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I hope that you thoroughly enjoy this issue of ECHO News. As you read through these articles, these two words may come to your mind: **complexity** and **simplicity**.

As you readily understand, the work that we’ve taken on is complex! There are so many variables in agriculture related to weather, soil conditions, the timing and amounts of water, plant varieties, seed availability and quality, and more and more. Farming knowledge, traditions, and practices vary widely. Cultures shape roles and responsibilities within family farming, views about what can be eaten, and how foods are prepared. And then there are the challenges of language, access, and relational credibility.

Our challenge and opportunity is to work through all of this to provide knowledge and guidance that is as simple and easy to implement as possible. We cannot be “simplistic”; that doesn’t serve anyone. There are also no “one-size-fits-all” solutions. We recognize that the people we serve are beautifully creative and intelligent—they have just not had the opportunity to learn what we have been privileged to learn from researchers, practitioners, and small-scale farmers all around the world.

So HOW we go about our work is really important!

We begin with simple humility, and we continue as learners. We don’t “dispense” information, we come alongside to share knowledge and experience. We work with and through people and organizations who are eager to carry transformative knowledge about plants, practices, and appropriate technologies to the farmers and communities who need them most.

We celebrate the privilege that we have to equip hundreds of thousands of men and women all around the world to live into God’s original job description for humanity…to work the land and care for the earth. (Gen. 2:15)

We embrace this privilege with you. Together with you, God has enabled ECHO to live into our Mission: **to follow Jesus by reducing hunger and improving lives worldwide through partnerships that equip people with agricultural resources and skills**. The results have impacted the lives of over 5.8 million people, and there is so much more we can do. Thank you for embracing the challenges and opportunities with us to bless the lives of millions more!

With you on mission,

P.S. Another word came to mind, based on the story of our high school friend David... **complexity, simplicity, & persistance!**
Honoring an Incredible Life and Legacy

After a long illness, we are saddened to share the news that Dick Dugger, Founder of ECHO, passed away on Wednesday, September 7, 2016.

We are so grateful for Dick's life of service which extends to all of the 5.8 million people that ECHO has served around the world. Truly, ECHO would not exist without Dick Dugger.

ECHO was founded through his extraordinary efforts and vision. In the early 1970's Dick led a group of high school students on a visit to Haiti and was deeply moved by the plight of people in this developing country. After that trip, he worked, prayed, dreamed, and mobilized others to personally commit their time and resources to help respond to the needs that they had encountered.

Over the 35-plus years of ECHO's existence, Dick remained engaged as both an active promoter and supporter of ECHO. Dick continued to champion the cause of ECHO from his home in Indiana.

ECHO was his dream and he was so proud of what it has become with God's blessings!
A Tanzanian Gem

An Inside Look at ECHO’s Work in East Africa

Many call Tanzania the gem of Africa. The majestic, snow-covered peaks of Mount Kilimanjaro beckon visitors. Those seeking scenic wildlife safaris often begin their adventures in the northern city of Arusha. Just about seven miles from that sprawling city, ECHO established what many would say has also become a gem -- a Regional Impact Center that serves as a hub of training, information and resources for those living in rural villages in East Africa.

A Look Back at the Starting Point

“Arusha is a recognized regional hub and affords us good accessibility from and to the entire East Africa Region,” ECHO President and CEO David Erickson says in explaining some of the considerations in choosing the center’s location. A reasonable infrastructure and relative governmental stability also contributes to ECHO’s ability to make a sustained impact in the area.

However, along with the old adage of “location, location, location,” there was another important factor that drew ECHO to build its base camp near Arusha. “The leader we wanted, Erwin Kinsey, lived there and over a period of nearly three decades has built a strong network of reputation and influence that would accelerate the establishment of the ECHO East Africa Impact Center and its impact across the region,” says David.
Leadership and vision are needed to address the challenges faced in this region.

In one mere email exchange, one can see the depth of wisdom and insight Erwin brings to his leadership. Erwin was asked a seemingly basic, yet naive, question via email, “Could you describe rural villages in Tanzania and explain typical ‘family farm life’ in this area?”

He responded with a three-page answer. Just as Tanzania is one of Africa’s largest countries, both its land and people are diverse. Arusha residents originate from at least 120 countries around the world. Some villagers come from cultures that were strictly pastoralists, disdaining other groups that cultivate the land. Others like the Waarusha people who settled on Mount Meru are agro-pastoralists, growing crops and raising livestock to survive.

