in this issue:  heads together, stomachs full • planting seeds of change
students raise the bar • recipes to the rescue • intern spotlight: Hawken Sawyer
It’s not important who does the planting, or who does the watering. [Both will be rewarded for their own hard work.] What’s important is that God makes the seed grow.

1 Corinthians 3:7,[8]

Dear ECHO Partner,

Have you ever been in a room with people who are talking about you, but they are not talking with you or to you? It’s a strange feeling…and profoundly disempowering! Unfortunately, as Savannah Froese says on page 4, “Sometimes organizations forget to work with farmers instead of just for them.” While the intent is good, opportunities for real transformation are missed.

Two ways that ECHO avoids falling into this trap are to: invest time in face-to-face trainings where relationships are built and deeper understanding is gained; and, engage farmers as part of the training team. The difference these steps can make is profound, and directly related to the rate at which impact is multiplied. As you will read, Mama Pallangyo, Joseph Alimua, P’Lue, and ECHO partner, Miracles in Action, all reveal the power of directly engaging those we seek to serve.

A second theme emerges in a number of these ECHO News stories – ECHO-Florida Interns both bless and benefit through their post-Internship Field Experience. Elena, Savannah, Gabe, and Luke — all of whom have completed their Internships and then opted to serve as Technical Advisors at one of ECHO’s Regional Impact Centers — have a lot to offer, and to learn, by extending their ECHO service. Discover the goodness they have experienced as you read about their work.

Central to ECHO’s mission is the work of equipping farmers, interns, and partner organizations to have multiplying impacts in needy communities around the world. You have enabled us to “plant” and “water” seeds of opportunity, truth, and hope. By God’s grace, these “seeds” are growing and multiplication is happening!

This is the reward that we share with you. Please join us in gratitude and celebration for how God is at work!

David Erickson, President/CEO
ECHO News is a global Christian organization that equips people with agricultural resources and skills to reduce hunger and improve the lives of the poor.

cover photo: Bananas ripen over a pond at ECHO Asia’s new Small Farm Resource Center in Chiang Mai, Thailand. This growth increases our seed bank space three times and provides a training and demonstration space to equip more farmers and leaders.

In Their Own Words

“I got mucuna seeds from ECHO, and now I am growing them out to produce more seeds. Mucuna is a green manure cover crop. I want to show others how to grow it, and what it looks like. From it you can get manure for the ground. If your ground is healthy, you can make more money.”

To save her seeds, she first dries them in the sun and then mixes the seeds with ash and stores them in newspaper. In this way, she can save seeds for herself and others. She knows that it can be difficult for her neighbors to travel to the ECHO Center, so she considers herself to be a demonstration center on the other side of Arusha! “I want to have more seeds here because not everyone knows ECHO or can get there. But for the people who come to me, they can try it for themselves to see if it works.”

— Mama Pallangyo, Arusha, Tanzania
Heads Together, Stomachs Full

Voices ricocheted off the conference room walls as several languages mixed to create an international harmony. Farmers and professors and researchers exchanged insight into their personal agricultural worlds. And although many arrived with empty hands, they all carried something worth sharing.

In February, ECHO held the 5th Biennial Symposium on Sustainable Agriculture Best Practices in Arusha, Tanzania. More than 160 attendees participated in presentations, workshops and networking opportunities crafted to foster ECHO’s mission of equipping the world through agricultural knowledge.

“A space was created where ideas could be shared and connections could be made,” ECHO East Africa team member Elena Brooks said. “Being able to equip others to improve their farms, gardens, or nurseries was truly a highlight.”

Farmers, missionaries, academics, and officials from across East Africa discussed practical solutions to issues such as poverty, malnutrition, and land restoration.

Activities included a workshop on fruit tree propagation led by Brooks, who taught how to grow trees by seeds, cuttings, air-layering, and grafting.

