



Ecology Action in 2019-2020



A Proposal to Further Our Work:
*Education, Training, Research and Outreach
in GROW BIOINTENSIVE Sustainable Mini-Farming*



"Jeavons' [GROW BIOINTENSIVE sustainable mini-farming] approach has done more to solve poverty and hunger and misery than anything else we've done."

— Former US Secretary of Agriculture, Bob Bergland, Member of the Ecology Action Advisory Board

Ecology Action

Ecology Action, a 501(c)(3) non-profit, is entering its 48th year as a sustainable agriculture resource for the U.S. and the world.

Since 1972, Ecology Action has developed and tested the GROW BIOINTENSIVE® Sustainable Mini-Farming approach: a low-tech, biologically intensive food growing system that uses simple methods based on sophisticated science. The low-cost and non-polluting process maximizes agricultural yields, builds soil fertility, and minimizes inputs of water, energy, and fertilizers.

The GROW BIOINTENSIVE (GB) method empowers people worldwide to provide sufficient nutrition for themselves, their families and their communities, while protecting the environment. It accomplishes this through use of compost—made from plant materials grown on-site along with the food crops—which rebuilds and maintains soil fertility, creating a “closed loop” regenerative food-and-soil growing system that makes the use of chemical fertilizers and pesticides unnecessary.

In the almost five decades since its inception, Ecology Action has catalyzed programs that are helping to secure food sovereignty on a local-global level. Our work continues today, not only to strengthen programs already in place, but to develop and expand programs that will take us into the future.

The primary component of Ecology Action’s mission is to initiate and increase access to education and training opportunities in sustainable food production in communities here at home and around the world. We accomplish this through publications, workshops, internships, apprenticeships and, increasingly through online training and learning opportunities. **The result: people in over 150 countries around the globe are using the method in virtually all climates and soils where food is grown.**

Our international partner organizations are working in Latin America, Africa, Europe and Russia and **we act as a catalyst, fiscal sponsor and technical adviser for numerous programs and projects in these and other countries.** As a result of these relationships, we estimate that over two million farmers in Kenya have been exposed to Biointensive, and over three million individuals are using these practices in Mexico and Latin America as well. And the numbers continue to grow.

In 1982, Ecology Action moved its headquarters from its original 1972 site in Palo Alto to the hills above Willits, California, now known as **The Jeavons Center for Biointensive Research and Education (TJC)**. We also have two satellite Mini-Farms: **Victory Gardens for Peace (VGFP)** near the coastal town of Mendocino, on property loaned by the eco-resort Stanford Inn by the Sea (produce from GROW BIOINTENSIVE garden is served in the resort's vegan restaurant); and the **Golden Rule Mini-Farm (GRMF)**, just south of Willits.

TJC is the home base for GROW BIOINTENSIVE activities worldwide. In addition to hosting internships and apprenticeships, we provide online training tools, print and electronic publications, maintain communication with GB colleagues worldwide, act as fiscal sponsor for well-established projects, provide quality assurance for the GB system overall, and provide support, inspiration, mentoring and technical assistance to GB practitioners around the world.

VGFP is conveniently located for easy public access and serves as our primary demonstration garden with its 200 growing beds, seed bank, and site for tours and classes. Activities at the site include hosting US and international internships and apprenticeships, ongoing GB research, and our popular 9-Saturdays GB course series.

GRMF site maintains a 10-bed Biointensive demonstration garden and hosts our popular 3-Day GROW BIOINTENSIVE Workshops.

Each of our sites have different climatic and soil conditions, providing a variety of environments for our continuing research into the effectiveness and sustainability of the GROW BIOINTENSIVE system across a spectrum of situations. The comparison of the different sites provides an excellent basis to increase the applicability and adaptability of the method for use around the world. Hundreds of interns and apprentices have been trained at these sites, with most going on to establish GB projects of their own.



The GROW BIOINTENSIVE Research and Demonstration Mini-Farm at Ecology Action's Headquarters (The Jeavons Center, Willits, CA,)

The Need for the Program and Ecology Action's Global Activities

The challenges facing the world's agricultural ecosystems are intensifying, and the situation for small farmers and their communities is changing quickly.

The major challenge we face is climate change, with its increasingly severe impacts: droughts, floods, heat waves, forest fires, insect migration and unpredictable seasonal fluctuations, all of which present an ongoing threat to food yields in countries around the world—including the US. Other factors impacting food security and social stability include government subsidization of industrial agriculture, the depletion of agricultural soils, the promotion of the practice of growing food for export, and a global economic paradigm that is forcing more people into poverty and despair. The result is that food for local consumption becomes scarce due to export, prices rise drastically, limiting food access for those at the bottom of the income scale, drawing them into a downward spiral of poverty, malnutrition, and starvation. Unsurprisingly, food scarcity contributes to serious social unrest and conflict, which we are seeing in many places around the world. As generations of small-scale food growers have been dispossessed by the rise of industrialized agriculture, they have lost the traditional food-growing skills and knowledge of the land honed over centuries by their ancestors. These skills, if reawakened, could quite literally make the difference between life and death for those living in poverty. What is needed are simple, sustainable, *accessible* whole-systems solutions that empower everyone, everywhere, to grow soil, food and community.

Ecology Action's primary purpose is to address these challenges by creating a GROW BIOINTENSIVE food-raising safety net, empowering people worldwide to meet their own food needs by re-learning necessary farming skills before global agricultural, financial and environmental challenges become insurmountable. Our publications, classes, workshops, internships, apprenticeships, and free online training resources focus on meeting these needs. As the world situation intensifies, we are responding by honing our programs to help spread the GB method of food growing even quicker and to a greater number of people. **Our goal is to catalyze people everywhere to be proactive in growing their own soil, food and thriving ecosystems.** Our role is to be a source of inspiration, information and technical assistance, with the number of long-term staff we have attracted playing a key part in our ability to do so.



"...we can transform the current global challenge to a situation of abundance — of enough for everyone."

*— John Jeavons,
Director, Ecology Action*



2019 Activities:

The Jeavons Center

After a fallow season and staff reduction in 2018 as a result of funding shortfalls, The Jeavons Center is once again thriving, with the recruitment of a strong administrative team and a fully staffed mini-farm, which is growing grains, vegetables, and compost material once again. Recent activities include a successful search to hire a Garden Manager and locate a potential Assistant Garden Manager for TJC.

In 2019, work at TJC includes completion of a design for a unique “smallest footprint” garden: **The 10-Bed Unit (10BU)** with 1,000 square feet of planted surface and the potential to grow a complete balanced diet for one person annually — and with the same crops, grow all the necessary compost materials to build and maintain soil fertility. Providing a full diet and compost in such a small space is a breakthrough in sustainable farm design, and when further developed, this 10BU design represents a powerful tool that can help people in very poor growing conditions avoid starvation. The goal in 2019-2020 is to have several 10BUs growing at The Jeavons Center Mini-Farm with the same design, but in different micro-climate areas and soils to see how it produces under different conditions. This project complements work on a 10BU already in progress at VGFP.

In April, our team was joined by **Assistant Mini-Farm Manager Melvin Castrillo**. Born in Nicaragua, now a US citizen, Melvin brings 54 years of life experiences in two countries, an agricultural background, and a skill for working well with people and finding practical solutions to challenges. He is bilingual, and frequently assists in translating at TJC.

Our 8-month interns also started the 2019 season at TJC in April. From **Nicaragua**, we welcome **Ana Lucia Cantillano**, a successful videographer and community leader, and **Marcia Suarez**, who has established two successful GB sites in Nicaragua in connection with the international NGO Blue Energy. From **Kenya**, **Fredrick Onyango**, Lead Teacher from G-BLACK, Ecology Action’s international partner for



Ecology Action's Golden Rule GB Demonstration Mini-Farm Site, in full bloom



Workshop participants tour The Jeavons Center mini-farm

Africa. Each intern is responsible for establishing and tending a 10BU according to the design discussed above, plus four additional growing beds of their own design, for a total of 14 beds each. They grow food, and compost crops, which are composted and used to maintain soil fertility in a closed-loop system. In June, the Interns were joined by **3-Year Apprentice, Ike Enharo**, son of a former Alan Chadwick Senior Apprentice, with degrees in Asian Studies and Theology.

In September, Director John Jeavons gave a presentation, *"Food for the Future: Now"* in San Francisco at the **Soil Not Oil Conference**, and in Santa Rosa, CA at the **National Heirloom Exposition**. Both lectures were well-attended and good questions led to better understanding of the importance of growing food, soil and ourselves as the "World's Most Important Resources". John was also featured and interviewed on **The Urban Farm** podcast, which has a global reach, and was recently interviewed by **Popular Mechanics** magazine about GROW BIOINTENSIVE practices and how they can help alleviate climate change.

Thanks to our funders, we can provide up to \$6,000 of funding per project to support selected GB demonstration and outreach initiatives proposed by some of our 2019 8-Month Interns:

- **Ana Cantillano** will create a documentary on GROW BIOINTENSIVE to motivate GB practitioners and small farmers in Latin America. She intends to submit the film in 2020 to the world-famous Sundance Film Festival – if accepted, the film could further interest in GB globally.
- **Marcia Suarez** will upgrade her existing GB project in terms of the teaching programs provided at her sites in Nicaragua. Funding from Ecology Action will allow Marcia to focus on her duties as program administrator and GB teacher, unhindered by having to work a second job.
- **Fredrick Onyango** will establish a GB Mini-Farm Demonstration/Research site in western Kenya to serve as one of G-BLACK's 40 satellite centers. G-BLACK's goal is to establish these centers in every province, and to have all Kenya's farmers aware of or using GB by 2030. Fredrick's project will further that goal and help ensure good quality control and provide data points on the spread of GB in the region.

