FORD MOTOR COMPANY FUND

Ford College Community Challenge
Project Archive

Welcome to the Ford College Community Challenge project archive. Within the contents of this document you will find project summaries for all global grant recipients. The archive is sorted by country and year. Hover over the table of contents to quickly access the content you are searching for. For more information about the Ford College Community Challenge visit www.fordfund.org.

TABLE OF CONTENTS

United States
2019

Eastern Michigan University: Optimize Eastern

This Eastern Michigan University project provides a setting for students to engage with Ypsilanti, Michigan, businesses and nonprofits. The grant will support recruitment to build 12 core project teams. The largest portion of the grant will fund the eight-month workshop utilizing design thinking strategies to help students identify community health, education, housing and workforce development issues, as well as plan solutions for the challenges each presents. The project is slated to culminate with a public showcase event displaying prototypes to the community, followed by a large conference for the city and the EMU campus to encourage public support and engagement in the projects.

University of Illinois at Urbana- Champaign: Grounds for Growth

The Illinois Enactus student group at the University of Illinois at Urbana-Champaign proposes to expand the upcycling of discarded coffee grounds that creates sustainably sourced soap and scrub products created by people developing work skills. In the project, people served by Restoration Urban Ministries manufacture 100 percent eco-friendly Grounds for Growth bar soaps with sustainable packaging. The student leadership concentrates on public relations, marketing, business opportunities and operations. Students also plan to expand selling the soaps beyond the Champaign-Urbana, Illinois area through community events and online marketing.

Salt Lake Community College: SLCC Eats

The Salt Lake Community College Eats program from the Student Leaders in Civic Engagement proposes to balance the nutritional inequities 23% of community college students face by helping hungry students find and get the nutrition they need to stay focused on school and work. The grant is earmarked not only to align and elevate the conversation of justice-oriented food systems, but to establish SLCC Eats pantries as the umbrella for food access, nutrition and financial planning. The project intends to expand to six school campuses at SLCC through access to ready-to-eat meals that supplement the pantry's grocery products. Aquaponics will allow for an

expanded garden that also removes mobility barriers.

Centenary University: Greener Side of Bags

Students at Centenary University in Hackettstown, New Jersey intend to use their grant funds to develop a program that keeps plastic and burlap bags out of landfills, while providing an income stream for women living in a local domestic abuse shelter. The upcycling of plastic bags into grocery bags and wine and shopping totes is in advance of New Jersey's ban on plastic bags. To elevate the project, business students will work with fashion students to open the shelter's sewing room by providing eight sewing machines. While marketing skills will be in full force to raise awareness of the reusable bags, the timeline includes opportunities for adaptation of the bag with input from fashion students based on customer feedback.

Michigan State University: Public Transportation Safety Initiative

The Sustainable Spartans student organization of Michigan State University intends to use their grant to light the way for MSU students, helping them catch the Capital Area Transportation Authority bus safely. Poorly lit stops are prohibitive to student use at night, as well as a source of aggravation when there is not enough light for a bus driver to see people at a stop. Since incoming freshman are not permitted to have vehicles on campus, the bus becomes important to reach night classes, workshops, employment and recreational activities. The project installation is appealing to engineering and design students, as they will have an opportunity to make parts for the fixtures, while environmental science students will appreciate the renewable energy source.

Harvard University: SHAPE for Women

Harvard University's Refresh Bolivia returns to build on their 2018 Ford College Community Challenge win. The 2019 Sanitation, Health, Awareness, Planning and Education for Women Program is designed to be accessible to more than 40,000+ women in the community. The sanitation element includes production of low-cost, reusable menstrual pads while the health aspect includes establishing a medical space specializing in gynecological and obstetric equipment to help detect and treat cervical cancer, the most common cancer among Bolivian women. The facility also plans to address the women's resistance to use government hospitals, due to years of systematic discrimination against indigenous people.

University of Michigan- Dearborn: PolliNation

Students at University of Michigan-Dearborn intend to use the grant funds to build hotels for insects, which are important pollinating agents for 95-percent of plant species. Environmental Science, Environmental Studies and Engineering students will build insect hotels and the public will get a look at these structures in two public workshops. As many as 15 Dearborn Public Schools will get a hotel and as many as 180 hotels could be placed throughout the city.

Wayne State University: Healthy Oasis- Transforming Nardin Park

Auntie Na's Student Organization at the Wayne State University School of Medicine intends to use their grant funds to continue the sustainable community healthcare work of Mrs. Sonya Brown, "Auntie Na." The grant will also create a self-sustainable system that provides food security while promoting healthy food consumption. The new urban garden is intended to serve as a teaching tool, while the group works to expand the Healthy Detroit Corner Store Program to two additional stores to better serve residents.

Wayne State University: Sustainable Urban Landscape Collaborative

To help alleviate the impact of flooded basements common in many metro Detroit neighborhoods, the Detroit Biodiversity Network students of Wayne State University have a project to watch. Flooded basements bring with them chronic and infectious diseases, especially among children and seniors, and this project utilizes WSU's existing Detroit hydrology research to incorporate green stormwater infrastructure. Students will also grow native Michigan plant species for the community and aid with installation. In addition, the project will develop a new community component to increase awareness and participation in the current program.

College for Creative Studies: P.O.S.T

From the College for Creative Studies in Detroit, Michigan, the Public Opportunity Support Terminal funded by this grant aims to provide inhabitants with community benefits, special events, public safety, job posting, emergency and landmark information, plus census survey collection capability. Through a dedicated, interactive physical communication structure located in downtown Detroit, tourists,

visitors, and residents can find information on special events happening in the community. The community also will gain from the increase in broadband accessibility.

2018

Purdue University: Lakota Greenhouse and Culture Center

What began as the Lakota Greenhouse through a collaboration of Purdue University and Oglala Lakota College students has expanded to include a Culture Center. This project aims to build a teaching center that works with existing OLC facilities and integrates STEM, culture and food sovereignty topics per the community's requests. Greenhouses are increasing in number on the reservation. This one will offer research and development opportunities. Students worked as small engineering design firms with design leads who guide the process, manage resources and budgets across three campuses. The sustainability of the project resides in this as a course in the College of Engineering and locating the greenhouse and cultural center on the OLC campus.

Berkeley University: Water Lily Project

The wastewater treatment for this project is tailored to fit within the climate and culture of Vietnam. Craft makers cause heavy pollution with their wastewater flowing directly into the rivers. The Water Lily Project would allow craft makers to increase production. Testing kits with online and in real life, support materials are intended to guide villagers, teaching them to become aware of their surroundings and become more cautious of their actions. Students from UC Berkeley and Purdue University will develop this project to reduce water pollution. The wetland is designed to provide a natural filter from the manufacturers. Local people don't have the capacity and knowledge of the source of water and waste. The open platform will provide crowd-sourced input. The database will aid in sustaining the program beyond the grant.

University of Michigan: Flip That Space: Building for our future

Promoting a life-long appreciation for reading is the goal of the Books for a Benefit group. Communities fostering learning provides students mentor opportunities and engagement to evaluate situations for thoughtful choices. U of M students engineered an app to provide electronic homework support for English as a second language students, design murals and efficiently manage expenditures.

Embry-Riddle Aeronautical University: Project Haiti

This student project of designing and installing solar-power water purification systems for Haitians also includes water-selling microbusinesses for income for schools. Cholera deaths total thousands. Portable clean water yields improved health, education, income for the country's citizens. Project Haiti will celebrate its 10th year in 2019. From 2010 – 2017 this project has installed eight solar water purifiers and launched five separate water-selling businesses, which provides between 10,000 and 25,000 Haitians with improved daily access to clean water.

Ohio State University: Buckeye Precious Plastic

The open source community of Precious Plastic is working toward a solution to plastic pollution. Through the process of shredding, extrusion, injection and compression, plastic objects are repurposed into usable products of an individual's design. Out of sight, out of mind is the overriding philosophy of plastic recycling, lacking an incentive to recycle. This approach provides an opportunity for personal accomplishment when people are questioning if their recyclables truly find a second life. It's anticipated this program will sustain itself because of the student base and promotion. With minimal operation costs the long-term goals are viable.

Wayne State University: HUDA Urban Garden Healthy Living Education Center

This holistic approach to better health includes active lifestyles, healthy diets and sustainable practices. A fitness walking station will incorporate garden tasks, activities for bending, stretching with signage and videos. The clinic provides free health care services. The garden expansion from three acres to six acres increases the food and services for more than 1500 families. The program will continue through the garden program. Additionally, the WSU service-learning program will continue to offer undergraduate students the opportunity to work with community leaders and the garden.

Wayne State University: The D and the Leader in Me

During the winter of 2019 more than 30 Detroit high school sophomores and juniors will collaborate with Mike Ilitch School of Business students and law enforcement officers in the D and the Leader in Me program. The Lear Innovation Center, Detroit City Hall are among the 10 host sites for the Saturday sessions. Inviting Detroit's youth to the table enriches the leadership skills not only of college prep students, but also introduces citizens to job opportunities with corporations, nonprofits and influential civic leaders. Additionally, the Detroit Police Department Leadership Academy participants will earn college credit. The school of business is committed to sustaining this program after the grant. Alumni from this program and the school are part of the long-term sustainability plan.

University of Washington: Husky Adapt

Fueled with the belief that all children should have access to toys, University of Washington students support a regional toy and play technology lending library with off-the-shelf toys adapted for children with diverse abilities. Community-led designs and ideas will be incorporated into the toy adaption with this grant. Additionally, re-engineering curriculum and service outreach will be developed to meet the community needs of affordability (three times more than off-the-shelf toys) and integration of inclusive design that accommodates dexterity levels. This student project has ongoing backing and engagement from dedicated faculty in the College of Engineering, the Paul G. Allen School and Rehabilitation Medicine at the University of Washington. Additionally, partners the Taskar Center and the nonprofit therapy center, Provail are not only committed to ongoing community engagement, but recently forged an agreement to sustain the adaptive toy library.

University of Illinois at Chicago: InfoPark

This park is intended as an information hub that is welcoming and provides a one stop location for a variety of information focused on building community strength and that of its citizens. The block of about 10-15 families, united through two churches and a community center will benefit from inviting neighboring families, nonprofits and organizations into the community to share information. Safety is increased as neighbors get to know each other and build relationships. Strength for sustainability is found in the local aspect of the organizations and residents who will build and design this early space. As information is exchanged the importance of the park will aid in its life.

2017

Michigan Technological University: Medical Transportation Management System

Smart mobility in the form of an efficient, flexible ease of use management system will not only give elderly in Michigan's Upper Peninsula a better way to access transportation to UP Health System in Marquette, 100 miles away, but allow the local Little Brothers-Friends of the Elderly volunteers to focus time to serve the elderly community.

An improved medical transportation management system contributes to social mobility by allowing the growing population of the community's economically challenged elderly to retain their independence in their homes while having access to safe door-to-door transportation to medical care, relieving isolation and loneliness. Michigan Technological University students' MTMS will allow more than 200 (+200%) new clients access to the Little Brothers transportation. This grant allowed support MTMS implementation with additional funding providing for future student teams to update the system.

University of Michigan: SWIP Team

A successful prototype from three Detroit Community High School and four University of Michigan's Stamps School of Art & Design students for the Change by Design course prompted this second phase of SWIP. The exchangeable components – a speaker, a mirror and a wallet – for the center of the 3-D printed water bottle are designed to be swapped: sip+swap = SWIP. Open to all students, the founding female group will encourage females to join a DCHS and Stamps School workshop, establishment of the project in the Brightmoor Maker Space and expansion of the project into more Detroit high schools.

Harvard University: Community Health Center

Women in the impoverished, peri-urban community area of Cochabamba, Bolivia are empowered through education, sanitation and research. On-site partners communicate impact of prior projects along with changing needs and desires to adeptly plan for the future. Building on success of water-conserving showers, latrines, laundry sinks; public health workshops covering maternal and sexual health, nutrition, water sanitation; and training community health workers leads to 2017's Refresh Bolivia plan to construct a community health center. Without a public health center within 1-2 hours travel and basic consultation priced more than a patient's monthly income, many women refuse to give birth in a government hospital due to years of discrimination against indigenous

people. Additionally, many residents only speak the indigenous language Quechua, while the healthcare system operates in Spanish.

Olin College of Engineering: Shifting Rhythms

This project uses the theme of mobility in two ways: first, as a mobile education space, students from Olin College of Engineering addressed the lack of transportation resources in a rural community that create barriers to success; second, the curriculum teaches 21st-century skills that we believe will allow youth to increase their educational and career opportunities and, thereby, increase their upward social mobility. Following a popular five-month pilot run from March-August 2018, students, parents, and organizational leaders are enthusiastic about continuing with Shifting Rhythms' existing offering. Additional funding from Ford Fund allowed them to continue to provide mobility via mobility in that we could continue to deliver our existing curriculum at two sites through the end of 2018 and simultaneously work towards upgrading and testing the next iteration of our curricula and assessment tools in Spring 2019. Specifically, the funds enabled them to fully restock and expand the current curriculum, tool and material offerings within Shifting Rhythms, grow the number of students we can engage at any given moment, employ more student workers, and continue to provide the integral service of travelling to students in a variety of afterschool settings.

Purdue University: Ag Mechanization Skills for Former Street Youth in Kenya

In Western Kenya, efficient farming comes at a steep price. The average tractor costs more than $11,000 and, with a per capita GDP of just $3,500, many farmers are unable to afford reliable farm equipment. With 75% of Kenyans employed in agriculture, a practical solution is necessary to help farmers improve their access to markets, productivity, and family income. That's why the Purdue Utility Project is key to making a difference. With help from the Ford Motor Company Fund, the PUP team has partnered with the Tumaini Innovation Center in Eldoret, Kenya to equip a makerspace where students can see their ideas move from concepts to products. The classroom to market experience with the PUP vehicle improves job readiness, provides business opportunities, and serves the needs of local farmers.

Carnegie Mellon University: Home Inc.Ubator

The availability of affordable housing is failing to meet demand in Pittsburgh, Pa. Recent development activity has displaced many under-represented populations and exacerbated trust issues within communities. The Home Inc.Ubator will empower residents as agents in collaborating on the design of their own affordable housing. The incubator is a portable residential housing module prototype equipped with reality computing and advanced virtual reality.

University of Pittsburgh: A 21st Century Food System

The Aquaponics Project has been in development for the past two and a half years, aiming to educate about and deploy sustainable farming systems. After developing the beta portable farming system and anaerobic digestion system, additional funding will be used to optimize the aquaponics system design. The aim is to make the system more scalable and replicable. Funding will specifically be used to help redevelop the bio filtration system at the system's base, as well as change the greenhouse from a vertical grow system to a nutrient film technique system (to allow for a more diverse plant yield and replicable system), and also keep the system warmer so that it can function year-round. The Aquaponics Project was established to address regional food scarcity within the Pittsburgh area. In the past year, AP has worked closely with local organizations as well as city government to design, build and deploy Pittsburgh's first portable aquaponics facility. The integrated design will allow for better heating in the facility to produce food during winter months.

University of Michigan: Ocupação Anchieta Avança!

Ocupação Anchieta, a four-year old land occupation in the periphery of São Paulo City, Brazil, represents a pattern of urbanization characteristic of developing countries, where the lack of centrally located land for low-income housing pushes population growth to informal land occupations in the periphery. This student project focuses on the conflicts between environmental protection and the right to housing of informal settlers. Land occupations of environmentally protected areas at the peripheries of major cities is one the major problems of the Global South.

