



AGREA

REDEFINING+ REVITALIZING AGRICULTURE

Leaders and Entrepreneurs in Agriculture Forum (LEAF)
2018 Terminal Report

29-30 September 2018

Taal Vista Hotel, Tagaytay, Philippines



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The changing **AGRICULTURAL LANDSCAPE**



Agriculture is changing, in step with a changing world. Technological advances are currently addressing the challenges of farm efficiency and resource management, as well as improving food safety. However, with the global population projected by the United Nations to reach 8.6 billion by 2030,¹ there is an urgent need to feed so many people and achieve the UN Sustainable Development Goal 2 of “zero hunger.” Population is only one side of the story. Poverty, malnutrition and undernutrition, food loss and waste, food system disruptions, the deteriorating state of natural resources alongside the surge in demand for productivity, and the imbalances of the food trade are all factors that shape the global landscape of agriculture.

In the Philippines, agriculture is largely labor-intensive, with mechanization, irrigation infrastructure, and logistical support remaining as challenges. Added to that, the archipelago is especially vulnerable to extreme weather events, visited by an average of 20 typhoons in a year. The general perception is that farming is back-breaking and unrewarding work. Based on data from the World Bank,

farmers around the world are nearing retirement age: Based on the CIA World Factbook 2018, farmers average 46 years old in Brazil, 56 years old in the Philippines, 57 years old in Australia, 58 years old in the US, and 62 years old in South Africa. To attract and educate the next generation of farmers who will take up the plow—or self-driving tractor as the case may be—adjustments need to be made.

local employment in agriculture is declining, in part due to alternative livelihoods deemed more lucrative, with share of total employment falling from 45% in 1991, to 26% in 2017.²

However, Filipino workers who transition out of agriculture generally take up low-end service jobs. Developing the agricultural sector and ensuring that practitioners stay and reap what they sow will redound to both economic growth and poverty reduction: based on the analysis by the World Bank, the Philippine agriculture sector has employed an average of 32.1% of the labor force between 2007 and 2016, but only contributed an average of 11.1% of gross domestic product during the same period.³

AGREA organized its inaugural LEAF Forum in 2018 as a venue to discuss the various challenges and opportunities for agricultural practitioners, with a focus on three specific areas: agripreneurship, agritech, and agritourism. Through panel discussions

and breakout sessions, with the overarching theme of “Redefining + Revitalizing Agriculture,” speakers and facilitators from different parts of the world— Australia, Belgium, China, France, Hong Kong, India, Indonesia, Malaysia, New Zealand, Philippines, Singapore, South Africa, South Korea, the United Kingdom, Sweden, Ukraine, United States, and Vietnam— shared their experiences, lessons learned, and strategies to move agriculture forward.

This report serves as a collection of insights to help practitioners engage more effectively in the agriculture sector, to help promote food sufficiency and security, increase incomes and secure livelihoods, and create better opportunities for farmers.



Redefining + Revitalizing Agriculture

DAY 1/2 – SEPTEMBER 29, 2018
Agripreneurship, Agritech: Digital Agriculture

Time	Activity	Speaker	Venue
7:00 AM – 9:00 AM	Registration		Ballroom Lobby
9:00 AM - 9:10 AM	LEAF Welcome & Overview	Cherrie Atilano Global Advisory Board	Main Ballroom
9:10 AM – 9:30 AM	Keynote Speaker	Joey Concepcion Go Negosyo, ASEAN BAC	
9:30 AM - 9:40 AM	The Global Situation of Agriculture	Dr. William Dar InangLupa	
9:40 AM - 9:45 AM	Calling Plenary Speakers to Stage		
9:45 AM - 10:45 AM	Agripreneurship Plenary	Steve Benitez Bo's Coffee Johan Boden TAEI Partners Halianti Hilman JAVARA (Indonesia) Gisela Tiangson Jollibee Group Foundation Rel Yoon Director, Soil and Soul Organic Movement, Inc. (Korea) Moderated by Ginggay Hontiveros Go Negosyo	Main Ballroom
10:45 AM - 11:00 AM	Break/AM Snack		Main Ballroom

AGRIPRENEURSHIP BREAKOUT SESSIONS			
11:00 AM - 12:00 PM	Growing Inclusively	Rhodora Fresnedi Sunshine Farm Gigi Morris MoCo Family Farm Hindy Tantoco & Melanie Teng-Go Haly Carabao Moderated by Jeannie Javelosa ECHOstore & ASEAN Great Women	Ballroom 1
	Meet the Farmers	Danie Delima Agritech Integrated Services Corporation Andy Lim Tribal Mission Foundation International Tina Morados-Papillon Pansara Farm Mon Pealosa Pealosa Farms Moderated by Carlo Sumaang MW, Grow Kits	Ballroom 2
12:00 PM - 1:00 PM	Investment: Gold in Dirt	Grace Quinola CARD SME Bank Simon Bakker Wensener Foods Moderated by Niña Terol Rick Fire Kitchen	Ballroom 3
	Special Session: Educating for Impact	Dr. Danilo Abayon Agricultural Colleges Association of the Philippines Monci Hinay World Wildlife Fund Moderated by Bryan McClelland Bambike	Dahlia Room
12:00 PM - 1:00 PM	Lunch		Main Ballroom
1:00 PM - 1:15 PM	Agritech Keynote	Amor Maciang GenesMaciang Marketing Communications, Inc. Dr. Dilip Guntuku Global Seed Center - Iowa State University (India/USA) Elizabeth Hernandez Corteva Agriscience Johan Janssen Jasmiel Amor Maciang GenesMaciang Marketing Communications, Inc. Paul Voutier Grow Asia (Singapore) Moderated by Quintin Pastrana ANC & WEnergy Global Pte Ltd	Main Ballroom
2:15 PM - 2:30 PM	Brief Networking Break		Lake Terrace/ Main Ballroom

AGRITECH: DIGITAL AGRICULTURE BREAKOUT SESSIONS			
2:30 PM - 3:30 PM	Incubation + Innovation	Kal Joffres Tandemic Zes Martinez FAME Systems, Inc. Angus Yip Vegeant Limited Moderated by Quintin Pastrana ANC & WEnergy Global Pte Ltd	Ballroom 1
	The 21 st Century Farmer	Julius Barcelona Harvest Roger Barroga Phalitz Dr. My T. Nguyen Aynao Smart Fertilizers (Vietnam) Moderated by Ralph Becker Urban Greens	Ballroom 2
3:30 PM - 4:00 PM	Foods of the Future	Antonio Causing Leonie Agricoop (Pasucal Laboratorians) Rex Puentesquina Malagor Chocolates Moderated by Enzo Pinga Earthbeat Farms	Ballroom 3
	Special Session: Making Ways: E-commerce + Market + Logistics	Johan Boden TAEI Partners Moderated by Raphael Teraoka Dacones Teraoka Farms	Dahlia Room
3:30 PM - 3:40 PM	PM Snacks		Main Ballroom
3:40 PM - 4:40 PM	Special Session: Agroforestry: Challenges + Opportunities	Atty. Onggie Canivel Forest Foundation Philippines	Main Ballroom
4:40 PM - 5:00 PM	Processing	Cherrie Atilano AGREA Kal Joffres Tandemic	Main Ballroom
5:00 PM - 7:00 PM	Special Session: Meet the Chefs Note: Cocktails and hors d'oeuvres will be served.	Chef Jam Melchor & Harold Bueno Slow Food Youth + Philippine Heritage Cuisine Movement	Lake Terrace

Time	Activity	Speaker	Venue
7:00 AM	Depart Taal Vista Hotel		Buses arrive at Taal Vista for farm tours.
7:30 AM - 8:30 AM	Agritourism Immersions + Q&As	Catherine Brillantes-Turull Thelma, Nicky, + Chef Thomas Munillo Eric & Bbbie Atanacio	Nurture Wellness Spa and Farmacy Gorgeous Farms + The Wild Juan Terra Verde Ecofarm and Resort
Note: Buses to agritourism sites are provided for all LEAF Delegates.			
8:30 AM	Return to Taal Vista Hotel		
9:00 AM - 9:15 AM	Break		Main Ballroom
9:15 AM - 9:30 AM	Agritourism Keynote	Warner Andrada Philippine Department of Tourism	Main Ballroom
9:30 AM - 10:30 AM	Agritourism Plenary	Josephine Costales Costales Nurture Farm Dr. Mina Gabor International School of Sustainable Tourism Jeannie Javelosa ECHOstore & ASEAN Great Women Cathy Turull Nurture Wellness Moderated by Ces Drilon ABS-CBN	Main Ballroom
10:30 AM - 11:00 AM	Sessions Synthesis	Willy Arella Business Mentors, Inc.	Main Ballroom
11:00 AM - 12:00 PM	Roadmap for the LEAF Community	Cherrie Atilano AGREA Kal Joffres Tandemic	Main Ballroom
12:00 PM - 1:00 PM	Lunch		Main Ballroom
1:00 PM - 1:10 PM	Branding Agriculture: "Making Farming Sexy"	Amor Maciang GenesMaciang Marketing Communications, Inc.	Main Ballroom
1:10 PM - 1:20 PM	Remarks from Ambassador Strachan – New Zealand	Hon. David Strachan Ambassador of New Zealand to the Philippines	Main Ballroom
1:20 PM - 2:30 PM	Young Agripreneurs Pitch	Ivy Almaria Aster Almaria, AGREA Johan Janssens Jasmiel Dr. William Dar Inang Lupa Indi Soemardjan Aryana	
2:30 PM - 3:30 PM	Closing Ceremony		
Note: PM Snacks will be served towards the end of the ceremony.			



OPENING STATEMENT

Cherrie De Erit Atilano

President and Founding Farmer, AGREA
Chairman and Executive Director, LEAF Philippines

The theme for LEAF 2018 is “Redefining & Revitalizing Agriculture,” demonstrating that agriculture is a field with abundant possibilities on and off the farm. The collaborative experience at LEAF, which brings together the various proponents of agriculture, addresses topics across the wider spectrum of agriculture, namely Agripreneurship, Agritech, and Agritourism. We want to express loud and clear: the future of farming is now.

To arrive at the future we are envisioning, however, we need to invest more in rural farming. Extreme poverty and hunger are predominantly rural. Smallholder farmers and their families make up a very significant proportion of the poor and hungry. Farming is what they know, but it is hard to earn a living wage from farming. Their straitened conditions force them to migrate to urban centers to look for opportunities, but many of them still end up miserable.

Thus, eradicating poverty and hunger is integrally linked to boosting food production, agricultural productivity, and rural

incomes. If we develop opportunities in the rural areas, it can create a shift in our economy so that more people will “reverse-migrate” to the countryside—and our approach must be inclusive.

The world faces a fundamental challenge, which is to sustainably provide a healthy diet to over nine billion people by 2050. As the world population continues to grow, much more effort and innovation will be urgently needed in order to sustainably increase agricultural production, improve the global supply chain, decrease food losses and wastage, and ensure that all who are suffering from hunger and malnutrition have access to nutritious food.

As we journey with you, we have carefully chosen 60 distinguished speakers and subject matter experts—academics, scientists, policymakers, entrepreneurs, farmers, civic workers, and culinary professionals—to have an action-driven dialogue that could help build our sustainable food system. Let’s continue building this LEAF Community.

Call to action: Reshape agriculture

To open the Forum, Dr. William D. Dar, President of InangLupa Movement Inc. and former director general of International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), presented the global context of agriculture, and the conditions within which stakeholders in the sector must operate. While growing populations and the situation of poverty affect agriculture on a global level, developing countries like the Philippines face even greater difficulties. Stakeholders in the agricultural sector must work together to reshape food production and distribution systems, in order to eradicate poverty, hunger, and malnutrition.

The agriculture landscape is highly complex. Land tenure and resources, policy and governance reforms, international investment and trade all affect the agriculture situation, and several questions need to be addressed:

What is the role of trade?

How can international investment facilitate integration and food security?

What are the opportunities in open data?

How do farm reforms affect global food security?

How can global governance reforms improve food systems?

In order to respond to the issues of global hunger, the immediate challenge is to increase agricultural productivity; the best strategy appears to be agroindustrialization. The practice of agriculture needs to go beyond just the production angle. The prevailing model of the past 50 years has been to treat agriculture as production, without an eye for the market. Rather than focus solely on production, stakeholders in the sector need to learn to treat agriculture as a business proposition.



Moving from agriculture to agribusiness

There are over 2.5 billion people engaged in and dependent on agriculture for their livelihood, and by 2050, the world will need to produce up to 70% more food. To meet the demands, the strategy is to transform farmers into agripreneurs and shift them from agriculture to agribusiness.