- Ecology Action hosted two **3-Day Workshops in March and November at the Golden Rule Mini-Farm (GRMF) site**; each workshop was attended by about 40 participants from across the country and around the world. The November workshop participants included **G-BIACK Directors Samuel and Peris Nderitu** and their children Annette and Keith, as well as **James Christie Fougere and Sharon Coombs, Directors of the Kootenay Society for Sustainable Living in British Columbia**.
- **Booklet #39** *GROW BIOINTENSIVE: A Pattern for Feeding the World – A 46-Year Perspective and a Plan for the Next Decade* was published online at growbiointensive.org/ePubs in 2019.
- The **Kiswahili translation of *How to Grow More Vegetables*** and the **updated Spanish translation** were both completed and published online at growbiointensive.org/ePubs in 2019.
- Ecology Action is **mentoring farm leaders, giving technical advice for key projects and programs worldwide and is channeling funds to several**. For example, in 2019:
 - ✓ We sent funds to our partner organization, **ECOPOL** (*Ecología y Población*, biointensivistas.ning.com) on a monthly basis and had ongoing communication with its director Juan Manuel Martinez to promote quality assurance for the GB method, the teacher certification progress, and other important issues affecting GB programs in **Latin America**.
 - ✓ Former EA interns Samuel Nderitu and Peris Wanjiru Nderitu, co-directors of our partner organization **G-BIACK** (GROW BIOINTENSIVE Agricultural Center of Kenya, g-black.org) in **Kenya**, received assistance with farm and education data reporting and administrative techniques from Ecology Action, as well as fiscal sponsorship (channeling funds to them from other sources to support their ongoing GB education programs).
 - ✓ In **Senegal**, former EA intern Lamine Diawara (**Oasis GROW BIOINTENSIVE**, oasisgrowbiointensive.org) is teaching GB in a three-year University Master's Program. Ecology Action provided him with technical support and publications.
 - ✓ James Christie Fougere and Sharon Coombs, 2016 interns from **Canada**, receive monthly technical assistance and mentoring by phone, text and e-mail for their demonstration, teaching and research Mini-Farm **The Kootenay Society for Sustainable Living in British Columbia**, and their globally relevant website (growsustainability.org).
 - ✓ We sent Mlesh Elijah, former EA Intern from **Kenya**, direct support in 2019 for his **Garden of Hope** project, as well as channeling funds to him from other sources. We have also created a crowd-sourcing page to raise additional funds for his project, at <https://donatenow.networkforgood.org/gardenofhope>.
 - ✓ See more about our Latin American and African projects under "Key International Activities."

Our work is having a positive impact in far-flung corners of the world, and the ripples spread from each interaction. As we enter our 48th year of helping empower people to plant sustainable, regenerative, biologically intensive gardens wherever they are, we have two primary focuses: localizing the GB system to be as adaptive as possible to different climates and cultures, and improving online teaching tools to spread GB as widely as possible.

Victory Gardens for Peace

The Victory Gardens for Peace 220 Bed Mini-Farm continues to be active, with a focus on training interns and apprentices, saving seeds for the seed bank, and growing flowers and vegetables for Raven's Restaurant, a vegan, organic restaurant on the site of the Stanford Inn-by-the-Sea, (the 5-star eco-resort where VGFP's gardens are hosted). The mini-farm serves as a perfect location for workshops and tours; the beautiful site provides an impressive and very public example of the successful results that can be achieved with GROW BIOINTENSIVE.

In 2019, Matt trained a new Assistant Garden Manager Sydney Grange in an eight-month internship, as well as two 8-Month Interns: Camila Guerrero from Chile, who plans to develop a small GB demonstration, education and research site of her own; and **Ariel Pinto**, also of **Chile**, who plans to establish an organic school garden, combining Mapuche Culture, permaculture and Biointensive farming techniques. A third intern, **Elena Torres from Puerto Rico**, completed her studies with VGFP in August and went on to pursue an independent research project in sustainable agriculture through the Fulbright U.S. Student Program in Brazil.

VGFP hosted the 29th annual 3-Day Teacher Workshop in August, which was taught by John Jeavons and Matt Drewno. To date, we have taught 136 participants from 19 states, the District of Columbia and 25 countries at our Teacher Workshops. **VGFP also held two "9-Saturdays" GB training courses** which run concurrently with the summer/fall internships to allow local participants the opportunity to study GB without enrolling in a full-time internship. The first course focused on *Basic GB Principles*, and the second on *Complete Sustainable GB Mini-Farm Design*, with a total of fifteen students between the two courses.

Under Mini-Farm Manager Matt Drewno's supervision, **the 10-Bed Unit Project, now in its third year of development and data collection at VGFP, continues to make progress.** **Booklet 38** *How to Approach and Grow a 10-Bed Complete Diet Plus Compost Materials Growing Unit* is in development and should be ready for publication in February 2020.



Staff and interns participated in the 29th annual GB Teacher Certification Workshop

The **Victory Gardens for Peace Seed Bank** held seed exchanges at Mendocino County farmer's markets in May and October. **The VGFP Seed Bank has collected and conserved over 600 seed accessions to date.** VGFP participated in a film project with videographer Matt Anderson: a **9-part documentary** based on the 8 Essential Elements of GROW BIOINTENSIVE, with participation of GB practitioners from all over the world (funded by Patagonia, Ecology Action, and Cynthia Raiser Jeavons). The segment with VGFP is entitled "*Seed Saving.*"

The Victory Gardens for Peace "Garden Friendly Community Resolution" successfully developed and refined a declaration of the importance of sustainable gardening for the health, beauty, and resilience of a community. At a City Council meeting in Fort Bragg, CA (on the Mendocino Coast north of VGFP) in July, Matthew Drewno and VGFP Assistant Mini-Farm Manager Sydney Grange presented on a proposed *Garden Friendly Community*. They recognized the resources already present in our Fort Bragg, identified important benefits from gardens, and provided a map of potential garden spaces in the city. **On September 9, 2019 the City Council adopted the resolution supporting Fort Bragg as a Garden Friendly City,** encouraging the community to organize a garden friendly community committee, and declaring Fort Bragg as the first garden friendly community in the world. The goal of the project is to have all towns and cities in Mendocino County pass similar resolutions in the next five years.

In a closely related project, Victory Gardens for Peace is developing a new GB training program called "GardenCorps". The concept is to train teams of individuals to become GB farmer-leaders in their communities, with a pattern for engaging community leaders, neighborhood leaders, and backyard gardeners. Each group would participate in GB training programs held at VGFP: community leaders would complete the 8-Month Internship program; neighborhood leaders would participate in the 2-Month Internship program; and backyard gardeners would attend a 3-Day GB Workshop. **The model is being refined, and a coastal town just south of VGFP is already expressing interest in the program.**

Matt Drewno participated in the **U.S. Seed Library Summit** in February as well as the **National Heirloom Exposition** in September. In a recent article for our newsletter, Matt movingly wrote, "*If I had to sum up why I have hope, it's because in learning to grow my own food sustainably I have discovered that I love doing the work. In discovering this love for doing, I have witnessed my perception of the world around me transform.*"



Newly planted GB garden beds at the Victory Gardens for Peace Mini-Farm site in Mendocino, CA



A GB Workshop at G-BIACK with representatives from farming communities and NGOs in the region

Africa Outreach

GB continues its steady expansion in Africa. In **Kenya**, husband and wife team Samuel Nderitu and Peris Wanjiru continue work at their **GROW BIOINTENSIVE Agriculture Centre of Kenya (G-BIACK)**, in Thika, near Nairobi. Since 2008, G-BIACK has trained over 15,000 farmers and interns from all over Africa and beyond, and started a seed bank, storing and offering seeds to the community and teaching farmers to use and save open-pollinated and indigenous seed varieties well-suited to the local climate and culture. Samuel says that in his father's time, before the introduction of chemical-industrial farming practices and a western diet, the average lifespan in Kenya was 70 years; now, it is 40 years. However, Kenyan farmers say their health improves when they use GB practices, because they grow and eat nutritious, indigenous, organic food. The impact of G-BIACK's work has been great – we estimate that over 3 million people are practicing GB in Africa as a result - and we are looking forward to continuing our partnership with G-BIACK to promote GB education, networking, and dialog across the region.

G-BIACK's satellite farm pilot program, developed in 2016, is a success. There are currently **28 Satellite Centers in operation**, with the goal of having at least one satellite center in each of the 47 Kenyan provinces, and all of Kenya using (or aware of) GB by 2030. Fredrick

The GROW BIOINTENSIVE method can be used by many different groups of people, including women and the elderly, because it is a low-impact method in terms of labor, and gives a large return for a small amount of work on a small piece of land.



Participants in G-BIACK's Girl's Empowerment Programme

Onyango, G-BIACK's lead teacher, is currently finishing his 8-Month Internship with Ecology Action in California at TJC and will establish the 29th G-BIACK satellite center, in western Kenya, next year. Frederick is committed to becoming the first Basic-Level Certified GB Teacher in Africa. 2 years ago, Samuel and Fredrick traveled to **Ghana**. Together, they created the design for a 40-bed unit at **Unity Ecovillage** and trained its staff people. Samuel returned to Kenya after spending a week with the project, leaving Fredrick on site for 7 months to help establish the GB beds and train the farmers. He taught an estimated 3,000 people that year.