During the 2017 Spring break, students traveled to meet partners and collect data. The students then developed an action plan, including: 1) small, educational green infrastructure prototypes to clean the water and reforest the creek and spring areas; 2) alternate housing prototypes and decentralized, communal sewage infrastructure; 3) creation of a cultural hub with environmental programming; 4) a waste management plan.

Brigham Young University: Village Pump

Village Pump proposes designing, prototyping and testing an improved pump to provide sustainable access to water. Key innovations resulted in a pump with reduced frequency of required service and an increased probability of being serviced compared to existing pump solutions. These objectives were accomplished under strict cost restraints to keep the cost of the pump as low as possible. Partnering with Wholives.org ensured sustainability through utilizing an existing successful infrastructure and network of developing world connections. Smart reporting sensors built into the pumps will ensure that pumps receive needed service and attract future donors by enabling donors to see the impact their donations are having.

Kettering University: Elders, Youth Using Solar Energy, Rain Catchment to Bring Safe Water to Urban Gardens in Flint, Mich.

Lead levels are improving in many Flint, Mich., neighborhoods, but the water is still not safe without a filter. Tap water coming through hoses outside the home is not filtered, causing a risk of lead contamination in garden vegetables. Collaborating community organizations have successfully created hoop house gardens in Flint and inspired some families to plant gardens of their own. Integrating rain catchment into the gardening process eliminates potential risks associated with lead in Flint water. These systems will employ rain catchment techniques, allowing irrigation without lead-tainted municipal water. This project also includes training for youths and elders from Flint to assemble working solar panels from discarded solar cells, low-cost materials and homemade panels to power irrigation systems for community gardens. Including solar energy in this system effectively demonstrates a reduction of residential energy costs.

2016

Harvard University students: Refresh Bolivia Community Health Worker and Toilet Implementation

The residents of District 8 traveled at least 1.5 hours by transport to get to the nearest clinic, and upon arrival, they often had to wait in long lines before they can receive care. Additionally, many families couldn't afford to see a medical professional, even under severe circumstances. Refresh Bolivia constructed a community health center in District 8 in order to bring preventative health services closer to the people living on the outskirts of Cochabamba.

Wayne State University: Full Circle Community Garden Program

The Full Circle Community Garden Pavilion Program restored vacant lots to productive land. Four selected sites became productive community gardens and meeting grounds in Detroit and Flint.

University of Michigan, Ann Arbor: Project MESA

Project MESA aimed to alleviate the risks of rural exam environments in low-resource settings and facilitate maternal health screenings in Nicaragua with a portable gynecological exam table. The table is collapsible and can be carried like a backpack, eliminating the often-unmet need for vehicle transportation. The table is comfortable for both patient and doctor, allowing the doctor to better provide gynecological exams while adding dignity to a rather vulnerable examination.

University of Michigan, Dearborn: Solar-powered Pump and Purifier for Providing Clean Drinkable Water in Rural Nigerian Communities

University of Michigan-Dearborn students addressed community needs of clean, drinkable water for more than 50,000 inhabitants in many remote Nigerian villages. This was made possible through the design and installation of a solar-powered pump and water purification system. The student team implemented practical solutions to lower the incidence of water-borne diseases, and ultimately raise the life expectancy of the inhabitants in the community.

Lawrence Technological University: House02 and LTU/Habitat for Humanity Oakland Partnership

The funds from the Ford C3 grant was used to realize a second home in the fall of 2017, which created a sustainable business model for the developments of affordable housing and allowed the LTU Habitat for Humanity team to the scope of the investigation from a single house to community of homes. This allowed them to respond to the growing community interest around their work and consider sustainability, affordability and community-based design at an incrementally larger scale.

Brigham Young University: Triggering the Solar Cell Revolution

With additional funding from the Ford College Community Challenge, student organization *Integrated Star* further explored accessible solar applications for developing countries around the world, providing them with sustainable energy to support their electricity needs. Open Access Solar will work against pollution by increasing the use of renewable energy resources as we provide accessible, sustainable energy in public spaces.

University of Washington: CrowdMapForAccess: Making Sidewalks Accessible by Gamifying the Right of Way

The 2016 project focused on creating a detailed specification for open sidewalk data (targeting OpenStreetMap). This data will be inherently editable by the community, and the ability to combine the static data of OpenStreetMap sidewalks with the temporal data of this project is essential to the long-term success of the project.

2015

Michigan Technological University: Plastic Recycling to 3D Printer Filament

Through the Open Source Hardware Enterprise team, the Plastic Recycling to 3D Printer Filament project incorporated a wider variety of plastics into recycled filament. This project focused on two plastics (PLA and ABS), commonly taken to landfills and incurring processing charges, as well as the higher volume (#1 and #2) with poor environmental performance. Devices developed during this project were integrated into the community to improve recycling amounts of plastic by producing the profitable 3D printing filament.

Wayne State University: Volunteering to Career Paths: Student Leadership in Community Food Systems

This project engaged students in hands-on internships of identified projects, jointly designed/supervised by SEED Wayne and community partners, aimed to enhance skills and expand knowledge within specific timelines with identified benefits for students to further their careers. Students gain paid positions following internships with the partner organization.

University of Georgia: Hands and Hooves for a More Sustainable Community

University of Georgia students continued the transformation of the Tanyard Creek and Driftmier Woods areas, with partners in the teachers and administrators of Barrow Elementary School, which is part of the Clarke-County School District, is clearly a front-runner in sustainability. Harnessing these accomplishments, this project completed the design and fabrication of a mobile shelter/outdoor classroom and engaged both UGA students and local elementary school children in the process of learning about, and restoring, the two landscapes.

University of Michigan: Together We Make Santa Marta Home: Fostering Community Ownership and Environmental Stewardship in Vila Santa Marta, Brazil

The University of Michigan Masters of Urban and Regional Planning proposed six goals to counter the results of trash dumping in public places: deterring dumping, increase communication and dialogue between the São Leopoldo Municipality of Brazil and Santa Marta residents, building community pride and visibility, improving security, controlling flooding, developing strategies for requesting service upgrades and regularization of Santa Marta's streets, sewage, and infrastructure. From these came piloting an interactive community mapping program and initiating public awareness to highlight the positive results of meeting the goals.

Morehouse College: Mentoring Youth Entrepreneurship Club-Innovation Lab

The Morehouse College Community Revitalization Initiative and Bonner Office of Community Service fostered entrepreneurship and science, technology, engineering, and mathematics education in Atlanta's West End community by mentoring young entrepreneurs and establishing an experimental, hands-on work place with technology for participants in the Youth Entrepreneurship Club.

Wayne State University: Ford Warrior STEAM Saturday Challenge

This proposal invited 100 Detroit K-12 students and their families to Wayne State University to participate in Science Technology Engineering Arts and Math activities for six Saturdays. Each week participants faced a challenge to use skills to create a finished product to better the community. The project took into consideration the human services, access and abilities, education and outreach, and the environment aspects.

University of Wisconsin: Slow Food South Madison Partnerships for Sustainability

This proposal made an existing Market Basket Program sustainable. The UW-South Madison Partnership Office received a cooler to provide families with convenient basket pick-up that also houses education, health and additional social supports. Second, design-oriented graduate students from a Food Systems course helped plan the expansion and outreach of the program in South Madison.

Rocky Mountain College: Broken Glass to Working Class

Broken Glass to Working Class partnered with The Hub, to combat homelessness and re-purpose glass waste. Homeless individuals are provided a source of income while learning the job skills. This is key since shipping glass waste to another state is cost prohibitive. Montana creates more than 48,000 tons of glass annually, but has no way to recycle it. Broken Glass to Working Class aimed to divert some of this waste away from the landfill and back into peoples' homes.

Michigan State University: Rainwater Catchment for Primary School in Buyuni Tanzania

When clean water is needed, many people reading this will turn a faucet handle and only adjust the knobs to reach the desired temperature. In Tanzania, the proposed water collection system is necessary to obtain precious water. This proposal focused on capturing rainwater, filtering the water and then storing the water. The water was collected via a roof gutter system, which gathers water as well as removes large contaminants including leaves. The second stage of the system was to filter small contaminants with a basic sand filter. After filtration, the water was stored in a large tank for use when necessary. By using a water collection system that collects the rain from the roof instead of letting it run off, the demand placed on the local well head is eased and lessened the expense of burning fuel to run the generator.

Northeastern University: Designing for Mobility of Veteran Amputees

This project aimed to integrate art with science in the development of prosthetic limbs. Not only did this project engage expert design faculty, but it was also be led by students who represent the very community the project served: Veterans who have experienced limb amputation. The project team worked closely with the VA's physical therapists, certified prosthetists, Amputee Support Group and Adaptive Sports Program, along with their affiliated partners, to implement their ideas.

2014

Fairmont State University: Bridging the Gap: Sustainable Nutrition through Community Revitalization

Bridging the Gap: Sustainable Nutrition through Community Revitalization draws upon rural Fairmont State University students' knowledge of gardening, working with partners to revitalize urban located Oliver Park, within walking distance of the school. The project installed community gardens over neglected tennis courts and built a bridge to connect Oliver Park to the City's 5th Street Park, which hosts a summer feeding program. Additionally, this project provided fresh food donations to the student food pantry, *The Nest*.

Wentworth Institute of Technology: Brookview House Teen Center Project

The Brookview House provides a supportive environment for youth development, breaking cycles of homelessness, abuse, and poverty for women and families through student abilities and engagement to yield a lasting community relationship. The project involved renovations targeting flooring, walls and furnishings of the three-part space to facilitate a supportive, stable community for women and families to become self-sufficient.

Kettering University: Community Aquaponics System

The Community Aquaponics System project aims to: examine environmental, economic, and social factors related to the viability and sustainability of the system; conduct research to address knowledge gaps relevant to aquaponics as a method of food production; identify and work to reduce barriers for expanding aquaponics, including issues related to zoning, acquiring permits, and funding; and design and create a scalable, sustainable, working aquaponics farming system at the Oak Business Center in Flint, Mich. Kettering students offered mentorship support and analysis for youth to build the CAS at the OBC.

University of Georgia: Grazing Our Way Back to Community Sustainability

This project continues elimination of neglected and imperiled “marginal” landscapes and extended results through partnerships among University of Georgia faculty, students, Clarke County School District teachers and collaborating with goats. The project was built upon a two-year effort to remove invasive vegetation from a campus stream corridor using “prescribed grazing” by goats.

Virginia Commonwealth University School of Business: Green Ride RVA

Springboard Virginia Commonwealth University expanded with Tricycle Gardens' Healthy Corner Store Initiative and community partners, including VCU Business' Executive in Residence, David Berdish, to leverage work of the 2013 Ford C3 team to grow and expand their sustainable transportation solution: providing an Intelligent Systems Framework kiosk and transportation solution to increase community access to fresh, affordable, locally grown produce through neighborhood corner stores in Richmond, Va. Green Ride RVA invested the grant to expand the route and develop kiosk stations for the identified food desert neighborhoods.

Purdue University: Hybrid Power for Rural Community Capacity Building

The Purdue Micro-Hydropower team, in collaboration with an African group, designed a hybrid renewable energy system, combining hydropower with other types of renewable energy, capable of reliably providing at least 30 kW to the 50 households of the community of Bangang, Cameroon throughout the year, locally fabricated, implemented, and evaluated the designed system with the guidance and assistance of the technicians at ACREST; and created an open-source knowledge center, in the form of both an online and a physical database, for the support of rural communities interested in replicating similar systems.

University of Washington: Improving Public Transit Accessibility through IT

University of Washington students pursued to improve public transit accessibility through transit traveler information system, StopInfo, which uses open-source transit app OneBusAway. Target users include those with visual impairments including blindness, low vision, deaf-blind using smart phones and other mobile devices. The system provides detailed bus stop information, including shelter, bench availability, and real-time bus arrival times in Puget Sound and urban areas.

Lawrence Technological University: swLab NZE Prototype

Lawrence Tech University created a Hybridized Ecosystem—an Energy Farm/Outdoor Classroom for Sampson Webber Leadership Academy, a preK-8 school in the Tireman neighborhood near Henry Ford Hospital, and its neighborhood. They created a replicable model in three steps: implement the successfully demonstrated net zero energy lesson plan; construct a prototype module of the [sw]LAB structure, including photo voltaic and water collection infrastructure and outdoor instructional garden; and conduct a community engagement process for our long term vision including the above as well as a partnership institute.

University of Detroit Mercy: Lollo Tot Lot Ecological Design and Implementation

Lollo Tot Lot park improvements increased safety, accessibility and sustainability. As the only public park within one square mile of the community, park maintenance is crucial, so partnerships were forged to assume responsibility and assure sustainability. The upgraded park incorporates ecological materials, recycling stations and systems of water conservation.

Lawrence Technological University: Pioneer Material Renewal

Lawrence Technological University partnered with Recovery Park, Architectural Salvage Warehouse Detroit and Detroit community members to deconstruct a dilapidated Detroit building, implementing a standard assessment of the salvaged material, conduct constructability tests for viable re-use and make a design proposal for a new building.

2013

Michigan State University

This project simultaneously addresses two huge awareness problems: the real impact of energy on the environment and the technologies that make computers work. A team of MSU students will develop a teaching module, software libraries, and cloud support for energy awareness projects for Android-based phones and tablet computers. The teaching module and software scaffolding will enable high school students to create Java programs that gather information about energy usage in their immediate locality and present that information in a variety of ways. The MSU students will test and refine these materials by means of a pilot after-school enrichment opportunity at Bath and/or Lansing High Schools.

College for Creative Studies

CCS and its partners linked artists, students, and the greater community through classes and student projects to explore, pilot, and implement creative, low tech, and easily replicable solutions to common challenges associated with urban farming in Detroit. These include: weather protection; water collection, storage and distribution; limited growing space; composting; garden amenities such as seating and shelter; and garden aesthetics to beautify surroundings.

University of Texas at Arlington

The UTA Service Learning Anti-Diabetes Campaign addressed the growing issue of undiagnosed Diabetes in low income populations. Creating videos for differing educational levels and language translations, it served to educate and sustain healthful nutrition and life style habits. UTA Service Learning Anti-Diabetes Campaign provided an innovative solution to help people understand diabetes and their role in treatment and prevention. The tools used to help were engaging our population in their language, on their reading level, and level of understanding using videos and games.

Brown University

Rainwater for Humanity (R4H) aims to reliably supply potable water to the people of the Achinakom village in the Kuttanad region of Kerala, India by financing the cost of custom-designed rainwater harvesting tanks serving three to five families each. In the short-term, R4H served the entire village of Achinakom of about 1,250 residents with a total of 50 tanks. At a larger scale, an estimate of 700,000 people will benefit from the model in the Kuttanad region, focusing on communities of average income with seasonal rains and an inadequate public water supply.

Wayne State University

The proposed project builds on SEED Wayne's successes to support student leadership in community engagement projects while also developing infrastructure for community gardens, community nutrition education, and food system-related economic development. Projects include a community garden on a tax-foreclosed property in Hazel Park at Merrill and Elza, WSU-based Warrior Demonstration Garden led by a group of freshmen and sophomores called SLUGS, a nutrition education project led by public health student association (PHSA) in Detroit neighborhoods that are under-served by grocery stores, and a feasibility study and pilot test for a subsidized student produce box at the Wayne State University Farmers Market.

Essex County College

Essex County College proposed improvements that would support a fledgling urban hydroponics effort in Newark, NJ. Partnering with Urban Farm (a pilot urban agriculture project), they implemented a rainwater harvesting system (water catchment, storage, and purification) with a photovoltaic powered distribution system to promote and help grow a nascent urban hydroponic food production system. The project seeks to serve as a model for Newark and the surrounding Essex County, to increase healthy food access in an underserved area and also to be an educational laboratory to share this technology.