To make this shift, farmers will need not only new skills and improved capacities for food production, but also new approaches, such as the sustainable intensification framework. New information and communications technologies can also be utilized to enhance agricultural productivity. Farmers must engage in product development, including products for export. Added value via food processing and manufacturing will help in market expansion, with planned production leading to better income opportunities and better life conditions for farmers.

Resource conservation is also a necessary strategy, particularly in response to climate change. Based on 2014 data, the World Bank noted that “in most regions of the world, over 70% of freshwater is used for agriculture.” Speaking at LEAF, Dar indicated that water withdrawal for the agriculture sector has increased to 84%.⁴ Projections are that the world will need up to 60% more water to produce food, therefore water-saving technologies will be needed. By 2050, there will also be greater demand for energy. Farmers must support the use of renewable energy, in light of the inevitable exhaustion of fossil fuels.

HOW AGRICULTURE *can help achieve* THE SDGs

Agriculture is inextricably linked to economic development. For there to be sustainable development, agriculture also needs to be sustainable. Dr. William Dar has the following recommendations:



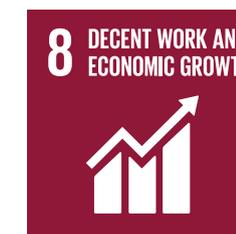
Cultivating entrepreneurship will create more agri-based small and medium enterprises (SMEs) to help generate more income, increase employment, and reduce poverty.



Agricultural technology can enhance food production, lower production costs, and reduce wastage. Improved incomes of farmers will also increase their purchasing power for food.



Use renewable energy sources. Cascade data and knowledge and assess technologies to enhance energy security.



Around 40% of the world's population are employed in agriculture. Governments should provide incentives and develop policies in support of agriculture, whereas practitioners can take a total integrated value chain approach — optimizing the supply chain to link small producers to global markets.



Only 12 plant crops and animal species produce 75% of the world food supply; explore opportunities for discovering new food sources or developing existing varieties to better deliver nutritional value.



Field-level knowledge and information should be shared, particularly to smallholders. Promote stronger linkages and collaboration among various research and development (R&D) institutions, including state colleges and universities. Establish commodity-based R&D institutes to process high-value products with export potential.



Comparatively, 30% of agricultural products in developing countries, versus 98% of products in developed countries, undergo industrial processing. There is a need for agricultural research and innovation with commercial applicability for smallholder farmers.



Climate-smart agriculture will provide improved (i.e., climate-resilient) varieties to farmers and put into place crop management practices adapted to local conditions that farmers have to contend with.



Seven out of 10 farm laborers are women; enhancing the capabilities of women will support rural development.



The Philippines has an annual rainfall of 2,100 millimeters: save water through (community-based) rainwater harvesting. Farmers can also tap the potential for precision agriculture by developing injection systems.



Around 79% of imports from developing countries enter developed countries duty-free; export opportunities should be targeted so that farmers can benefit. They must be taught to compete by not only increasing yield but also adding value to farm products. Local markets should be linked to global markets, perhaps with big corporations partnering with small farmers in "corporatives."

AGRIPRENEURSHIP:

The business of farming

In order to advance agriculture, we must employ a new business model: **agriprenurship**, or agriculture with expected gains in profitability. To build and develop agriprenurship, effort needs to be placed throughout the total integrated value chain, rather than simply focusing on production. Research and innovation is key to developing products that have added value and commercial appeal, as well as creating demand, and strengthening market links.

The development of agriprenurship is a game changer for agriculture. It is also an invitation to the youth, to women, and to others who never thought of themselves as farmer-entrepreneurs. A more inclusive and collaborative approach to agriculture will help pave the way for agriprenurship in the Philippines. As LEAF keynote speaker and Philippine Presidential Adviser on Entrepreneurship Jose Ma. “Joey” Concepcion III noted: “Agribusiness is a hands-on

business that deserves a lot of passion and commitment... [It helps that] the mindset of the youth, and the mindset of the entrepreneur, is that the Philippines can be successful.”

Johan Boden, a serial entrepreneur from Sweden whose company processes 125 different products and exports to 60 countries, recounted his experience breaking into new markets—first in Ukraine, and in recent years, Vietnam—and facing challenges similar to the Philippines: lack of distribution and logistics networks, having to introduce standards of quality, and the need to provide know-how or best practices in the local workforce. The one question entrepreneurs need to ask, in Boden’s opinion: “Where is the play?” His advice: learn and know your market, study the trading windows and fill in the gaps, make a solid plan of action, and take advantage of new ways to market (in his case, e-commerce and supplying the underserved local demand).

At LEAF’s Meet the Farmers session, Tina Morados-Papillon introduced herself as a former dancer before she decided, together with her husband Gerard Papillon, to establish Pamora Farm Inc. in Abra in 2000. With their National Meat Inspection Service-approved dressing plant, they are able to supply naturally grown free-range chickens in the Label Rouge tradition to supermarkets, restaurants, hotels, and gourmet stores. They also cultivate their own herbal medicines and natural pesticides such as ginger, lemongrass, and *kakawate*.



L to R: Carlos Sumaang, Tina Morados-Papillon, Mon Peñalosa, Andry Lim, Dante Delima

“You need to be self-sufficient. It is not enough to be a traditional farmer. An agriprenur makes his farm the convergence of different kinds of production approaches”

Pamora is unapologetically niche and offers customization (i.e., specialty cuts) for some of their customers. For now, they are content with supplying the domestic market.

“We declined export because [we] do not just give in to demand. It’s quality before quantity. We can only do so much for the local market and will need more investment if we decide to go after the export market,” said Morados-Papillon.

Ramon “Mon” Peñalosa Jr., founder of Peñalosa Farms, points out that there are several entry-points in the value chain for agriprenurs. A farmer could opt to provide farming inputs such as fertilizers and feeds, supply the domestic or international market with fresh or processed products, introduce add-on services such as training workshops at the farm, or farm tours for those who wish to experience farm life. Or, if the farmer has the funds and the ability to scale, all of the above.

“If you make your own fertilizer, for example, you are able to survive and prosper without being dependent on items that [are supplied by someone else under conditions that] you do not control,” noted Peñalosa. “You need to be self-sufficient. It is not enough to be a traditional farmer—the traditional farmer is a member of the exploited class and operates as a unit of production. An agriprenur makes his farm the convergence of different kinds of production approaches.”

Statistically, most local farmers earn less than PHP60,000 (or USD1,144) per hectare annually; this is partly due to lack of technical knowledge and access to financial support, inefficient production management, or insufficient marketing. Peñalosa insists that an agriprenur can start small, and eventually get bigger, but the key is having what he calls a “good morning mentality” to explore one’s options and fully commit to a plan of action. He provides several proven case studies,

from a 20-square meter (sqm) plot devoted to mushroom production to a 1,000-sqm site used for either carrot or lettuce production.

True-blue agriprenurs go beyond farm production, and Peñalosa cautions against limiting oneself to a single-product platform. Apart from his fresh produce, he also creates farm tour packages (with or without packed lunch and souvenirs), including training seminars (with or without accommodations). Among those engaged in agriculture, he says 70-80% are involved in distribution and logistics, and retail. Nonetheless, farm production on even the smallest plot of land is a good start. For example, a mere 10 sqm plot can host 3,000 quail birds at full capacity; at 75% laying efficiency, that translates to 2,250 eggs per day. At a conservative selling price of PHP1 per egg, the farmer can potentially earn PHP67,500 monthly or PHP810,000 annually. “There is no one way, there is no only way, it really depends on the heart of the farmer,” said Peñalosa.

HOW TO MAKE *Agripreneurship* WORK FOR YOU

There are several models of agripreneurship, including social entrepreneurship, inclusive business (sometimes referred to as “responsible capitalism”) that creates shared value with farmers, and “corporative” platforms allowing “big brother” corporations to adopt smallholder farms in a mutually beneficial relationship.

TO PARTICIPATE IN AGRIPRENEURSHIP, ONE IS ALSO OBLIGED TO ASK:

Which model will work for you?

Where do you fit in the industry?

Which market do you intend to and are able to serve?

How do you leverage your relationships so that your smallholder farm can access a larger market? Conversely, how can your corporation help smallholder farms succeed?

CHALLENGES	BUSINESS MODEL	SOLUTION	PROOF OF CONCEPT
<p>Limited knowledge in sustainable farming practices, accounting, and marketing</p> <p>Low use or adoption of technology</p> <p>Insufficient market data</p> <p>Poor market links across the value chain</p>	Social entrepreneurship	Capacity building for small landholders organized into cooperatives, whose members are trained in sustainable practices to develop products with high market potential	Javara Indigenous Indonesia (PT Kampung Kearifan Indonesia)
<p>Limited knowledge of high-quality inputs</p> <p>Lack of proper storage facilities and transport</p> <p>Poor market links across the value chain</p>	Inclusive business	Direct procurement, ensuring steady supply for company and stable profit for smallholder	Jollibee Group Foundation: Farmer Entrepreneurship Program Bo's Coffee: Philippine Coffee Origins Project
<p>Limited access to funding/ credit and technology</p> <p>Poor market links across the value chain</p>	Corporative (a portmanteau of “corporation” and “cooperative”)	The “corporative” plants according to the needs and timing of the institutional consumer; corporative and buyer set a buying price together for the whole cropping year	Agri-Tech Integrated Services Corp. (Atisco), supported by Yazaki-Torres Manufacturing Inc.

AGRIPRENEURSHIP *for Heritage*



Indigenous peoples (IPs) are guardians of heirloom food biodiversity. In many parts of the world, they are using local wisdom, passed on through generations, to cultivate a variety of food: wild herbs; rare fruits; heirloom sorghum; forgotten (and therefore endangered) varieties of rice grains, beans, and tubers; legacy spices; artisanal cheeses and meats, etc.

The global slow food movement has given rise to the “Ark of Taste,” which promotes small-scale quality production of food that is inextricably linked to culture, history, and tradition. In the Philippines, this includes *kaniñag* (a local species of cinnamon), yellow cattle (a native breed of cattle), *tisa* (canistel or eggfruit), *tubho* (traditional tea of the Ivatans of Batanes), and several varieties of coffee: *barako*, *kahawa kubing* or Sulu zibet coffee, Sulu robusta, and Benguet coffee.

Smallholder farmers are banding together to scale up these lesser-known products,

thus commanding a much more significant share of the heritage food market. In some cases, popular retail chains have also become distributors of artisanal food products, often featuring an indigenous food gem.

Homegrown coffee chain Bo’s Coffee, for one, serves as a platform for Filipino enterprises by advocating local crafts, artisanal chocolates, homegrown herbal teas and specialty coffee from Mt. Apo, Benguet, Mt. Matutum, Mt. Kitanglad, and Sagada.

“We highlight different coffee from different parts of the Philippines, and we create the market for niche, artisanal products,” said Steve D. Benitez, founder and CEO of Bo’s Coffee, speaking at the Leaders and Entrepreneurs in Agriculture Forum (LEAF 2018), to encourage more established companies to be a “big brother” to microenterprises. Similarly, Javara Indigenous Indonesia, (PT Kampung Kearifan Indonesia) founded and

**“I believe in sustainability;
I don’t believe in charity.
We collaborate with social
enterprises and develop
sustainable products
that can be sold.”**

helmed by Helianti Hilman, is home to Indonesia’s widest collection of indigenous food products, which are described as being “unique in flavors, aromas, textures, health benefits, and impact.” The organization aims to revive pride and dignity of smallholder farmers by emphasizing the value of their products; and building solutions throughout the supply



chain to enable the product flows from local farms to global consumers.

They now have around 900 products, 250 of which are certified organic. More than half of production is marketed to 23 countries in five continents, benefiting 52,000 farmers and 2,000 food artisans in Indonesia alone.

Thanks to organizations such as Javara, heritage ingredients are now being “mainstreamed” by chefs who innovate recipes which are showcased in their restaurants and hotels, and artisans that create signature retail products for both domestic consumption and export.

Initially, they were working more with older farmers, aged 60 and above, but more recently, younger people are becoming more interested in farming because they consider themselves more as entrepreneurs.

“We have a one-million-strong indigenous network giving life to ‘forgotten food.’ The business is about empowering people and creating something of value, a legacy business to pass on,” said Hilman, to participants at LEAF 2018. “Farmers are our inner voice, our conscience—they are more resilient because they still have the indigenous wisdom of working with nature.”

GO “INDIE” AND GROW

How to “mainstream” indigenous farm products

No need to reinvent the wheel. For agripreneurs who wish to participate in the food heritage market, Javara Indigenous Indonesia founder and CEO Helianti Hilman, interviewed* during LEAF 2018, has the following tips:



Train farmers to be food entrepreneurs and artisans.