G-BIACK began a 3-year project (2019-2021) known as *"Scaling up GROW BIOINTENSIVE agriculture and environmental conservation for sustainable livelihoods within Eastern and Central provinces."*

The goal is to reduce extreme poverty and to improve livelihoods in communities within these provinces through capacity building, training and education, with the aim of increasing GB food production and building community resilience to climate change. Although focused on the more disadvantaged Eastern and Central provinces, the project also embraces farmers from other provinces who are willing to learn and practice GROW BIOINTENSIVE. Currently, G-BIACK is working with ten communities in the two provinces: two in Muranga County, four in Kiambu County and four in Machakos County; the aim is to reach 5,000 farmers within a period of 3 years. Indigenous seed-saving and seed production is part of this project. Farmers are expected to learn and eventually adopt seed saving as a part of their agricultural practice, and in the end establish seed banks within their communities to promote independence, resilience and food security.

G-BIACK has established GB gardens in connection with over 70 schools and orphanages, projects that are dear to Samuel and Peris' hearts and are of vital importance to the region. The AIDS epidemic has ravaged Kenya, and millions have been orphaned, sometimes raised by grandparents, but often with the responsibility of raising younger siblings themselves. Malnutrition is endemic among these children, both from a lack of food, as well as low-quality food that does not provide enough nutrition to maintain health. The gardens that G-BIACK catalyzes in schools and orphanages provide much-needed high-quality food for the orphans, students, teachers, and caregivers, as well as teaching them the all skills they need to grow that food for a lifetime.

G-BIACK has been especially effective at teaching marginalized and vulnerable young women to use and teach GB, and also to learn other economically viable skills such as sewing, accounting, and computer skills, so they can grow nutritious food as well as earn a small income. One of G-BIACK's most cherished projects is the **Girls Empowerment Programme (GEP); in 2019, G-BIACK was able to fully train 80 young women in GROW BIOINTENSIVE techniques.** These girls have taken a one-and-a-half-year course in GB and are now in their communities implementing this technology – often in schools and orphanages.

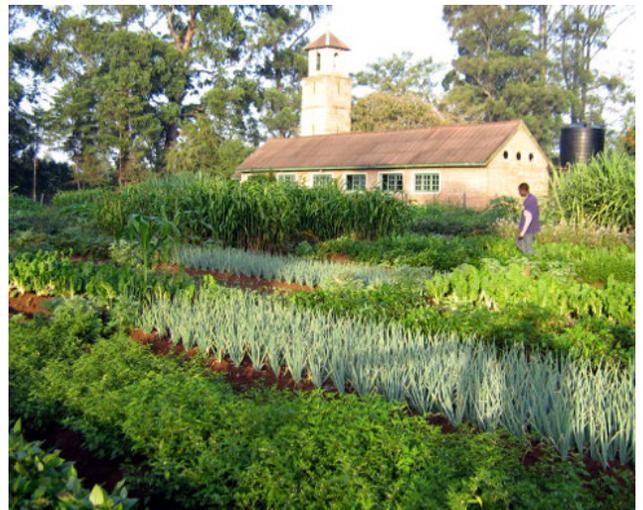
In 2019, G-BIACK of Kenya trained 1,920 farmers from ten communities. This is the first level training which is offered to all the new farmers who join G-BIACK for the first time. Level two of the training focuses on food production, value chains and marketing. Week-long workshops were held in different villages within the communities in which participants were taken through a thorough training program in GROW BIOINTENSIVE. Groups also travelled to G-BIACK to learn more about GB practices, where trainings would run throughout the day. **In total, G-BIACK held 28 workshops in all the communities with an average of 70 farmers per training session. They expect to hold 5 more workshops that will target about 300 farmers before the end of December 2019. G-BIACK will have trained close to 2,100 farmers by the end of 2019.**

After the training, G-BIACK staff spends at least four days per week in the field, helping farmers to implement the new techniques. G-BIACK insists as part of its program that each farmer must be visited at least once per month to ensure that they are correctly using the methods on their farms. This is an excellent example of how our partner organizations help maintain quality control in the GB method.

12 inter-community exchange visits were made between January and September 2019, in which each newly contacted community visited a community where GB is already established to learn from them. The participants visited the farmers who have benefited most from employing GB techniques in their own gardens. This “farmer-to-farmer” training approach is very successful, and provides for a wider lateral spread of the method.

Also in **Kenya:**

Boaz Ogollah, a 2008 EA intern, continues to teach Biointensive farming to struggling African farmers, students, prisoners, and refugees. In 2019, the Canadian NGO, Organics for Orphans attempted to sell the property on which Boaz has worked for 8 years, but Boaz went to court to defend his program. Unfortunately, this took time away from his valuable work. However, he persevered, and networked with other organizations to support small-scale farming and improved nutrition and income, forming ties with **World Vision** (distributing water tanks to the communities and schools Boaz has worked with over 8 years) and the **East/Sub-Saharan Africa Safe Foundation.** In October, Boaz gave a 3-Day GB workshop in on **Lake Victoria, the source of the Nile River.** The Kolunga Village Foundation wanted to support small-scale food production already



Boaz' beautiful GB Demonstration Garden

taking place at the site by introducing Biointensive practices to improve soil health and productivity. The long-term goal of the site is to serve as an agroforestry tree nursery (in development) with a small demonstration plot, offering multi-use tree species for the region such as Moringa. Boaz specializes in agroforestry as well as GB. The workshop established a GB Mini-Shamba (Mini-Farm in Kiswahili) at Kolunga Village, with Village Foundation members and volunteers attending. Participants pledged to develop 20 GB beds for food and compost production, and Boaz is taking an additional 20 to make it a full 40-bed GB demonstration unit. Boaz returns in November for follow-up.

Mlesh Mlegwa , a 2016 EA intern, is the director of the grassroots, non-profit Community-Based Organization **Garden of Hope** (GOH, <http://gardenofhopekenya.org/>) in Taita-Taveta County. With 24 double-dug beds planted in the GB 60:30:10 crop design ratio, with site-grown compost enriching the soil, Mlesh plans to begin construction on office/student housing at the end of 2019—they have dug the foundation for the building and are gathering resources for building materials. Now in its 3rd season, GOH conducted tests for crop timing, productivity, and cost-savings for family food-gardening. In 2019, GOH hosted two **UN-FAO** staff, seven **IGAD** staff, one soldier from **Kenya Defense** forces, an area chief, several church leaders, two **Kenyan Ministry of Agriculture** staff, the **Kipalo Lodge** manager, a 3-month intern from **G-BIACK**, a 1-month intern from the **EU**, and 4 **Italian** volunteers. **Activities included workshops for 580 participants in Ngolia ward, establishing a school garden in Mbulia, hosting the 'A Voice for a Hopeful Garden' weekly radio program, and participating in the Taita Taveta County Cultural Festival and the County Agricultural Show, Mlesh and GOH staff participated in a two day educational tour to BEACON of HOPE in Rongai, Ngong and GBIACK in central Kenya.** In May, GOH was invited and attended the IGAD-ICPAC regional meeting of the Greater Horn of Africa Climate Outlook Forum and a workshop on building a regional climate information system for climate change adaptation in **Ethiopia**. Mlesh participated in a 2-week Training of *Facilitator in Farmer Field School Methodology and Climate-Based Participatory Community Adaptation Planning* program for Taita Taveta County, and GOH was identified as one of the community-based organizations promoting *Climate Smart Agriculture* emphasizing resilience, production and conservation



Mlesh created the vibrant and thriving GB Garden of Hope in drought-stricken Taita-Taveta County, Kenya.

In **Senegal, Fatou and Lamine Diawara**—both former EA interns—Program Coordinator and Director respectively of the **Fankanta GB Demonstration Garden** near **Dakar**. Last year, Lamine began teaching a 3-year GROW BIOINTENSIVE agriculture course at a private university vocational institute (www.ecolesdudeveloppement.com), designed for students at the masters level; this year he trained 9 students at the Senior Technician level. In addition, Fankata trained five students from a private university, two groups of students from the **Mboro International Vocational Centre** (17 as agroecological field agents and 16 as Senior Technicians), and a farmer from Guadeloupe who is based in Senegal. Fankata developed partnerships with **Corps Africa** (training 25 young student volunteers as community resources) and **Taaru Aksan**. The 4th annual meeting in April, and “Camp December” at **Nguekhokh** continue to attract more people to learn the GB method. EA provides technical support to these efforts, such as answering questions about the role of mobile and non-mobile nutrients in the soil and providing key teaching texts on soils.

