

Humanitarian Activities Committee

**Status Update of Projects Funded
by the IEEE Humanitarian Activities Committee (HAC) in 2018
12 November 2018**



[Map](#) of HAC 2018 Funded Projects

[List](#) of HAC Projects Funded 2016 - 2018

INDIVIDUAL UPDATES OF 2018 FUNDED PROJECTS

Towards a Smart Village through Solar-Powered Desalinization for the Indigenous Wayúu Peoples Living in the Guajira Peninsula Desert

- **Colombia - Region 9**

The Universidad del Norte and their associated research laboratories along with the IEEE student chapter will work closely with indigenous Wayúu peoples living in the Guajira peninsula desert to provide renewable-powered desalinization. The La Guajira region is extremely dry and the soil is laced with ample salt, so that even a well away from the ocean draws up brackish water. Reverse osmosis units will be purchased and powered by the ample solar energy in La Guajira. Ocean water will be used to provide fresh water where none exists. The project counts with Neil Mendez who works with La Guajira provincial government on the design of renewable energy projects.

The primary immediate objective is to establish an off-grid renewable-energy-based electrification site for clean water desalination. The project just started in Nov. 1, 2018 and already was socialized locally by Universidad de La Guajira radio-station. In particular, Mr. Mendez has started collecting water from

local wells to find out the quality of the water. Gustavo Espitia from Uninorte has initial conversations with the Uninorte Water Lab to define if water tests can be carried out here.



+++

Smart Farming in Uganda

- Uganda - Region 8

Below is a picture of a meeting between the Yes We Can Cooperative and staff members of the Africa Development Promise NGO in Luwande, Uganda on July 3rd 2018. The discussion concerned irrigation of 2.5 hectares of maize. Monica Brown is seated in a chair and Tonny Muteesasira is seated on the bench near the leaders of the cooperative. The picture was taken by Alan Mickelson of UCB. Our plan is that work on the solar system will start soon. UCB will send a team to work with ADP and cooperative members in May to bring up solar pumps, drip and atomization irrigation.



+++

HopeOneSource (HOS)

- Washington, DC, USA - Region 2

HopeOneSource, an IEEE HAC supported initiative, is helping connect the DC Metro's most vulnerable residents experiencing a housing crisis to nearby available services. Since fall 2015, DC has used this technology to support local efforts to prevent and end homelessness by increasing access to housing, social, and career services, one text message at a time. For the second year in a row, DC's homeless population has dropped, a 7.6 percent reduction from January 2017 and a 17.3 percent reduction from January 2016, according to local government data. Hypothermia deaths have been reduced by nearly 80% as well during this period.



+++

Improvement and Diffusion of a Wind Water Pumping System with Electronic Control. Solutions for Settlers in the Patagonia Steppe of Argentina

- **Argentina - Region 9**

The project involves the construction and installation of a wind turbine for an electric and electronic water pumping system for demonstration purposes that will facilitate access to water for communities in the Patagonian steppe of Argentina. The project started in October of this year and coordination and planning meetings have already been held for the coming months. The IEEE volunteers of the LCA-UNSL have begun to work together with the NGO 500RPM in the design of the new electronic open patent prototype for the pumping system and to coordinate with INTA Esquel on the course of action to follow.



+++

Poverty Alleviation of Farmers Using Affordable Technology in Agriculture

- India - Region 10

IEEE Pune Section received approval from HAC for Project “Poverty Alleviation of Farmers using Affordable Technology in Agriculture”. The project team held a meeting of stakeholders, project core team, heads of the two partner NGOs and Agriculture experts on 26th October to discuss next steps. Also a call with representatives of the six partner engineering institutes was held on 23rd October to discuss plans to set up Affordable Agriculture labs. A recurring weekly call of all relevant stakeholders

has been set up starting 6th November for project monitoring. Workshop is also scheduled on 29th Nov 2018.