Questions were fielded about the application of the workshop to the contexts of attendees. Farmers wanted to improve not only their own plots, but those of an entire village. And professors sought to share the innovations with students. All to further the battle against hunger.

Brooks was equipped with this knowledge through her internship at ECHO in Fort Myers. There, she worked in the plant nursery and researched propagation techniques that applied to several global environments.
“I was excited to be able to share the incredible knowledge that I had gained,” Brooks said. “I also discovered a newfound love for teaching.”

And it wasn’t just ECHO staff doing the teaching. Attendees brought with them knowledge of the success and challenges of agriculture in East Africa.

Legumes were king. The soil fertility potential of plants like lablab, jack bean, and pigeon pea was a main discussion point each day. With proper use, the plants can boost the nutrition and production of soil.

Professionals working in health fields called for a convergence of nutrition and agriculture. They wanted the crops to provide food that was more than just filling.

Savannah Froese, another ECHO East Africa team member, spoke with delegates from across Tanzania in hopes to observe nutrition training efforts. She was recently accepted into a PhD nutrition program that will begin this coming fall, the fruits of which she hopes to bring back to East Africa.

“I feel this information is giving shape to my time here in Tanzania,” Froese said. “Hearing the success and challenges of other workers has helped form my own interests and plans for the future.”

Ideas did not come from ECHO staff alone, as feedback from those being impacted was applied to discussions and teachings. Rural farmers relayed results of ECHO’s resourcing and equipping in order to improve future instruction.

Translation services in Swahili, Tanzania’s other national language alongside English, were even provided to allow those separated by a language barrier to ask questions and offer insight.

“ECHO staff … are very intentional about incorporating feedback from people that they are trying to help,” Froese said. “Sometimes organizations forget to work with farmers instead of just for them.”

Bible verses added to the information shared during a session on integrating Bible study and agriculture trainings.

Psalm 21:1-2, “The earth is the Lord’s, and everything in it, the world, and all who live in it; for he founded it on the seas and established it on the waters,” acted as the foundation of the session, touching on the reasons why sustainable agriculture matters.

God is described as “the first farmer” in the session notes, citing Genesis 2:8-9 as an illustration.

During breakfast one morning, Froese met Joseph Alimua, a farmer from Uganda. They began talking about the symposium when he mentioned his goal to bring the knowledge he was taught back to his community.

“I have all this knowledge, but I need to share it. I cannot keep it just to myself,” Alimua said. “All these farmers have all these resources that they don’t know about and aren’t using. Manure, animals, plants. Someone just needs to show them. I want to show them what they have.”

Over that morning meal, Alimua personified ECHO’s mission. He embodied the reason symposiums like this exist. Their goal is to teach, to spread knowledge, and to empower through the efforts of those being served.

ECHO understands, like Alimua, that the solution to world hunger cannot come from a farm in Fort Myers. Or from a three-day meeting in Arusha. The solution must come from those who need it most.

ECHO, like Alimua, shows people what they have.

“Being able to equip others to improve their farms, gardens, or nurseries was truly a highlight.”

-Elena Brooks, Former ECHO Intern and current Technical Advisor to ECHO East Africa
Above: Stacy Swartz measures tomato plant height during the study. Below: Taste test results will help ECHO identify container varieties that have a nice flavor as well, filling a niche where we didn’t previously have an appropriate tomato variety to suggest.

In the crowded room, bowls of tomatoes peppered every table. Volunteers and staff were participating in a tomato taste test, part of ECHO’s five-month research study to identify productive and tasty tomato varieties that farmers around the world could grow in urban areas to feed their families and sell at produce markers.

Some varieties produced more pounds of tomatoes than others, some had better shape or taste, and some were more resistant to disease, pests, or cracking. These insights help the ECHO Florida Seed Bank to better recommend tomato varieties to those who depend on our seeds. ECHO Research Associate Stacy Swartz designed and carried out the study, spending over 30 hours throughout the spring and summer measuring and evaluating the traits and production of the 16 tomato varieties.