Farm life also looks different throughout the region because of the diverse topography. ECHO’s East Africa Impact Center is located in what’s called the dry rain shadow of Mount Meru, which means the mountain blocks moisture, resulting in little rain and dry land that is hard to farm. The booming, urban sprawl of Arusha pushed many families with irrigated farm land close to town to settle in surrounding dry grasslands. Although the government provided a reticulated water source in the 1970s, it has broken down. Families now travel for miles, using donkeys or pots on their heads to carry water.

Even though rain is more plentiful and land more fertile at higher elevations, families in these areas still face obstacles. The volcanic soil is ideal for growing bananas, but manure is needed for more abundant yields. As farm plots have shrunk due to growing populations, so has the number of livestock small-land holders can keep on these steep slopes. Without farm stock to produce manure and with plots of land that are now less than one acre, farmers lack the inputs needed for productive crops. Because food and income is scarce for these impoverished families, many households must seek other employment in neighboring towns where job opportunities are few.

A commonality shared despite the varied topography is that life is hard for rural, small-scale farmers in East Africa. Population growth can be attributed to many of the challenges rural families already work against to grow enough food and raise an adequate amount of healthy livestock to eek out a living and feed their families. “Population growth and development pressures are adversely affecting pastoralism and small-scale agriculture at the very time that these growing populations require them to be more productive,” explains David.

The United Nations expects that Tanzania will have the largest population in Africa by the end of this century.

Agricultural change agents recognize the need to combat what appears to be a foreboding future for the impoverished in rural Tanzania. However, Erwin outlines the many barriers that block the way toward lasting impact:

- Programs promoting high-input farming practices have failed to produce nutritious, year-round produce, resulting in communities dependent on food distributions.
• Population growth forces families to cultivate marginal, erosive land resulting in unsustainable food production.
• Little access to higher education or formal credit, resulting in most of the rural population existing on a subsistence-only lifestyle.
• Seven of the worst droughts in the last 10 years, resulting in extreme food scarcity in the dryer, pastoralist areas. In fact, some farmers have been without harvest for up to two years.
• Livestock diseases such as East Coast Fever and Newcastle Disease, resulting in losses of up to 50 percent.
• Low HIV-prevention knowledge, resulting in a large number of orphans and vulnerable children.

Erwin who believes a different story can be written for the rural families of Tanzania, says, “Still, Tanzania is blessed with peace compared to most countries which surround it. One feels with good and soundly focused leadership, it is a place where a different narrative could be created. It is a country richly endowed with natural resources, including some of the best parks and game-controlled areas in Africa. It has a hospitable and resourceful people.”

Indeed, the real gem of Tanzania lies in its people. Mothers and school workers courageous enough to seek training and find new solutions for growing healthy greens. Students eager to get their hands dirty to learn new techniques for harvesting water because they believe both in the possibility of new solutions — and their own power to implement them. ECHO’s work being done through Erwin and his team is weaving life-changing hope into the lives of rural families in East Africa.

Take a look at the hope and bravery captured in the following pictures:
Scott Sabin, the Executive Director of Plant With Purpose, has been talking to the American church about creation care for over 20 years. In that time, he has watched Christians categorize environmentalism as a luxury topic, separate from worship or care for the poor. Scott argues that we are getting this wrong. Creation care at its root is a way to praise the creator and care for the least of these. He will present his experience in how God is working to make Himself known through faith-driven environmentalism at the ECHO conference this November.

A common myth is that we have to choose between caring about creation and caring for people. Environmentalism is seen as a luxury that only comes after our basic needs are met. At Plant With Purpose, we believe the opposite. Planting trees, sustainable land management, and environmental restoration are actually the most effective solutions to the largest form of poverty.

An Oxford study shows that as many as 85% of the world’s poor are rural. The most vulnerable of these poor families are the ones farming the land that other people have cast aside as worthless. This doesn’t have to be the case. This land can be restored and made productive through sustainable land management. Planting trees isn’t a luxury. It provides critical hope and a sustainable solution to reverse poverty for some of the most vulnerable of God’s people.