Rediscover food biodiversity and heritage by working with the farmers and indigenous communities who have the knowledge of these. We set up Javara Academy-School of Food Artisans to promote rural entrepreneurship. Farmers need mentoring in terms of branding and marketing [and even accounting for sustainable profit]; but recognize that farmers and the indigenous communities are also mentoring us. They are valuable contributors within the supply chain.



Establish an identity/brand for the products.

We also have to build the understanding of this indigenous community, because sometimes they are too nice, they are too open, and people are taking [advantage] of that. Our farmers get the protection for the geographical indication; [we make sure that] the brand of the geographical origin is already protected.

* Responses have been slightly edited for brevity.



Get certified as a group.

Some products have large volume, even if we are collecting it from, say, 1,000 or 2,000 or 3,000 indigenous farmers. If you do that aggregation, then you can do the [organic] certification, because it becomes affordable.



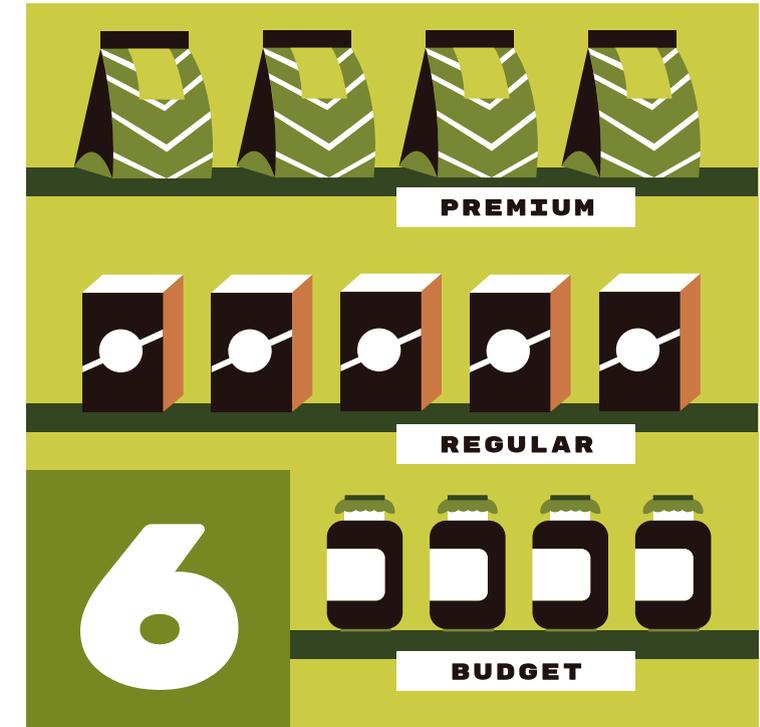
Create a story behind your product.

If the volume is too small, then you don't certify until you have a certain volume. What we did is we built a very strong story behind it. Certification is about traceability, it's about trust; if you can build the trust and traceability, then it's easy. For us, the easiest way is we invite them to come and visit and see [for] themselves.



Cultivate influencers to market your food.

You have to create the market, [so] you need to educate the influencer. High-profile chefs like a challenge; they like to be given rare ingredients. Every time we received all these rare ingredients from the indigenous community, we would send it to all these high-profile chefs, and they would create a recipe for us.



Choose your market.

Our choice is to support the farmers, to support the indigenous community. If some of our products become very niche, then let it be, it's okay. There are still many other options of products that we can also profile to a more mainstream customer because it's higher in volumes, and more affordable.

INCLUSIVE BUSINESS

and shared value creation

One of the main obstacles for farmers is in finding a fair market for their products. Private sector partnership helps create opportunities for farmers and allows them to move beyond production and into agri-enterprise. Through such partnership, farmers are part of the system, are guaranteed a fair price, and a regular market for their goods.

**“Success is nothing if you can’t
bring others with you”**

An inclusive business, Bo’s Coffee patronizes homegrown social enterprises and sources direct from smallholder farmers through its Philippine Coffee Origins brand. Partner farmers need not worry about transport and hauling costs, or getting short-changed by traders, and instead leverage on the distribution network of Bo’s Coffee, which has grown from one kiosk in Cebu to more than 100 branches nationwide. Bo’s Coffee establishments also serve as a retail outlet for partner social enterprise and their homegrown brands, such as Tsaa Laya, Bayani Brew, Theo & Philo Artisan Chocolates, Nipa Foods,

loudbasstard, ANTHILL Fabric Gallery and AGREA. “Business owners are powerful to make a change, to make a difference in people’s lives. The more I grow my business, the more people I can help,” said Benitez of Bo’s Coffee. “Success is nothing if you can’t bring others with you.” However, not all farmers have the skills to effectively engage with private corporations; they may need a boost to improve their capabilities. The Jollibee Group, a veritable giant with several restaurant chains in its umbrella network, creates opportunities for farmers to participate and engage in its

value chain by providing fresh produce for the items on its menus. In line with this, the Jollibee Group Foundation (JGF) Farmer Entrepreneurship Program recognizes the importance of building farmers’ capacity to meet volume and quality requirements, and the discipline of delivering according to timelines. JGF links up the farmers to local government units, cooperatives, and microfinance institutions. The program has a capacity-building component to ensure that farmers’ skills are leveled up to meet the requirements of the market—primarily, restaurants of the Jollibee Group, but also local supermarkets and offices.



photo from Bo's Coffee Instagram account



FARM MANAGEMENT

and the “corporative”



Agri-Tech Integrated Services Corp. (Atisco) was formed as a “corporative”—a collective of smallholder farms managed as a business entity and supported by an institutional patron—to initially cater to the 17,000 employees who take their meals at the company cafeteria at Yazaki-Torres Manufacturing, Inc. in Calamba, Laguna. “We started producing our own rice,” said Dante Delima, Chief Operating Officer of Atisco, which contracted more than 200 farmers to till between 200 to 300 hectares of farmland in Calapan, Oriental Mindoro.

Atisco has since expanded to vegetable farming in Benguet and Batangas, as well as sheep, goat, and free-range poultry farming, also in Batangas. As of 2018, Atisco has been managing between 600 to 1,000 hectares of farmland, which has its challenges. For one, Delima indicated that 50% of the land in Sta. Cruz, Batangas is mortgaged, so they are proposing to pay the mortgage and return land ownership to the farmers in 10 years.

The farmers managed by the corporative receive access to capital, and resources such as machinery and ready-to-plant rice seedlings. Atisco also facilitates field demonstrations from experts. The equipment provided for the farmers’ use has included a rice transplanter, combined harvester, and drying machine. In return, through the corporative, Yazaki-Torres found a more cost-effective way of supplying affordable food for the benefit of their many employees in Laguna and Batangas.

INVESTMENT IN AGRICULTURE

End-to-end support is needed in the smallholder value chain. There is ample opportunity to become part of the growth and success of a smallholder farm—or even a network of smallholder farms—for a savvy investor aware of the attendant risks, vis-à-vis his own risk appetite, and able to tap the technical knowledge in farm management that will see him through his commitment.



CASE STUDY 1: INCLUSIVE BUSINESS MODEL

Simon Bakker, CEO of Kennemer Foods and managing director of Agronomika Finance Corporation, vows that there is “gold in dirt”—and you needn’t dig too deep from the surface to get ample yield. What he does is build up a network of smallholder farms for a consolidated delivery of produce to a ready and waiting market.

Kennemer Foods’ inclusive business model leverages on partnership to ensure that its farmer entrepreneurs readily access the building blocks of agribusiness: long-term financing assistance (through Agronomika); quality planting material and inputs; technical training, monitoring, and evaluation; coaching; and post-harvest assistance to make the delivery to the assured buyer.

Kennemer Foods’ investment in modern technology and mentorship of the farmer entrepreneurs has resulted in an exponential increase in yield compared to the national average.⁵ In such a model, there is also a guaranteed buy back and both farmer entrepreneur and investor benefit. The model is also replicable for smallholder networks, larger-scale production, and even greenhouse-based horticulture.



CASE STUDY 2: AGRICEUTICAL CONCEPT

Antonio Causing, managing director of Leonie Agri Corporation (LAC), combines community development initiatives, ecological management, and innovative farming techniques to produce and process “agriceuticals”—agricultural products for medicinal, health, and nutritional use.

The company traces its roots to its pharmaceutical heritage. Its parent company, Pascual Laboratories Inc., inspired the idea of integrating organic agricultural methods with the pharmaceutical industry’s standards of hygiene and safety. Causing transformed a barren piece of land to a thriving agricultural enterprise, producing such herbs as lagundi (five-leaved chaste tree) for the pharmaceutical company to create anti-dengue medicine.

LAC has since expanded from exclusively supplying organic raw materials to Pascual Lab to meeting the requirements of a host of local and international clientele. To support its growth and increased product volume requirements, LAC built its own manufacturing facility in 2017, where it been efficiently processing raw materials and packaging finished goods. Among its products today are natural snacks like mushroom or ampalaya (bitter gourd) chips, and food supplements from ingredients such as turmeric, moringa, and chili.

WOMEN IN AGRICULTURE: *growing inclusively*

Women have carved out a very specific niche in the agripreneurship space, one that combines their personal advocacies and commitments with their specific business model. To represent the rapid rise of women as agripreneurs, beyond being among farm laborers, LEAF 2018 featured three women-driven businesses that highlight women's priorities in agriculture and business: health, sustainability, and inclusion.

Food brings people together, and meals are often the centerpiece of any family gathering or social event. While meals often are occasions to celebrate and relax, mothers often feel the burden of feeding and nourishing their families. Hindy Weber and Melanie Teng-Go founded their business out of their shared interest and desire to feed their children with the best food available. For them, this meant food that was healthy, safe, and organic. With their "farm-to-family" approach, **HOLY CARABAO** focuses on regenerating healthy soil through its agricultural practices, contributing to carbon sequestration efforts and climate change action.

For **SUNSHINE FARM PHILIPPINES** (Sunshine Farm), flower farming was seen as a way to create a safe working space for people with different abilities. Founder Rhodora Palomar-Fresnedi's main advocacy is workplace inclusion. She focuses on creating livelihood opportunities for persons with disabilities (PWDs), who are among the most marginalized sectors of society. There are an estimated 7 million PWDs in the Philippines, many of whom are employable, but are excluded from the labor market. Given tasks appropriate to their abilities,



photo from Holy Carabao Instagram account



photo from Holy Carabao Instagram account



photo from Sunshine Farms Facebook page

PWDs can be productive members of society. For Palomar-Fresnedi, employing "differently abled" people is a way to form not only an inclusive organization, but also a humane one. Rather than see PWDs as an obligation or a burden, Sunshine Farm looks at them as a source of inspiration and valuable contributions.

MOCA FARM FAMILY REARNING CENTER (MoCA Farms) is also a woman-driven, family-run enterprise, founded on the key pillars of family, farming, food, fun, faith and education. The initiative solidified Gigi Pontejos-Morris' belief that the small, family farms are the key to inclusive growth and rural development. In order to share the benefits of family farming more broadly, MoCA Farm has established itself as a Technical Education and Skills Development Authority (TESDA)-accredited technical-vocational institute that can provide trainings and extension services to interested families or communities.

These four entrepreneurial women began their enterprises for purely personal reasons, stemming from specific needs of the family, and with the intent of shaping the kind of environment they wish for their children. They designed their businesses around experiences and needs, important principles, and priorities: their family's health, inclusion, environmental sustainability, community and rural development. Their efforts paid off in that they have been able to grow profitable businesses that are aligned with their vision and values. The success of these ventures signals the openness of the market to these unique selling points and the potential for women-driven businesses.



Rhodora Palomar-Fresnedi



photo from MoCA Farms Facebook page



photo from MoCA Farms Facebook page

Organizations that empower WOMEN FARMERS

The agriculture sector has a vested interest in assisting female farmers, given that they make up a significant portion of the agricultural workforce. Rather than relegating women farmers to unpaid or low-level tasks, they should be encouraged to hone their skills in farming and be provided the resources to ease their transition into agripreneurship. Some organizations have recognized this need and taken steps to improve access for entrepreneurial women to technical knowledge, rural microfinance, and linkages in the value chain.

IWCA, PCBI, ECHOSTORE AND GREAT WOMEN

The International Women's Coffee Alliance (IWCA), Philippine Coffee Board, Inc. (PCBI), ECHOstore, and Gender-Responsive Economic Actions for the Transformation of Women (GREAT Women) have developed a value chain

model to strengthen local and global market channels for high-value specialty coffee—particularly coffee grown by women—and ensure traceability of the products throughout the value chain.