That’s 45 days of vitamins A, C, and K, as well as B1, B2, and niacin.

Results will help ECHO identify varieties that grow well in containers in urban gardens throughout the tropics, filling a niche where we didn’t previously have an appropriate tomato variety to suggest.

Just days after the data was published, our partner Mike Mueller at Day 3 Seeds shared about the most promising variety, known as #291. It is an open pollinated variety, meaning farmers can save seed year after year without losing plant vigor. This variety is compact, has good branching with multiple clusters of fruit and will produce smooth, round, Roma-type saucing tomatoes for up to 45 days.

That’s 45 days of vitamins A, C, and K, as well as B1, B2, and niacin. 45 days of potassium and eight other minerals.

45 days of better nutrition and fuller bellies.
Half of Guatemala’s population is engaged in agriculture. Still, the population faces a high degree of food insecurity accompanied by chronic malnutrition. Staple grains, such as black beans and maize, are not enough.

The good news is that there are low-cost, highly nutritious and drought-tolerant crops in Guatemala. One of these crops is chaya, a native leafy vegetable that is an economical source of food of high nutritional value. Another interesting one is the tepary bean, capable of producing extraordinary yields under stressful conditions, under which the black bean is completely unproductive.

Scientists have discovered that in Guatemala chaya consumption is minimal and continuously decreasing due to the loss of knowledge of ancestral foods. This is especially the case among traditional Mayan groups who by now only use a handful of recipes, which are not appreciated by the younger generations. There is also resistance in consuming a crop wrongly perceived by many as food of the poor.

ECHO partnered with Bioversity and Miracles in Action to produce a chaya recipe book for the whole family, pleasing to the local palate. The recipes are easy to follow and incorporate colorful pictures. The recipes also keep in mind children’s preferences, and include foods like chaya popsicles, porridge and rice pudding.

Miracles in Action, who first learned about chaya from ECHO, has been teaching women in rural communities about chaya for years, and even hosted a green tortilla cooking contest to raise awareness about this plant.

Thank you for equipping ECHO to work alongside partner organizations and to provide cuttings of chaya to families in Guatemala who are striving to provide healthy futures for their families.
what’s happening at ECHO

Taking a break during a compost seminar, these West Africa trainees used the “greens” of the compost technique to spell out ECHO. The 21-day compost method uses available materials—water, manure, greens and dry material—to improve decomposition and provide farmers with valuable compost for their fields.

Seeds line the shelves of the ECHO Asia Seed Bank, located just 20 minutes outside of Chiang Mai City. This new location has three times more space for seeds to send to our network!

Rice Seedlings at 6 Days Old

By reducing farmers’ needs for seeds and water, and often even for labor, System of Rice Intensification gives greater returns from available resources of land, labor and capital. This raises incomes while also being beneficial for the environment.

Follow us on Instagram for pictures of ECHO’s work all around the world. #echofightshunger

Tag ECHO and we’ll follow you too!
Urban Garden Entrepreneurs

A group of entrepreneurs from Arusha, Tanzania, visited ECHO East Africa to learn about urban garden technologies. These techniques enable people in urban areas to have access to healthy green vegetables, both for consumption and income in order to improve their livelihoods.

Välkommen Swedish Ambassador

The Swedish Ambassador to Tanzania visited ECHO East Africa’s Seed Bank and browsed the seeds available to small-scale farmers. Regional Director Erwin Kinsey briefed the delegation about ECHO’s work around the world.

Creative Capacity Building

Today’s engineering students, tomorrow’s businessmen! Former ECHO Intern Savannah Froese helped host a Creative Capacity Building training in Arusha, Tanzania, which gives students the space and encouragement to build technologies in response to challenges in Tanzania. In partnership with Twende, these innovators are creating machines that will change lives!
We arrived and were greeted by a woman beaming with confidence. I was struck by a large amount of chaya throughout the farm that they originally received from ECHO. P'Lue said they grow perennials to reduce labor, as “you only have to plant once and harvest for a lifetime.” They also sell chaya in the organic market in Chiang Mai!