Arizona State University

FlashFood is a rapid food recovery network powered by a mobile and web-based application that makes possible the recovery and delivery of rapidly perishable foods from food service businesses. Since the start of the project, FlashFood has completed the beta version of a mobile application, worked with local authorities to develop industry grade food safety procedures and raised enough capital to begin piloting operations. Arizona State University expanded their operations in the Phoenix area and to communities across the country.

Virginia Commonwealth University

A team of Virginia Commonwealth University and University of Richmond business, engineering and urban planning students organized a mass transportation solution that assisted low income communities in gaining access to jobs across the Richmond region. Their project will addressed RVAPASS, a web and phone-based application that designed to combine existing transportation options (bikes, taxis, Segways, public buses, private shuttles, trolleys, etc.) with new technology for accessing services and schedules.

University of Michigan

University of Michigan engineering students formed the Living Buildings team in an initiative to provide innovative retrofit designs to allow our region's existing structures to self-sustain within their site footprint, as characterized by the Living Building Challenge. The student team immersed itself in creating a community testbed for home retrofit for net-zero resource consumption to demonstrate how this can be achieved in a typical, century-old southeastern Michigan house.

2012

Carnegie Mellon University: Urban Design Build Studio Community Construction Cooperative

Carnegie Mellon University (CMU) students and leaders of CMU are working together to establish the UDBS Community Construction Cooperative (UDBS C3). The UDBS C3 is a self-contained, educational workshop facility located at the Construction Junction, a non-profit material repurposing center in close proximity to the University. Utilizing green building practices, CMU students and trainees produced housing prototypes for challenged communities in Allegheny County and Western Pennsylvania. The project will contribute to a large-scale implementation of green building practice and will work with commercial industries to mass produce the UDBS C3 prototype with community-vested ownership.

Cleveland Institute of Art: "Fish and Ships"

Cleveland Institute of Art (CIA) students worked to design and implement sustainable bulkheads to live in the Cuyahoga River. This project partnered the U.S. Army Corps and the Cuyahoga County Planning Commission to design alternatives to the now deteriorating steel and concrete bulkheads that line the last several miles of the river leading to its mouth at Lake Erie. As a result to the need for bulkhead designs, CIA Industrial Design students generated numerous concepts of new, "green" bulkheads that would maintain a navigable channel in the Cuyahoga River for industrial shipping.

Howard University: The D.C. School Sustainability Project: A College Mentoring Partnership

W.W. Grainger and the Environmental Protection Agency (EPA) partnered with Howard University to provide the initial sustainability training to local high school teams. This training was supplemented by mentoring, as well as face-to-face and hands-on guidance from Howard University students. The teams conducted research, designed projects and submitted written reports on their respective high school campuses. Their findings and recommendations were judged by a team of experts in the sustainability field. The top three teams received monetary awards ranging from $1,000 to $6,000. Additionally, if any high school student should later enroll as a freshman business student at Howard University, the award will be matched with a scholarship by the School of Business.

Purdue University: Wabash River

In partnership with the local non-profit organization, Wabash River Enhancement Corporation (WREC), and in cooperation with faculty from the Purdue Water Community, Purdue University students led efforts to install urban water projects, such as rain barrels, rain gardens, green roofs and native plants in target areas within the community. Students were responsible for identifying project locations; designing appropriate projects for the site condition needs and water quality targets; and hosting community and campus volunteer days to complete project installation.

2011

Carnegie Mellon University: PURIFLUME

Students at Carnegie Mellon University (CMU) used the Ford C3 award to create and install a mobile urban water re-use system. This system employs a series of holding cisterns, utilizing slow sand filtration, and integrating UV Sterilization technologies to demonstrate the conversion of light sewage water into a potable water source. Mounted on a mobile platform and designed as a playful water feature for children, this prototype urban water filtration system is still being used to help educate public officials and the public about the value of these systems in supporting overall urban water sustainability policy.

Georgia Institute of Technology: Green Phoenix

Students from the Georgia Institute of Technology built an energy-independent urban farm in an area of Downtown Atlanta that had been designated as an urban "Food Desert." This farm produces fresh food for inner-city residents and also cultivates "food fiber fuel" (biomass) to be used as a renewable energy producer and an economic development engine for the community. The project goal is to create the nation's first net-zero energy use urban farm. The community partner is the Truly Living Well Center for Natural Urban Agriculture, and the farm site is located across the street from the historic Ebenezer Baptist Church where Dr. Martin Luther King once preached.

Kettering University: Application of Rainwater Collection and Irrigation for Urban Farming

Kettering University students teamed up with a former partner, Harvesting Earth Educational Farm (a 2010 Ford C3 project), to provide the non-profit's greenhouse with an irrigation solution using solar energy, rain collection, and ground/well water. The project utilized natural resources in a sustainable way and also provided hands-on learning for students in a very public, urban agricultural project in downtown Flint. The successful application of sustainable water strategies has great potential for replication in cities around the world struggling with the issues of fresh food and water shortages.

Michigan Technological University: Sustainable Transportation Partnership

Michigan Technological University students worked to develop and implement a sustainable bus transit action plan for the Houghton and Hancock metro area. This project brought Michigan Tech Enterprise students together with the cities of Houghton and Hancock, and the Western Upper Peninsula Planning & Development Region (WUPPDR) office to critically analyze the current transit system operations. The plan also included a promotional strategy to reintroduce area residents to the transit system and increase ridership. Specific GPS and other wireless communication technologies were designed, built, and utilized to help better inform riders. Finally, the transit model was used to analyze the effects of using alternative fuels for the buses, including the possibility of electrification of the bus fleet.

2010

Florida A&M University: Statewide Small Farm Collaborative

Through the Ford C3 award, Florida A&M University's (FAMU) Statewide® Small Farm Collaborative implemented an on-farm demonstration and education model for sustainable, renewable biofuel production and energy that provided mobility and an essential alternative energy roadmap for the future. This innovative, student-led demonstration advanced a critical societal need for the development of alternative energy.

Georgia Tech: Recycled Bio-Fuel Hybrid School Buses

Students from the Georgia Institute of Technology partnered with Atlanta Public Schools (APS) investigated recycled biofuels as a retrofit energy source for powering hybrid school buses, with the goal of reducing transportation costs, lowering greenhouse emissions, and sustaining educational services critical to the viability of the community.

Kettering University: Community Greenhouse

Kettering University students, working with a local non-profit organization, were able to offer a practical and cost-effective method of using renewable energy resources in the organization's community greenhouse. With the Ford C3 award, Kettering's engineering students developed and implemented methods for better utilization of natural resources, such as solar and geothermal technology. By extending the growing season in this way, the greenhouse provides a source of sustainable employment to the residents of this financially depressed community.

Lawrence Technological University: Southwest Detroit, Carbon-Neutral Community

studio[Ci], a multi-disciplinary faculty/student team at Lawrence Technological University, used the Ford C3 award to partner with a Southwest Detroit community through the Southwest Detroit Development Collaborative (SDDC) to create a plan for our region's first carbon-neutral community. Through this initiative, studio[Ci] was able to define and model the key elements of a sustainable community to inform the future urban form of southwest Detroit. The team worked closely with four established SDDC committees: Green Infrastructure, Transportation, Housing, and Economic Development.

University of Michigan Erb Institute: Community Clean Energy Program

A team of students from the Erb Institute at the University of Michigan partnered with the Clean Energy Coalition to establish self-sustaining energy-efficiency and renewable energy funding mechanisms in communities across Michigan. The student team worked to develop "revolving energy funds" in eight Michigan cities. The work supported by the Ford C3 program allowed the cities to leverage a $4.4 million grant from the Michigan Public Service Commission as seed money, in order to create local pools of capital dedicated to investment in energy-saving municipal building retrofits.

2009

Georgia Institute of Technology: Bike Share Program

Through the Ford C3 award, Georgia Institute of Technology and Emory University developed an innovative urban bike sharing program. Using a unique, automated bike lock designed at Georgia Tech, this new system incorporated the functions of a bike-rack and check-out kiosk into a single, bike-mounted component, removing the need for costly infrastructure installations

Michigan Technological University: Winterization Program

Michigan Technological University expanded a winterization project for low-income elderly residents in the community. The project brought together college students participating in the Efficiency Through Engineering and Construction Enterprise with New Power Tour, Inc. Elderly residents were able to make their homes more energy-efficient for winter.

Michigan State University: Export Growth Program

Michigan State University International Business students assisted small and medium-sized companies in developing export plans for their products and services and provided help to implement those plans. Key to this program was the cutting-edge knowledge of newly educated students with the proper international training and experiences.

University of Michigan-Dearborn: Bakery Business Growth and Education Project

Faculty and students from the College of Business at the University of Michigan-Dearborn worked with the Capuchin Soup Kitchen of Detroit to provide assistance with business operations, growth strategy, and employee education. The project focused on helping the soup kitchen develop and evaluate the growth of its "On the Rise Bakery" —an initiative that anchors a successful rehabilitation program for formerly homeless or incarcerated men. The team of students and faculty created strategic and operational plans and delivered business education and training for bakery employees to help ensure the success of their growing business.

University of Illinois: Energy Efficiency Project

University of Illinois students used the Ford C3 award to utilize information technology in order to increase energy efficiency in Champaign-Urbana. The project's main goal was to create an energy utilization database of all apartments in the Champaign-Urbana community, where potential residents could check the efficiency of an apartment before they decide to sign a lease. The project encouraged landlords and tenants make their properties more energy-efficient by allowing them to request a free energy audit performed by student-led audit teams. The teams also distributed efficient power strips and light bulbs.

2008

Howard University: HBCU Inner-City Redevelopment Model

By continuing their aim at bringing much needed economic and business development to underserved urban communities, Howard University utilized their Ford C3 award to kick off "The Small Business Consulting/ Service Learning Program." This program focused on providing technical assistance and advisory services to small business located adjacent to Howard University, with a particular focus on small businesses in the Georgia Avenue Corridor.

University of Michigan - Dearborn: Campus of Hope

The College of Engineering and Computer Science at the University of Michigan-Dearborn used its Ford C3 award to leverage campus computing technology to develop and build sustainable communities that bridge the virtual and real worlds. The students built an online Campus of Hope that provided a structure for real-world project development. These communities were utilized to address pressing social problems through the a collaboration of college and high school students, the Second Life® 3-D (SL) virtual world and the Food Bank Council of Michigan (FBCM).

The Ohio State University: Sustainable Mobility Project

With the Ford C3 award, Ohio State Engineering and Business faculty and students worked together to provide a cost-effective, sustainable mobility solution to meet the needs of the Godman Guild after-school program. They provided transportation alternatives for children to and from the program since most parents do not have cars. Specifically, they providing a solar recharging port and a small fleet of multi-passenger electric vehicles for this purpose. OSU Engineering students designed, tested, and fabricated the car port and tested the electric vehicles for the neighborhood.

Purdue University: Engineering Projects in Community Service (EPICS) Green Habitat Build

EPICS, a program in Purdue University's College of Engineering, is an innovative, service-learning approach to teaching design. With the Ford C3 award, EPICS expanded its partnership for regional and national impact with the design and construction of a model Habitat home for Biotown, USA. EPICS students in the Ford C3 program designed and built an HFHI model house that balanced affordability and LEED certification. The house is built to train Habitat affiliates from the Midwest and across the country on sustainable building and green design.

Wayne State University: SEED Wayne

SEED Wayne's goal was to develop sustainable food systems on the Wayne State University campus and in the City of Detroit. The Ford C3 award allowed SEED Wayne to accomplish this goal by partnering with a wide variety of community organizations – including Capuchin Soup Kitchen, Gleaners, The Henry Ford, Fresh Food Access Initiative, Forgotten Harvest, and the Greening of Detroit and leveraging core university functions in teaching, research, community engagement, and food service operations. Students built urban gardens, designed composting stations, and provided ongoing assistance to community partners in their efforts to create sustainable food production systems.

Brazil

2019

University of Sao Paulo – Campus: São Carlos, Brazil

The Melius project was created to reduce or eliminate problems of unemployment, access to basic education and precarious living conditions for the Em Busca de um Sonho community. In partnership with the community, the team developed two business models: Novo Sonho Carpentry and Tecendo Sonhos Studio. The first consists of building furniture from reused pallet wood. The second is a handmade crochet studio that reuses fabric from local textile industries. Additionally, the project combats illiteracy in the community through a partnership with local schools where university students teach Portuguese and basic math in local classrooms. Lastly, the project supports the construction of sustainable houses from PET plastic bottles, a technology patented by the Enactus team's university.

State University Vale Do Acaraú: Santo André, Brazil

The Enactus UVA Sobral team operates in an agricultural community that lacks strong, solid waste management and struggles with food logistics and digital inclusion. In partnership with a local non-profit, the Enactus team held workshops on the proper disposal and reuse of waste, while promoting environmental education. The team also introduced individual composters, which use low-cost materials to produce manure and natural fertilizer through the decomposition of leftovers. In order to reuse and reduce water consumption in homes, the team developed a greywater filter and a drip irrigation system. Additionally, the team is working on an aquaponics system to strengthen food production. To assist in the sale of food, the team started Bodega Sustentável – a fair that brings together farmers and artisans of the region, while providing income, appreciation of family farming and economic development.

UFABC- Federal University of ABC: Santo Andre, Brazil

Alfatech reduces illiteracy in public school students who have trouble learning. Enactus UFABC has created an individualized teaching program with interactive activities that give children a new method of learning. Activities are carried out on a software platform developed by the National Institute of Science and Technology on Behavior, Cognition and Teaching (INCT-ECCE). The team partnered with the institute to improve and expand the software. They also partnered with the Coordination of Pedagogical Studies for Curricular Studies (CEPEC), which is responsible for selecting the benefited schools. Each school, directed by the Education Department of Santo André, has hired two teachers to work on the project. They receive specialized training on the use of GEIC, teaching methods, and evaluation of results. Currently, Enactus UFABC is working with the Center for Mathematics, Computing and Cognition of UFABC to develop an additional program curriculum for mathematics.

UFPA – Federal University of Pará: Belém, Brazil

Minerva is a social business dedicated to reducing gender inequality and providing safe, quality home repair services (HRS) for women, by women. In Brazil, over 23 million women are harassed or violated by men every year. Despite this, women are unable to hire HRS offered by female professionals, who face challenges in marketing their services and receive, on average, 30% less than male counterparts for the same services. In partnership with a community-based organization, UFPA Enactus trains women to provide HRS, such as plumbing, painting, etc. Additionally, the Enactus team has created a female-exclusive digital platform that registers and lists the female professionals, connecting them to female clients who need services. To encourage continuous professional qualification and economic empowerment, repairwomen undergo a gamified approach to training and income, unlocking higher percentages of payment-per-service, according to the number of completed services, client satisfaction

and training certificates received. In February 2019, an alpha-stage landing page was launched, allowing registry and filtering of female professionals to begin.

2018

Earth University: Dirt to Power Initiative

Dirt to Power Initiative (DPI) is a project committed to educating local community dwellers (particularly women, children and youths) on sustainable approach to food production using locally available waste materials in the community to create a functional and sustainable family garden. This park with an agriculture element, as well as recreation is the backbone for community engagement. This is not just a promotion of food security. This common area transformation is open to all, regardless of age or social standing. Creating a park from items thrown away tactfully displays beauty from waste. As the cost of food staples increases, malnutrition, hunger and starvation increase. The project is set on a 36-month timeline with the first year encompassing design, construction. Community engagement begins in year two, followed by international tours and promotion.