The four organizations take a multipronged approach: PCBI's holistic coffee training program helps farmers upgrade their produce to specialty grade coffee; GREAT Women assists the farmers in packaging their products to pass market standards; ECHOstore markets the farmers' coffee in its brick-and-mortar and online stores; and IWCA, through its network, introduces the women's homegrown coffee to the international market where it gets sold at a premium price.

Jeannie E. Javelosa, who together with Pacita "Chit" Juan and Reena Francisco forms the "ECHOtrio," briefly shared her experience, distinguishing the role of ECHOstore as a market developer, and of its social arm,

“Our suppliers are primarily women, and 90% of the buyers of our products are women. It's really women empowering women. We work with both 100% women-owned business, and businesses of men who employ a majority of women”

Empowering Communities with Hope and Opportunities through Sustainable Initiatives (ECHOsi), as supportive of development and training. They are able to partner with growers and producers to develop and commercialize organic and natural food products, as well as heritage textiles. Together with GREAT Women, they also focused on a gender-inclusive supply chain. “Our suppliers are primarily women, and 90% of the buyers of our products are women. It's really women empowering women. We work with both 100% women-owned business, and businesses of men who employ a majority of women,” said Javelosa.

CARD-MRI

The Center for Agriculture and Rural Development-Mutually Reinforcing Institutions (CARD-MRI), a microfinance institution founded in 1986, provides micro-loans and micro-insurance to the unbanked and underbanked sector, including marginalized women farmers.



Founder and chairman Dr. Jaime Aristotle Alip has often said in media interviews⁶ that they especially target female clients because (1) helping women has a multiplier effect, meaning that their families will also benefit because women's focus is very much family-

oriented, and (2) based on experience, women tend to be reliable and regularly pay back their loans. To date, CARD-MRI has a stellar repayment rate of 99.66%.

Grace Quinola, Marketing Officer at CARD-MRI, shared that as of 2018, members may avail of a micro-agri loan or special agri loan, as well as crop insurance. Apart from getting access to working capital, they may also avail of services such as marketing assistance and product development. CARD-MRI espouses value chain financing to ensure that enterprises receive funding along the value chain, thus assisting with technology transfer, market linkage to ready buyers (usually small and medium enterprises that are also clients of CARD) and use of cost-effective small processing plants compliant with the standards of the Food and Drug Administration. Product outputs from this financing scheme include *muscovado*, turmeric powder, and *calamansi* juice to be sold under franchise agreements in mall kiosks.

Advancing agripreneurship, SUSTAINING THE ENVIRONMENT



LEAF 2018 REFLECTION POINT

Agripreneurship is seen as the main strategy for alleviating farmers' poverty. However, there is also the importance of seeing farming as a way to manage the environment, to manage and heal the soil. Are these two things mutually exclusive? Can we have both?

LEAF introduced many ideas, both challenging the status quo and problematizing proposed solutions. Among the main points under debate was how to uplift subsistence farmers, who are often among the poorest of the poor—a phenomenon seen all over the world. Small-scale farmers, tilling less than a hectare, are at risk of losing their land, becoming captive to pricing determined by middle-men, and are often hungry themselves. The poverty of farmers is part of a bigger problem, where the global rich-poor divide is getting worse.

The agripreneurship model is a strategy for securing livelihoods and for boosting incomes— but this should not be the only agenda. The drive to increase incomes through agriculture can have adverse effects on the environment. It is important to be clear on the objectives of agripreneurship and to ask where the benefits lie and for whom. It is also vital for those who earn from the soil to not lose their connection with the land.

“Are we asking: ‘How to make money through farming’ or ‘How can farmers make money?’” asked Rei Yoon of the Soil and Soul Organic Movement. He advocates for SARM Natural Farming, an approach to agriculture that has been proven to increase yields and improve the quality of produce, while being friendly to the environment. Because the approach is low-cost, the technology does not lock poor farmers out of the system. In fact, the approach works because the knowledge belongs to the farmers. The SARM Natural Farming method follows and respects nature. Farmers work in harmony with nature, instead of exploiting it. As a result, this approach helps farmers heal the soil, heal the people, and help the poor.



Several technologies fall under organic agriculture, among them organic farming, biodynamic farming, permaculture, and natural farming. Andry K. Lim of Tribal Mission Foundation International advocates natural farming given its effectiveness and accessibility. “Healing the soil takes time because you destroy it through conventional farming. If you want to heal the soil, where do the plants get the food? Through the foliar system, that’s why natural farming is very fast,” said Lim, explaining that natural farming, unlike organic farming, is not only about composting but also using foliar fertilizer.

Lim says that the knowledge, once you have it, will be beneficial not just for you as a farmer, but also for the land. He conducts a regular seminar and farm visits in Davao to teach several natural farming methods and applications, including animal husbandry, aquaculture, and horticulture (i.e., seed and seedling treatments, soil management, indigenous microorganisms, oriental herbal nutrients, among others). “Natural farming is low cost, but high yield.”

Monci Hinay, project manager at WWF Philippines, also indicated that agriculture can create positive impact by improving sustainable agriculture production skills, establishing group savings and loan associations, and creating viable agro-enterprises. He underscores the need to educate farmers in sustainable food systems, as this contributes to biodiversity conservation, while ensuring food and nutrition security now and in the future.

Opportunities in SUSTAINABLE AGROFORESTRY

Agriculture is often seen as a threat to forest conservation when it can, in fact, be a contributor.

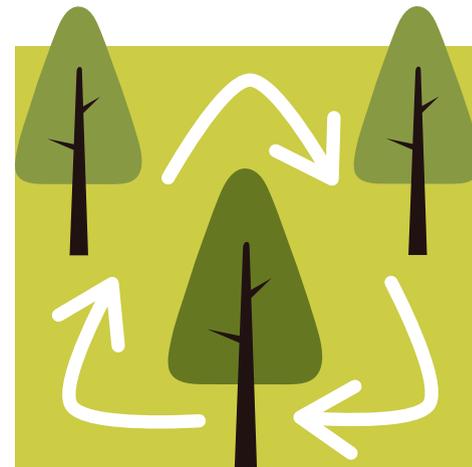
Opportunities to look out for:

Atty. Jose Andres Canivel, executive director of Forest Foundation Philippines (FFP), noted that a sustainable land approach will be able to solve some of the problems that agriculture is often blamed for. Agriculturists may choose to adopt forest-friendly techniques while remaining productive, he said. In some cases, agriculturists may even opt to plant in unlikely spaces, with very little soil or water.



Agroforestry/Rainforestation

Planting fruit trees, together with forest trees



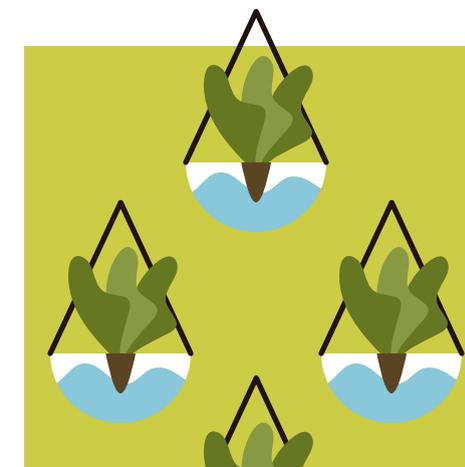
Sustainable Tree Farming

Establishment of sustainable sources of timber and fuel wood



Intercropping/Multi-cropping

Utilizing the spaces between forest trees for complementary crops (e.g., abaca with forest trees, coffee, or cacao with fast-growing trees, non-timber forest products with forest trees)



Climate-smart agriculture and climate-smart farming

Hydroponics (water is recirculated) and Vertical gardening (water-saving, space-saving, and air-purifying)

FFP is a non-profit organization that provides grants to organizations who empower people to protect the forests. Their goal is to grow forests, livelihoods, partnerships, and advocates. Their awarded grants support conservationists and enterprises in rebuilding forests in the Sierra Madre, Palawan, Samar, Leyte, Bukidnon, and Misamis Oriental.

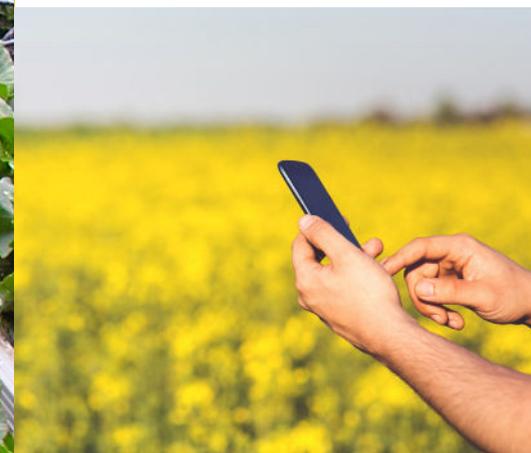


**Forest
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AGRITECH: *21st Century Farming*



Technology, which has always been a part of agriculture, is needed now more than ever. With more people to feed, and smaller plots of land to till, farmers need to increase their productivity and optimize their operations. Sometimes this means using available technology in innovative ways. It could also mean solving problems by devising new technology. “We need to reframe agricultural issues and concerns into tech. The challenge is how to meet global food

production needs by 2020 and beyond,” said Dr. Dileepkumar Guntuku, the Global Program Leader of the Seed Science Center at Iowa University.

Dr. Guntuku, for his part, espouses a balance between good farming practices and biotechnology, with the end result of producing more food from less land. Given that using quality seeds and quality inputs is key to producing good food, Guntuku advocates for developing “seed entrepreneurship” and improving seed distribution systems. Moreover, he believes that information on best practices in farming should be freely shared to the global community, including small-scale farmers.

In the Philippines, the focus has mostly been on information and communications technology (ICT) as a farm management tool. Roger F. Barroga of the Philippine Rice Institute spoke of the AgriDOCAApp, which offers geo-visualization, record-keeping,

task scheduling, and shared farm data access, including insights on the rice crop. Other useful apps include a repository of information on rice varieties called Binhing Palay, and a weed photo recognition and catalog app called eDamuhan.

Automation and mechanization is also slowly being introduced. Barroga said that wireless sensors are now being used to monitor and evaluate farm water quality and soil conditions (i.e., moisture and Ph content of various plots). A well-informed farmer can then be strategic in terms of seeding, fertilization, and irrigation. Certain rote tasks may also be automated: a self-driving tractor (the local prototype is referred to as “roborice tractor”) can mechanically plant the seeds; drones may be used for the precise distribution of fertilizer; and low-cost automated drip irrigation, triggered by the moisture sensor, may dole out exact amounts of water, as needed. Similar technology, such as automated feeders and air quality sensors, is also being used for animal husbandry.



Corteva Agriscience, the Agriculture Division of DowDuPont, believes the future of farming lies in innovation. The company provides hybrid seeds, crop protection products, and other farming solutions. After the Philippines was affected by Typhoon Haiyan in 2013, Corteva partnered with Chen Yi Agventures, Inc., to start a “rice revolution” in Leyte. They provide material inputs, training for field technicians, and access to a fully-automated rice processing plant. As advocates of mechanization, from seedling transplantation to milling, they are teaching farmers in Leyte to leverage on new technology. Elizabeth Hernandez, co-founder of Chen Yi Agventures Inc., shared that as of January 2018, the farmers have expanded from the pilot site of 100 to 500 hectares (has.), and are on track to growing 2,000 has. of rice.

It is apparent, however, that many emerging economies like the Philippines have yet to fully realize the potential of agritech. Dr. My Thanh Nguyen, a farm scientist and entrepreneur (or “FarmSciNeur,” as he calls himself) at Rynan Technologies, spoke of technology-based solutions that are directly addressing today’s problems. Given a shortage of farmers, Vietnam is using self-driving rice seeding machines and transplanter machines to work the field. To help avoid overuse of toxic pesticides, bio-pesticides are used instead.

Smart agriculture, which is a combination of various technologies, is making the farms

more efficient and reducing carbon emissions. The pièce de résistance is the Rynan Smart Fertilizer, which is coated with a high-tech polymer that dissolves in water, allowing the minerals—nitrogen, phosphorus, potassium, and copper—to be released gradually into the atmosphere. Sensors detect soil and water contamination. To conserve water, farmers irrigate the soil using smart pump controllers.

BRINGING SCIENCE BACK: VALUE IN “THROWBACK” TECHNOLOGY

Julius Barcelona, executive assistant for market research and product development of Harbest Agribusiness Corporation, saw various innovations in farming technology in the climate-controlled greenhouses of Asia and Europe. Yet he maintains that even in places where full mechanization is the norm, there will always be “the basics” in practice. Though the Philippines has yet to reach the kind of maturity to accept and absorb all these innovations, he believes farmers will succeed by focusing on irrigation, plant nutrition, and excellent seed variety.