In **Malawi, Ephraim and Charity Chirwa**, the brother and sister team who interned at G-BLACK about 5 years ago report that their GROW BIOINTENSIVE PROJECT in Mzuzu has trained thousands of people, and they are now implementing an ‘*Empowering Rural Poor in Malawi*’ Project in **Mzimba**. The project area has 4086 farming families; out of these households the project is targeting 2380 farming families, and has four goals: 1) Increased household GB food production and nutritionally improved diets; 2) Increased household income for resource poor families; 3) strengthened local development structures leading to improved livelihoods; and 4) empowering people with GB skills and knowledge. This year, 30 lead farmers and 794 farmers have been trained, 27 lead farmers have participated in a farm-exchange visit to see a functioning GB mini-farm, several sites for seed banks have been identified, 376 households have improved access to seeds, 3 tree nurseries have been established, 12 village savings and loan (VS&L) groups have been formed, with 243 female, 82 male members, 39 VS&L facilitators have been trained who are in turn train others, 16 members from ADC/VDCs have been trained in leadership, governance and decentralization issues, as well as GB, 15 women have been trained as gender facilitators, to date 19 meetings have been conducted where gender issues are articulated. All this in addition to their regular farming, teaching, and workshop activities in Mzuzu!! Ecology Action has written proposals for this project funded by the **Buddhist World Relief Foundation**, and will continue to do so in 2019.

Latin America Outreach

Ecología y Población (ECOPOLO) was founded by **Juan Manuel Martínez** in 1992 after he trained with John Jeavons at Ecology Action, and received the first Spanish translation of *How to Grow More Vegetables*. Juan implemented GB in a rural development project he was conducting for the Mexican Department of Social Security; he was so inspired by the results that he retired from government work and embarked on a career focused on spreading GROW BIOINTENSIVE across Mexico. Ecology Action has partnered with ECOPOLO since its inception, and ECOPOLO representatives have come to act as GB ambassadors across Latin America and Europe.

Juan’s work has reached millions of people throughout Latin America and Europe, and he has travelled to all 42 countries in Mexico, Central America, the Caribbean, and South America, plus at least five European countries. He has smoothly incorporated four key infrastructures in his GB work: farmers, the university system, NGOs, and Federal and State governments. He works equally well with *campesinos*, *technicos*, *academicos* and *politicos*, and has been able to reach an incredible number of people as a result. His dedication to and enthusiasm for GB and for helping rural populations is infectious and inspiring.



ECOPOL, like so many organizations helping underserved communities, hopes to one day work itself out of a job, yet, because of rapidly expanding need, this will not happen right away. Now, Juan reports, *eighty percent of the population of Mexico is struggling just to secure the calories it needs survive.*

In 2019, we expanded our financial support of ECOPOL to fully fund Juan's well-deserved salary, and to fund full-time salaries for Marisol Lopez Tenorio and Agustín Medina, two former Ecology Action interns (2006) and long-time ECOPOL associates who have been active in Juan Manuel's work while employed with the Mexican government and at a university.

Marisol, formerly a judge for the Aguascalientes State Office for the Protection of the Environment, has held the position of Executive Assistant to the Director of ECOPOL for several years; she is a Master-Level Certified GB Teacher, and has a master's degree in GB seed production. **Agustín**, formerly a college professor, worked with the Aguascalientes State Institute for the Environment; he is a Master-Level Certified GB Teacher with an advanced degree in Soil Science. In addition to their wide-ranging work speaking at conferences and running the ECOPOL's GB Teacher Certification programs in Latin America and Europe, Marisol and husband Agustín co-direct their own GB demonstration/training garden and NGO *El Mezquite* in **Aguascalientes** state.

At the end of 2018, Juan Manuel made his first trip to Chile, visiting that country for the first time and completing his goal of establishing five core hubs throughout Latin America, going north to south. The whirlwind, four-week tour through Chile included four workshops, three conferences and a seminar, six talks and visits to thirteen garden sites. Juan reported to us that Chile is ripe with *Bio-intensivistas*; there are 17 people going through teacher certification workshops there this fall, and many communities and schools are setting up gardens.

In 2019, ECOPOL achieved a longtime goal of certifying 100 GROW BIOINTENSIVE teachers. Certified Teachers have their own GB garden sites where they hold workshops and training programs of their own, as well collecting data to contribute to Ecology Action and ECOPOL's research programs, and for the continued refinement of the method in different soils, altitudes and climates. Certified GB Teachers have demonstrated that they have the skill to teach GB effectively enough so that those who learn from them can teach others to use the method correctly. Through this farmer-to-farmer training network, ECOPOL directly and indirectly reaches over 300,000 people each year. **In 2019, over a dozen workshops were held in Latin**

America and the Caribbean including three training workshops with over fifty participants.

Agustin and Marisol greatly expanded ECOPOL's reach into Europe this year, holding several workshops in **Italy** and **Spain**, certifying teachers in Spain, and setting up dozens of GROW BIOINTENSIVE gardens there. It is exciting to see this kind of rapid growth, and Augustín and Marisol are planning a lot of future work in Europe, having made good connections there.

ECOPOL continues to assist Ecology Action in an ongoing project to develop protocols for GB cultivation in arid land. In a world facing water shortages and increasing desertification as a result of climate change, this work represents an important tool for small-scale farmers to fight hunger, poverty, and environmental degradation where it is most needed. When complete, the protocols will be made available to the public in as many languages as possible.

ECOPOL coordinated with Ecology Action to make progress in the Soil Sustainability Research Project, which seeks to determine whether it is possible to reduce the area needed to grow all the food and compost crops grown for an individual's annual diet down to 2,000 square feet or less. To further this project, Augustín and Marisol completed the data collection and reporting protocols. There are over a dozen independent garden sites which are participating in this project and sending ECOPOL data, and now they will all be taking the same measurements and filing the same reports. This will not only make managing the data an easier task, but help to ensure synchronization, consistency and accuracy across all the sites. As populations grow and agricultural soils are depleted across the world, this project will help marginalized people grow complete, sustainable diets in a very small area, while simultaneously building and maintaining soil fertility.

ECOPOL is also collecting data from these research sites on common tropical food crops for inclusion in *How to Grow More Vegetables* master charts. The goal is to add these crops to the Spanish translation of the book (as well as an addenda for each translated version of HTGMV in electronic format), including information on the most nutritious crops to grow, timing for seeding and planting, cultivation specifications, and how to achieve optimal yield while conserving water, land and purchased fertilizers.



*Participants from Italy, Spain, Bolivia, Chile, Mexico, and Africa at a ECOPOL/EI Mezquite GB workshop in Bergamo, Italy
Agustin in black vest, left. Director Juan Manuel in white shirt, center. Marisol in green striped sweater, center.*



Participants practice double-digging at an international workshop taught by ECOPOL/El Mezquite at Pachamama in Costa Rica

HTGMV's existing Master Chart crop lists, while hugely informative for temperate regions, do not include many tropical crops. ECOPOL is assisting with updating this valuable resource to fill that information gap, making the method more inclusive of tropical zones.

Because ECOPOL was not an officially recognized NGO in Mexico, even though they work closely with several government organizations, they were unable to apply for some types of grants. For the past several years, one of the critical goals that ECOPOL has worked to accomplish is the successful legal merger of their organization with Augustín and Marisol's *El Mezquite*, which has official NGO status with the Mexican government. The bureaucratic process was lengthy and difficult, but in 2019, **the merger between ECOPOL and *El Mezquite* was accomplished, and for the first time ECOPOL will be able to seek out funding from its own government as an officially recognized NGO.**

Juan remains Director of the ECOPOL and the new NGO, and as such directs the momentum and all operations of the organization. This involves planning talks, workshops, and garden site visits, and keeping in contact with other "*Biointensivistas*," as well as national and local officials. Juan holds an important place in the Mexican food sovereignty movement, and each year receives more and more invitations to speak at various conferences and in universities.

ECOPOL is actively involved in the creation and support of several young seed-saving and distribution organizations, such as the Mexican Network of Seeds, and the Continental Network of Freedom Seeds. Going forward these groups hope to be instrumental in implementing national agricultural and trade policies.

Juan Manuel reports that ECOPOL recently had a very positive meeting with the head of the Mexican Environmental Education National Office (CECADESU) which continues to promote GB in the country. ECOPOL is also working on strengthening its connection with the Mexican government via an associate and former Ecology Action intern who has friends working in the new presidential administration. Juan reports that so far, they have been received well, and is hopeful that this connection will help further the spread of GB in Mexico.

Russia Outreach

GROW BIOINTENSIVE for Russia (GBFR) has been doing amazing work with few resources for 30 years. GBFR works with enthusiastic peace activists who see GROW BIOINTENSIVE as much more than a good way to grow vegetables or improve soil fertility. **Dr. Ludmila Zhirina**, one of GB's most ardent Russian supporters, writes, "I appreciate Grow Biointensive and the book of John Jeavons, who has united many people. Biointensive is a conductor of friend-ship, goodness, health and prosperity!"

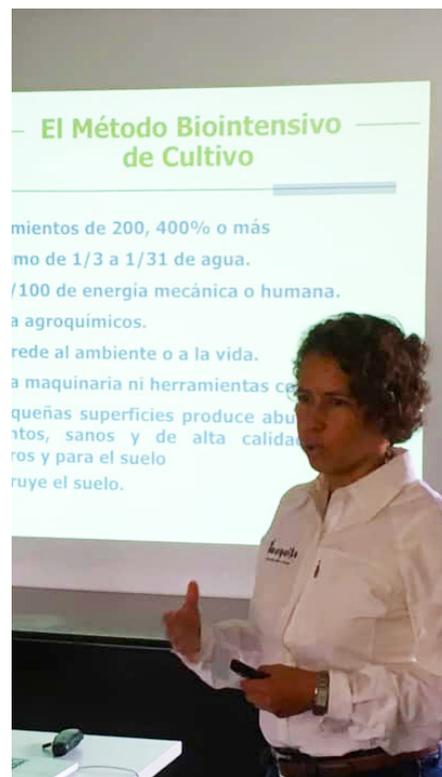
GBFR Director Carol Vesecky reports that in 2019 she monitored the GB activities of Russian colleagues coordinated the personal transfer of \$7,500 GB teaching work (including \$2000 from Ecology Action) to the **NGO VIOLA**, due to Western Union and Moneygram blocking money transfers to Russians. Carol wrote that Dr. Zhirina, Director the the NGO VIOLA, conducted GBFR-funded workshops in seven regions of Russia, as well as in Belarus and Georgia:

February, Voronezh, Waldorf school conference: GB was taught totally indoors, double-digging demonstrated on a marker board. Biointensive mini-farming and Biodynamic farming were compared.

