required to grow nutritious food for people around the world.

Perhaps most significantly, I have learned here that the physical act of growing food nourishes the soul. I have been blessed to have various friends come visit me on the farm. Several of them arrived discouraged from the wear and tear of life, but returned home with renewed vigor and ambition. The vibrant life and color of the diverse ecology here at ECHO is life-giving. Even more so, seeing that God is continually bringing about new life around us is a reminder that He is faithful to do the same within us. I am privileged to be a part of that process here at ECHO, and look forward to what unfolds in the next 5 months!
ECHO Legacy Society

Leave a Legacy, Create a Legacy
Through planned giving, donors can enjoy specific tax advantages, often allowing them to make larger gifts than they may have thought possible. Planned gifts to ECHO provide long-term financial stability to our mission, creating a wonderful legacy for the donor and ensuring that small-scale farmers continue to benefit: reducing hunger, improving their resiliency, and ultimately, improving their lives for generations to come.

The Promise of Your Planned Gifts
Planned gifts demonstrate your intent to provide for the future of ECHO while meeting your current personal, family, and financial needs. We are available to discuss your personal financial situation in confidence, answer questions you or your financial advisors may have, provide information about the organization, and offer other related assistance.

The Legacy Society
The purpose of the Legacy Society is to honor the gifts and legacies of our family and friends with appropriate displays of gratitude and stewardship for their charitable plans that provide for ECHO’s mission.

Your charitable planning may have already qualified you to be a member this year, and we simply are not aware. We would be grateful to hear from you, or work collaboratively and in confidence with you and your advisors, toward making such a gift possible.

Contact Us
For more information about tax-advantaged and planned giving, please contact David Erickson, Chief Organizational Development Officer, at 239.567.3323 or derickson@echonet.org.

Tamarind

While bearing large quantities of delicious fruit, the tamarind still remains one of the lesser-known tropical fruit trees. While its origin is Africa, many consider it indigenous to India because of its long heritage there. From India the tamarind traveled to the Persians and Arabs. There it was called “tamar hindi,” meaning Indian date, because the ripe pulp appears similar to the date. Today, the tamarind is naturalized throughout most subtropical and tropical regions.

This evergreen tree bears cinnamon-brown velvety bean-like pods. Upon ripening, the pulp turns brown and the skin becomes brittle. As the pulp dehydrates in the pod, it turns into a sticky paste and shrinks away from the shell.

The ripened fruit is eaten fresh and has a delightful, tangy flavor. The pulp is commonly used in chutneys, curries, and sauces. Tamarind-ade is a refreshing drink made with ripened pulp, water, and sugar. The fruit is high in calcium, iron, phosphorous, and vitamin B. It also has a wide range of medicinal uses.

The tamarind tree is a beautiful, sun-loving, tropical legume. It is a stately tree with strong branches, attractive compound leaves, and striking textured bark. Though slow-growing, it can become impressively large, up to 50’ tall with a spread of 35’. It is both drought and wind resistant. Tamarind will grow in a wide variety of soil types but does poorly in waterlogged areas. It can withstand salt spray, which makes it ideal to plant along the coastline as a windbreak.
2014’s Bull Market

2014 was a good year for stocks. The Dow finished the year up 7.5%, the S&P 500 rose 11.4%, and the tech-heavy Nasdaq soared 13.4%. This was the third straight year that the popular S&P 500 Index scored double-digit gains.

Did you know that you can donate a gift of stock without having to convert it to cash first? By transferring your stock to ECHO you can avoid the capital gains tax on its increase in value since its purchase. Yet your charitable deduction will be equal to the full fair market value of the stock.

Electronic delivery of stock shares is the most secure and expedient delivery process available and provides efficient internal control as well as cost savings. Your broker can transfer shares directly to ECHO’s account.

Make the most of these advantages and increased stock values through a direct stock gift to ECHO while making a difference around the world in this new year! Visit echonet.org/gifts-of-stock/ for more information.