Metodista – Methodist University of São Paulo: São Paulo, Brazil

The Enactus team, in partnership with the Ribeirão Grande Quilombola community in Barra do Turvo, São Paulo, constructed an industrial shed to increase the production and commercialization of brown sugar. The shed will be powered from a biodigester that runs on the waste from the sugar production. The increased production will generate income and strengthen the local economy by creating jobs for young people in the community. The team has created business and design plans for the industrial shed. The marketing students on the team have developed a website for the partnering cooperative, as well as a logo for their brand. Future plans for the project include the extension of cooperative proposals beyond sugar production, implementation of other technical resources and tools, support on legal and environmental issues related to land demarcation; and support in educational matters that meet the needs of the Quilombola community, its culture and way of life.

State University Vale Do Acaraú: Sobral, Ceará, Brazil

UNIVERSIDADE ESTADUAL VALE DO ACARAÚ

The SerTão Sustentável project promotes the development of a sustainable community of 60 agricultural families by embracing three aspects: social, environmental and economical. Through low-cost training workshops, the team encourages social entrepreneurship and community empowerment. Before the project, the community faced food waste and water issues. Since the implementation of the project, the Enactus team has developed a relationship with community associations and a local NGO, which has facilitated the development of the project activities and strengthened working ties. The team applied engineering and environmental concepts on the implantation of technologies that led to the reuse of greywater and the optimization of an irrigation system. Additionally, the team created the Bodega Sustentável, a touring tent that sells local products.

UFABC- Federal University of ABC: Santo Andre, Brazil

UFABC

Illiteracy is a latent problem in Brazil. The Alfatech project helps public school students learn to read through an individualized, computer-based program. Interactive activities on the Alfatech software offer children a new way to learn. The team is worked on a mobile app to make the program more attractive to students and offer greater access to areas without desktop computers. The development of the app was done in partnership with a UFABC professor, who selected students to complete a research project on the app, and their scholarships were paid with resources received by the Ford C3 grant. Another aspect of the project was adapting the software to teach mathematics, another recurring problem within Brazilian public schools. A pilot version of the math program was tested with children with autism and the results were positive, but so far there has been no replication in any school in the municipal network of Santo André. The Alfatech project team has a strong relationship based on good communication, transparency and trust with the San André Department of Education and the area professors, which contributes to the sustainability of the project.

UFPA – Federal University of Pará: Belém, Brazil

Water in the Amazon is a paradox: the region has abundant rainfall and more freshwater than the rest of the world, but over 10 million people lack access to clean water. Amana Katu (AK) is a social business that works with a regional community NGO, Movimento República de Emaús (MRE), to develop and sell two cost-efficient, innovative products that promote sustainable water use in urban homes and agriculture. The pure rainwater collection mini-systems cost about $70 USD each, and have been adapted for use in urban residences, where space is limited. The second product is an innovative drip irrigation system linked to a hybrid rainwater collection kit that uses up to 95% less water than conventional irrigation technologies and saves 15% more water than other drip irrigation processes.

2017

Brazil University of Santa Catarina State, Science Center of Administration and Socioeconomics (ESAG UDESC): Florianópolis, Brazil

The Enactus team at the University of Santa Catarina State worked to promote economic development and the preservation of coastal mangroves through the sustainable practice of apiculture, or beekeeping. The Arapuã project provides training in apiculture to isolated, low-income families in the coastal communities. They are also taught to produce products from their honey that can be sold for profit. So far, four training courses have been conducted and the team is providing business and management support. The aim is for the project to become sustainable, where the participants manage production, the selling process and their profits successfully.

UFABC- Federal University of ABC: Santo Andre, Brazil

The goal of the AlfaTech project was to eradicate illiteracy in Brazil by empowering children through technology. The Enactus team at UFABC developed software to help teach elementary school children basic reading skills through interactive games. Through a partnership with Santo André City Hall, the Alfatech software has been disseminated to three public schools, where the teachers are using the program in their classrooms to help raise literacy rates. Alfatech implements teaching through technology, which compliments the current teaching methods employed in public schools. The software activities help students who are having difficulty learning the alphabet while increasing their interests in the classroom.

Federal Institute of Education, Sciences and Technology of Ceara (IFCE Iguatu): Limoeiro do Norte, Brazil

Project Mudas was started to ensure sustainable production and income for family farmers. The Enactus team at IFCE Iguatu developed lectures and courses on fruit and vegetable production, as well as entrepreneurship, waste reduction, technology, and other topics. Today, the community is producing and marketing sustainable products thanks to what they have learned through diverse activities. This year, the project focused on reducing wastewater to optimize production through a micro-sprinkler irrigation system. The new technology is affordable and has helped combat drought in the region. It has also generated economic empowerment for 25 families and five schools have benefitted from the project.

ITA- Technological Institute of Aeronautics: São José dos Campos, Brazil

The Solaris project uses solar energy as an alternative to electrical power in underdeveloped communities. The ITA Enactus team worked with community leaders to fabricate and implement locally produced solar panels to meet the community's energy demands. These solar panels not only provide clean energy but also help create a self-sustainable community and improve the lives of the residents. In 2017, the team worked with the Beira Rio community to create a school powered by a photovoltaic system. The school was built in partnership with a local church, ITA students and community residents. The team plans for it to serve as the center for their future actions in the community by holding workshops on arts, robotics and solar energy there.

2016

Lutheran University of Brazil: State of Rio Grande do Sul, Brazil

The Enactus team from Lutheran University of Brazil will partner with a local church to build mobile, floating vegetable gardens supported by recycled plastic bottles with eight households along the Amazon River. The team named their efforts "Project H_2ORTA," inspired by the chemistry representation of water, H_2O, and the Portuguese word for vegetable garden, "Horta." In addition to leveraging recycled materials, Project H_2ORTA will create a system of water treatment and reuse to facilitate irrigation in the vegetable gardens during the river's dry season. Community members will be trained by the team to manage the eco-friendly gardens and sell the produce in local markets, resulting in a positive impact on the environment and economy.

State University of São Paulo – Faculty of Science and Letters (UNESP Assis): São Paulo, Brazil

The Enactus team is worked with the Rural Producers Association of Assis, representing 200 family farmers, to advance environmental and agricultural sustainability by constructing a biodigester to produce fertilizer. The fertilizer generated by the biodigester will reduce the chemical fertilizers used by farmers and improve the production and quality of foods while decreasing expenses. The biodigester can also produce bio gas as an alternative energy source and generate carbon credits. In addition to the positive environmental impacts generated, the farmers producing the eco-friendly fertilizer will benefit from selling their product to other farmers for an additional source of income.

UFABC- Federal University of ABC: Santo Andre, Brazil

Partnering with an organization that assists mental health patients and fosters social reintegration, the Enactus team established a cooperative to provide job opportunities by creating and selling products made from recyclable materials. The project's core products are soaps made with used cooking oil from local restaurants, wood crafts made from waste from construction sites, bags made from discarded banners and plants cultivated from discarded seedlings. The ultimate goal of the project is to address employment and inclusion challenges faced by those with mental illness, empowering clients to learn a new skill set and earn an income while building their confidence.

UFRA- Federal Rural University of Amazon: Belém, Brazil

The Enactus team is partnering with members of a recycling cooperative to improve their livelihoods by advancing the environmental and financial sustainability of their business. After performing a needs assessment, the team discovered that wood pallets are one of the cooperative's least profitable materials. Typically, wood pallets are given to bakeries for burning in furnaces in exchange for bread. The team's project creates a new income stream for pallets by training collectors how to transform the wood into furniture and décor. Ultimately, the team envisions the creation of a new business, including an e-commerce site, completely managed by the cooperative members.

2015

Centro Federal de Educação Tecnológica Celso Suckow da Fonseca: Rio de Janeiro, Brazil

Continuing from last year's Ford C3 program, the Enactus team has partnered with the Pedra Branca Organic Farming Association (Agroprata) to empower communities of organic producers by creating technological and creative alternatives to optimize production processes and minimize waste. In the first year, the team aided the association in creating a new product line and increasing overall sales. This year, the team plans to develop a two-part system to optimize workflow and reduce waste. To do so, a zip line will be installed to improve the flow of harvesting fruit, eliminate the use of donkeys as transportation and decrease soil compaction. The second development will be installing solar panels on the association's headquarters and at locations that do not have electricity. The solar panels will increase efficiency and are projected to save the association 50% on electricity costs.

University of Sao Paulo – Campus: São Carlos, Brazil

The Santa Helena settlement near São Carlos is home to 14 farming families in need of more sustainable agriculture methods and increased livelihoods. The Enactus team is working with the families to improve the crops of legumes, fruits and vegetables grown and sold to feed and financially support the community. The team created a plan to use biofertilizer on the soil, install a water dump, irrigation system and home chlorination system and teach the farmers business and marketing skills. Through the project, the farming families will see an increase in crop yields and sales while improving their health as a result of cleaner drinking water.

2014

Centro Federal de Educação Tecnológica Celso Suckow da Fonseca: Rio de Janeiro, Brazil

The Federal Center for Technological Education Celso Suckow da Fonseca students empowered organic farmers to improve their livelihoods by transforming blemished persimmons unfit for sale into profitable vinegar and dried fruit. The team partnered with Pedra Branca Organic Farming Association (Agroprata), a local organic farming association, to expand their Agroprata/Aggros project from 17 to 42 farmers by the end of the year. After establishing weekly sales at an organic market, the farmers have successfully increased their income while reducing food waste.

Insper: São Paulo, Brazil

The Insper team created employment opportunities for marginalized individuals by training them to produce and sell affordable eye glasses to low-income families. Individuals employed by the Renovatio – VerBem program face a variety of challenges, including homelessness, unemployment and prior imprisonment. The individuals were trained to produce lightweight glasses while volunteer doctors provide prescription services. Eight individuals were trained to produce glasses for 700 individuals in need of affordable glasses.

China

2015

Guangdong Pharmaceutical University: Guangdong Province, China

The Enactus team has been working with pig farmers to improve their livelihoods by transforming pig waste into organic fertilizer. The farmers were taught how to ferment the pig waste and convert it into fertilizer so they can sell it to wholesalers. In the project's first year, the farmers' income grew, and they were able to then hire more employees. In the upcoming academic year, the team will continue the project and take it to scale to impact additional farmers.

Huazhong Architecture University: Wuhan, China

Peanut farmers in Shangxinji, China needed to find a sustainable use for discarded peanut shells. After conducting research on waste and fungi, the Enactus team created a solution to utilize discarded peanut shells to grow fungi that can be used to produce earthworms. The peanut farmers can then sell the earthworms for additional income to fishermen. As a result, fishermen will have an affordable, local source of earthworms, the livelihoods of the peanut farmers will be improved, and waste will be reduced.

Northwestern Polytechnical University: Xi'an, Shaanxi, China

Engineering students on the Enactus team have developed a low-cost and easily-assembled water filter, which will meet the need for clean water in the Shan'xi province. The team has developed a social enterprise that will train entrepreneurs to assemble and sell water filters for a reliable source of income. The team's water filter has been certified to produce healthy and safe drinking water. The ultimate goal is to not only lift people out of poverty through entrepreneurship, but also provide affordable, clean drinking water for people in need.

Tianjin University: Tianjin, China

In 2013, dairy farmers in Tianjin saw increased competition in milk production; some so severe that they were forced into bankruptcy. The Enactus team researched a solution to help the farmers diversify their income and found opportunity in breeding earthworms. A cooperative was established with multiple farmers to produce and sell the earthworms, securing formalized agreements with large-scale buyers. The team developed leadership training for the cooperative to easily educate incoming farmers. New communities will be added to the project in the upcoming academic year.

Zhongyuan University of Technology: Zhengzhou, China

The Enactus team developed a multistage project to address the excess kitchen and animal waste in Zhengzhou communities. The team will help area farmers establish an earthworm cooperative to mass produce and sell the product as organic fertilizer. The team will educate the community members on the benefits of farming earthworms and help the cooperative establish optimum farming methods. The project aims to improve the livelihoods of the farmers, reduce waste and create an organic fertilizer for local grape farmers.

2014

Harbin Engineering University: Harbin, China

The Harbin Engineering University students taught 12 disabled women to create and sell fish skin paintings, a traditional Chinese art. In addition to producing the art, the women received training regarding pricing, marketing, online sales and negotiation skills. The Many Fish Many Fortune project also helped the women leverage a variety of sales channels, including exhibitions, online platforms and tourist shops. The team also worked with local government leaders to establish the art as an official souvenir of the Tongjiang area. As a result, the women have increased their incomes and improved their social integration while promoting traditional Chinese culture.

Jilin University: Changchun, China

The Jilin University students created an innovative solution to reduce rural waste by converting garbage into enzymes to produce eco-friendly multi-purpose cleaners. After providing samples to potential customers, the team found that 90 percent were interested in using the team's cleaner. With the support of a Dinghua technology company, the team mass produced the product, which sold more than 700 containers in one week with plans for expansion in the future.

Nanjing Agricultural University: Nanjing, China

The Nanjing Agricultural University students partnered with a struggling straw processing factory to teach the employees how to transform straw, which was once discarded and burned, into an eco-friendly fertilizer. The Reborn the Straw project mastered a new technology that heats straw without oxygen, resulting in carbon fertilizer. Several tests were conducted to perfect the new fertilizer's effectiveness. The team's innovations benefit the factory and local farmers simultaneously.

Sun Yat-sen University: Guangzhou, China

The Sun Yat-sen University students trained 21 villagers from a poor, isolated island to utilize banana leaves to cultivate and sell mushrooms. For decades, banana farms were the main source of income. However, 10 years ago, Panama disease struck the island and severely affected the crop quality and output. The Dajisha Island project saw opportunity to transform fields of abandoned banana leaves into cost-saving mushroom fertilizer. By using organic fertilizer, the team has shown farmers how to reduce their environmental impact while generating revenue from their new mushroom sales.

Germany

2019

Rohr- University of Bochum: Bochum, Germany

Gaia Greenhouses fights malnourishment and harvest scarcity in Rwanda by providing small farmers with a holistic business model consisting of a bio-fertilizer, a storage system to prevent mold and high-quality seeds. In cooperation with the electrochemistry department at Ruhr-University Bochum, the project will provide farmers with a nutrient measuring system allowing them to analyze the fertilization and watering needed to optimize crop output using organic ingredients. The Enactus team strives to give small farmers the opportunity to make their agricultural production into a business. The project participants will have the opportunity to harvest their crops together and process their surplus into products, such as potato chips. Together with project partners, these products can be sold at fair prices. The revenue will then be used to empower small farmers in Rwanda and surrounding countries.

University of Cologne: Cologne, Germany

Socialbnb is an online platform that connects travelers with NGOs that offer unused rooms as temporary homestays. The innovative approach aims at stabilizing the cash flow of NGOs, which sustainably reduces their donation dependency, thus increasing the long-term success of their aid projects. For example, an NGO such as a local English school in Cambodia can list their unused bedrooms as homestays on www.socialbnb.org. Socialbnb shows the homestay and its merits, as well as the profile of the NGO. It features the aid project the traveler will be supporting by staying at the homestay. Every project states specific financing goals to ensure high levels of transparency. The benefit of the tourist is a unique and authentic way to experience the country while doing good for local communities. By supporting the aid project, every tourist will help shape the local community in a much-needed way.

University of Passau: Passau, Germany

Inn.mybag turns materials that would otherwise be thrown away into something brand new. The business idea focuses on reusing roll-up banner ads and sewing them into unique, eco-friendly bags. With the assistance of a local business incubator, the Enactus team is able to adapt to the needs of their border community and help solve the current challenge of integrating refugees into the local society and job market. So far, the team has conducted market research, designed the bag, established lasting partnerships with local companies and trained artisans to make the bags. The bags

are currently sewn by two women refugees from Syria. By establishing Inn.mybag as a brand, the Enactus team has improved the women's' skills in not only creating high-quality products but also in business-related matters. Through the project, the livelihoods of women will be sustainably improved.