Environmentalism can be a source of hope, but it’s also an act of worship. Scripture is full of examples of God delighting in creation. His world brings joy, and it points us to the fullness of His glory. As Christians, we must stop and bask in the greatness of the God who created wonders. We are made to worship and rejoice in our Creator.

God has repeatedly invited us to join in caring for His creation. From the very beginning, He gave us a role in building and shaping this world. Even now, God is writing a story of redemption that includes not just people, but His whole creation. He’s invited us to join.

Plant With Purpose is proud to partner with ECHO in caring for creation. We regularly join together to bring ECHO’s knowledge and skills to the large grassroots network of Plant With Purpose farming families. Together we are building resilient environments, reversing rural poverty, and bringing hope to communities around the world. 🌿

“A common myth is that we have to choose between caring about creation and caring for people.”

Loving God and People

Creation Care is both an act of worship and care for the least of these.

By Christi Huizenga, Plant With Purpose
Pastor Eli was one of the trainees of our Dedougou workshop in Burkina Faso, West Africa. He was so happy with what he learned that he came a second time during our training in Bobo Dioulasso. When he returned home, he trained a group of pastors on the Foundations for Farming (FFF) technique that he learned from ECHO. He applied the FFF in his corn field, the System of Rice Intensification (SRI) in his rice field, made a nursery of papaya trees, that he sold at a very good price, and was able to take better care of his poultry.

Indigenous Microorganisms (IMO)

Interns Sarah, Melissa, and Ashley making IMO, which is useful in removing odors from animal wastes, hastening composting, and contributing to crops’ general health.

Follow us on Instagram for pictures of ECHO’s work all around the world. #echofightshunger
Planting Rice, Changing Minds

SRI Training in Chiang Rai was attended by 42 participants from 5 countries. SRI techniques of alternating wet and dry water management requires less water than traditional paddy water management.

Animal Husbandry Training

Dr. Kelly Crowdis, with Christian Veterinary Mission in Haiti, served as a guest lecturer for TAD II Small Scale Livestock Production.

Training and Multiplying Resources

Left: Delegates at ECHO’s Central America/Caribbean Conference take a look at ECHO’s Ag Options for the Small Scale Farmer book, printed in Spanish. Right: Presenter Ricardo Romero shares a plenary session on food sovereignty in an agro-ecological cooperative. Romero’s organization is working to develop food production systems that provide a complete diet.
When David Mahan began taking mission trips to a malnutrition center in Guatemala, he saw hunger firsthand and wanted to do something about it. But first he needed more information.

“The center has to buy so much food. I thought it would be helpful if I could find something they could grow,” explained David. “Something that would also be a supplement to make sure the kids are getting enough of the nutrients they need.”

For more information about growing Moringa, he decided to visit ECHO.

David first learned about ECHO in middle school when a classmate did a science fair project on Miracle Fruit. He remembers taking a tour when he was little, and hearing speakers at church talk about ECHO’s work.

When he retells what he learned about Morning from his meeting with ECHO Staff, this high school student sounds like an experienced agriculturist, “We went over growing parameters, best techniques on how to plant it, pruning to increase leaf yield, and using seeds for makeshift water filters.”

On his next mission trip, David passed the knowledge he learned along to the center’s groundskeeper. Together they planted trial seeds. When the first seedlings didn’t grow, they tried another species of Moringa.

When neither type of Moringa survived the higher altitude of the center’s location, David proved he’s persistent. Looking for a better solution, he was connected with Penny Rambacher, the founder of ECHO network member Miracles in Action, who gave him Chaya cuttings.

“On my last visit, I saw that about 20 cuttings had been transplanted into the ground from the grow bag,” said David with a smile. “They looked healthy and strong.”

Continued Connections: In September, Basilio attended ECHO’s Central America and Caribbean Conference in Nicaragua. The relationship between Basilio, David, and ECHO continues to grow as Basilio is equipped to meet nutrition needs through his work in Guatemala.
**Bamboo: The crazy grass with a constructive side**

By: Craig Bielema

*ECHO will be offering a Tropical Agriculture Development (TAD) course on bamboo basics in February, 2017. Check the events section of www.ECHOcommunity.org for more details as updates are posted.*

For most people, bamboo’s reputation is based upon its intrinsic peculiarities. Did you know that bamboo is the staple diet for giant pandas? Did you know that some species flower, then die, simultaneously... *worldwide*. These sound like qualities conjured up for a fantasy novel.