Rex Puentespina, farmer and chocolate maker at Malagos Chocolate, speaks of how terroir (i.e., micro-climate, soil composition, and other crops grown in the area) influences the flavor of their award-winning chocolates. He

values consistent good agricultural practices, and to achieve this, they’ve converted part of the Malagos farm into a teaching facility for their suppliers and partner farmers. “We conduct Extension Services to those who need further assistance and provide farm inputs as well. More importantly, we linked them with a banking institution to provide financial assistance at reduced rates,” said Puentespina.

Many of the attendees at LEAF 2018 practice some form of organic/natural farming, and stand by seed and nutrition technology, soil science, and tried-and-tested irrigation techniques, which are considered staples in a farmer’s repertoire. “Let’s not reinvent the wheel, rather make sure that these solutions

are being adopted and used to achieve the objectives that we have,” said Paul Voutier, director of Knowledge and Innovation at Grow Asia. In his view, inclusive agriculture means providing financial services and relevant information to farmers so that they are integrated into larger value chains.

Technology doesn’t always have to be about gadgetry, and “smart” agriculture isn’t always fancy. When saltwater intrusion became a problem in Vietnam, the rice paddies were converted into shrimp ponds. In several countries, duck farming is combined with rice farming—the ducks manage the rice field by eating the pests, as well as the weeds that would have choked the rice fronds.

Duck manure serves as organic fertilizer.⁷ The World Economic Forum has noted that rice grown using this sustainable method is more resistant to typhoons and extreme weather.⁸ Added to which, the farmers have additional income in duck eggs. Combined duck and rice farming, according to Nguyen, creates five times more income than rice farming alone.

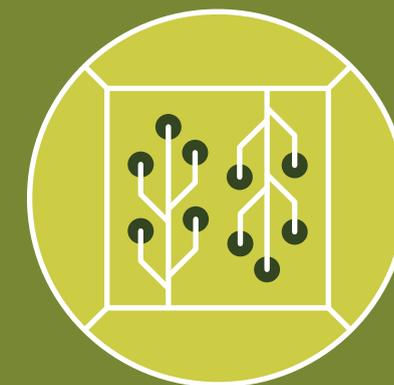
Perhaps Ralph Becker, co-founder of Urban Greens Hydroponic Farm Systems and moderator at LEAF 2018, said it best when he pointed out that being innovative, or being a 21st century farmer, is more about having a mindset: “defying the status quo, using science and technology, and looking at the world from a different point of view.”

Just because the technology is available, does it mean Filipino farmers—in particular, the smallholder farmer—should adopt it? Before investing in a particular technology, you also must consider the following:

- Is it really a technology problem or a ‘people’ problem?
- Whose needs are being served by the technology?
- Which problems are being solved by the technology?

Farmers who are struggling with production (the quality of their produce, the efficiency of their farms, the lack of processing and added value) will need different solutions compared to farmers whose concerns are ensuring traceability, logistics, tracking and monitoring deliveries, and security in e-commerce transactions. More often than not, culture also plays an important part in the effectiveness of technology adoption.

LEAF 2018 REFLECTION POINT



EXPLORING TECH* SOLUTIONS FOR AGRICULTURE



LOW TECH IS STILL TECH.

The challenges of global markets, more complex supply chains, and stringent regulations highlight the potential for technology solutions in the agricultural space. Partners at LEAF 2018 highlighted how agriculture stakeholders can approach technological solutions to solve these problems. While there are advanced plays that might suit more established agribusinesses, it should be noted that different levels of technology are available to suit smaller agricultural enterprises. The key is to find the appropriate technology to meet the expressed need and that will help people achieve their objectives.

For smallholder farmers living in rural areas, where even Internet coverage is limited, the idea of technological solutions might seem unrealistic. In such cases, simpler may mean better. Technology can and should be adapted to suit the local scenarios of farmers. If a 3G network is unavailable, then maybe the simpler text message technology is more suitable. If an online tracking system is not possible, then a simple Excel sheet may be the answer, or even, a pen-and-paper system, such as a logbook or checklist. Even a low-tech solution can help advance the systems and processes for smaller agri-players and these can lead to more innovation as they scale up.

TECH TOOLS CAN IMPROVE COMPLIANCE.

Given the stricter regulations for the fishing industry, fishermen must be able to provide traceability for the fish they catch and send to market. Augusto Zes Martinez III, chief operating officer of Futuristic Aviation and Maritime Enterprise (FAME) Systems, Inc. shared a technology that even small-scale fishermen can utilize, thereby giving them the opportunity to continue participating in the industry. Using small form factor transponders and Global Positioning Systems (GPS), FAME provides solutions not only for monitoring and documenting their catch, but also for safety and communications at sea. Tech providers should look for these kinds of opportunities to support agribusinesses.

BUILDING WITH BLOCKCHAIN.

According to Hong Kong native and Silicon Valley entrepreneur Angus Yip, blockchain may be the new kid on the block in terms of technology, but it is already showing potential for improving tracking and traceability of products, as well as providing levels of security for economic transactions. Basically, it is a digital database or ledger, that can be shared and used collaboratively. Because the database is not stored in a single, central location, it is public, fully transparent, and easily verifiable.

E-COMMERCE AND ONLINE MARKETING.

Johan Boden, serial entrepreneur and logistics expert, says that the Internet is transforming traditional trading routes. Specialized websites like New Crop, Spice Jungle, and Nuts.com allow small-scale businesses instant connection to consumers. Traders, however, will continue to play a role in food and agriculture. Technology will allow traders to provide better service solutions for suppliers, increasing productivity that can translate to higher benefits for farmers. Best of all, the Philippine market is ready: for example, the local Farmers Market in Cubao sells its wares via honestbee.

The beauty of these technologies is that the end user does not need to understand all of the mechanics to use them effectively. Technology is a tool, and developers should always tailor to people's needs.

In the words of a LEAF 2018 speaker, Johan Janssen, who co-founded open-source content management system Joomla:

“Technology needs to adapt to the user; the user should not adapt to technology.”

**It should also be noted that tech could also mean a farming technology such as irrigation, plant nutrition, and seed science. The same principle applies. For example, smallholder farms need not spend money on a complex irrigation network if a rainwater catchment system will suffice.*

NEW TO AGRITECH? *Join the club!*

Sometimes you need a helping hand to develop the right solutions.

EXPAND YOUR NETWORK.

TechUp Pilipinas is a platform where various groups collaborate to create technology-driven solutions to present-day challenges. Its three main pillars are conferences, hackathons, and pitchfests. “Often, agricultural interventions are implemented in a very top-down manner, and this excludes the ‘people on the spot.’ These are the people who need the technology the most, said Amor Maclang, founding member of Tech Up Pilipinas. “Our goal is to ‘tech up’ those who need it, such as companies, small enterprises, and individuals who need technology.” Those who wish to promote their technology or embrace digital transformation now have a venue to meet and exchange ideas.

APPLY DESIGN THINKING.

Tandemic helps organizations become more innovative and customer-centered. As agribusinesses begin to break into the market, they must be able to identify opportunities for their products, particularly in terms of how they will be able to meet customer needs. For instance, a grower that produces coffee has multiple opportunities to market the product. A grower may seek to develop a product that is sold on the shelf: either as raw beans, or as a roasted and ground coffee product. Moving forward, another option would be to produce a product that is brewed and served, as in a coffee shop, or to sell specialty drinks. For any of these options, a producer will have to utilize specific technologies, for packing and shipping, roasting, grinding, or brewing—but must first decide what customer needs to fulfill with the product. Tandemic conducts deep interviews with their clients in order to understand the challenge and come up with a strategy for the product.

LEVERAGE ON NEW WAYS OF FARMING.

Elizabeth Hernandez, the Asia Pacific Government Affairs Leader of Corteva Agriscience, speaks of science-based solutions to optimize yield and improve the quality of rice crops. Chen Yi, a partner of Corteva Agriscience, offers quality hybrid seeds and crop protection products, and leases equipment to contract farmers. Don’t be afraid to ask questions, and study what’s available in the market. Despite the potential of agritech, farmers are often apprehensive about adopting new ways of working. More effort is needed to build awareness among farmers about the costs and benefits of agritechnology so they are empowered to make the decisions that are best for them.





AGRITOURISM: (FARM TOURISM)

demo farms, leisure and destination sites

Agriculture’s evolution into an entrepreneurial endeavor has led to other agriculture-related income-generating activities, such as “agritourism,” which is a combination of agriculture, education, and leisure/recreation.

In the Philippines, agritourism or farm tourism is considered a vital part of the new rural economy as it brings in paying visitors for extended stays in the countryside, where poverty is highest. As travel is integrated with visits to farm sites, farmers have the opportunity to be an integral part of the hospitality chain, to promote health and wellness, and to educate visitors on the value of agriculture and where one’s food is sourced. Not only can they be suppliers to hotels and restaurants, but their farms can also cater directly to visitors looking to enjoy high-quality, farm-produced food, and experience aspects of farm life (e.g., picking strawberries, planting medicinal herbs, fishing or crabbing, etc.).

The Philippines’ aggressive tourism agenda is articulated in R.A. No. 10816, also known as the “Farm Tourism Development Act of 2016,” which seeks to support tourism as an engine for investment, employment, growth, and national development. Meanwhile, the continuously updated Philippine Development Plan encourages public and private sector partnerships specifically to encourage

sustainable resource-based industries, while expanding economic opportunities in agriculture, forestry, and fisheries. The Farm Tourism Development Act, the latest push from the government, intends to further develop and promote sustainable farm tourism.

There is great potential for rural tourism to take off, and the government is keen on fostering strong partnerships, said Warner Andrada, Chief Tourism Operations Officer of the Tourism Development Planning Division (TDPD) of the Department of Tourism (DOT). At the same time, tourism should be a vehicle to appreciate and protect our resources—it should be sustainable. He encourages stakeholders to share best practices and new technology.

“Tourism should be everybody’s business,” said Andrada. “A destination is attractive because of the people, because of ‘local color’ and community-based knowledge. Customer experience is inextricably linked to visitor extensions—70% of visitors extend their stay because of their interaction/engagement with people in the locality.”

Turning your farm into A “DESTINATION”

In the Philippines, there are two entry points into farm tourism, both of which are regulated: a farm (tourism) site or farm resort, which is accredited by the Department of Tourism (DOT), and a farm learning site, which is accredited by the Department of Agriculture (DA). Being included in the accredited list is advantageous considering that the government provides support for marketing and promotions. It also means undergoing inspections and adhering to standards—a farm site or resort, for example, should have certain infrastructure in place (multi-purpose hall, restroom/s), staff trained in hospitality, and necessary permits (registration with the Securities and Exchange Commission, business permits that include safety and sanitation checks).

It’s worth the investment because the gains for the farmer are cumulative, said Mon Peñalosa of Peñalosa Farms. Assuming your farm has 10,000 visitors annually, or an average of 35 people a day: you

could charge a mere PHP200 entrance fee and potentially get PHP2 million every year; PHP350 entrance fee with snacks, gaining PHP3.5 million; or PHP500 with lunch, earning PHP5 million. If you conduct training seminars, that base sum could go up to PHP2,500 daily per person, including meals, accommodations, and souvenirs. Package it for four days, and it can go up to PHP10,000 per person.

Josephine Costales of Costales Nature Farms in Majayjay, Laguna said she “wanted to grow old healthy,” and so she studied organic farming (she was one of the first organic farmers accredited by the DOT). Since establishing her farm in 2005, Costales has turned it into a viable operation that draws in both tourists and budding agriculturists.

Costales started as any farmer would, with 100% of her income from agricultural crops (high-value vegetables and herbs) and farm animals (organic chicken, eggs, and pork), but as her competence grew, she



transitioned into value-adding through processed tomatoes (dried tomatoes, tomato paste, and tomato catsup) and processed organic meats (organic pork cuts). These days, Costales supplies premium supermarkets such as Healthy Options, Shopwise, and Rustan’s, as well as restaurants such as the Bistro Group, Moment Group, Dalcielo and Cibo, and hotels such as Shangri-La and Solaire Resort & Casino.

She also opened her farm to farm tourism, giving day tours to curious locals and out-of-towners, who also became a market for her farm products and farm-to-table meals. Finally, she turned her workers into “farm teachers” and tweaked her operations to accommodate a farm school, now an accredited extension service provider for the Agricultural Training Institute (ATI), that teaches sustainable organic farming and farm tourism. “The DOT is helping us how to become preferred tour guides, while the DTI (Department of Trade and Industry) is helping out with marketing,” said Costales.