2018

University of Hohenheim: Stuttgart, Germany

In Germany, 8.6 million umbrellas a year break and are thrown away, even though they consist of many usable resources. The Aufgefangen project created a sustainable recycling system for umbrellas. The University of Hohenheim Enactus team established a business that deals with the collection of old and broken umbrellas, separation of the metal and fabric, production of a new product and distribution of the product. In the first project stage, the team organized a week-long collection campaign during which they collected over 400 umbrellas in six communities. Six local teenagers then separated the metal and fabric, then cut the fabric according to a sewing pattern. The fabric was then stitched, labeled and a drawstring was added by prisoners in the Schwäbisch Gmünd penitentiary to produce the final product, a sports bag. For the distribution of the sports bags, the team plans to sell them in small stores and online. The long-term goal is to build a steady production cycle with regular collection, production and distribution of the umbrellas and sports bags.

University of Mannheim: Mannheim, Germany

More than 1.6 million people in Germany are wheelchair users. Even though those 1.6 million people have very specific clothing requirements, only a handful of suppliers serve their special needs. Clothes offered by those few fashion companies are usually very expensive and out of fashion. To close this gap in the market, Enactus Mannheim started a social entrepreneurship project: BLAUHERZ. Together with a local community partner (Pilgerhaus Weinheim), the project provides people with disabilities access to fashionable, functional and affordable clothing. The clothes are handmade by refugees from Syria that found a home at the Pilgerhaus. Therefore, the project not only benefits people with disabilities but also refugees from Syria who are rebuilding their lives in a new country.

University of Wuppertal: Wuppertal, Germany

The project Kleine Lichter (Little Lights) produced luminous pendants for children to help keep them safe in traffic. The project aims to helps integrate people with mental disorders into society by providing them jobs. The light produced is used in the mobility sector since it is meant to make children more visible in traffic and can be seen as a smart upgrade over vests which are currently the main means of making children visible in traffic.

2017

Rheinisch Westphälische Technische Hochschule Aachen: Aachen, Germany

Rheinisch Westphälische Technische Hochschule Aachen (RWTH) Enactus developed project AmaPro to provide affordable prosthesis products using 3-D printers. After developing and testing their first prostheses locally, the team started a pilot project in Casablanca, Morocco where the demand for low-cost prostheses is high. In Cycle Four, team-members traveled to Casablanca for a second time to support the community based entrepreneurial partner by teaching him how to produce the prostheses. In Aachen, the team acquired new potential business partners and prosthesis experts, to improve the technical aspect of their project. They also advertised the project at fairs and university events.

Technical University of Munich: Munich, Germany

The Enactus team at the Technical University of Munich trained Syrian refugees to handle bees and produce honey to address two problems – the slow integration of refugees into the community and the danger posed to bees by colony collapse. The project is helping beekeepers by recruiting an excited and prepared workforce while also helping the refugees adjust to work and social life in their new home of Germany by teaching them about honey and bee cultivation. To generate profit, the students and refugees teamed up with Freudenberg Chemical Specialties to place their operations on the rooftops of their office. Refugees produced, packaged and sold the created product directly back to the company.

University of Cologne: Cologne, Germany

Enactus University of Cologne has created an event agency called “Café without Words” to provide deaf people with an opportunity to enter the labor market and to offer a platform to improve their integration into society. Through their project, the team collaborates with people from the deaf community to organize inclusive events at restaurants. During the events, deaf waiters help customers use menu cards with sign language and lead activities to enhance interaction between hearing and deaf guests. In Cycle Four, the project saw increased booking requests and applications. To fulfill these needs sustainably, the team decided to turn the project into a social enterprise. Two former team members and business students are now executing a nationwide expansion of CoW. They have already won several start-up competitions in the last few months and CoW was accepted for a prestigious start-up accelerator program. Additionally, the project was selected for a TV documentary about social start-ups by WDR, West German Broadcasting Cologne.

2016

Rheinisch Westphälische Technische Hochschule Aachen: Aachen, Germany

The Rheinisch Westphälische Technische Hochschule Aachen student’s project, reBubble, aimed to significantly and sustainably reduce the amount of soap waste produced by hotels. The team created a self-sustaining enterprise that collects and recycles discarded soap, at no cost to the participating hotels, while still generating a profit and creating jobs. The project collaborated with Lebenshilfe Aachen Werkstätten & Service GmbH, an organization that provides employment opportunities for people with disabilities, to generate additional employment through the soap recycling process.

University of Technology Bergakademie Freiberg: Freiberg, Germany

The University of Technology Bergakademie Freiberg team is closely collaborated with the small village of Hetzdorf to strengthen their local market. With only one butcher shop within walking distance for many of the 950 residents, shopping for basic goods can be difficult.

Ghana

2019

Ghana Institute of Management and Public Administration: Accra, Ghana

The Falefale Project is dedicated to eradicating open defecation in Ghana by providing areas with little or no toilet facilities, the facilities they need so community members can practice proper hygiene. The project will be carried out in two phases. First, the Enactus team will launch a social media campaign to educate the residents about the need to end open defecation. Second, a toilet facility will be built in Teshie Leesheii. Unlike the ones previously constructed, the toilet facility will be fabricated from aluminum making it less expensive, faster to build and moveable. The project will be sustained by a service fee plan, where patrons will be required to pay a fee in order to use the facility. This fee will serve as the main source of revenue for maintenance. In the long term, the team plans on partnering with biofuel fuel firms. These partnerships will serve as a revenue stream that will sustain the project into the foreseeable future.

KNUST- Kwame Nkrumah University of Science and Technology: Accra, Ghana

Reccoplast is a water and sanitation project that tackles the issue of plastic pollution in the environment. It involves recycling plastics into paver bricks. The waste generated serves as a source of raw materials to produce the bricks. To ensure a self-sustaining project that can generate revenue, the KNUST Enactus team has placed waste bins in the community, which are supervised by waste bin guards. These waste bin guards deliver waste generated during the day to the production center for a fee. At the same time, waste generated in schools is collected and delivered to the center. The team has trained members of the Nsawam Zongo Youth community to produce the bricks. Each brick is produced at a unit cost of $0.20 and a selling price of $0.40. To ensure the effectiveness of the project, the team divided the training sessions into three steps: production, entrepreneurship and marketing.

University of Mines and Technology: Tarkwa, Ghana

In Ghana, maize is the largest staple food. It is the base for several traditional food preparations, and it is a good source of vitamins, minerals and dietary fiber. Despite the nutritional and economic importance, Ghana loses about 318,514 tons of maize annually due to post-harvest loss. To address the issue, the government of Ghana, the private sector and some academic institutions have developed new technologies to help curb post-harvest loss. However, the traditional system is still widely used in all the ten regions of the country due to its low cost and availability. Taking these factors into consideration, the UMat Enactus team aims to improve the situation through an innovative solution called Maize Preservation Project (MPP). Their vision is to partner with their university to build an affordable system that will preserve the maize. Then, the team aspires to create employment opportunities and later cooperatives that will allow people to be part of a positive change in their community.

2018

University for Development Studies: Tamale, Ghana

Project Feed Livestock employs innovation to tackle the scarcity of animal feed during dry periods when fresh, palatable feed is absent, and animals usually go hungry. Thousands of hectares of grassland can be seen throughout the upper east region of Ghana. Animals do not consume these dry grasses as they are unpalatable and lack most of the attractive nutrients. These dried untapped grasses can be transformed into an animal feed. To make animals consume an otherwise unpalatable, but nutrient-rich feed, the Enactus team devised techniques to make animals want to feed on the product. Mixed with dried groundnut plants, it is nutritionally balanced. The aroma of fresh grass is induced by volatile compounds that make it is easy for the animals to detect. In the last year, the project has increased animal production for 97 farmers. Animal nutrition and weight increased, boosting the animal and meat industry. The income of animal farmers has almost doubled. So far, the project has employed 24 workers serving at various stages, ranging from production to marketing and improved their standard of living. Poverty and hunger have also been reduced through the creation of jobs.

University of Ghana: Accra, Ghana

Palm oil is consumed by every household in Ghana. To produce the oil in large quantities for consumption, local women use firewood as a source of energy, along with some toxic materials such as used car tires and waste plastics. In doing so, the plastics and tires release toxic substances into the atmosphere. The women, therefore, become exposed to the toxic smoke, resulting in health issues. The Enactus team in collaboration with the School of Engineering has designed an ultra-modern stove to help cook the raw palm oil in a safer, healthy and hygienic way. The stove is designed to use the fiber from the palm nut as its main energy source. Any biodegradable substance can be used in addition to the palm fiber as a source of energy. The biodegradable substances are placed in a compartment within the stove, and a chimney on the outside directs the small amount of smoke that is produced into the atmosphere. This allows the women to cook the raw oil faster and safer. This year, a local artisan was trained to build the stoves and is available to repair damaged stoves in the community. Local women produce and accumulate the biochar, which they use in their own homes and sell to area farmers.

University of Mines and Technology: Tarkwa, Ghana

Kissi Township is a major alcohol distilling hub in the central region of Ghana. Raw sugarcane is processed into alcohol for both local markets and exports to neighboring communities. However, distillers barely make ends meet. Production of the alcohol generates many by-products, which block drains and roads, is burned in the open or used by women in the community in for domestic cooking. Unfortunately, burning these by-products releases pollutants into the atmosphere, chiefly CO2. To curb these challenges and provide sustainable markets for local alcohol distillers, Enactus UMaT developed a clean and climate-smart energy source, Adepa Eco Gel, for domestic cooking and heating from sugarcane bagasse left after alcohol production. The use of biomass (sugarcane bagasse) makes it safe, environmentally friendly and has no threat to food security, unlike other first-generation biofuels which require huge farmlands (plantations) to produce. The project now has community support and the local alcohol distillers are more willing to cooperate with the Enactus team.

2017

Catholic University College of Ghana: Sunyani, Ghana

The Prison Made project by Enactus CUCG aimed to provide an economically sustainable venture and improved living conditions that will aid in the rehabilitation of Sunyani Prison inmates. Through the project, inmates learned how to produce leather slippers and sandals, while acquiring entrepreneurial skills they can use upon their release. Funding from Ford C3 has allowed the team to provide an instructor and purchase the necessary tools and equipment to facilitate and enhance the training. In 2017, the team was able to create interpersonal relationships with the inmates, which fostered their learning and made them enthusiastic about the project. Overall, 42 people were directly impacted, and 22 inmates were educated on financial literacy.

KNUST- Kwame Nkrumah University of Science and Technology: Kumasi, Ghana

Enactus KNUST started the Bidigreen project as a way to create a more efficient and sustainable method for producing charcoal, reduce deforestation, as well as train, employ and empower people toward economic sustainability. Bidigreen is a sustainable alternative to hardwood charcoal produced from crop waste. It is similar to wood charcoal in appearance but can burn two to three times longer and is smokeless. The team identified a community where a significant number of women were unemployed, but there are also food operators that could supply the raw materials. The business approach is to have a low production cost that enables selling on the market at a significantly cheaper price than charcoal briquettes. The team achieved this by incurring little to no cost for obtaining raw materials.

2016

Catholic University College of Ghana: Sunyani, Ghana

Working in Sunyani, a regional capital in Ghana, the Enactus team is partnered with the Centre for Social Innovation to revitalize an abandoned public space and bring recreational opportunities to the local community. The team's project aimed to revive the area's park and gardens, children's library and recreational center. Through the new space, the team plans to not only host educational opportunities

for children, outdoor events, health clubs, and more, but also provide employment and income-generating opportunities for the community.

Valley View University: Accra, Ghana

The Enactus team implemented a water purification project to bring safe drinking water to the rural community of Nsakye. The team constructed two new boreholes with a treatment and distribution system while also directing existing stream water into a storage tank for its own purification and distribution. A local water consultancy firm has agreed to help train community members how to operate and maintain the water treatment systems to ensure long-term functioning. Furthermore, the team educated farmers on environmentally-friendly agricultural practices to further improve their incomes and the local environment.

2015

University of Energy and Natural Resources: Sunyani, Ghana

The Enactus team saw the need in their country to create an alternative energy source to offset the high-demand of electricity. To do so, the team will create The Dynamo, a generator that will store energy produced in everyday tasks, such as riding a bike, to be taken indoors and used to subsidize electricity use. The team's engineering students will design The Dynamo and then employ local disadvantaged and/or disabled residents to manufacture and sell the product. This project ultimately aims to reduce the load on the electrical grid across Ghana while creating employment for those in need.

Kenya

2019

Egerton University: Baringo, Kenya

The Maji Safi U.V. Water Treatment Project is an initiative that provides clean and safe water through ultra-violet treatment. Enactus Egerton University is working with a community-based organization to help the people of Baringo who do not have access to clean water. The organization has built community water points around the region and Enactus provides a method of cleaning the water using a solar energy source. The project utilizes germicidal lights which emit UV rays to disinfect the water. The germicidal lights are powered by solar panels, which are installed alongside

them at community water points. The lights have proven effective as they have the ability to clean over 100 liters of water in less than 15 minutes. Four site locations were built in 2018, but none have been built so far in 2019 due to a shortage of funds.

Moi University West Campus: Eldoret, Kenya

In recent years, Kenya has faced severe food insecurity problems. Project Alleviate is an agricultural solution to these problems that offers customized training on simple mushroom farming, automated mushroom conditioning systems, access to expert advice, access to standard seeds and a market for the final product. The mushroom structure is a grass thatched mud house with solar powered and/or rechargeable mist sensors. Enactus Moi University West Campus plans to develop a mobile application where the system will be integrated. The application will also serve as a platform where farmers can buy seeds, market and sell the final product. During the first farming period, the Enactus team takes the farmers through a series of hands-on trainings. For farmers who may not have enough capital to install the equipment, the Enactus team is setting up a credit plan that will allow farmers to have equipment installed and then recover the money as per an agreed payment plan.

Multimedia University: Nairobi, Kenya

Smart Bins is a project that monitors waste levels and assists in waste sorting. Organic waste is composted and used as fertilizer. Plastics, metals and paper are recycled and then given to companies that use them as raw materials for their products. The smart bins use an incentive system that allows users to earn points from their garbage waste. Once a user dumps waste in the bin and swipes his or her smart card, he or she will be awarded points depending on what was in their trash. The accumulation of points can be redeemed at specific vendor locations for items such as food or clothing, which in turn lowers the participant's cost of living. The Enactus team strives to educates the community on how to categorize their waste. Simple education on waste management will go a long way for the betterment of the community.

2018

Jaramogi Oginga Odinga University of Science & Technology: Bondo, Kenya

The Panda Kenya project addresses declining forest coverage caused by illegal logging and charcoal burning. First, the team established tree nurseries to train the community on tree nursery management. Second, they implemented the use of biomass fuel briquettes to replace wood as a sustainable energy source. A great milestone for the project was reached when the government of Siaya and the Kenya Forestry Research Institute partnered with Enactus JOOUST to provide much needed professional guidance. Enactus

students are currently preparing the tree nurseries and training community members, as well as creating business models that make tree vending profitable. Additionally, engineering students have been part of the design process for a mechanical compressor for the biomass fuel briquette production.