P'Lue works with a Thai organization that partners with growers across the country to save local seed varieties and support organic agriculture. Her father started Mae Tha sustainable agriculture cooperative, and continues to work with that cooperative today.

The organic cooperative is now being run by the second and third generations. Its roots are in an NGO that worked in the community in the 1980s and local community leaders took it from there. Particularly, P'Lue’s father and another man championed sustainable agriculture and forestry and worked together to form a cooperative. The cooperative now has over 600 members and helps members with trainings and access to markets.

When I asked her what she enjoyed most, she said that it was the training and sharing information. They have become a platform for students and farmers to learn organic practices and how to add value to their products.

She said that she and her parents work together to capture knowledge from their own heritage and gather plants and information from partners like ECHO. Now they share it with the next generation, their cooperative, and anyone else who wants to stop by.

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**Planting Seeds of Change**

Family farms are the key to global crop diversity

Smallholder farmers make an enormous contribution to agriculture, producing and conserving biodiversity. In a recent study, Vincent Ricciardi and colleagues examined farmer surveys and census data from 55 countries. They found that farms under two hectares produce 30-35% of the world’s food, and have the greatest share of crop diversity compared to other farm size classes (Ricciardi et al. 2018).

On more than 500 million small farms worldwide, farmers grow food in small plots in variable ecosystems and microclimates, often close to forests. Where farmers are able to periodically leave land fallow, local plant species regrow. Where the local diet includes wild foods, farmers continue the process of crop domestication when they collect and plant seeds of wild species.

Planting processes also contribute to biodiversity. Many smallholder farmers use little mechanization. Instead, they plant diverse local varieties by hand. They can be attentive to new characteristics or traits. Often, smallholder farmers save their own seed, selecting and harvesting seed by hand. **Access to viable seed is critical for successful farming. This is one reason our seed banks in Florida, Thailand, and East Africa offer trial packets of seed to our network members.**

In northern Thailand and Cambodia, trading small amounts of seed is common. People do not pay for seeds, and do
ECHO works to equip local leaders, like P’Lue, who are able to share knowledge far beyond ECHO’s network.

Why do seed systems matter?
When missionaries and agricultural workers understand the seed systems in a community, they can plan agricultural programs that are sensible, purposeful, and effective. As they learn about existing seed systems, they can also help farmers understand how they can share and acquire seeds that they produce themselves or obtain from others. ECHO works to equip local leaders, like P’Lue who are able to share knowledge far beyond ECHO’s network.

not expect any kind of repayment for sharing seeds. Seed sharing builds relationships and overcomes ethnic conflicts.

In a recent study, a research team learned that in Thailand and Cambodia, women have a high level of involvement with nearly all stages of the seed cycle. This was extremely surprising for some local extension workers, who asked that the research be repeated, but the same results were found the second time. They learned to be sure to invite women when holding a training related to seeds!

What are ECHO seed fairs?
With this and other research to guide us, ECHO staff around the world host and teach others to host seed fairs, sharing crop diversity and knowledge among groups. Each family is invited to package and bring seeds of a vegetable that has a special characteristic. At the seed fair, each farmer is given an opportunity to discuss the seed varieties they brought, and why they like them. The fair also includes education about seed saving and a time to answer questions about seed storage. At the end of the seed fair, participants are given time to discuss the plant varieties with each other, and to choose seed packets to take home.
The Biblical Basis for ECHO and Agricultural Missions

We continue our series exploring Biblical themes that provide the foundation of ECHO and agricultural missions. This issue examines the fifth theme, The Holistic Breadth of the Gospel

If growing in our understanding of God’s heart for the poor is humbling, this next truth is exhilarating: the death of Jesus Christ on the cross and his resurrection from the grave accomplished more than we realize.