Costales also offers an internship program for farm technicians and farm owners who want extensive hands-on training, including meals and accommodations for six days and five nights (PHP18,000/person). Those who wish to become an “intern” must have already taken Costales’ integrated organic agriculture and effective microorganism (EM) technology workshop, also offered inclusive of training materials and effective microorganism activated solution (EMAS), and meals and accommodations for three days and two nights (PHP8,228/person). Costales also offers a four-day farm tourism workshop inclusive of training fee, farm tour, accommodations and meals (PHP12,000/person).

“We wish to inspire more people to live healthy and sustainable lives,” said Costales. “And it is possible.”

Advancing FARM TOURISM

There are several benefits to local farms becoming tourist destinations, not the least being educational opportunities for locals and tourists alike, additional income generated for farmers, and inclusive growth for the countryside, thus upgrading the quality of life of many Filipinos.

“Food and accommodations are most important for the tourism industry. There should be investments in rural cuisine, and improvements made on food processing so we can market more packaged foods from our farmers,” said Dr. Mina T. Gabor, former Tourism Secretary and current Chairman and President of the International School of Sustainable Tourism in the Philippines

(ISST). Established in 2010, ISST educates for sustainable tourism, offering short-term courses (at discounted rates for government and academe) spanning three days to three months, including Farm Tourism 101 with Farm Guiding.

“Policies are still needed to link agritourism and trade,” Gabor noted. “There are also challenges in funding, product development, training, and marketing.” Nonetheless, there are 3,000 new tourist arrivals every month, and farm sites should be able to cater to them. Practitioners can easily pinpoint 150 farm tourism sites, with 79 already accredited by the DOT. On top of that, 350 learning sites have also been accredited by the DA.



LEAF 2018 REFLECTION POINT

How do you best sustain an agritourism network of farms, banded together, to optimize the experience for the eco-tourist?

SIX CHANGES FOR MAXIMUM IMPACT

“Farm tourism is one of the best ways to educate the public about farming, ecology, healthy food, and farm products,” said Dr. Gabor. Collaboration among practitioners is key to sustainable farm tourism development, and she makes six recommendations that would further strengthen the practice:

1. MAKE THE FARMS MORE VISIBLE.

Disseminate a farm-stay list. Share certification and accreditation lists. These could be made available to travel promoters and agents, or even the general public.

2. CREATE LINKAGES AND SCALE UP.

Pull farm tourism site owners into clusters or cooperatives that would give them leverage, opportunity to pool resources, and create attractive packages that play to their strengths. On a regional scale, Asia/ASEAN tour packages can be created and facilitated by a Farm Tourism Linkage Committee, similar to the structure present in the Caribbean countries. Farms within or near eco-tourism sites can also be part of nature trails.

For her part, Costales also leverages on partnerships, both local and international: A recent partnership with Taiwan Leisure Farms Association organized a tour package for five days and four nights (PHP45,000/person) inclusive of airfare, roundtrip transfer, accommodations with internet connectivity, meals, and farm and city tours.

3. RECRUIT THE CHEFS.

Chefs can be agents of change. “A single farmer cannot produce the quantities needed by even one hotel,” Gabor pointed out. Farm products can be highlights in their menus, which can be a means to promote the farm-to-table concept. Use storytelling in familiarizing diners with the origins of food.



4. MAKE TECHNOLOGY CONVENIENT.

Digital solutions and applications can link farms and chefs in real time to know who is providing what ingredients, at what quantities, every season.

5. CREATE “INTERPRETATION COMMITTEES.”

Tourism, whether agritourism, ecotourism, or agri-eco tourism, is closely linked to natural ecosystems. Ecotourism sites are natural habitats. Farms are working sites, and operations continue amidst tours and trainings. An influx of tourists could be disruptive, and there should be a consensus on how to manage tourists while at the same time presenting a more meaningful experience to them by explaining the environment, and how things work in the context of the site. Restrictions can be given, for example, on how the tourists interact with the farm animals, but providing “interpretation” will educate the tourists on why the restrictions are necessary, and foster understanding and appreciation.

6. TAKE A ‘METAPHYSICAL APPROACH’ TO TOURISM.

Focus on designing tourism sites in a way that the visitor can experience the place with all six senses. Value authenticity, and a “sense of place” that encourages a spiritual communion with nature and culture, an approach advocated by landscape architect and sustainable tourism advocate Hitesh Mehta, incidentally a board member of ISST.

For more information on this approach and Mehta’s holistic design, visit <https://sustainability-leaders.com/interview-hitesh-mehta>.

Farming as a **WELLNESS OPTION AND WAY OF LIFE**

**“We’re transforming farmers
into pharmacists and bringing
back our traditional culture”**

The call of the wild is heartfelt and traceable to biophilia, which is defined as the human tendency to seek connections with nature and other forms of life. Interacting with nature has a therapeutic effect—psychologists call it “ecotherapy”⁹—as it promotes healing and growth. Familiar approaches to ecotherapy include animal-assisted therapy, art therapy, and talk therapy in a natural setting such as a garden, forest, or beach. Why not a farm?

Farm tourism operates on the basic premise that visitors would like to decompress from urban stressors by unwinding in a farm setting. Terra Verde Ecofarm & Resort, a 15-hectare farm in Maragondon, Cavite, was originally meant to be a “stress reliever” for the Atanacio family. Eric and Babie Atanacio now offer a farm eco-tour, eco-camping, and horse rides for visitors. As an ATI Extension Provider, they also provide training in organic farming and vermiculture.

Meanwhile, Nurture Wellness Village in Tagaytay also embraces ecotherapy. They offer immersive walks and educational talks. They serve their guests herbal remedies and food freshly picked from their organic gardens. They also offer wellness packages. Nurture Wellness Village is both a DOT-accredited wellness resort, billed as a “sanctuary to enhance and rejuvenate mind, body, and spirit,” and a farm tourism destination.

As a farm resort, they expose children to the workings of their organic garden, the processes of *bokashi* composting and grey water recycling, even soil science and the use of natural fertilizers, natural pesticides, and vermiculture. At *Botika ni Lola*, Nurture “farmacists” in traditional costume teach the healing properties of plants. Trainers also teach organic farming in the barangay, and the local produce may be sold at their retail store.

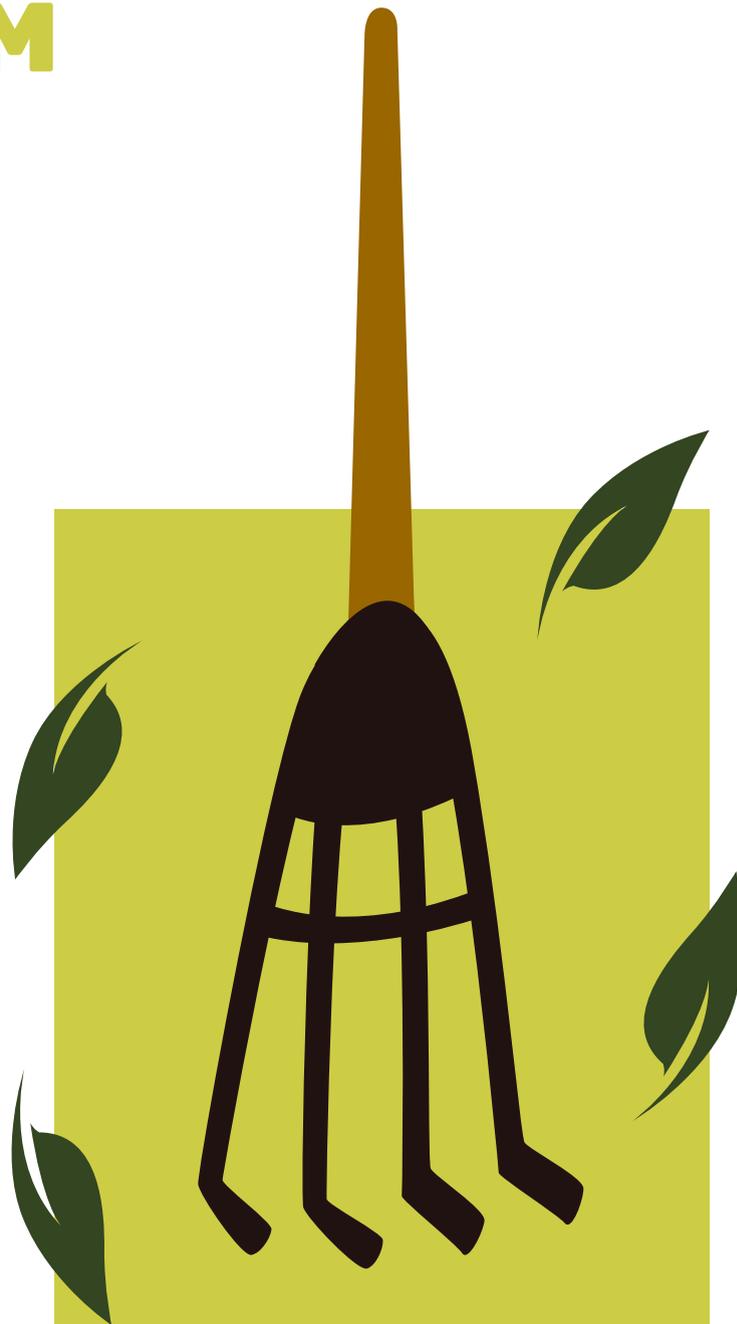
On the wellness front, they offer spa packages, detoxification, a corporate wellness program, and customized natural healing programs overseen by a professional medical and wellness team. Their Wellness Intervention Program packages combine spa services (facials, massages, etc.) with treatments (enemas, acupuncture, pyro-energen electrostatic therapy), and a “wellness activity.” The Transformation Package includes cooking class, gym, running, and crossfit.

Guests are taught to listen to their bodies and encouraged to lead healthier lives. Employees and trainees, meanwhile, are taught to value their heritage and to open their minds to alternative ways of working. “We’re transforming farmers into pharmacists and bringing back our traditional culture,” said Nurture Wellness Village founder Cathy Brillantes-Turvill. “We’re bringing organic farming training [to our neighbors].”

LOCAL FARM TO TABLE— *and back again*

At its simplest, farm-to-table returns to the old ways of producing the food that you serve. Family-run enterprise Gorgeous Farms is an accredited learning site of the Agricultural Training Institute and a TESDA-accredited training center for Organic Agriculture Production. Run by Thelma Murillo, the 9-hectare farm supplies the food served at the adjacent The Wild Juan Bed and Breakfast, whose kitchen is helmed by her son, Chef Thomas Murillo. Visitors have room and board and a place to eat even as they learn organic farming.

Not every chef has the luxury of owning land, so the next best thing is a mutually beneficial relationship with a farmer-supplier. Local farmers, more than anyone else, have a vested interest in the farm-to-table movement. Those who specialize in rare, high-value ingredients, such as heirloom rice, have struck partnerships with restaurants that are transparent about the source of their ingredients—particularly as discerning diners are demanding traceability in the food they consume.



The symbiotic relationship between agriculture and tourism feeds the hankering for local food customs and local fare. Popular degustation menus present a culinary journey across food regions, complete with specialties. This sampling can draw diners who are curious about a particular culture; or, conversely, nostalgia can lure the homesick and the been-there-and-back to the table. Interest sparked by the food trip could inspire an actual trek.

It is also within the interest of agriculture and tourism to preserve the resources on which their industries depend. If no farmer practices the tradition and preserves the heritage of the Ifugao, for example, will there be Banaue Rice Terraces left to visit? If the heritage site were overrun by tourists, would this not have the same impact? "*Lakbay-aral*," a compound of the words trek ("*lakbay*") and learn ("*aral*"), refers to a program where farmers and farm technicians train in the technology of rice terraces stone walling so it can be replicated and re-applied elsewhere. *Lakbay-aral*, in a general sense, speaks to the times and to agritourism: visit, learn, apply.



YOUNG AGRIPRENEURS PITCH AT LEAF 2018

SPONSORED BY THE EMBASSY OF NEW ZEALAND IN MANILA

After traversing new ground in agripreneurship, digital agritech, and agritourism, LEAF 2018 ended with a session that truly spoke to efforts in revitalizing agriculture: the Young Agripreneurs Pitch. Sponsored by the New Zealand Embassy in Manila, the session gathered four teams of young advocates, aged 20-40 years old, to propose an agri-cultural project to a panel of four seasoned leaders and entrepreneurs. Two teams would walk away with seed funds of PHP50,000 to jumpstart/upscale their agro-enterprise.

New Zealand Ambassador to the Philippines, His Excellency David Strachan, presented opening remarks. The judges panel consisted of Johan Janssens, web architect and tech entrepreneur of Joomla!; Dr. William Dar,

President of the InangLupa Movement; Indradi Soemardjan, Director of Anapana; and Ivy Almario, President of Atalier Almario and member of the AGREA Board of Directors.