Kenyatta University: Nairobi, Kenya

Aqua Touch addresses water shortage in Kenya, which is a major hindrance to development in most regions. The project is an innovative way of wastewater management and recycling to ensure access to clean and affordable water. The innovative aspect of the project is that it uses readily available materials to recycle water. This is achieved by subjecting the water to pass through charcoal grains and sand pebbles where the sand will absorb the bad smell and color, aided by the charcoal grains which will absorb the bad smell in the water. The project was brought to life by students from different schools at Kenyatta University. School of Engineering, Art and Design students helped design and construct the prototype of the project and explained how it would work. Students from the School of Pure and Applied Sciences aided in inspecting and giving reports on whether the end water from the process would be safe for different uses. School of Business students helped prepare the project budget. The most successful aspect of the project is the unification of two communities. The project was established between two communities with different interests in the mode of operations, but the project provides clean water for both and is based at a location where they can meet and use the same resources. As a result, the project now serves as a symbol of unity.

Moi University: Eldoret, Kenya

Eldoret, with a population of approximately 250,000, produces more than 15 tons of waste a day. Some of it ends up in illegal dump sites, which creates health hazards. The Enactus team developed a model that uses glass and plastic waste to make a wide range of products. The process involves collecting glass and plastic waste from dump sites, crushing the glass into small pieces, melting the plastics, mixing the melted plastics with the crushed glass, then molding the mixture into desired products such as paving blocks, table tops, stools, etc. and left to cool. The communities have now formed garbage collection groups that collect domestic waste from residential and business areas, separate it and turn it into income. So far, Enactus Moi has trained over 15 wasteprenuers and has a team of energetic students striving to achieve great results.

2017

Jaramogi Oginga Odinga University of Science & Technology: Bondo, Kenya

This water and sanitation project focused on the provision of clean and safe, sustainable water to the community of Bondo. Through their project, Enactus JOOUST hopes to prevent water-borne illnesses, improve the land through irrigation, reduce water losses, improve efficiency in water facilities, and end the discharge of untreated wastewater in the community. The Yala River was selected as the water source because if appropriate herding practices are employed and the locals are educated on correct water management and conservation practices, the river will remain a sustainable source. The construction of a reservoir, water treatment plant, generator house, piping and a water tank has already been completed. The team recognizes that not all the problems in the community will be solved by the availability of water; however, they see their project as a chance to make a positive impact on society.

Maseno University: Kisumu, Kenya

In 2014, Enactus Maseno identified the need for reliable electricity in their community. To meet this need, they developed a self-sufficient generator made form discarded electronic devices that produces green energy without the use of fuel or any other source of energy. The students planned to use the generators in rural schools as an alternative electrical energy source, which is needed due to inconsistent power supplies and the high cost of connecting to the national grid. To further the project, the team planned to lease the generators through their community-based organization partner, Genesis, with 37% of the rental cost coming back to the project.

University of Eldoret: Eldoret, Kenya

Poultry farming plays an important role in the economy of Kenya. As a result, the Enactus students at the University of Eldoret identified chicken feathers as a rapidly increasing source of waste. They devised a plan to turn the feathers into a raw material that could be used as insulation for sleeping bags. The feathers work by trapping a layer of dead air around the body to keep the user warm and reduce body heat loss. These sleeping bags not only reduce waste but also provide new job opportunities for women and youth groups in the community. The team aims to make the bags

affordable and readily available for camping, traveling and home use. Working closely with members from the schools of Entrepreneurship, Business Management and Fashion and Design, the team has been able to establish good designs, lay down tactical sales strategies and manage the project as a sustainable business.

2016

University of Eldoret: Eldoret, Kenya

An estimated 30% of food produced by farmers goes to waste due to inadequate storage. The Enactus team looked to reduce food waste and protect the income of farmers by designing and building solar powered cold rooms to provide an affordable storage solution. The team's design includes low cost materials and sensor-based technology that can monitor the storage environment and alert users via SMS to changes in temperature and humidity. Farmers can subscribe to the cold room at daily, weekly or monthly rates, allowing farmers to store their food year-round at an affordable price.

University of Nairobi: Nairobi, Kenya

The Enactus team partnered with local rehabilitation centers that serve "street children"—children who are forced to live and work on the streets. The aim of the project is to create handicrafts, such as wall hangings, handbags, clothes and jewelry, using mostly recycled material that can sell with generous profits to financially support rehabilitation efforts while providing a creative outlet for the participating youth. The team trained caregivers and youth while engaging in mentorship and follow up programs with the youth to provide stability and reduce the risk of the children returning to the streets. Ultimately, the team aims to impact more than 300 youth and provide a financially stable, eco-friendly solution to sustainably support the work of Nairobi's rehabilitation centers.

2015

Maseno University: Kisumu, Kenya

The Enactus team saw the need to strengthen a cooperative of female poultry farmers in poor, rural Homabay County, Kenya. In 2006 the group of 20 poultry farmers formed a cooperative to assist each other to improve the area's livelihood. Even with the creation of cooperative, the women still struggle to make a profit. To assist, the Enactus team has created a training program to educate on business planning, managerial skills, budgeting, marketing, pricing, sales and accounting. The team has also created a five-year expansion plan and researched the best breed of chicken will yield

higher market value. The project will train the 20 women of the cooperative on business skills and better agricultural methods, which will result in higher egg and meat production, increased knowledge of the women and an overall livelihood improvement for the Homabay community.

Moi University: Eldoret, Kenya

The need of sanitation facilities, waste management, alternative energy, water access and security is very high in the Talai Centre in Eldoret, Kenya. The Enactus team created a multiphase project to address these issues. The first phase will begin with digging a well and building a two-toilet structure. The structure will be built using recycled paper, cement and sand on a 1:2:2 ratio. Phase two consists of using human waste to create a bio-gas that can be used for cooking and an alternative electricity source. During phase three, a borehole to the water well will be drilled and the bio-gas will used to power a water pump. Water will be sold to generate additional funds for the well. To improve safety in the area, security lights will be installed the Talai Centre. This project aims to generate an income in the area from the project's activities while also increasing the livelihoods of the larger community.

Mexico

2019

Milenium Technological University: Guadalupe

In parts of Mexico, water does not reach urban households. This is not from a lack of infrastructure, but because there are not enough water resources to meet the needs of people. To help solve this problem, Enactus Tec Milenio Guadalupe created Bawí - a social enterprise that seeks to optimize the use of water by creating different ecological and durable devices. The team investigated which household activities use the most water. By interviewing staff from the State Water Commission, they learned the largest amount of water used in homes comes from showers. An adult uses about 100 liters of water for every five minutes of bathing. This led the team to create the Water Box device, which is installed in the bathroom and optimizes water by saving it for use in other household tasks. While similar products exist, the advantage of Water Box is that the materials are biodegradable, practical, and is moveable to various bathrooms once installed. Water Box was designed for self-repair, that is, that the customer can repair most of the components themselves if needed. The team is committed to the care of water and the environment, as well as the vulnerable population. Therefore, they have created a business plan in which part of the profits helps install the device in homes that cannot afford it.

Milenium Technological University: Puebla

Enactus Tec Milenio Puebla analyzed the needs of their community and found a deep problem - a lack of roads. They found a solution by giving the community the tools to create quality roads while reducing pollution. Using plastic waste as the base, the Enactus team developed a machine that can create eco-friendly blocks of cobblestone. This machine is a viable option for communities because the process isn't complicated and doesn't require many workers. It's easy to use and the supplies are easy to obtain. One of the principal characteristics of the semi-automatic machine is that it can produce 192 blocks per eight hours of labor. When optimal production is achieved, it will produce 720 blocks per eight hours. Currently, the Enactus team is making improvements to the prototype, so they can achieve higher production and compete in the marketplace. More than 50% of Mexico's roads are in poor condition, which attributes to the isolation of communities. Brickster will improve the condition of roads, streets, and avenues, which will result in easier movement between communities. Additionally, the project reduces the amount of plastic in landfills and the environment.

Praiseworthy Autonomous University of Puebla (BUAP): Puebla

Knowledge Revolution from the Mill generates social initiative actions aimed at enhancing technological knowledge. Junta Auxiliar Ignacio Romero Vargas is a red-light district for crime and drug use by young people and children, as well as the drug dealers that travel in the area. Enactus BUAP had the idea of creating a space, or Maker Zone, based on the initiative and curiosity of the community members in prototyping, robotics and digital manufacturing. The project seeks to reduce social marginalization and bring technology closer to the people of the community through digital manufacturing workshops. Thanks to the support of the Ford College Community Challenge grant, the Maker Zone leads to innovation, creativity and ingenuity of children, youth, adults and seniors who acquire knowledge and skills through the courses and workshops on the use and management of technological tools. The project has the support of the municipal government, authorities of the Auxiliary Board, the Praiseworthy Autonomous University of Puebla's Innovation and Transmission of Knowledge Director, Enactus BUAP and companies that support social projects.

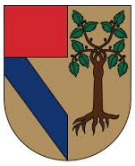
Technological University of the Mixteca (UTM): Huajuapan de León

In Huajuapan de León, Oaxaca, the main source of water for more than 70,000 people was being polluted by the mismanagement of solid waste. Additionally, garbage pickers suffered from social discrimination, worked in unhealthy conditions and suffered exploitation from recycling companies. Thanks to Enactus UTM, in collaboration with the municipal government, their university and the Kanda Solidarity International Organization, the Kuili project created the Integral Solid Waste Treatment Center and brought dignity to the work of garbage pickers by making them recyclers. This year, the project impacted 53 recyclers, who were empowered through trainings on several topics such as micro finances, legal aspects, marketing and human development. These trainings allowed the recyclers to become

formal micro-entrepreneurs. As a result of the Ford C3 grant and Enactus UTM's strategic alliances, the personal income of the recyclers increased by 50% in the last year. The project also impacted Huajuapan society. Their empowerment is evident in the way they are taking care of the environment, and how they now see recycling as an option to solve social issues.

2018

Panamerican University Guadalajara Campus: Mexico City, Mexico



Venti is dedicated to tackling the problem of droughts in the most affected areas of the Mexican drylands. Farming communities constantly fight to keep up with small or no harvests for long periods of time. The problem not only affects the farmers but disrupts the local economy on many levels. The Enactus team is creating a product that uses the humidity in the air (during droughts an average of 25%) to create drinkable water that can be used and optimized for crop growth. Venti is a container that sucks humid air from the environment and channels it through a storage system of hydrophilic properties, which will take the moisture out and channel the dry air out of the system. The stored water will be mixed with a hydrophilic chemical compound that acts as a soil fertilizer. The idea is to give farmers in affected communities a sustainable and independent solution in times of drought, so they can focus on keeping productivity up. The main challenge the team faced this year was finding the correct formulas required to make the prototype work correctly. More research on water use, chemistry and land use are needed. The team also faced problems identifying an efficient and low-cost material for the system. Nevertheless, each member of the team has learned and developed important skills, not only from their field of study but also from different areas. The team has learned the importance of focusing their work not only on profits but also on the community members they are benefitting.

Milenium Technological University, Guadalupe Campus: Guadalupe, Mexico

Universidad Tecmilenio

In Mexico, more than two million homes do not have access to energy. Through the development of renewable energy generators, Līph creates energy for families at a low cost and reduce pollution. The project increases the number of people who have access to energy and help create sustainable lives for them. The Enactus team has developed a sustainable business model by creating jobs for young people by teaching them how to build the generators. They are paid with money and a generator for their family's home. The remaining generators are sold to individuals and industrial clients. Additionally, the Enactus team offers a social service part of Līph, which consists of inviting students from different universities to be trained in giving building lessons to the people in the needed communities. The central idea of the project is to create technology and provide energy to all corners of the world.

Milenium Technological University, Veracruz Campus: Veracruz, Mexico

The Tank-E project produces industrial biodigesters that work with water and any organic matter, such as cattle feces and food waste. The biodigesters require a minimal investment for their manufacture, handling and maintenance, which is beneficial for low-income communities. The biogas produced can be used for cooking, lighting and heating. In return, the biodigesters help transform waste, as they are producing biofertilizers that improve the production capacity of the land. Thanks to the opportunity from Ford Motor Company Fund, the team has increased their managerial skills and strengthened the unity between the team and the community.

Technological University of the Mixteca: Huajuapan de León, Mexico

Faced with problems of water pollution from waste restaurant oil and elderly adults living in poverty, the Enactus UTM team, along with a group of volunteers who previously established a community kitchen to provide food for seniors, created the project Ñanduvi. The project transforms residual edible oil into a high quality, biodegradable soap at an affordable price. The project aims to reduce pollution due to poor handling of residual edible oil and create employment that empowers vulnerable groups, such as the elderly and single mothers.

Morocco

2018

Mohammadia School of Ingineers: Rabat, Morocco

Over 1.2 billion people globally have no access to electricity and millions more have an unreliable supply. Instead, they use dangerous, polluting and expensive kerosene lamps for light. Stepergy is a project that aims to provide a clean light using only the power of gravity. It is innovative as it provides energy instantly, without using batteries, and with no running costs. It is powered by the lift of a weight. As the weight falls it turns a gear train, driving the motor that powers the LEDs. With Stepergy, light is ready when needed. The Enactus team worked with six engineering students to get the most efficient product. In parallel, and with the help of Association Alwiam, the team is in touch with rural communities that are in need.

ENCG- National School of Commerce and Management: El Jadida, Morocco

The Enactus team started by conducting a needs assessment in a small area near Tnin lgharbia. They focused on this community because it suffers from many problems. After interviews with the inhabitants, the team realized their major problem is unemployment. With a very limited income and a high rate of poverty, parents cannot provide for the important needs of their children. The Enactus team organized a brainstorming session to get the idea of Plumare, a company specialized in the manufacture of washable diapers, which empowers women in need who have sewing knowledge. Thanks for the support of Ford Fund, the Enactus team has been able to hire a woman with a salary of 750dh per month and advertise their product.

National Graduate School of Arts of Casablanca: Casablanca, Morocco

POMM'it is a social start-up that produces and transforms deteriorated apples into agri-food and cosmetic products. Two local women from the Midelt region run the entire production process of apple cider vinegar. The raw materials for the project are supplied by marginalized, small farmers who now have a zero-waste production. Since the start of the project, the Enactus team has familiarized themselves with Morocco's market and they have been adapting their brand image and products' quality to meet market standards. Now the team is ready to scale up production to 300 liters of apple cider vinegar per month, which will allow them to recruit eight more women and partner with four more small farmers for the raw materials. The team has studied their social start-up's environment and believe their goal is realistic as it requires only a small financial push to have a large social impact.

Faculty of Law, Economics and Social Sciences, Tétouen

People in Tétouan lack access to drinking water and must travel long distances to find clean water. Children are particularly affected since they often abandon school to collect water. The Faculty of Law, Economics and Social Sciences, Tétouen Enactus team found there are closer sources of water in this area, but they are contaminated. To improve the quality of these nearby sources, the team determined they could produce and market filtration products. The team's product is a combination of two filtration phases. The first phase is a biological treatment with bio-sand, which is characterized by the removing of pathogens, suspended matter and turbidity, and the second phase is a treatment by activated charcoal.

2017

ENCG- National School of Commerce and Management: Casablanca, Morocco

Morocco, as a developing country, still struggles with water distribution. The Enactus team found that an estimated 3.5 million people lacked access to clean drinking water in 2016. Aquaclean is a project consisting of the manufacture and marketing of bio-sand filters for the treatment of wastewater for reuse in irrigation, domestic use and drinking water. This filter is made of natural and biodegradable materials and can destroy up to 99% of pathogens. It consists of two layers of gravel, one for drainage and the other for separation, as well as a large layer of sand that allows a water purification that is both healthy and economical.