March, Bryansk: Dr. Zhirina attended a conference of Bryansk school principals, many of whom are her former students. At one of the schools an experiment on earthworms is being conducted, based on her book teaching people to use earthworms to help reduce radionuclides in soil in the radiation zone. Minsk, Belarus: Dr. Zhirina and associate Albina Samsonova attended a 3-day IPEN (International Program Evaluation Network) conference of ecology teachers, with participants from Russia, Ukraine, Moldova, and Sweden. The focus was on gender aspects in teaching in IPEN network programs. Ludmila and Albina gave presentations on their work promoting GB to women's groups. Much interest was shown and the two invited other participants to become part of the GB network. Dr. Zhirina described the issue: "In Russia, most often girls and boys, women and men participate in public programs and



Agustin explains how to transplant seedlings at a workshop in Costa Rica



Marisol discusses the benefits of GB at a workshop in Madrid

communicate with each other. But traditionally, family management, growing food, gathering herbs, berries and mushrooms, cooking, making traditional clothes and shoes, and much more are mainly done by girls and women in Russia. Therefore, the Biointensive program needs to create certain methods of working with women's groups. We have done it in practice, and in the spring of 2019, we have begun to develop gender recommendations theory."

April, Kaliningrad: 3-day conference "Ecosystems Approach for Managing Southeastern Baltic River Basins." Ludmila co-presented GB with Dmitry Philippenko of the Clean Baltic Coalition and two local teachers. There is a lot of concern in the area with radiation contamination in the soil, and Dr. Zhirina makes it clear that for poor families and schools in contaminated areas, GROW BIOINTENSIVE is the most appropriate growing method to use, as it helps reduce the toxins taken up by the plants.

May Ludmila visited the **Bryansk oblast' Chernobyl radiation zone** districts of **Novozybkov, Krasnogorsk, and Klintsey** district three times during the spring. This year marks 33 years since the Chernobyl disaster. She regularly monitors the area for radiation. Ludmila noted increased suicide, diabetes in children, heart disease, and many types of cancer. It is rare for residents to live beyond the age of 50. Teachers may not run school gardens, but some use GB near their apartments and teach students there.

June, ten cities and villages in the Yaroslavl and Vologda regions, 3rd year of visits. **Yaroslavl:** Irina Kapralova and Nikolai and Irina Poluektov have taught at the Palace of Culture and at the Poluektov dacha for three years. Sarafovo and Kirillov: Marcus Hipp, Biodynamic farming teacher from **Germany**, now lives and teaches there and in other locations and follows GB composting and companion planting practices. **Danilov:** Sergei Kovalev built six long compost piles by the GB method and practices double-digging and companion planting. **Prechistoye:** Sergei Skiba teaches GB along with guitar lessons. Double-digging and composting helps with drainage in wet soil. **Semenovskoe:** Teachers have been practicing Biointensive for three years, growing vegetables for the school cafeteria. **Yuryevskoe:** At the Skibas' first farm, Vasilisa Skiba and Ludmila had double-dug four beds in past years (with great effort in the heavy wet soil); Irina Skiba planted berry bushes there. She is applying for organic certification for strawberries. **Menchakovo** (location of Skibas' new nonprofit, *Legend of the Russian Estate*): A fence was built and flower beds were planted. **Koza:** Anya Tsepilova, who moved there from **St. Petersburg**, planted a model GB garden at her home and a food forest 5 km away, and 12 double-dug beds at the school. **Vsesvyatskoe:** Olga Voronova uses art and puppetry to teach GB and share the Russian *How to Grow More Vegetables*. **Kukoboy:** Ludmila and her team presented GB to more than 350 people during a local festival, attracting signups for classes to be held in the autumn.

August, Yuryevskoe (Yaroslavl region): Ludmila visited the Skiba training farm where students from a **Moscow** agricultural university were serving an internship in organic farming. The soil is heavy yellow clay, in need of GB compost, so the students built new piles of nettle and grass and spread cured compost from the piles up 30 meters long that had been built 3 years previously for the autumn green manure of mustard crop. They planted currant and gooseberry cuttings in the composted soil and also in the heavy clay soil, for comparison. They also planted thorny wild rose vines and hawthorn along a fence they built to keep predators away.

September, Kaliningrad. Having also welcomed them at their arrival in Moscow, Ludmila worked with Dmitry Philippenko of the Clean Baltic Coalition to host citizen diplomats Mike and Katherine Metz and Renee Rieser (from Los Gatos CA and Alaska). A short workshop on double-digging and compost was presented, followed by tasting delicious tomatoes and melons grown in a greenhouse with GB compost. (It is rare in Kaliningrad to get ripe melons, even from a greenhouse.)

Yuri Serikov of **Kaliningrad's Ecology Ministry** said that there are large areas near homes and schools with high levels of contamination by heavy metals from roads, factories, and nuclear power plants. Replacement of the top layer of garden soil has been proposed but is expensive and difficult. Dr. Zhirina proposes the use of earthworms to cleanse the soil and has been invited by Yuri to present the topic at the **Russian-German Environmental Day** the city holds.

Late September, Tbilisi, Georgia. Olga Podosenova and Ludmila taught female medical students and teachers from **Georgia, Armenia, and Azerbaijan** who will teach students on how to improve human health by growing organic harvests of vegetables and medicinal herbs by the GB method and by breeding earthworms in mountainous and radiation-contaminated conditions. (Georgia has some areas affected by Chernobyl.)

October, Chernobyl radiation zone. Ludmila Zhirina, her son Stas Zhirin, Albina Samsonova, and Vera Abushek traveled to the villages and gardens where they had helped start experiments in the spring. The soil in these areas has been identified by the government as "clean," and urban dwellers have begun buying previously abandoned lots at low prices. People were trained in GB and the use of earthworms to mitigate residual radiation; they double-dug the heavy clay soil, built compost, attracted earthworms, and planted peas, beans, onions, lettuce, and carrots together.



Dr. Zhirina, Director the the NGO VIOLA, teaches Russian school children how to double-dig a garden bed



The Mini-Farm at the Kootenay Society for Sustainable Living in British Columbia, Canada

Canada Outreach

James Christie-Fougere and **Sharon Coombs** are co-directors of **The Kootenay Society for Sustainable Living** (www.growsustainability.org), which is based near **Kimberley, British Columbia** and focuses on GROW BIOINTENSIVE agricultural methods, earthen building practices, food storing, and beekeeping. James and Sharon were EA interns in 2016 and left our program with the goal of immediately starting their own GROW BIOINTENSIVE research and demonstration center. After procuring a piece of land, the couple (who were also brand new parents) transformed the property into a garden of abundance, growing compost crops to feed their array of double-dug beds, and focusing on short-season crops which grow successfully and yield well in their extremely cold and short growing season.

The Kootenay mini-farm grows abundant leeks, garlic, potatoes, beets and carrots, peas and other legumes, but its focus is grains. **James and Sharon are conducting comprehensive variety trials of different cereal crops, especially barley, and keeping extensive planting and harvesting notes** using the same synchronized cultivation methods and data collection sheets that all international partners in Ecology Action's network use. We have refined the data collection process to ensure accuracy and results which

can be replicated, and The Kootenay Society for Sustainable Living is assisting us with these protocols.

They are also assisting in the **Soil Sustainability Research Project (SSRP)**, to determine the absolute smallest amount of land needed to grow a complete diet for one person for a year. The Kootenay Society is located at such high latitude that their growing season is extremely short; therefore, they are determining the smallest amount needed *in their conditions* to grow the same diet as participants in the SSRP from other climates. They are currently devoting ten beds to the project.

Their unique “Feed a Family” GB-CSA project began last year. Participants sponsor a 100-sq-ft Grow Biointensive bed at Kootenay for \$500, which supports growing and maintaining crops and also supports the research and development of crops and the demonstration of Grow Biointensive principals at the research and demonstration Mini-Farm site. For the entire growing season all food grown in each sponsored bed will go either to a specific family in our community chosen by the sponsor, or to the food bank for distribution, following the sustainable 60:30:10 GB food and compost production standards. Sharon and James hope that, once established, the Feed a Family Project will become a blueprint and foundation for a new kind of community-supported-agriculture (CSA). They plan to “... *lead by example and create the framework needed for more people to grow food for each other. With the right crops and the valuable data we collect we can increase local food security, together!*”

The Kootenay Society offers workshops and tours to the public, where they educate interested groups and individuals in sustainable living practices and homesteading skills, from constructing your own earthen home to growing and preserving your own organic food. **In 2019 they offered monthly tours, weekly workshops, and 3-4 school tours per year, as well as off-site workshops, tabling at farmers’ markets and regional events, and a weekly talk at a local coffee house.**



Sharon and James' son Lincoln, demonstrating that it's never too soon to learn double-digging!