From innovative e-commerce platforms to urban neighborhood gardens, each team shone as they explained their big agri-idea within a short window of five minutes. Taking points such as practicality and originality into consideration, the panel selected Team Alab of Siargao and Team E-Magsasaka of Region IV-A/Metro Manila as the winners.

By the end, all youth involved demonstrated that there is a future for agriculture—and that innovative young minds are essential to its foundation.



TEAM ALAB

Chances and challenges accepted

It was never an easy journey for these young agri-movers. Since they all come from different locations of the country (Isabella, Metro Manila, Laguna, and Cagayan de Oro), and different walks of life (teacher, engineer, biologist), they needed to literally meet half-way. Their members had scattered to the four winds, even as far as Japan, so it was difficult to meet together as a team. Yet they rose to the challenge.

First chance they took was to travel all the way from wherever they were to Mindoro, a place they had never been to before. Second chance: the LEAF 2018. Call-time was on Friday, and the event was on Saturday and Sunday, where they would compete at the Young Agripreneurs Pitch Competition. Limited finances did not stop them from traveling the long distance, but

more importantly, they overcame their own uncertainty so they could be among the Agri-Youth voices to be heard on what is essentially an international platform.

Team ALAB took their chance on stage, and shared their vision of agri-youth as agri-movers. They gave everything they had brought with them from the Siargao Islands. And thus, history happened—they became one of two recipients of the PHP50,000 seed fund from the New Zealand Embassy, and qualified for a Mentorship Program with AGREA Philippines.

The Winning Pitch

Agri-Youth Program is currently the youth arm of the Municipal Agriculture and Fishery

Office of the Local Government Unit (LGU) of Del Carmen. It aims to provide an inclusive agricultural program to the youth through continuous and sustainable Developmental Leadership Sessions, with the focus on Leadership, Agriculture, Community and Entrepreneurship (LACE). Currently, college students from the Surigao State College of Technology (SSCT) and the *Sangguniang Kabataan* members are the key role players in this program.

Students of Agriculture, Hotel and Restaurant Management, IT, and Education were gathered together to be a community of agri-movers equipped with leadership, technical, and entrepreneurial skills which they could utilize to inspire and lead other youth to be involved in agriculture.



The program has three key strands that were knitted together to develop the agri-leaders in the agri-youth:

Agri-Youth Sessions comprise regular on-campus LACE sessions with the SSCT students, continuous youth-led and community-based agricultural projects, strong and sustainable partnerships, and opportunities to strengthen the LACE skills of the Agri-Youth and farm trips and exposures.

Agri-Youth Model Farm focuses on creating a Model Farm on 1.846 hectares of land provided by a private partner and developing this into an Agri-Tourism Farm that would generate funds for the Agri-Youth to provide excellent agricultural trainings to the community.

Lastly, **Agri-Community** aims to organize an Agricultural Research Symposium, camps, and sessions that would widen the Agri-Youth influence, and provide the youth with leadership and agricultural opportunities that would strengthen their agri-moves. In addition, the Agri-Community will develop an agricultural facility that would aid the Agri-Youth in their technical, scientific, research-based, and practical skills.

‘Marami ka pang bigas na kakainin’ is a familiar aphorism thrown at the TEAM Alab members, which they take as a challenge to keep on improving their work. “What we do is more than just an advocacy but rather a commitment to better ourselves, [just] as we want our communities to [further develop],” says Krizelle de la Cruz of Team Alab.

The journey is not yet over

‘A chance to remember,’ this is how Team ALAB summarizes their venture. Team ALAB is taking on their next chances of creating partnerships that would help them stay grounded in their purpose, even as they seek to change the lives of their target participants. “There are still more to come, and we are going to conquer them, still as a team. And now that we are growing, with the presence of Nina Marie Talaro, who is an Agricultural Engineering graduate, we can have a better understanding of how agriculture works in the eyes of a ‘legit’ agriculturist,” said Elaine Quidato of TEAM Alab.

“More so, we would look into details on how we can maximize the resources we have to further implement and sustain the Agri-Youth Program not only in Siargao, but hopefully, in other partner agricultural LGUs in the future,” she added.



TEAM E-MAGSASAKA

e-Magsasaka is a group of young Filipinos who share the same passion and vision in improving the current state of Philippine agriculture. They are composed of Jose Gabriel Dimalanta, CEO; Aaron Franz David, Head of Operations; Reaiah Joy Sarmiento, Head of Marketing; EJ Tamayo, Business Analyst; and Glenn Bueno, Technical Manager. Through their knowledge, skills, and experience, they are committed to helping smallholder farmers in the Philippines.

Here are some of the group’s accomplishments in the past: East West Seed: Innovation Olympics Grand Winner; Top 100 Social Enterprise to watch for in Asia 2018 by DBS-NUS; Makesense Academy Social Incubation Program Member; and Union Bank Agritech Pitch fest 2nd Runner up.

e-Magsasaka aims to improve the profitability of the primary workers in the agriculture sector, by connecting the farmer cooperatives direct to the institutional buyers through the e-Magsasaka Platform. This will help both parties since the farmer cooperatives will be able to sell direct to the institutional buyer at a higher price, with lesser middlemen participation, while the institutional buyers would also benefit as they get to have fresh produce with superior quality, resulting in lower spoilage rate, and better costs for their business.



The Problem: Uneven allocation of profit

The main problem that e-Magsasaka seeks to solve is the uneven allocation of profit in the agriculture value chain. The current scenario leaves the Filipino smallholder farmers to be taken advantage of, as shown by the national poverty statistics wherein they represent the poorest sector in the country.

The main cause of this problem is that Filipino smallholder farmers don’t have direct market access and information and thus, they rely on the local traders and middlemen to sell their produce. In this setup, smallholder farmers feel they are undervalued and unimportant in the agriculture value chain as the middlemen normally dictate their buying price to the farmers at a very low rate, while they themselves get to sell the produce at a high price in the market. This leads to the uneven allocation of profit, to the disadvantage of the smallholder farmers.

Agriculture in the Philippines is predominantly comprised of smallholder farms as around 81% cultivate in less than three hectares of land. However, the smallholder farmer sector is also the most prone group to the problem stated, due to their lack of bargaining power in the market. Thus, the potential impact of



e-Magsasaka to positively affect the lives of smallholder farmers is definitely huge, as there are about five million farmers cultivating the arable land in the Philippines.

With this problem, the country is now losing at least 1% of its agricultural workforce every year, as the youth shun farming more and more due to it being a labor-intensive yet, unprofitable means of living. This is also being reflected in the production side of the value chain as the agriculture sector has seen its contribution to national Gross Domestic Product go down from 20% in 1996 to 9% in 2016. Thus, we're now looking at a potential food security issue in the next couple of years as agricultural production goes down while the population of the Philippines continues to increase.

Solution: Profitability through direct-market access

e-Magsasaka aims to increase the profitability of our farmers through the direct market access which the platform offers. Quite different from most agriculture e-commerce websites, the approach for e-Magsasaka is business-to-business (B2B) wherein the supply of the farmer cooperatives is matched with the volume and quality demand of the institutional buyers such as the hotels, restaurants, caterers, and supermarket businesses.

Smallholder farmers, which comprise the majority, are unable to comply with these institutional buyers from a volume standpoint. However, with the farmer cooperative acting as a consolidator of their members' produce, they will now be able to serve the desired volume and quality demanded by the institutional buyer market.

The e-Magsasaka platform enables farmers to easily check current and historical market prices per crop in major wholesale agricultural trading centers in the Philippines. Also, it is an inventory management tool where farmer cooperatives will be able to oversee the current produce planted by its farmer members together with its estimated harvest dates and lastly, a marketplace



wherein they can sell their produce to institutional buyers prior to harvest date. By being able to sell their produce prior to harvest date, this would reduce the chances of spoilage for the farmer and increase the possibility of it being sold at a higher price.

Target users of the platform are the Agrarian Reform Cooperatives who are specifically planting fruits and vegetables. Initial focus is on the fruits and vegetables subsector due to the produce's highly perishable nature, which makes the farmers more likely to sell to the middleman, a sure buyer, upon harvesting.

For the pilot communities of e-Magsasaka, Team e-Magsasaka is looking at the 337 Agrarian Reform Cooperatives in Region III and IV-A as the initial users of the platform due to their relative proximity in Metro Manila, which houses most of the major institutional buyers in the Philippines. That being said, the team is looking to focus on the HORECA and Supermarket concessionaires on the buyer side, due to their noticeable initiative in highlighting the traceability of their produce as well as their evident marketing efforts in promoting their produce as straight from the farm.

Unlike most online agriculture platforms, e-Magsasaka is a B2B type of platform. Through this approach, both parties would be more trusting to the other entity as the businesses had already undergone Know-Your-Customer protocols and preliminary evaluation and assessment prior to being given access to the platform. This is e-Magsasaka's way of ensuring credibility and reliability to the users of the platform. Furthermore, the platform's logistics capability is also a value added service since most farmer cooperatives prefer to have their produce picked up while the buyers would like it to be delivered to them. Thus, the delivery option provided by e-Magsasaka is definitely an opportunity which the team can leverage on for faster adoption of the platform.

Team e-Magsasaka will use the PHP50,000 prize money they won at LEAF 2018 for the development of the online platform and field work of going to the farmers and getting their feedback. It will be used mainly to pay for gasoline, toll fees, food, and a website.

2018 FORUM: SESSION SYNTHESIS PRESENTED BY PROFESSOR WILFRIDO "WILLY" ARCILLA

“Agriculture is not an option, but a necessity” -Cherrie Atilano

In his synthesis of the LEAF 2018 sessions, Prof. Wilfrido V.E. Arcilla, marketing and leadership expert, noted that it is not enough to redefine and revitalize agriculture, but we must also reinvent it. Agriculture serves the same purpose as before: to provide food and nourishment. What has changed is that agriculture’s purpose has expanded into other areas—besides manufacturing and entrepreneurship, it is now in renewable energy, genetics and biotechnology, even tourism. Agriculture practitioners must fully take advantage of the value that agriculture can now bring to the table.

Agriculture is ever-growing, particularly with the population of the world to rise to almost 10 billion by 2050. Agriculture’s impact is felt across all of society, intricately linked with basic sustainable development goals (SDGs)

such as zero poverty and hunger, good health and well-being, gender equality, decent work and economic growth, reduced inequalities, sustainable cities and communities, responsible consumption and production, and climate action, just to name a few. If we are to achieve the future envisioned by the SDGs, then we need to invest in agriculture.

Philippine agriculture, in particular, needs to keep up with the demands of the times, shifting its focus from agriculture to agribusiness. This strategy should account for gender equality, with more support for women in agriculture. It should also promote fair trade, particularly in terms of exportation. Finally, agriculture should work *with* and not against nature; this means a “sustainable intensification” in land and water management, and the melding of research and development with innovation so

photo from Philippine Coffee Board website





that beneficial technologies are applied in the practice of agriculture. An emergent challenge for agriculture is how to settle the problem of succession, given that more farmers are retiring. Presidential Adviser Joey Concepcion posed the questions of how to balance the interests of the farmer vis-à-vis the consumer, and how to motivate farmers' children to continue in agriculture. Agriculture is and should be inclusive.

There are many solutions—models, systems, approaches, range of technologies, etc.—and there is no “one size fits all.” The youth will be attracted to agriculture if they see that it is a vibrant industry adopting the global best practices to solve 21st century problems.

Tradition has its place. We see a return to the roots, a return to the basics, and a re-uptake of indigenous knowledge. While LEAF spoke of reinvention, it also cautioned against dismissing the old ways that have survived generations of change, simply because they are essential to the care of our natural resources.

Sometimes, all you need is a shovel, soil, and seed. How you use the tools at your disposal, and the knowledge passed down from generation to generation, will be instrumental in achieving: first, food sufficiency; next, food security; and

finally, food surplus. The savvy 21st century farmer uses the tools of today to his advantage. There are three forces in play: agripreneurship, agritechnology, and agritourism.

Why not shore up the movement by offering B.S. Agripreneurship, B.S. Agritechnology, and B.S. Agritourism? Sustainable and environment-friendly methods produce high-quality and high-yield food – and this knowledge belongs to the farmers. Echoing Dr. Danilo Abayon, President of Aklan State University and Head of the Agricultural Colleges Association of the Philippines (ACAP), promoting more farmer-scholars is necessary to revitalizing and advancing the field. Many examples were provided at LEAF 2018 of agripreneurship, agritechnology, and agritourism at work: what became clear is that 70-80% of the value is in the distribution and retail, as noted by Mon Peñalosa, something that agripreneurs have yet to truly take advantage of.