When sin entered the world, our relationships with God, others and the rest of creation were broken. Christ’s work on the cross brings restoration in all of these relationships.

Scripture teaches that all things created and sustained by Christ are redeemed by Christ through his death and resurrection.

“God was pleased to have all of His fullness dwell in Jesus, and through Jesus to reconcile to Himself all things, whether things on earth or things in heaven, by making peace through His blood, shed on the cross.” Colossians 1:15-20

All creation will be restored by Christ. Our destructive relationship with creation is also restored by Christ.

All things!

Creation shares in the effect of humanity’s sin and is redeemed and restored along with us.

In Romans 8 we read, “For all creation is waiting eagerly for that future day when God will reveal who his children really are. Against its will, all creation was subjected to God’s curse. But with eager hope, the creation looks forward to the day when it will join God’s children in glorious freedom from death and decay. For we know that all creation has been groaning as in the pains of childbirth right up to the present time. And we believers also groan, even though we have the Holy Spirit within us as a foretaste of future glory, for we long for our bodies to be released from sin and suffering.” Romans 8:19-23

Bryant Myers, Community Development leader and author of “Walking with the Poor” writes, “The goal of the Biblical story is the reconciliation and redemption of all things, on earth and in heaven with Christ as the head”.

Relationships are restored in all the dimensions distorted by sin:
• our relationship with God,
• our relationships with each other,
• and our relationship with God’s creation is restored to a healthy relationship of godly governance and stewardship instead of deification or exploitation.

On the cross and through his resurrection, Jesus Christ brings restoration:
• with God
• with others
• with and within creation.

That’s a breadth of restoration that is exhilarating!
Culver Girls Academy knew ECHO’s Founder, the late Dick Dugger, well. The Indiana school has been raising funds and awareness about the challenges in sub-Saharan Africa since 2004 with the formation of the Leadership Committee for Africa (LCA). The challenges to development have evolved over the years and so has LCA’s focus.

Now, the group of girls has raised the bar – actually a custom-made chocolate bar – to help combat poverty and the malnutrition that feeds it.

Students from the academy shared with their peers about one of the grains – actually a seed – that can help combat the hunger crisis. Amaranth, a drought-resistant plant, includes the most complete protein of any grain. Aztecs, Incas, and Mayans all grew amaranth for its nutritional benefits throughout Central and South America. But when the Spanish conquered these people, amaranth disappeared from the agricultural scene as corn took over.

Through the years, LCA has hosted agricultural experts to hear about the plant; conducted tasting sessions of foods made with amaranth flour; and worked with Dugger on multiple occasions before he passed away.

Now, LCA has started to sell a special peanut butter chocolate amaranth bar called PB Chocomaranth. The bar sells for $3 with the proceeds going to ECHO and is manufactured by Davis Chocolate, a bean to bar chocolate company, in Mishawaka, Indiana. The bar contains five grams of protein.

The chocolate bar is the latest in a series of student-led funding campaigns that have raised funds for several organizations, including ECHO.

Pearl Buck, an American writer, is quoted as saying, “The young do not know enough to be prudent, and therefore they attempt the impossible, and achieve it, generation after generation.”

Hunger is solvable. It is our great privilege to work alongside students and adults—passionate people striving to make the world a better place.

Because of you, we are succeeding one family at a time.
My name is Hawken Sawyer and until now, I’ve spent most of my life living near the Great Lakes. I was raised in Cleveland, Ohio, and went to school at Wheaton College, just outside of Chicago. Ever since I was young, I’ve wanted to serve God outside of my home culture. This led me to study theology and enroll in a program at Wheaton known as Human Needs and Global Resources (HNGR). Through the HNGR program, I spent 6 months at the ECHO West Africa Impact Center in Burkina Faso. There, my love of theology and culture was met with a newfound love of agriculture.