Ecology Action's 2020 Training Programs

Each program described in this proposal began with one of Ecology Action's GB Training Programs. We proudly continue to provide and improve these programs and increase our outreach in 2020.

Workshops and Classes

Three-Day Workshops provide an intensive overview of our 47 years experience with the GROW BIO-INTENSIVE Sustainable Mini-Farming system. Participants learn how to plan a GB garden and grow their own food and compost. February 28 - March 1 and October 30- November 1.

Three-Day GROW BIOINTENSIVE Teachers Certification Workshop participants must have taken the 3-Day workshop or its equivalent. It is scheduled when qualified participants are ready, usually in the summer. Certified teachers can give workshops and train other GB teachers. August 2020.

9-Saturday Courses for people who want to learn more about the GB system but don't have time for an on-site internship. Curriculum is similar to our 2-month internship, but allows participants to complete training while living at home and continuing to work. Two will be offered in 2020: the first (May 30 - July 28) is basic level GROW BIOINTENSIVE work and the second (August 15 - October 10) is more advanced, focusing on farm/garden planning and organization, which helps achieve true sustainability.

Internships and Apprenticeships

Two-Month GB Internships are held on-site at our mini-farms during the summer months to give college students and others field experience with the GROW BIOINTENSIVE method. Curriculum includes basic-level GB training and farm/garden planning and organization. Funding for room, board and tuition required. May 30 - July 28.

Four-Month (May 30 - October 10), Six-Month (May 30-November 28) and Eight-Month (March 30 - November 28) GB Internships with a combination of on-site and online coursework for carefully selected farming-community leaders from around the world, funded by their communities. In-depth GB field training and teacher training provides participants with the tools they need to set up their own GB training site at home and become Lead GB Farmers in their community.

One-Year and Three-Year GB Apprenticeships for carefully selected, self-funded individuals who wish to learn the GB method in depth and experience a simple life style by working and living at one of our Mini-Farms for one to three years. Participants often become Ecology Action GB teaching staff or Lead-Farmer Trainers at other GB sites.

Online Resources

Ecology Action's website (growbiointensive.org)

Self-Teaching Resources (www.growbiointensive.org/Self_Teaching.html) provides basic GB how-to videos in English, with French and English subtitles, as well as our downloadable *Farmer's Handbook* in eight languages - all free of charge.

ePublications (www.growbiointensive.org/ePubs) providing options to purchase and download our Self-Teaching Booklets, other publications, and translations of HTGMV. In progress.

Ecology Action's Educational Portal (www.biointensive.net) with GROW BIOINTENSIVE animation, Classroom and Library. Currently in English. In progress. Pending funding, to be presented in 12 languages, making GB information and skills available to 54% of the world's people in their own languages.

Ecology Action webinars (free and low-cost options, <http://ecologyactiontv.tumblr.com/>) on 17 key topics and growing.

John Jeavons' Action Topic blog (www.johnjeavons.org) including *World of Hope* and special events.



John Jeavons at harvest time in
The Jeavons Center Mini_Farm

2020 Program

The Jeavons Center

- **Present 3-Day Workshops** in March and November which, for many people who start GB projects, is their introduction to the GROW BIOINTENSIVE (GB) system.
- **Present Two 9-Saturday Courses with VGFP**—an 18-day GB Curriculum for people who cannot take a full 2-month internship.
- **Direct the progress of the Soil Sustainability Research Project** taking place at VGFP, at 14 sites in Latin America, and at at least one site each in Spain and Italy.
- **Secure funding** for domestic and international training and research programs.
- **Mentoring:** help former interns start their projects, solve problems, provide quality assurance.
- **Technical Advice and Fiscal Sponsorship:** advise International Partners as requested and channel funds to them monthly, quarterly, or as received—as appropriate for maintaining consistent follow-through and quality assurance.
- **Answer questions** about GB techniques and post them on our FAQ page, growbiointensive.org/FAQ.
- **Complete and publish Booklet 38:** *How to Approach and Grow a 10-Bed Complete Diet Plus Compost Materials Growing Unit*
- **Identify, fund and host several 8-month interns.**
- **Continue to issue targeted monthly press releases to promote GB,** emphasizing its importance to specific groups (homeowners, gardeners, farmers, researchers, policy makers, environmental organizations and the world at large) to draw interest and educate the public about the method. We hope to increase sales of GB educational materials and event tickets through this activity.
- **Continue releasing Ecology Action's Self-Teaching Booklets, Information Sheets, Articles, and other key publications online** in electronic format for public access nationally and globally.
- **Develop and release a 2-hour, 9-part video series online.** Several segments are already complete; the rest are in production. The series draws on footage filmed at GB workshops and events in the US, Latin America and Africa, and follows the 8 Elements of GB. Release of the series is anticipated mid-2020.
- **Expand GB outreach with connection to other organizational networks** This collaboration dovetails nicely with the targeted press releases mentioned above, as well as providing additional events and interview opportunities to promote the GB method.

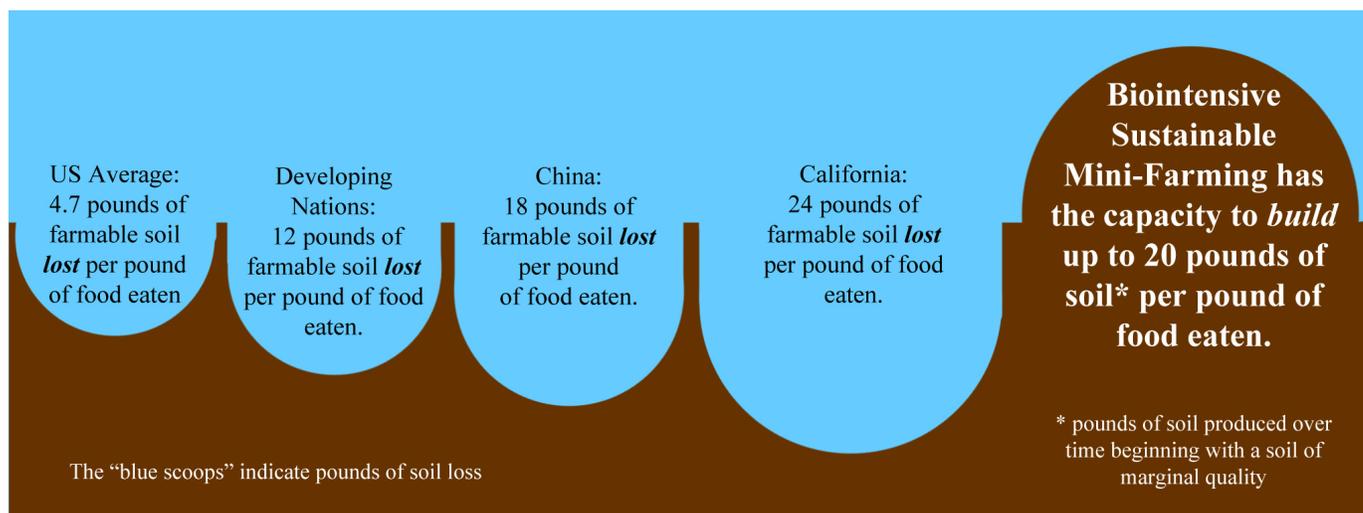
- **John Jeavons continues his Action Topic blog.** Public reaction has been very favorable, with former interns and others in the U.S. and globally following. Topics supplement the material in *How to Grow More Vegetables* and are particularly relevant because they come from John's own almost half century of experience.

Victory Gardens for Peace

- **Host a 2-month summer internship**, geared towards university students from the US.
- **Present Two 9-Saturday Courses with TJC**, the first teaching GB at the basic level and the second teaching GB farm/garden design and planning.
- **Host several 6- and 8-month internship participants.** Interns learn with us and then return home to establish GB projects and/or teach the GB method through other organizations. Participation depends on funding from their country and ability to get a visa.
- **Train 1- and 3-year apprentices to be GB Farmer-Teachers** as qualified candidates apply and meet the expense requirement.
- **Present a 3-Day GB Teacher Certification Workshop in August with TJC.** Its purpose is to give participants with enough background in the GB method the opportunity to achieve certification as a GB Teacher. Most EA interns and apprentices training at all sites during the year participate in this workshop, as well additional GB practitioners with appropriate skill level for certification. The workshop will be taught by John Jeavons and co-taught by VGFP Manager, Matt Drewno.
- **Present tours, classes, workshops and other opportunities for local people to increase and improve gardening/farming and seed-saving skills.**
- **In development: Garden Corps**, a Biointensive program specially designed to train U.S. garden site managers as Biointensive Community Resources.

Ecology Action Mini-Farm at the Golden Rule

- This site maintains a small GB Demonstration garden and will likely be the venue for our **3-day workshops**, open to the public.





