



APPLICATION BULLETIN Emergency Response Haiti

The **2010 Haiti earthquake** was a catastrophic magnitude 7.0 M_w earthquake, with an epicentre near the town of Léogâne, approximately 25 km (16 miles) west of Port-au-Prince, Haiti's capital. The earthquake occurred on Tuesday, 12 January 2010. By 24 January, at least 52 aftershocks measuring 4.5 or greater had been recorded. An estimated three million people were affected by the quake; the Haitian Government reported that an estimated 230,000 people had died, 300,000 had been injured and 1,000,000 made homeless. They also estimated that 250,000 residences and 30,000 commercial buildings had collapsed or were severely damaged.

Haiti is the poorest country in the Western Hemisphere, and is ranked 149th of 182 countries on the Human Development Index. Haiti is no stranger to natural disasters; in addition to earthquakes, it has been struck frequently by cyclones, which have caused flooding and widespread damage. The most recent cyclones to hit the island prior to the earthquake were Tropical Storm Fay and Hurricanes Gustav, Hanna and Ike, all in the summer of 2008, causing nearly 800 deaths

A German based NGO, arche noVa, was selected to deploy the SkyHydrants as they were already established in Haiti and have skill and expertise in water treatment in emergencies. In the first weeks activities included the provision of potable water through reverse osmosis treatment plants in a community in Carrefour, at the Malteser International Field Hospital in Léogâne and in Petit-Goâve, a town located approximately 60 kilometres west from Port-au-Prince, and in several other communities and institutions. Arche noVA formed a



Hygiene Promotion Team to, spread awareness of hygiene related issues and to act as a monitoring mechanism to give feedback from the community. They also set up a small water quality testing laboratory to monitor the quality of the water pre and post SkyHydrant treatment at the distribution points as well as in spot-checks at household level.

arche noVa received 30 SkyHydrants from generous donations from Siemens Stiftung, Sargents Charitable Foundation, Crown Project Services and associated industry colleagues and friends on 22nd February 2010. arche noVa are planning to use the SkyHydrants for projects designed to increase and guarantee access to safe drinking water for the people in Petit-Goâve, Grand-Goâve and surrounding communities on a long-term basis.

Project Implementation

a) In Carrefour, one of the areas most affected by the earthquake, SkyHydrants were installed in camps supported by a group of Missionaries from the United States. Because Carrefour is some distance from arche's main base of operation, the community has agreed to operate and maintain the units, providing safe drinking water to the surrounding community from wells that were found to be contaminated with bacteria

Also in Carrefour, in a hospital run by the American organisation ACTS World Relief, a SkyHydrant provides patients, staff and visitors with safe drinking water. Furthermore, the water is used in a kitchen that provides 3,000 meals per day.

In Petit Guinée, a small community on the outskirts of Petit-Goâve where at least 80% of the buildings have been destroyed, arche noVa was providing safe drinking water to a Child Friendly Space operated by the Czech organisation People In Need (PIN) and a daily medical clinic installed by the International Medical Corp (IMC). PIN and IMC have since abandoned the site due to land rights issues (the owner has passed away and his heir was no longer willing to provide the space for these facilities), but the SkyHydrant is on an adjacent property and is still in place because it



Safe water for the patients, staff and visitors in a hospital in Carrefour



Erecting a water tower for the community child care centre in Petit Guinee

currently represents the only safe drinking water source for the surrounding community. Because there were no remaining structures to place a tank on, arche noVa constructed a water tower for the SkyHydrant.

There is a second site in Petit Guinée where arche had originally set up two RO-Treatment Plants but have now replaced them with two SkyHydrants as these are easy to operate and have negligible running costs. Because of the high turbidity in the raw water source, arche installed a small sand filter for pre-treatment to reduce the number of times the SkyHydrants have to be backwashed.

week arche noVa are going to install a SkyHydrant in a camp supported by ADRA Czech. Water samples have shown high levels of microbiological contamination of the existing source, a spring catchment. Because this site is unlike all the sites in that there has not been any type of water distribution system before the

earthquake, this site will be the first permanent installation. Because it is now end of the official emergency phase it is necessary to ensure that the interventions (SkyHydrant installations) have an added level of sustainability and ensure that arche are confident that they can work with the existing structures to ensure that the units are properly maintained and operated.



Currently arche noVa is in contact with several other national and international NGOs that have requested arche noVa to install SkyHydrant water treatment plants. With the local NGO Association des Paysans de Vallée (APV) they have already signed a MoU to start working in some of the more rural areas where arche noVa have access to enough water head to install the units without the additional need for a pump and water tower. APV has been working in the mountainous areas for more than 23 years. On first assessment they have identified 5 – 6 appropriate sites to install SkyHydrants and consequently they are now scoping the projects.

The German NGO Cap Anamur has also asked arche noVa to help them with the installation of several water treatment plants in two schools they are in the process of rebuilding. There have been many other requests, especially for water treatment/distribution schemes in schools, but they are still at the assessment stage. The current plan is for arche noVa to maintain a presence in Haiti for the next two to five years using the SkyHydrants as the core water purification treatment system for all their projects.

Noted below is an extract from a technical report received from arche noVa, written by the arche noVa, Head of Mission in Haiti:

“In our opinion the mode of delivery and the maintenance requirements of the SkyHydrants are absolutely brilliant. Compared to the other types of treatment plants that arche noVa is operating, they are extremely easy to maintain and are well suited to be turned over to local community structures, such as Water Committees or local NGOs for operation.

These units are quite versatile and very easy to maintain. They have certainly generated a lot of interest from other actors in the WaSH sector.”

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