Though these qualities are true for some bamboos, there is a wide array of sizes, shapes, palatability, as well as growth and reproductive patterns. With diverse characteristics comes diverse functionality; bamboo is commonly used as food, fodder, fiber, fencing, furniture, and construction timber, all without sacrificing the life of the plant! There can be debate about what is the most impressive or amazing characteristic of bamboo, but its impact on the life of a smallholder is its most important quality.

Bamboo offers a few obvious challenges when considered as a material to use for construction. It is not uniform in any dimension, it splits easily, and it is susceptible to insect damage and rot. Non-uniform materials in construction can be difficult to use if you are accustomed to everything being square and true, but it can give rise to beautiful, organic shapes and curves. Bamboo’s ability to split easily is both a blessing and a curse, depending on whether you are trying to split it or not, but adequate planning can reduce unwanted splitting. Basic bamboo joinery is simple and can actually be accomplished easily with only a few basic hand tools. And, in terms of insect susceptibility, there are precautions to preserve and protect bamboo so it will stay strong for many years.

Bamboo’s tensile strength makes it attractive to the engineer, its simple joinery makes it attractive to the builder, its beauty and unique shape make it attractive to the designer, its perpetual productivity makes it attractive to the grower, its shoots make it attractive to the cook, and all of these attributes make it appropriate to the smallholder farmer.

Did you know that ECHO’s Global Food and Farm Festival is right around the corner? Join your friends on March 18, 2017!

For 23 years, ECHO has hosted Southwest Florida’s premier festival focusing on sustainable living, agriculture, and food. ECHO’s Global Food and Farm Festival provides thousands of attendees with the opportunity to taste exotic foods, experience some aspects of life in another country, and learn about food and culture in a new way.

**You can sponsor the event or donate an item or experience** to our Silent Auction. Do you have a timeshare in Colorado, or a want to donate a unique trip or experience? Call or email Danielle Flood at 239.567.3312 or dflood@echonet.org
“I have donated $10 to ECHO for each of my friends and family this Christmas.” --Jeff K.

GIVE EXTRA-MEANINGFUL GIFTS THIS CHRISTMAS

Rather than invest in the latest toy or gadget with minimal satisfaction and a limited life-span, through ECHO you can give a transforming gift that will last a lifetime!

Your hard-earned money will reduce hunger and improve lives worldwide, and your recipient will have the heartwarming feeling knowing that a gift was made to ECHO in their name! A personalized card will be sent from ECHO to them or you, explaining the gift.

BROWSE ONLINE TO SELECT PERSONAL, MEANINGFUL GIFTS:

echonet.org/giftcatalog
This year marks the 23rd Anniversary of the ECHO International Agriculture Conference held in Fort Myers, FL! We hope that you will make plans to join us for this year's conference. The event brings together some of the world's most influential voices dedicated to eradicating hunger and improving lives.

Topics range from wild fruits in Central Asia and tropical legumes, to aquaponics, biochar, and linguistics. A strong plenary representation related to Appropriate Technology this year shows how ECHO strives to connect the dots between various technical approaches that ultimately strengthen food security and the well-being of smallholder farmers. We trust that each of these topics will inform, equip, and inspire conference participants toward helpful engagement.

Craig Bielema, ECHO Appropriate Technology Manager, looks forward to the conference every year. Craig shares, “One of the underlying principles that is so important to smallholder farmers is to get the most value out of the resources you have. This is a major reason ECHO explores different planting techniques, crop varieties, animal integration. But simple, attainable technologies have a lot to offer farmers as well. I am very excited to learn more about collecting rainwater, producing biogas from animal manure, and restoring soil with a byproduct from cookstoves at this year’s conference. These technologies hold a lot of power to impact the lives of smallholder farmers, by helping them get the most value out of their available resources, thus reducing waste and increasing yields.”

We hope that you will join us in prayer for this year's conference! Thank you for your gifts that have made it possible!
I’m Melissa Larson, the current Lowlands intern, originally coming from Bloomington, Minnesota. I’m also a recent graduate of Iowa State University, where I studied Global Resource Systems and Environmental Science. Throughout my time at school, I began to see how important the relationship between the environment and agriculture is, but didn’t want to just be a fighter; I wanted to be a part of seeking solutions! I know there is still a lot I need to learn, but ECHO has been another step in understanding the context of tropical agriculture worldwide.