Participants in a Latin-American workshop practice double-digging new garden beds

2020: Selected International GB Activities

Our ongoing primary goal is to catalyze people everywhere to become proactive in growing their own fertile soil, abundant food, and thriving ecosystems. Ecology Action developed the GB system and created outreach programs and farmer-to-farmer training techniques that are helping to end hunger and poverty, to grow food sovereignty and ecosystem equity, and to fight the effects of climate change across the globe. Our international partners are a vital part this effort, spreading GB and demonstrating its effectiveness across climates and cultures. **We are proud to provide funding, infrastructure, and practical assistance for their programs. Projections for 2020 efforts in this area include (but are not limited to):**

Latin America

In 2019, ECOPOL accomplished several major goals: reaching the regional milestone of 100 Certified GB Teachers; expanding the reach of their programs to Chile and Europe and the establishment of centers in those countries; the completion of the legal merger between ECOPOL and El Mezquite; and continued oversight of the Soil Sustainability Research Project with Ecology Action, including defining exact protocols for all of the research sites participating in the project to follow. Now that three people are working full time on the project **new goals for 2020 are being set.**

- **Across ECOPOL's territory of Mexico, Latin America, the Caribbean, and Europe, twenty-four 3-Day GB Workshops are currently planned, two for each month in the coming year.** More may be added to the schedule as the year progresses.
- **Seven teacher certification training workshops are currently scheduled for 2020, to be held where most needed across the region:** four basic, two intermediate, and one advanced. More may be added as the year progresses. Agustín and Marisol are especially gifted at teaching the certification workshops. Like Juan, they inspire others to learn, and they have a high certification rate in their programs.
- **The Seeds Guardians Network two-day conference** which was originally scheduled to take place in Mexico City October 2019, is now scheduled for April 2020 to provide adequate time for the many small organizations to attend.
- ECOPOL's staff will monitor and process the data the coming in from the research sites participating in the **Soil Sustainability Research Project** and share the information with Ecology Action. Now that all sites are all using the same terms, measurements, and reporting



An abundant harvest at G-BLACK

form, the information provided will be easy to use, and processing the data will be efficient. ECOPOL will continue to lead this important project for Ecology Action. **Staff visits to each of the reporting sites in the project are planned for 2020.** Geolocation may be used to map all the sites, depending on funding.

- Dozens of satellite GB garden sites throughout Latin America, spreading GB and now using the same teaching materials and data reporting methods. There are small communities all over Mexico, Central, Caribbean, South America, and Spain using GROW BIOINTENSIVE in their gardens and schools, as well as an ongoing effort to have GROW BIOINTENSIVE promoted by the Mexican government with various programs and educational materials, including videos, developed. **To ensure all these initiatives have access to important GB educational material, ECOPOL and Ecology Action will work to translate and publish key GB educational materials in Spanish, and to have the existing Spanish translations of GB material printed and available online.** Juan Manuel's daughter, Oneyda, is a Spanish/English translator and assists with this process.
- A major milestone that ECOPOL aims to accomplish in 2020 is **fundraising to support a large-scale printing of Spanish translation of *How to Grow More Vegetables*.** This is a critical educational material to have in printed form for those lacking internet access (the Spanish translation is already available online at growbiointensive.org/HTGMVSpanish), as this book functions as the manual for ECOPOL's GB workshops. The completion of ECOPOL's merger with El Mezquite will assist with this fundraising effort.

Africa

G-BLACK's 2020 program will continue the excellent GROW BIOINTENSIVE research, demonstration and outreach work they have been performing in Kenya for the last decade. The focus:

- **Continue the GB training and outreach programs** via tours, lectures, fundraising, workshops, internships and school activities, with a target of at least 3,000 farmers trained in GB techniques in 2020, plus hundreds of school children.
- **Continue the expansion of efforts into the struggling Eastern Province in Kenya,** hosting interns, giving workshops, and training satellite farmers to act as regional GB resources and contact points so G-BLACK can monitor progress in the region.
- **Continue the Girl's Empowerment Programme (GEP).** The im-

portance of providing a dedicated program for girls and young women to learn GB and other life skills cannot be overstated. The empowerment of the next generation of Kenyan woman will benefit all parts of society.

- **Continue cross-pollination between the GEP and the Gardens for Orphans Programme.** Similar to the GEP, the Gardens for Orphans program provides AIDS/HIV orphans and their caretakers with abundant nutritious food AND with vital farming skills. The program has direct benefits in terms of fighting hunger among the most vulnerable members of Kenyan society, but also creates a positive ripple effect into the future, by growing stronger, more resilient, healthier, and more skilled members of that society.

In addition:

- **G-BLACK is expanding their dormitory** which currently houses 20 people. The new dormitory, which will be completed in February 2020, will accommodate at least 50 people. This will more than double the number of farmers that G-BLACK can train onsite at any given time.
- In an exciting recent development, G-BLACK been contracted by **The Participatory Ecological Land Use Management (PELUM)** to train all their members in GROW BIOINTENSIVE agroecology. This amounts to over 110 agricultural officers from 55 different NGO's. Samuel Nderitu has so far trained 33 agricultural officers from 13 NGOs who are members of PELUM. In November 2019, Samuel will train 13 more members, and continue trainings into 2020.
- **The "Scaling Up" project, which is an ambitious one, will continue for two more years**, in addition to continued on-site trainings which will be expanded with the new facilities.

Russia

The plan of activity of NGO Viola (supported by Biointensive for Russia and Ecology Action) for November 2019 and into 2020 includes the following so far.

- **November 5-11, annual conference of the Russian Socio-ecological Union (RSES).** Dr. Ludmila Zhirina is the Director of the "Environmental education" program of the RSES. NGO "Viola" has included its activities on biointensive in RSES "Environmental education" program. Therefore, she will talk about the development of "Rasti Biointensive" [GROW BIOINTENSIVE] in 8 regions of Russia in 2018-2019. After that, she and Dmitry Filippenko will hold a training seminar on the development of biointensive in other regions.
- **November 15-28, Dr. Zhirina will take a big trip to the Northern regions**, including two schools in **Karelia**, six groups in the **Vologda** region covering the development and spread of GB in the harsh northern climate and soil; seven groups in the **Yaroslavl** region, including meetings with the local administration, training seminars in schools, libraries, and the farmer's society, including discussion of proper crop storage and preparation of seeds for winter planting. -
- During the November activities, Dr. Zhirina will prepare materials for an upcoming training course in **Uzbekistan**, including specialized information on the climate, soils, irrigation in the agriculture of **Karakalpakstan**. Dr. Zhirina notes that the region has many challenges that can be addressed effectively by the introduction of GROW BIOINTENSIVE:
 - Karakalpakstan occupies 38 % of Uzbekistan and is undergoing rapid desertification. The sandy soil is contaminated a large number of chemicals: since 1930, people have poured herbicides into

the soil every year while growing cotton. In the last 3-4 years, cotton has become unprofitable due to the absolute lack of water for its irrigation. Therefore, large cotton fields have been given to farmers to grow vegetables. But the herbicides remain in the soil!

- Tons of salt from the dried Aral sea cover the soil every year, creating a salt crust. Earthworms now multiply more slowly and often die in this soil.
- There is a severe shortage of water for irrigation.

- This area has big problems with disposal of food waste.

- The government has proposed that farmers build huge greenhouses for growing vegetables.

Ludmila is working to adapt her GB training course for these difficult conditions. She plans to show the possibilities of growing huge amounts of compost using food waste and earthworms; the possibilities of creating and using lazy beds and double digging to bury herbicides and salt to a depth of 40 cm.; that growing several crops together with close spacing on the beds and on their rounded edges will help to retain moisture in the soil without additional watering; and to suggest mulching household waste, placing it around the perimeter of each ridge and protecting it from the bright sun with old rags and paper to attract earthworms.

Dr. Zhirina writes: *"I will try to adapt every chapter of John Jeavons' book to these difficult conditions. I am making a list of the addresses of schools, libraries, colleges, universities, and farmers in **Nukus** and in the countryside. I plan to send everyone my resume and training course plan. I was proposed that I conduct my trainings in Nukus in one room only. BUT I see that **Uzbekistan** and especially **Karakalpakstan** have ample opportunities to use GROW BIOINTENSIVE. Therefore, I want to conduct a larger training course and provide numerous seminars! It's important! I'll be ready to go to Nukus in December or January. This is a time when all farmers are free and young people and city dwellers have the opportunity to attend events."*

Dr Ludmila Zhirina with a set of Russian GB teaching posters she prepared using funds we sent her. She left a set in each of six locations as she traveled by train, bus, and car for a week in 3 regions of northwestern Russia, and taught 20 Biointensive workshops.