National School of Sciences of Khouribga: Khouribga, Morocco

Project ArgoDome produces and markets tents that provide farmers with a storage space that extends the life of their harvests. The Enactus team's innovative technology is based on conserving moisture in vegetables and fruits. It keeps the cell structure of recently harvest fruits and vegetables intact by preventing dehydration through the creation of a saturated humidity inside the tent. Ethylene production is also eliminated, which is the ripening hormone of fruits and vegetables. Agrodome is an effective asset that allows farmers to store their harvests under better conditions, thus maximizing profit by reducing losses.

Faculty of Science and Technics of Tangier: Tangier, Morocco

The Enactus team of engineering students, in partnership with the Namae Association, are working on a solution to the excessive use of wood in the community of Farran Ali. Their project is a social enterprise that aims to protect natural resources by developing a solid biofuel from sawdust, coffee grounds and olive pomace. These materials are all found easily and at low costs. The resulting product is characterized by high energy content and low greenhouse gas emissions. The team plans to create 10 jobs in the first year and in the long term, they plan to expand the project into other parts of the country.

Faculty of Science, of Law, Economics and Social Sciences of Ibnou Tofail: Kenitra, Morocco

The Nutringa project promotes the cultivation of moringa through permaculture techniques. Moringa is a plant that can both provide several nutrients and stabilize glycemia. More than one million Moroccans are diabetic and dependent on insulin, so the Enactus team recognized the need for an affordable solution. The project provides two products; a food supplement and an herbal tea that stabilizes blood

sugar. After the registration of the NUTRINGA company, team members will be working in three main departments; farming, production/packaging and marketing/sales. Additionally, the team has partnered with an investor to create three stable job opportunities and 20 more seasonal positions.

2016

Faculty of Technology of Mohammedia: Mohammedia, Morocco

The Enactus team developed a concept to recycle plant-based waste into fire briquettes. This new accelerant will emit less CO2 and will be less expensive compared to wood and coal. The team will utilize readily available green waste such as nutshells, peels and olive pomace to create the briquettes. These briquettes will bring an environmentally-friendly heating source for low-income families in rural areas. The team aims to turn their solution into a social enterprise by hiring unemployed individuals to produce and sell the briquettes while improving their livelihoods.

Higher Institute of Commerce and Business Administration

The Enactus team at Higher Institute of Commerce and Business Administration launched their "Imprinted" project to develop a bracelet that utilizes GPS technology to help families monitor their loved ones who have Alzheimer's and related diseases. This technology will improve the health and safety of individuals with Alzheimer's by enabling family members to find their location should they wander away on their own. The bracelet is water-resistant and equipped with an alarm that is triggered when the user crosses a specific geographic limit. Linked to a mobile application, the device allows the families to quickly locate their loved ones. Imprinted will also provide training and job opportunities for unemployed individuals who will manufacture the bracelets to support their own livelihoods.

Horticultural Complex of Agadir: Aït Melloul, Morocco

The Enactus team saw an opportunity to repurpose horse waste in their area by transforming waste into vermicompost. The team will empower low-income carriage drivers to produce organic fertilizer and earthworms that can be sold to area farmers, benefiting both target groups. Carriage drivers, who average only $130 in monthly income, can earn an additional $240 each month by selling their organic products. In turn, farmers will benefit with new access to affordable, organic fertilizer, which improves soil quality and increases water retention by 300%.

National School of Applied Science (ENSA Agadir): Agadir, Morocco

The Enactus team created an innovative project, SolHeat, to heat water using solar energy. The team aims to meet the urgent need of rural residents who struggle to access hot water. With expensive gas and electric water heaters being out of reach, residents often burn wood to heat their water, causing air pollution and health dangers. The team designed a simple apparatus using mirrors, copper pipes, insulation and other materials to convert solar energy into thermal energy to produce hot water. Residents will be trained to produce and sell the product to generate income while providing an affordable means for hot water in their community.

2015

Faculty of Technology of Mohammedia: Mohammedia, Morocco

The Enactus team saw the need in their area to have more efficient food storage, reduce diseases related to poor food preservation and reduce electricity consumption. To do so, the team created Ecoref, an all-natural, non-electric cooling pot that will preserve food 10 times longer than non-refrigeration. The team will engineer the product then hire local potters to mold the pots. This project aims to increase the income of the potters and improve the livelihoods of those who use Ecoref to preserve food and reduce diseases.

Faculty of Technology of Settat: Settat, Morocco

The Enactus team saw the need of special needs teens in Settat, Morocco to join a community after aging out of the youth rehab centers and to earn an income. A cooperative was created to benefit the special needs teens and teach them to make furniture and décor from recycled plastic. Since February 2015, the project has a gained 20 special needs teens and will soon begin product sales, thereby providing a livelihood opportunity for the teens.

National School of Commerce and Management, Agadir- Ibn Zohr University: Agadir, Morocco

The Enactus team saw the need of rural residents to heat their homes. To solve the issue, the team created “Sun Can Heat,” a multipurpose solar heater made from soda cans, glass, clay, wood or polystyrene. The team has designed a prototype that requires no previous scientific experience to build, thereby allowing anyone to assemble a heater. This simple creation will increase the livelihoods of rural residents who previously had no heat.

National Institute of Posts and Telecommunications: Rabat, Morocco

Rowboat tourism is a historic and ancestral part of the local cultural but is in great decline with the tour guides earning less than $2 per day. To aid the Flaykias (tour guides), the team created a three-part project. Part one connected each of the Flaykias to a business consultant who created a specialized plan for each participant. Part two created new services, such as longer promenades and onboard meals, which has already resulted in increased patrons and profits. Part three consists of creating a website and targeted advertisement. Since the project started in May 2014, the Flaykias have increased their individual income by 400%. This progress will grow with the implementation of part three of the project and will continue to improve the livelihoods of the Flaykias.

Puerto Rico

2019

University of Puerto Rico at Humacao: Luquillo, Puerto Rico

The stray dog situation in Puerto Rico is a health, social and moral crisis. Paws Ahead is a three-prong project that provides education, qualifications and access to resources to unemployed or underemployed volunteer dog rescuers in Puerto Rico, empowering them with increased social mobility as Certified Dog Trainers to serve society in an innovative new career of increasing promise: Animal Assisted Interventions. The project will contribute to public health by training rescued dogs as therapy dogs to serve in hospitals, retirement homes, physical therapy centers, schools, and homes of people diagnosed with physical, cognitive, behavioral and socio-emotional challenges. Upon certification, trainers can work with their dogs or sell them as trained, certified emotional support or therapy dogs. By positively impacting animal rescuers and stray dogs to improve their livelihoods and acquire social mobility, they, in turn, contribute to society's increased wellbeing.

University of Puerto Rico at Bayamon: Loiza, Puerto Rico

Bottle of Hope is a project designed and developed to build a sustainable future for a community living in extreme poverty. University of Puerto Rico at Bayamón Enactus offers an ecological and intelligent technique of construction using plastic bottles as the raw material. The team is currently building a structure by reusing more than 150,000 plastic bottles that have been diverted from landfills. The project promotes the appreciation of community work through the construction of different structures, for example, community centers. This year, the Enactus team is empowering local artisans from a forgotten community in Loiza, to come together and build a structure that serves as a sales center for nearby communities. This center will help

increase their economic situation, their truism status and help families gain a more sustainable income.

University of the East: Puerto Rico

The School Orchard project focuses on conducting agricultural workshops with the purpose of educating people about the importance of orchards. East University Enactus has developed an innovative idea of promoting agriculture workshops in schools that plant orchards as part of their academic curriculum. The Enactus team will provide grafting workshops with the necessary materials to create a school orchard. Their goal is to establish an alliance with the school and create awareness about agriculture. The project represents an innovative approach in providing new solutions to solve the problems that affect schools and communities in Puerto Rico.

Polytechnic University of Puerto Rico: San Juan, Puerto Rico

Little Engineers is an educational project for high school students. Hydroponic systems are constructed from reusable materials. These systems serve as a source of food and produce energy through the growth of plants. When the plants go through photosynthesis, they move excess energy towards their roots. Microorganisms then break down glucose and liberate electrons that can be harvested for energy. This energy can be stored in a 12V battery. The system uses less than 10 gallons of water for up to five days. The Enactus team plans to learn how to purify the leftover water from each cycle and find a way to create a motor-like system for vehicles that could be powered by the same plant-based energy.

South Africa

2019

Mangosuthu University of Technology: Durban, South Africa

Ukukhanya is a community development project located in an area that faces many socioeconomic issues including low literacy rates, lack of basic infrastructure, running water and electricity. The Enactus team has focused on two of the challenges, access to clean energy and improving literacy rates. Last year, they installed solar panels at the local community center, which are used to charge a rechargeable lighting device named Ukukhanya. The portable device is made from a 2-liter bottle, a super LED bulb, a resistor, wires, switch, a battery holder and a removable and rechargeable 3.7V lithium battery. Looking to improve the literacy levels, the team is planning to utilize the same community center as an internet café. They have identified a community member who is knowledgeable in computers to run the internet café expansion. She will then charge for internet and printing services, as well as facilitating computer literacy classes.

University of KwaZulu-Natal: Pietermaritzburg, South Africa

Sack Space is based on the concept of sack farming, which is the most affordable form of vertical farming. In 2017, the project was launched to serve as a tool for economic development in the disadvantaged communities of the Msunduzi municipality. The Enactus team has targeted the areas of Sweetwaters, France Ext and Woodlands. Farming and then selling part of the harvest is a foreign concept in these low-income communities because they do not have enough space to plant extra crops. Sack farming will allow the communities to plant enough crops for themselves, while also having extra to sell to a market. Going forward, the project seeks to create sustainable agribusinesses that will use sack farming solely for the production and selling of fresh vegetables.

University of the Free State- Qwa Qwa: Msinga, South Africa

The objective of the Shayuphondo Agricultural Project is to develop climatologically adaptable and environmentally friendly farming practices that will create sustainable and profitable value chains for its beneficiaries. Shayuphondo is an existing farm that grows vegetables and sells them through street vendors; thus, the farm does not have a reliable market to sell its products. Additionally, prior to harvest, the farm does not generate income to sustain its workers and their families. Through the project, value will be added through the creation of reliable and continuous income. This will be possible through the practice of organic farming, competent business management skills and the establishment of more business ventures to create supplementary income for the beneficiaries; therefore, tackling their financial constraints. Rural women and men, as well as the unemployed youth of Msinga, will benefit from the project.

Cape Peninsula University of Technology: Cape Town, South Africa

Grow a Seed Urban Farming introduced the Khayelitsha farming community to aeroponics, which is a sustainable, modern farming method where produce is grown in nutrient-rich, constantly circulated water. This method ensures that plants receive adequate water and nutrients without being in soil. The benefits of this method include three times the yield per square meter as compared to normal soil farming, and it uses 95% less water than normal ground farming. Two small scale farmers were selected to serve as beneficiaries. Enactus students will provide entrepreneurial training and assist the beneficiaries in marketing their produce. The project goals are for the farmers to produce more stock while increasing their visibility in the community. In turn, this will allow them to generate more profit, thus improving their livelihoods. After completion of the pilot, the project will be replicated at other farms in the area.

2018

Durban University of Technology: Durban, South Africa

The Khotsiza Pig Farming project was established after the Enactus DUT team recognized the passion for agriculture possessed by the Noodsberg community. The project is located at a local pig farm and market garden. The Enactus DUT team conducted a needs assessment and found four pig farmers in the area, however, they could not meet the high demand of pork due to the high cost of pig feed. This burden of pig feed caused them to feed their pigs "nik naks chips" as an alternative to proper pig feed. As a result, the pigs were not producing quality pork. Enactus DUT intervened by using a recycling solution. Their engagement with various hotels in Durban allowed them to see that food waste is rampant, particularly in hotels and eateries. To help solve the problem, the team partnered with Red Lands Hotels based in Pietermaritzburg, to supply pig farms with waste food, which can be used to supplement the pig feed. Fruits, vegetables and bread are fed to breeding pigs while the remainder of the food is mixed with pig manure to produce organic fertilizer for the crops, thus creating a sustainable cycle of recycling. The team is empowering the project participants by helping them gain relevant skills and information such as recycling food waste, creating a reliable value chain, improving the quality of pork and increasing the number of pig farmers that will allow them to improve their farming methods.

University of Cape Town: Cape Town, South Africa

After three years of drought, Cape Town is poised to be the first metropolis to run out of water. The Imvotho project aims to respond to this water crisis through a dual approach, both to water supply and consumption. The University of Cape Town Enactus team created a new water supply channel through an innovative, sustainable, simple and cost-effective technology: fog catchers. Based on the expertise of Grant Vanderwagen from H2O catchers, the team began by attempting to implementing three nets in the Erf81 community. However, during Cycle 5, Erf81 was closed off from activity by local law enforcement. As a result, weekly market, that bought in income for the residents has been closed. For the health of the project, the team decided to relocate. Investigations and studies are underway to find a new project site. Nevertheless, project participants were still empowered by increased water supply. Local volunteers helped the team construct a ferro-cement tank prototype on an area farm. The tank has a volume of 5,000 liters that takes four to five days to reach full capacity during the rainy season. The estimated water use of the farm was estimated at 1,000 liters. This means that there is a surplus of at least 4,000 liters per month that can be used for community activities.

University of Fort Hare: Alice, South Africa

The goal of the Purifier project is to recycle grey water for domestic use. Students at the University of Fort Hare and the residents of Alice produce a lot of grey water, which is thrown out. Due to this, a significant amount of water is wasted, and the municipality struggles to provide clean water, resulting in water rationing. The Enactus team observed this problem and saw an opportunity to save lives and make a profit. They developed an innovative design using natural and abundant resources such as gravel, sand and activated charcoal to purifier grey water into reusable water. Additionally, the team is raising awareness in the community about the water crisis with hopes of making more partnerships.

University of Pretoria: Pretoria, South Africa

The Patio Pallet project deals with the issue of food security through agricultural and horticultural skill development, along with entrepreneurial action. This is accomplished by building vertical farming models to grow, sell and produce to the community. The Enactus team identified that the most urgent need the community faces is the lack of nearby, affordable food. These vertical farming models accomplish this because there is no need to travel long distances to purchase produce. By engaging in agricultural practices, community members can contribute to the Tshwane Municipalities' goals of local economic development, economic transformation, stimulating the rural and agricultural economy and poverty reduction.

2017

Durban University of Technology: Durban, South Africa

The Enactus team partnered with Melokuhle Women's Cooperative, an organization dedicated to empowering women in poverty. Their project, Chibini Linen, was developed to provide a sustainable source of income for women in the rural community of Chibini by building on the sewing skills they already had and utilizing recycled linen from area hotels. The linen is used to create affordable school uniforms for local students, tote bags and mats. The Enactus team worked with the department of interior design within their institution to develop the necessary skills to expand their range of products to include hand-painted chandeliers and lamps.

Mangosuthu University of Technology: Umlazi, South Africa

Mangosuthu University of Technology

Enactus Mangosuthu University of Technology developed the Ash of the Nation project to create jobs and safe homes for the Umlazi community. The team is working off an existing initiative of creating fly ash bricks as an environmentally-friendly alternative to traditional building materials. These bricks are made from recycled materials found in foamed concrete, or Fly Ash, and Polyethylene Terephthalate. The production of these bricks will help to reduce carbon dioxide emissions and encourage the reuse of resources while also creating jobs within the community by teaching the specialized skill of making fly ash brick. By partnering with the Institute for Rural Development and Community Engagement, the team will then use these bricks to build safer and more dignified homes for community members residing in informal settlements.