I graduated with a vision to serve the poor in a holistic way, using theology and agriculture, which led me to apply for the ECHO internship. ECHO is an empowering place. While in West Africa, I saw farmer after farmer smiling next to tall, green crops months after receiving an ECHO training; empowered for the first time to feed their families with confidence and joy. Here in Florida, I have experienced a similar empowerment. I am learning to trust that God can use me, a suburban kid from the Midwest, to bring agricultural knowledge that will change lives around the world. I am learning to rely heavily on my communities as I enter the world of agriculture. I have been so humbled to learn more about how humans should interact with creation.

Ultimately, my time at ECHO is not about me, or how much I can learn. I simply want to be more prepared to do Kingdom work. My heart pulls me back to West Africa, and I hope to be living there in the near future. I am still discerning whether or not I should seek more education before going abroad — a love of animals makes me want to pursue a degree as a veterinary technician.

A thousand thank-you’s to all the people who generously give to ECHO — whether through your time or financial resources. I have been able to witness firsthand the far-reaching impacts of your gifts. To God be the glory!

“I saw farmer after farmer smiling next to tall, green crops months after receiving an ECHO training; empowered for the first time to feed their families with confidence and joy.”
Myths About Wills

A common misconception

Don’t have a will? You’re not alone! In fact, in one survey responders listed getting a root canal as more preferable than preparing a will.

Why do people fail to leave behind a document that will help to provide for their families and distribute hard-earned assets according to their own wishes – and not the state’s laws of distribution?

Some believe wills are only for the wealthy. They feel they don't have enough assets or property to warrant drawing up a will, or fear it will be too costly.

But every adult should have a will. And it doesn’t have to be complex or expensive.

To name ECHO as a partial or full beneficiary in your will or bequest, here’s the language to use:

“I do hereby give, devise and bequeath to ECHO, Inc., a non-profit organization located at 17391 Durrance Road, North Fort Myers, FL 33917, Tax ID# 23-7275283, XX% or $XX, of my estate to support for general use and purpose.”

To learn more or explore other options to leave a lasting legacy of helping the hungry, call Amy Wiggins, Advancement Director, at (239) 567-3341.

INFORMATION FOR PROFESSIONAL ADVISORS

Legal Name: ECHO, Inc.
Address: 17391 Durrance Road, North Fort Myers, FL 33917
Tax ID #: 23-7275283

Atemoya

One of the advantages of being around ECHO is the exposure to many different tropical fruit trees. On any Friday, we sell fresh, seasonal fruits, greens, and vegetables... often with samples, and the proceeds help to advance our mission! Be careful though, you may develop a new tropical favorite, like the Atemoya.

The Atemoya is a member of the Annona family, a group of custard-like fruits that have their origins in tropical America and the West Indies. It is the result of hybridization of two of the members of the Annona family, the Cherimoya (Annona cherimola) and the Sugar Apple (Annona squamosa). Atemoya gets its name from old Mexican names for Sugar Apple ‘Ate’ and the Cherimoya ‘Moya’.

The fruit itself looks almost like a stone aged artichoke with its green-grey skin, but don’t let that deter you from this tropical delight. Once it is cut open, you will find a white creamy flesh which is very rich and sweet in taste. Embedded in this savory flesh you will also find slippery, dark, watermelon-like seeds you must spit out because they contain a toxin called rotenone. The fruit is often served chilled and is best eaten with a grapefruit spoon.

The Atemoya tree grows from lowland tropics to cool subtropical climates making it a good candidate for some areas of Florida. You can expect the tree to fruit from August to November. Knowing when to harvest the fruit can prove to be tricky. You ideally want to harvest any fruit minutes before it falls to the ground. At ECHO it is common practice for the interns to check under the tree 1 or 2 times a day when Atemoya is in season.
Earth Bag Seed Bank

Seeds need cool and dry conditions to maintain viability. Appropriate techniques such as building an earth bag house can allow villages to store seeds for many families. The bags are filled with clay and cement, then stacked and tamped down for stability. This is a low cost method of keeping seeds cool in the tropics.