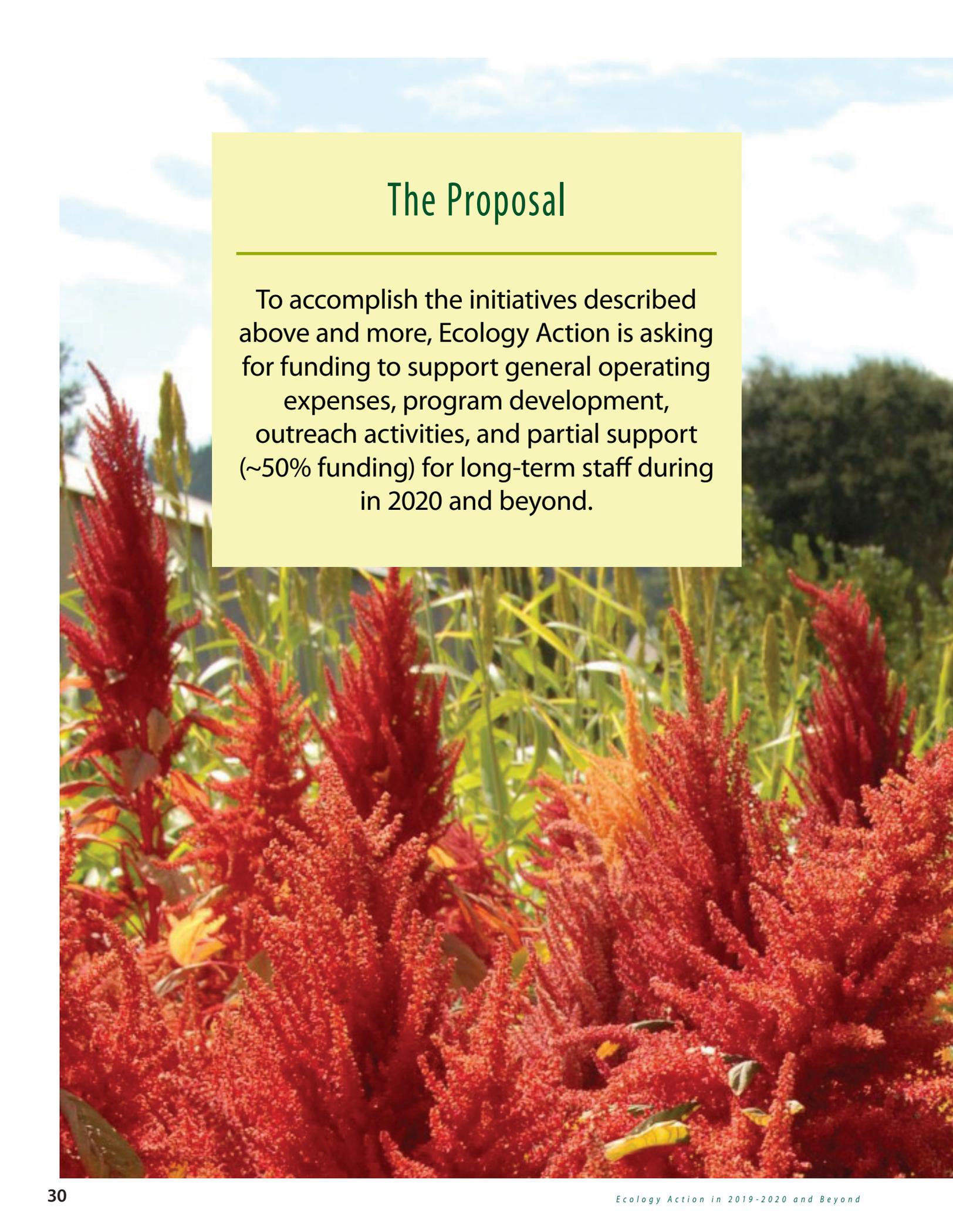
Canada

In 2020, **The Kootenay Society for Sustainable Living in British Columbia** will continue research and development of the GROW BIOINTENSIVE method in the Canadian climate. as well as increase demonstration and teaching activities through workshops, tours and public outreach as follows:

- Continue **monthly tours** at the Research and Demonstration Mini-Farm.
- Present **weekly workshop series** working through the 8 principals of GB and garden design, with hands-on skill-building and demonstrations.
- Present several **full day workshops** covering GB principals.
- Continue **grain variety trials** with 15 varieties of barley , including Tibetan, Sumire Mochi, Streaker, Karan, Schrene, Gujar, Arabian Blue, Belford, Gopal, Faust, Ethiopian, Karma, Himalayan, Sangatsuga, and Bere.
- Continue **variety and spacing trials** of all crops in order to select the best edible and biomass yields for the climate.
- Continue **research on a 10-bed unit** designed to determine the absolute smallest area required to grow a complete diet for all year in the cold northern climate.
- Continue **data collection of all crops and sharing of data** with Ecology Action.
- **Practice seed saving to adapt crops** to the local environment.
- **Continue leading as many off-campus workshops as time permits** (three are already scheduled for the start of 2020 at several local community gardens).
- **Continue to work with local schools**, teaching the next generation the importance of organic food production and bee-keeping by offering school group tours (**at least four are scheduled in 2020**) which host up to thirty students at a time.
- **Continue to expand and promote the "Feed a Family" Bio-intensive Community Supported Agriculture (CSA) program.**
- **Lead a weekly "Garden Series" talk** at a local coffee shop.
- **Host a weekly "Yoga in the Garden" series** held at the Kootenay research site, taught by Sharon Coombs, who is a yoga instructor and healer as well as a gardener. She sees a natural fit between personal health and wellness and organic food production.
- The Kootenay Society for Sustainable Living is excited to announce that **in 2020 they will be doubling the amount of space under cultivation at the center, from forty-five beds to seventy.** This will enable even more grain trials and short-season GB research to take place. The center is also developing **an open-pollinated heirloom seed bank.**

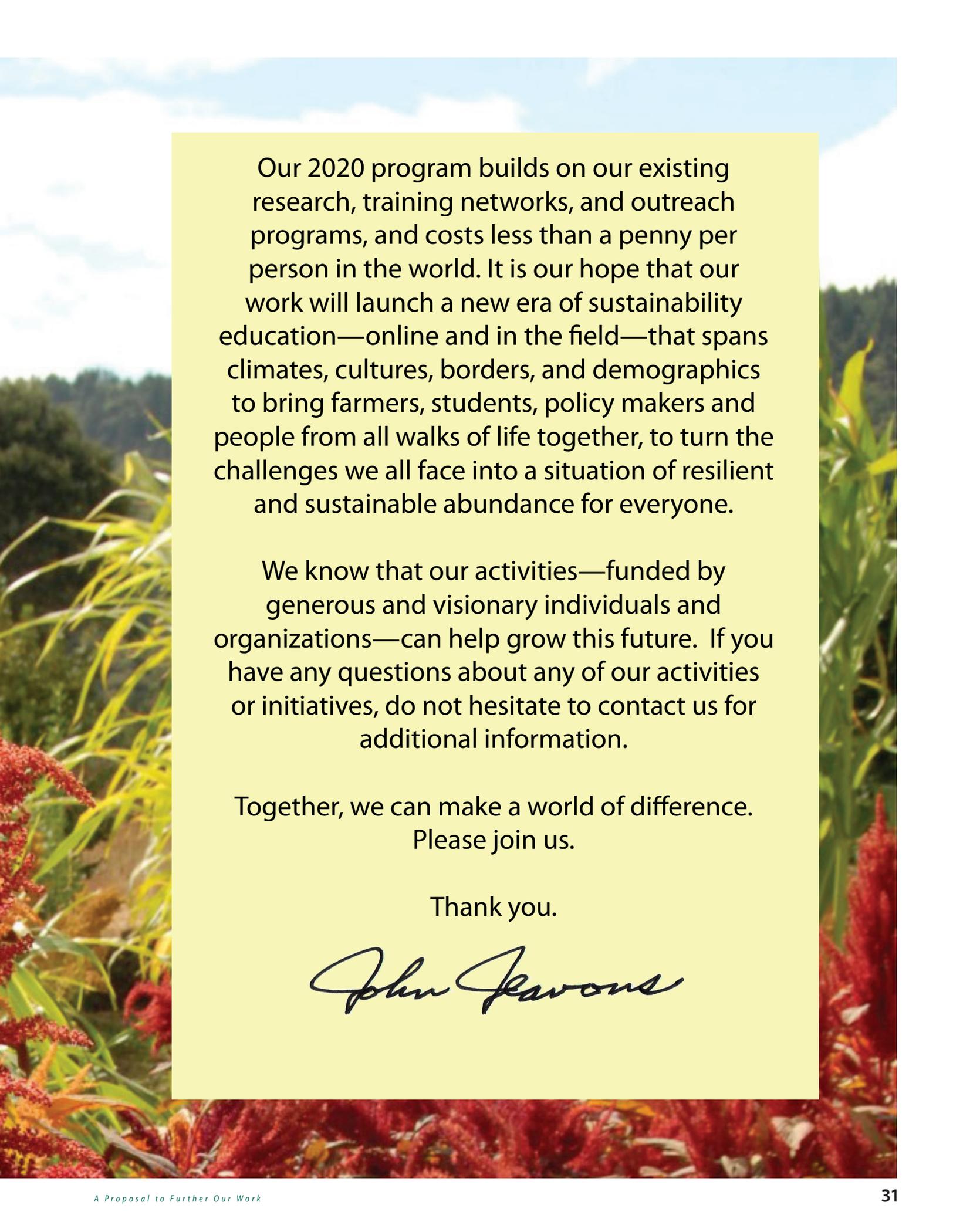


James and Sharon, Co-Directors of Kootenay Society for Sustainable Living digging new growing beds in their GB Demonstration Mini-Farm



The Proposal

To accomplish the initiatives described above and more, Ecology Action is asking for funding to support general operating expenses, program development, outreach activities, and partial support (~50% funding) for long-term staff during in 2020 and beyond.



Our 2020 program builds on our existing research, training networks, and outreach programs, and costs less than a penny per person in the world. It is our hope that our work will launch a new era of sustainability education—online and in the field—that spans climates, cultures, borders, and demographics to bring farmers, students, policy makers and people from all walks of life together, to turn the challenges we all face into a situation of resilient and sustainable abundance for everyone.

We know that our activities—funded by generous and visionary individuals and organizations—can help grow this future. If you have any questions about any of our activities or initiatives, do not hesitate to contact us for additional information.

Together, we can make a world of difference.
Please join us.

Thank you.

John Favours



Ecology Action in 2019-2020: A Proposal to Further Our Work

5798 Ridgewood Road, Willits, CA 95490 ☞ Tel: 707.953.7640 FAX: 707.459.5409
☞ www.growbiointensive.org ☞ www.biointensive.net ☞