Smart farms are run by smart people. And family-run farms, which characterize many of the farms in the Philippines, are built on the wisdom of the old and the idealism of the young. Hand in hand with growing food, one must also “grow people,” by building on their knowledge, skills, and competencies. Arcilla harkened back to Johan Janssen's

point that all business problems are people problems—but, thankfully, all business solutions are also people solutions. In times of crisis and uncertainty, Arcilla believes there is also hope and opportunity. If “Build, Build, Build” is the battle cry of the government, agriculture proponents must have the equivalent slogan of “Grow, Grow, Grow.” Along with the improvement in farm-to-market roads and the streamlining of trade channels, there is opportunity in making use of the available soil renewal and irrigation techniques, high-yield seeds and fertilizers, farm credit and insurance, land reintegration (where independent smallholder farms band together), farmer cooperatives and corporate farming, and mechanization and post-harvest drying facilities.

It is the job of the agriculture sector to find ways to make food accessible to people—including those living on the daily minimum wage. Arcilla pointed out that the minimum wage worker of Vietnam is able to provide for the family because food costs are comparatively low.

The Philippines needs to learn from the Asian growth model, which includes an export-led development strategy, with a strong and robust agriculture, large manufacturing and industry, and high-value services.

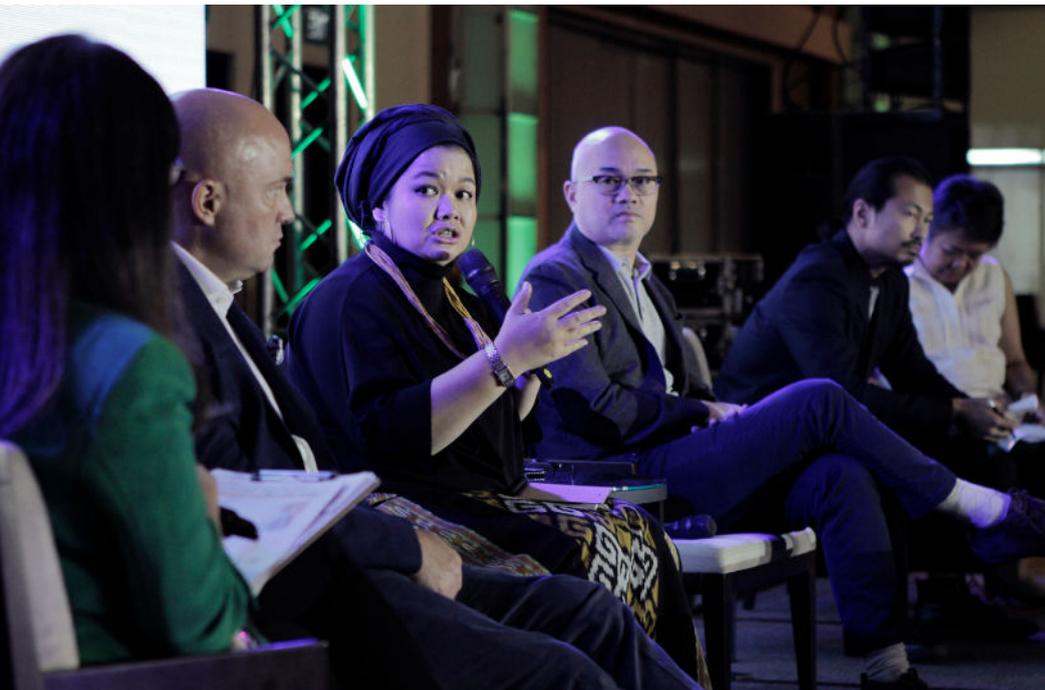
Notably, manufacturing cannot succeed without a strong agriculture sector. “If agriculture was our failure in the past, it is now our future,” said Arcilla. A strong and vibrant agricultural sector will produce abundant food supply for local and export consumption. Food prices are kept low and affordable, so that real wages and salaries remain competitive. The cumulative effect will attract local and foreign direct investments, creating employment and inclusive growth. Agriculture is the foundation of a strong and stable economy.

“Agriculture is not a choice but a must,” emphasized Arcilla. “If food is abundant, people are healthy, children are smart, and workers are strong. If food is abundant, cost of living is low, wages are competitive, and foreign direct investors come.”

**“If food is abundant, people are healthy,
children are smart, and workers are strong.
If food is abundant, cost of living is low, wages are
competitive, and foreign direct investors come.”**

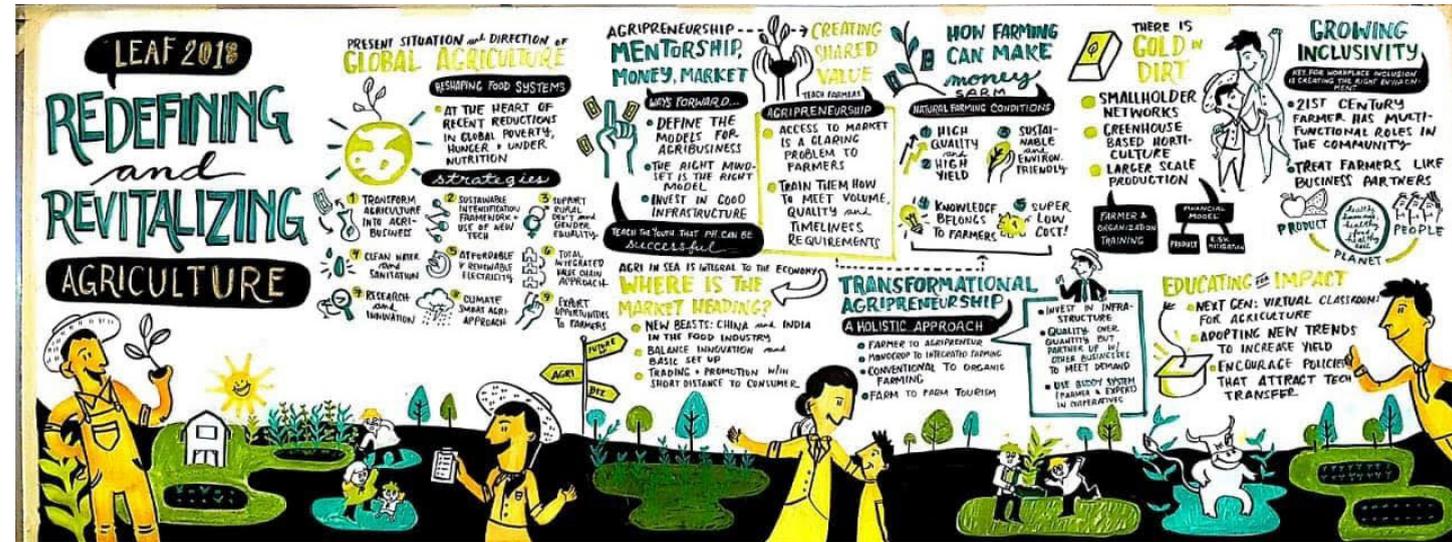


SCENES FROM LEAF



VISUAL ROADMAP/ ACTION PLAN

The following visual roadmaps were illustrated by Pushpin Visual Solutions for the Leaders and Entrepreneurs in Agriculture Forum 2018.





LEAF GLOBAL



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Cherrie D. Atilano *AGREA*

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Hindy Weber *Holy Carabao*

Angus Yip *Vegrant Limited*

Rei Yoon *SARM Society of Organic Movement*



Speakers and facilitators for LEAF 2018 gathered for discussions and future collaborations.

MODERATORS

Ralph Becker *Urban Greens*

Raphael Teraoka Dacones *Teraoka Family Farm*

Ginggay Hontiveros *GoNegosyo*

Jeannie Javelosa *Great Women + ECHOstore Sustainable Lifestyle*

Bryan McClelland *Bambike*

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Enzo Pinga *Earthbeat Farms*

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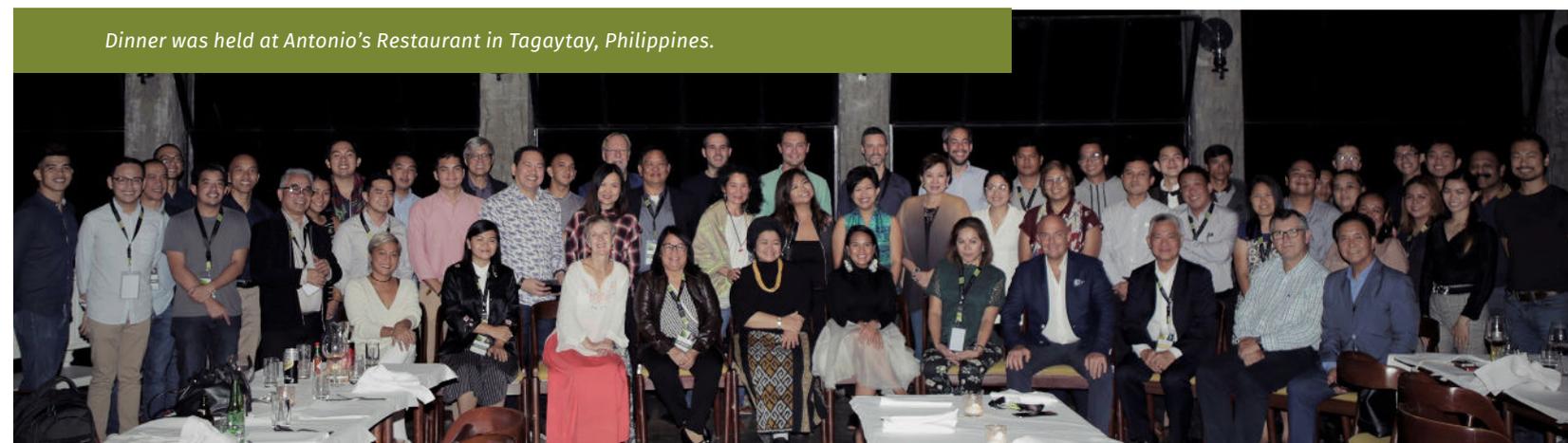
His Excellency, David Strachan *Ambassador of New Zealand to the Philippines*

Chef Jam Melchor *Philippine Culinary Heritage Movement*

Harold Bueno *Slow Food Youth Network + Far Eastern University*

Ivy Almario *AGREA*

Yong Nieva *AGREA*



Dinner was held at Antonio’s Restaurant in Tagaytay, Philippines.

SPONSORS & PARTNERS



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REFERENCES

1. United Nations Department of Public Information. (2017). *World population projected to reach 9.8 billion in 2050, and 11.2 billion in 2100 – says UN* [Press Release]. Retrieved from: http://www.un.org/en/development/desa/population/events/pdf/other/21/21June_FINAL%20PRESS%20RELEASE_WPP17.pdf

2. International Labour Organization, ILOSTAT Database. (2018). Employment in agriculture (% of total employment) (modeled ILO estimate) [Data bank]. Retrieved from: <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>

3. The World Bank, East Asia and Pacific Region. (2018). *Philippines Economic Update. Investing in the Future*. Retrieved from: <http://pubdocs.worldbank.org/en/280741523838376587/Philippines-Economic-Update-April-15-2018-final.pdf>

4. The World Bank Group. (2017). Globally, 70% of Freshwater is Used for Agriculture [Data chart]. Retrieved from: <https://blogs.worldbank.org/opendata/chart-globally-70-freshwater-used-agriculture>

5. Schwab Foundation for Social Entrepreneurship. (2016). *2016 Awardee: Simon Bakker of Kennemer Foods International (KFI)*. Retrieved from: <https://www.schwabfound.org/awardees/simon-bakker>

6. Subido, Lorenzo Kyle. (2018, November 29). How CARD MRI Helps 6 Million Poor Families Through Microfinance. Entrepreneur Philippines. Retrieved from: <https://www.entrepreneur.com.ph/news-and-events/how-card-mri-helps-6-million-poor-families-through-microfinance-a00200-20181129>

7. Wood, J. (2018, November 07). *How ducks are helping Bangladeshi farmers cope with cyclones*. Retrieved from: <https://www.weforum.org/agenda/2018/11/how-ducks-are-helping-bangladeshi-farmers-cope-with-cyclones/>

8. World Economic Forum. [WorldEconomicForum]. (2018, April 23). Japanese farmers are using ducks instead of pesticides. Retrieved from: <https://www.facebook.com/worldeconomicforum/videos/japanese-farmers-are-using-ducks-instead-of-pesticides/10155296846296479/>

9. Summers, J.K. & Vivian, D.N. (2018, August 03). Ecotherapy – A Forgotten Ecosystem Service: A Review. *Frontiers in Psychology*, 9:1389. doi: 10.3389/fpsyg.2018.01389. Retrieved from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01389/full>



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