Coming to ECHO, I was first blown away by the beauty. Whew! Have you guys been here?! It is not a place to take for granted. We (unfortunately) don’t have mangoes and jackfruit and avocado trees in the Midwest. Such a shame! Anyway, this has been an incredible place of learning. New plants, new trees, new systems to understand — there is a lot to take in! I’ve also learned how to take care of a few pigs, learned how to collect and use Indigenous Microorganisms, and learned how to drive a golf cart without spilling my coffee. Just kidding, I still haven’t mastered that last one. I have, however, learned in new ways how to see our Creator in all of these things. He truly has revealed himself through creation, and we can see His diversity through the meekness of the smallest seedling, and His power in a tumultuous storm. It is pretty humbling to be at His mercy in this new way, yet it is a beautiful submission.

I hope to take that relationship with me in my future. Always being in touch with the Creator through His creation and to see it in new ways too! Wherever God will direct my path, I hope to continue to be a solution seeker, a learner, a prayer, and a person who moves for His Kingdom to come and His Will to be done.
Recipe: Apple Butter

6 cups apples, peeled and quartered (save peelings for Apple Jelly)
1-2 cups sugar, white or brown
2 teaspoons cinnamon
1 teaspoon cloves
1 tablespoon lemon juice
¼ cup aged vinegar or vinegar

Stir together and bring to boil; cook on low heat until thick and shiny, stirring frequently, at least ½ hour. Long, slow cooking gives the rich "butter" flavor and blends spices.

Did you know that you can save peelings and cores from apples used for apple butter or apple pies? These can make a great Apple Jelly. Cook peelings and cores in 6 cups water for 20-30 minutes, then strain. Add water as needed to strained juice to obtain 7 cups liquid. Add one box of pectin and bring to a rapid boil. Add 7 cups of sugar, and boil hard for 1 minute. Pour into sterile jars, leaving 1/8” headspace; wipe jar rims, adjust lids and rings; give 5 minute water bath.

Other Recipes:
Mango Butter: Substitute cooked mangos for apples. Strain mangos.

Coconut Butter (Vanuatu): Combine: 6 coconuts, grated finely and 6 cups boiling water. Squeeze through muslin or cheesecloth. Strain again and allow to set overnight. Then put in jar and churn as butter. Wash and salt to taste. Use to make pastries, biscuits, or use in place of margarine or butter.

Life Settlement
A Lesser-Known Option for Greater Impact

Did you know that you can sell your life insurance policy that you no longer want, need, or can afford, and make an impactful donation to ECHO during your lifetime through a strategy called a "life settlement"? Most of you are aware that you can make a charity a beneficiary to your policy, and we are grateful to those of you who have done so.

However, you can also be a part of giving while you are still able to enjoy seeing the difference your gifts are making to small-scale farmers and gardeners in difficult areas of the world. Your life insurance policy is an asset of personal property, and you can sell it as a "life settlement" for a cash payout that is 4 - 8 times the "cash surrender value."

If your policy has been a source of protection for you and your loved ones, but it has served its primary purpose, "life settlement" income could enable you to make the type of donation that would have a profound effect NOW, with significant current tax benefits. And you could be freed from the premium payments to use the payout for enhancing and equipping lives now. If you are over age 65, and your life insurance policy is over $50,000, please contact Ali Diaz, at adiaz@echonet.org, or contact her at 239.567.3309 to find out more about this unique opportunity!
in their own words...

The Monsoon region of the ECHO Global Farm was recently redesigned to improve its teaching and training capacity. Here are a few thoughts from the interns who have cared for this region:

“This new monsoon area provides a good reality check for the interns and volunteers. Rather than just being a collection of small vegetable gardens, this area contains all aspects of a smallholder farm, and really encourages a better understanding of what it takes to subsist off of a small piece of land. It requires an understanding of vegetable gardening, row crops, fruit trees, livestock, forage production, and the cycling of nutrients between these components.” --Patrick Trail, Monsoon Intern ’15

“The design has made the Monsoon area a better teaching tool for future interns and others who will visit the farm.”  
--Hannah Van der Vorst, Monsoon Intern ’16