University of Pretoria: Pretoria, South Africa

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Enactus University of Pretoria Enactus designed their project, Fruitful Living, to combat both food waste and hunger in the Vastfontein community. By partnering with Vastfontein Community Transformation, they are creating jobs for women in a community where unemployment tops 60 percent. Fruitful Living provides an outlet for the Tshwane Fresh Produce Market to divert its food waste, which has been valued at R100 million per annum. The produce is then either dried or preserved to give it a new life. Members of the team worked with engineering faculty at their institution to develop solar dehydrators which will improve the preservation process of their produce. Project beneficiaries have learned to make jams, chili sauces, atchaar and lemon cordials. The team has equipped them with small scale food production skills such as bottling and budgeting skills, which are essential in running the preserves business.

University of Witwatersrand: Johannesburg, South Africa

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Enactus University of Witwatersrand implemented the Sugar Honey Project to create hair and skincare products using raw honey, which will provide job opportunities for unemployed rural women and youth. The project aimed towards being environmentally friendly in their agricultural practices, which will help increase the sustainability of the project. The team worked with the women and youth to brand, market, package, store and deliver their products to customers.

2016

Durban University of Technology: Durban, South Africa

Durban University of Technology Enactus partnered with Vukuzame Self Help Disability Cooperative to empower its members to grow and sell seedlings. The team's business model will not only provide income for disabled entrepreneurs, but also address food insecurity, which has been exacerbated by drought and water shortages. The cooperative aims to grow horticultural products like tomatoes in green house tunnels with drip irrigation, which will allow for the production of crops year-round. The team also aims to create a simple solar-powered cooling system to minimize losses in their produce post-harvest.

North-West University Potchefstroom: Potchefstroom, South Africa

North-West University Potchefstroom Enactus partnered with a local senior center to empower residents to earn additional income by producing and selling recycled soap. The team found a steady supply of ingredients in local hotels that contribute discarded soap to the venture. The soap is then processed to be recycled into a safe, affordable product that can be used for household and industrial use. The team will equip the senior center with the skills needed to sustainably manage the business, including areas such as budgeting, sourcing and production. The ultimate goal of the project is to not only provide income for the soap producers, but also create affordable sanitation products for the local community.

Tshwane University of Technology: Pretoria, South Africa

Tshwane University of Technology Enactus worked with a small community in the Northwest Province to generate economic opportunity through sustainable agriculture. Through their "Agropolis" project, the team developed up to 200 hectares of farmland. Using modern farming practices, drip irrigation and clean technology, farmers will be able to cultivate crops such as cabbage, spinach, tomatoes, sorghum and sunflowers. The team's business model for the farm also includes the production of organic fertilizer and biofuels to provide sustainable energy.

University of Pretoria: Pretoria, South Africa

University of Pretoria Enactus is working to improve access to home lighting, which is deterred by lack of electricity in many informal settlements across South Africa. The team designed a fully-automated solar light that costs only R120, compared to the R900 – R1,000 that a household spends on candles each year. The light uses a lithium-ion battery, which can provide high-intensity light for four hours and low-intensity light for up to 12 hours. To bring affordable light and employment opportunities in a local community, the team's venture will employ entrepreneurs who will learn how to manufacture and sell the products.

Vaal University of Technology: Vanderbijlpark, South Africa

Working with a local agricultural cooperative, the Enactus team at Vaal University of Technology equipped farmers with skillsets, modern practices and new technologies to improve their livelihoods. To build the farmers' acumen, the team provided workshops on topics ranging from entrepreneurship, financing, modern farming, forecasting and technology. The team also helped the farmers incorporate climate control technology to enable the cooperative to produce in the winter months for steady income throughout the year.

2015

University of KwaZulu- Natal: Durban, South Africa

The Enactus team saw the need to recycle and reuse the numerous, discarded wooden fright pallets in Warwick Junction and Rivertown, South Africa. To address this issue, the team has created "The Pallet Project" that will train area women on how to run their own pallet recycling businesses by upcycling the wood into tables. The aim of the project is to benefit the environment and community by recycling unwanted pallets and improve the livelihoods of the future female business owners.

Univerity of Limpopo: Limpopo Province, South Africa

The Enactus team is partnering with a local organic farm to improve its overall business function. The farm is in a village with a high prevalence of HIV/AIDS, unemployment and child-headed households. To give back to the community, the farm has supplied a drop-in center with Moringa tree products, which are proven to improve the health of individuals with HIV/AIDS. However, the farm has suffered a downturn in business and production and is no longer able to

provide the products. To improve the business, the team will help the farm secure contracts with the Department of Health and the Department of Social Development to sell Morgina tree products, hire local youth, increase products and marketing share and expand the facilities. As a result, not only will the farm be strengthened, but it can continue to provide vital products to people with HIV/AIDS.

University of Venda: Thohoyandou, South Africa

University of Venda

The Enactus team saw opportunity to empower 20 women of the Mukondeni Pottery group to improve their production and sales of ceramic water filters and bring clean water to their communities. In collaboration with multiple corporations and development agencies, the team has created a complete business plan and training strategy to transfer the necessary skills and knowledge to the women. The benefits of this project are significant: providing much-needed clean water in South Africa, increasing the livelihoods of the pottery group and creating jobs for youth to assist in the water filter production.

Spain

2019

Polytechnic University of Madrid, Spain: Circularizat-ETSII

In order to tackle the issue of surplus waste locally, the Circularizat-ETSII project aims to reduce the amount of waste generated within a small community in central Madrid. The project will provide information to individuals living in this community to better understand that waste can also be a valuable resource when recycled and generate income. In the final phase of the project, the team will introduce a new integrated plastic recycling facility within a laboratory at the university where the plastic waste will be converted into 3D printer material to meet the educational needs.

Autonomous University of Madrid (UAM), Spain: Proximo

From experience working with nongovernmental organizations (NGOs) on volunteering initiatives, the team found that there are numerous social actions which are not being completed due to the lack of volunteers. Project Proximo plans to connect people who are seeking volunteer opportunities with NGOs through a mobile application. In the app volunteers can find various social activities based on geolocation, experience levels and the types of skills required. The team is most excited about the unique approach of connecting NGO project leads with the base of able-bodied volunteers. The team has found that although people are willing to help, it becomes

difficult to achieve because of the inefficient transmission of information about the social needs surrounding them and Proximo solves that.

ETSIT/Polytechnic University of Madrid, Spain: RobinForGood

RobinForGood will be a mobile app for donations that provides a secure, transparent and trustworthy process for low-income people. Acting as a donation marketplace the user would publishes the objects they wish to donate, and people identified as at risk can choose the articles that they need, with the option to talk to the donor and specify a place for the exchange. When the donation is done, it is registered in the blockchain system and a token is generated and received by the donor. This token will be used as a discount for products at socially responsible businesses that have been identified by the team to be included on the app. The goal of RobinForGood is to be an application that brings the donor and the people in social exclusion risk closer, aiming to teach about the true value of material objects.

United Kingdom

2019

University of Glasgow, Scotland: SE | ME

The goal of Project SE|ME is to give rough sleepers opportunities that lead them on a path of out of homelessness and economic stability that includes wrap around support to empower them on their journey. The project uses an entrepreneurial approach to help improve the social mobility of rough sleepers, by integrating technology as a solution. Currently, cash donations can be used to fuel unhealthy addictions and this new approach will help to promote alternative choices. The project involves several elements such as increasing public donations to registered individuals using a mobile application and web platform. The aim is that this can be scanned to allow online donations that go directly onto a beneficiary 'ME' card, which can then be redeemed in an autonomous manner with dignity in a pop-up shop at a city centre charity base and later in retail partners that accept Visa and MasterCard payments. Working in partnership with the local council and third sector organizations, SE|ME will run a city-wide campaign to tackle the public perception of homelessness. SE|ME beneficiaries will be supported to attend workshop and work-based placements, with extra credit awarded onto their 'ME' card. Members will also receive free gym memberships thus improving physical and mental wellbeing and will also providing access to hygiene facilities such as showers.

University of Exeter; England: Exeter Gourmet Mushrooms

The goal of this project is to reduce environmental by diverting coffee grounds from landfills a grow mushrooms for local restaurants, shops and at farmer's markets. Through the project, Exeter Gourmet Mushrooms can also provide employment opportunities for disadvantaged persons. The

aim is to follow a circular business model and sell any excess biomass to local composting businesses. By supplying local restaurants and shops, food miles are reduced and the project supplies local businesses with a more sustainable source of produce. Once financially sustainably is established our business aims to provide a way of easing disadvantaged persons into the workplace by providing employment experience. This will be a hands on experience where the volunteers are able to grow mushrooms out of their own grow cup. The grow cup is an idea our team created where mushroom substrate is incubated in a waste or recyclable coffee cup; mushrooms are grown out of this coffee cup and beneficiaries write their name (i.e. 'Grown by Andy') on the side of the cup. This unique product can then be sold in partner shops. The aim is also to have a farmer's market stall set up in collaboration the project partner, St Sidwells Community Centre, where beneficiaries will have an opportunity to sell their own produce and take ownership of their income as well as develop key entrepreneurship skills.

Loughborough University; England: PrepMate

Loughborough University

PrepMate began with a vision to help arm amputees in both the UK and third world countries gain access to affordable prosthetics. Through initial research, it was quickly realized that many individuals did not want a prosthetic, so the team turned their attention to creating a household product to assist with cooking. They came up with an innovative design for a kitchen utility tool. The aim of this is to help individuals with upper limb differences such as arm amputees, stroke victims and those with cerebral palsy achieve greater independence in the kitchen. The design is a chopping board with multiple different functions, helping users; peel, grate, chop and spread with only one hand. The aim is to provide the tool to help aid individuals with simple tasks in the kitchen, that are taken for granted. The hope is to help save beneficiaries time and money. Alongside the product, a support service will be implemented. This will involve the creation of regular cooking workshops that show how to use the PrepMate after the finalized design is manufactured. The team have had access to the STEM lab at Loughborough that has been aiding the creation of the prototype through engagement of different engineering departments at the University. The Ford Fund grant will help with the next stages which include completion of Design for Manufacture (DfM) study, patent application, prototype tooling for manufacture and marketing/promoting project.

2018

University of East Anglia: Norwich, England

UEA University of East Anglia

Pawject Project helps homeless people integrate into society by giving them employment opportunities through the manufacturing of dog beds. To build a sustainable community project, the Enactus team partnered with Norfolk Industries, a recycling center that manufactures pet bedding and Under-1-Roof, an organization that provides support for homeless and unemployed individuals by developing their skills, experience and employment, enabling progress. This project meets urgent and unmet needs in the

community through the skills transferred, which includes being boosting motivation and gaining soft skills.

University of Kent: Canterbury, England

EcoFeast focuses on building sustainable communities by tackling issues such as social isolation, community integration and food waste through a cooking course. After looking into the activities available for the elderly community in Canterbury, the team found little that provided a weekly interaction or opportunities to expand their ties with the local community. Through the cooking course, the elderly can obtain weekly interactions while being able to impart their knowledge onto the younger generations. EcoFeast currently meets two urgent community needs. First, it is reducing the social isolation faced by some members of the retiree community by integrating them with the young generation, allowing them to share their cooking knowledge. Second, it is teaching children a life skill (cooking), which students often find they lack upon leaving their homes to go to university. The project also tackles food waste by introducing surplus food (from supermarkets and alternative sources) as the main ingredients, to show the younger generations the possibilities of using leftover ingredients.

University of Nottingham: Nottingham, England

CodeX teaches young people on the autism spectrum to program and introduces them to the tech industry through the Enactus team's network of businesses within Nottingham. The team provides a ten-week coding course, work experience with employment support, and advice from local tech businesses. The course is taught by trained and paid students from the School of Computer Science at the University of Nottingham. Through CodeX, the team is tackling the serious and overlooked lack of social mobility in today's society. Only 16% of people on the autism spectrum have full-time, paid employment in the UK. Many employers are looking to employ people who can code; however, many applicants are not qualified. As the Enactus team scales the project, the target audience will expand to girls ages 11-16 in private schools with an interest in technology. Private schools will be targeted for this stage since a higher fee will be charged for the training. As a result, the team will be able to cross-subsidize the current program for children with autism in state schools, who are unable to finance the program without the lower prices.

2017

University of Bedfordshire: Luton, England

The town of Luton, where Rewriting Fate operates, is one of the most multicultural and diverse parts of the UK. Many of the recent migrants from Europe and beyond lack functional English skills, making their working lives disadvantaged and difficult. The innovative approach of Rewriting Fate is that it offers unique English classes whereby the initial phase happens in a bilingual environment. Benefitting from their diverse team background, University of Bedfordshire Enactus pairs its international students with beneficiaries who share their native language. Alongside this, Rewriting Fate also provides employability and computer skills sessions on a case by case basis according to individual developmental goals. This usually includes; CV building skills, interview techniques and training in Microsoft Office. The project is currently in the process of developing into a social enterprise and has been selected by Enactus UK to take part in the Social Innovation Series, where support and guidance are provided. To ensure high-quality training is delivered, Rewriting Fate partners with a community-based organization, Luton Adult Learning.

University of Edinburgh: Edinburgh, Scotland

Enactus students at the University of Edinburgh developed Slurp to help address the high rate of youth homelessness in their community. Slurp runs soup stalls on their university campus to help disadvantaged youth learn job skills such as cooking, customer service and accounting. They also receive a small stipend and free lunch each day the work at the stall. The needs of the youth were identified through a partnership with a local homeless charity, which found residents most desired relevant business skills to them gain full-time employment. In addition to being able to measure the project's outcomes by the number of youth who find employment, there is an immeasurable outcome of the impact these individuals will have in their society because of the opportunity given through Slurp.

University of Sheffield: Sheffield, England

Global Roots is an aquaponics project based in northeast Tanzania. The University of Sheffield Enactus trains and educates local entrepreneurs to build aquaponics systems so that they can grow and sell their own produce. Many people in the rural communities need a stable income and Global Roots gives beneficiaries a chance to learn new skills and sustainably develop their own enterprises. In 2017, the Enactus team traveled to Tanzania and visited numerous NGOs and experts in agriculture who provided tips and advice on how to build the aquaponic systems. The initial trip was a success, with the team identifying a project partner to help run the business, a local farmer with expertise in building aquaponics systems and an institution with the land and structure to trial the first system (a school based in the Moshi region, Kilimanjaro). Ten potential entrepreneurs of a local

women's group were also identified. The next step is for members of Enactus Sheffield to return to Tanzania to train the entrepreneurs to source materials and build the systems.

2016

Nottingham Trent University: Nottingham, England

The Enactus team created a vertical farming business in partnership with The Refugee Forum, an organization dedicated to supporting refugees as they rebuild their lives and integrate into society. Through vertical farming, the team's SEED project seeks to address urgent needs of local refugees, including lack of nutritious food, income, education and integration. Project SEED not only creates a social enterprise in which nutritious produce is harvested and sold as a means of income, it also creates a social space for the community. Language classes and culinary workshops will be held to provide training for refugees seeking employment in the food industry. In addition, community and social eating events will be hosted, using the produce harvested, to aid social integration.

University of Kent: Canterbury, England

Through Project Cantuta, the Enactus team empowered 26 elderly beneficiaries in a remote South Eastern region of Peru. The team's project creates a soap enterprise that incorporates naturally sourced honey. By partnering with a local healthcare center, the enterprise provided an economically-priced soap for the community in need of affordable hygienic products. An upmarket soap was also produced for tourists and restaurants for an additional revenue stream. Local participants will be involved in all areas of the business, from harvesting the honey, to preparing the soap, to packaging the product. Ultimately, the team aims to create a self-sustaining soap enterprise that incorporates 150 locals in the next three years.