Case study

Sustainable community development for Bukid Kabataan

Amec Foster Wheeler in the Philippines has a long-standing local partnership with the Bukid Kabataan (BK) Center.

Bukid Kabataan, which means children's farm, is a shelter that serves vulnerable children who have been physically and sexually abused, neglected and abandoned. The 6.5 hectare farm is about two hours' drive from Manila.

We have been supporting BK orphanage since 2010, providing funding and managing repairs to the charity's greenhouses, which were damaged by a number of typhoons in the area. The charity was originally granted 17 greenhouses by the Department of Agriculture with the purpose of providing BK a sustainable income, supporting its vision to be self-reliant, using organic and chemical-free farming.

In 2016, Amec Foster Wheeler's efforts turned towards supporting BK to become a more sustainable community, minimising waste, preventing pollution, promoting efficiency and development of local resources for the community.

The situation

Since 2010, Amec Foster Wheeler in the Philippines has helped annually in the refurbishment of BK's greenhouses, undertaking repair, painting and cleaning. These refurbishments have been funded through employee fundraising events, including charity bazaars, food fairs, trash for cash and awareness sessions. Funds raised are then matched by the company.

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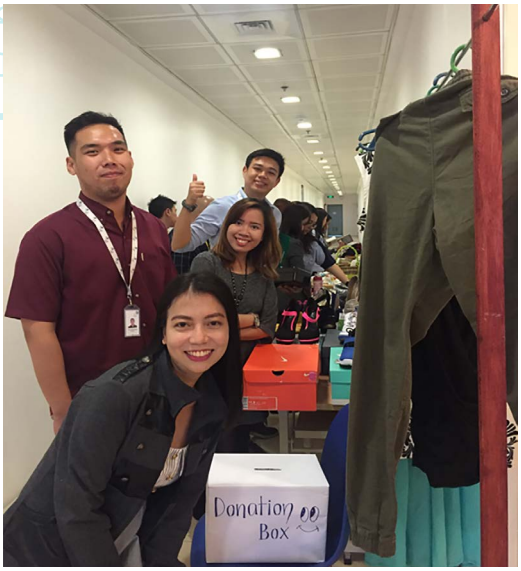
Fundraising events

The challenge



Our key challenge was to better use the funds raised so that they improve the lives of all members of the BK community, instead of just going towards the annual repairs of the greenhouses. As a result, the Philippines office chose to focus efforts on introducing Aquaculture-Hydroponics Synergy, which has become an increasingly popular technique of sustainable food production in the Philippines. This innovative approach is expected to produce more than three times the current vegetable harvest of 25kg per greenhouse. In addition to the multiplication of vegetables harvested, Aquaculture will also produce various tilapia breeds such as blue, nile and redhead tilapia.

Key actions undertaken:

- Rehabilitate BK's greenhouse and convert it into a working Aquaponics facility.
- The greenhouse, now the biolab, will feature the Aquaculture-Hydroponics Synergy.
- Create a structurally sound biolab for BK, avoiding the need for annual repairs.

What is Hydroponics?

Hydroponics is a method of growing plants without soil, using mineral nutrient solutions in a water solvent.

What is Aquaponics?

Aquaponics is a method that combines conventional aquaculture (raising aquatic animals such as snails, fish, crayfish or prawns in tanks) with hydroponics in a symbiotic environment.

Why Aquaculture-Hydroponics?

- Near zero environmental impact
- Works without soil
- A level higher than organic vegetables
- No artificial fertilisers, pesticides, or herbicides
- 90% less water than conventional vegetable gardens
- 97% less water than standard aquaculture methods
- Versatile and adaptable
- Less waste than aquaculture and hydroponics alone
- Three times more production per square meter than traditional farms

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Progress

The project is being implemented in phases and is fully funded by Amec Foster Wheeler through the efforts of fundraising activities in our Manila office, and matched by corporate giving:

Phase 1

The activities in the first phase of the project focused on completing rehabilitation and installation of the roofing and external wall sheathing of the biolab, as well as checking the structural integrity of the frames of the current biolab. Completed last October 2016 with a final cost of Php150,000.

Phase 2

Setting up concrete sidings and plumbing on the site and installation of concrete sidings on site. Target start date: April 2017.

Phase 3

Installation of brackets, grow bed, grow light, rearing tanks, piping and afiltration system.

Phase 4

Install solar power system and biolab accessories, such as lighting and ventilation.

Phase 5

Polish fish pond rehabilitation which will cater pond area clearing and pond enclosure. Our employees and the BK residents have received in-depth briefings about Aquaculture-Hydroponics Synergy. Together with the BK children, they participated in aquaponics and hydroponics training in an on-site hands-on workshop, including the maintenance of the solar power system, the bio-filter and the fish tank, enabling BK to sustain their own food and financial needs.

The new BK greenhouse, now a biolab!