+++

Investing in Rural Haiti – Solar at St. Paul’s in Petit Trou de Nippes

- Haiti - Region 9

Jameson and Schneider, shown here, attended school at St. Paul's and are the most recent participants in St. Paul's Scholarship Program. Next year the scholarship program will focus on electrical engineering with an emphasis in solar, and thanks to IEEE support the next round of scholarship students will have hands on learning opportunities with IEEE staff as we install a micro-grid on St Paul's campus. We're also please to announce that we will publicly receive IEEE funding for this exciting solar project at our [Haiti for the Holidays art event, December 2 at the Rayback Collective in Boulder!](#)



+++

A Community Intranet to Share Sustainable Education Resources among schools on the Island of San Cristobal, the Galapagos Islands

- **Galapagos Islands - Region 10**

The teams at ESPOL and Villanova have identified the students and professors who will be traveling to San Cristobal for installing the system. Weekly meetings are being held between the two groups to plan for the first phase of the project to install the system and to deliver the workshop. All the routers have been purchased and are being interfaced to the Raspberry Pi servers. The dates for the installation of the system in San Cristobal has been set for January 6-12, 2019.



+++

Bringing Life Back to Rohingya

- **Bangladesh - Region 10**

The project “Bringing Life Back to Rohingya (Phase I)” has been started with lots of enthusiasm by a very dedicated team in Bangladesh Section. We have already created a technical expert pool including both industry and academia and volunteer team from NGOs and student branches near the Rohingya community. The team has given the highest priority on designing the innovative water filter using the locally available materials. They also investigated the characteristics of available water pump, solar panel, battery and charger. The team will soon visit the project area and collect necessary feedback for implementation.

+++

Refining the Design and Implementation of the Neopenda 4-in-1 Vital Signs Monitor to Save Lives at Birth in Ugandan Communities

- **Uganda - Region 8**

In this project, IEEE SIGHT Uganda Section and American global health technology organization Neopenda are working on joint project: Neopenda 4-in-1 Signs monitor. The technology is a wireless, reusable four - in - one device that continuously measures: pulse rate, respiratory rate, blood oxygen saturation and temperature. The device will be a cost effective solution for advancing the care of vulnerable newborns in under-resourced health facilities in Uganda and indeed around the world where neonatal mortality rates are poor.

Currently, we are in Phase II of the project where we continue to engage the medical practitioners, parents, biomedical engineers, government, and scientists in the design of the solution, to ensure its appropriateness for the local context. We are happy to mention that the design of the device is complete and the vital sign measurements are promising. We are currently coming up with user, maintenance and training manuals for the Neopenda 4-in-1 Signs monitor (device).

IEEE SIGHT Uganda Section and Neopenda strive to bring the local community into the process of designing and implementing this technology solution, so that it may be sustainable for long term and save the lives of many newborns in Uganda and indeed elsewhere. The following photos were taken recently during a meeting when both IEEE SIGHT and NEOPENDA Teams were working on the user, maintenance, and training manuals of the device.



+++

Human Trafficking Survivors Software School & Impact Agency

- **San Francisco Bay Area, CA, USA - Region 6**

In our 2018 Humanitarian Projects Application, AnnieCannons asked IEEE for financial support to provide hardware, software, classroom supplies, transportation and other learning tools for our fourth class cohort. Identified milestones included (1) beginning our 2018 class cohort, (2) completing our class cohort by November 2018, (3) training our new TA through this class cohort and (4) hiring a new TA from our current class. We are proud to report that IEEE's funding commitment has helped

us achieve the first of these two objectives of October 2018, and we are on track towards achievement of the second two in the performance year.

Classroom training. In May 2018, we started our fourth student cohort, and they have been our best performers so far. We anticipate that three of our students will qualify for web development work shortly, and we have begun to identify projects that they can start working on. For our fifth cohort (projected to begin January 2019) we are recruiting from survivor leader organizations to help build tech capacity among survivors globally. This lets us keep our training resources focused in the Bay Area while expanding the geographic reach of our impact.

+++

Hydraulic Ram Pump for Clean Water in Rural Area

- Malaysia - Region 10

The project team has just received the funds and is planning the technical visit to the site 1-4 December 2018.



+++