



'Water for Life' Project

A brief summary



<p>The need</p>	<p>This project was initiated by Mr Chris Faldon, Health Protection Nurse Consultant, NHS Borders following his first visit to the 450 bed St Francis Mission Hospital, Zambia in 2012 having observed a severe lack of water to both the hospital wards and the residential area, especially during the dry season.</p> <p>It was estimated that 40% of water from bore hole to tap was lost due to an ageing network of leaking pipes. Additionally an academic study conducted in 2012 of the wastewater disposal system at SFH concluded the risks were high of soil and groundwater contamination with bacteria, chemicals, drugs and heavy metals. This posed a danger of disease spreading not only to the patients, staff and visitors but also to the local population in Chisale who get drinking water from shallow wells and directly from the stream that passes through the hospital grounds.</p> <p>From 2004 to 2006 SFH/MSG, Medical Support Group and the Simavi organisation (both from the Netherlands), carried out a limited water improvement programme for the hospital clinical area only. Due to lack of funding the piping to the staff residential areas could not be included. This included a pre-school nursery, high school, nursing and midwifery training school, visitor accommodation and shopping area.</p> <p>The Water for Life project set out to address the problems in the non clinical areas. Plans for these improvements were laid down by the technical staff of SFH in close co-operation with Paul Splint, technical advisor to SFH / MSG. The actual project was executed by the SFH technical staff with external agencies involved as necessary.</p>
<p>Primary Objective</p>	<ul style="list-style-type: none"> To radically overhaul the water supply and distribution infrastructure to the wider St Francis Hospital compound
<p>Anticipated outcomes</p>	<ul style="list-style-type: none"> Improved standards of infection control by providing a reliable supply of clean potable water Reduced potential for spread of disease within the hospital compound and beyond
<p>Phases</p>	<p>Approximately £90,000 was raised within the UK to secure improvements to the water supply and distribution. A Memorandum of Understanding (MOU) between the hospital management and the Logie Legacy was signed in May 2014.</p> <p>Phase 1 - infrastructure (£75,000)</p> <ul style="list-style-type: none"> Reflush and deepen 2 boreholes Drill two new boreholes Install 2 new booster pumps Construct 3 elevated tanks Lay down 7km new PVC pipes from the main storage tank to identified areas within the hospital compound <p style="text-align: center;">COMMENCED 08/2014 - COMPLETED</p> <p>Phase 2 - connections (£15,000)</p> <ul style="list-style-type: none"> Connect to 140+ properties across the hospital site <p style="text-align: center;">COMMENCED 08/2017 – COMPLETED</p>

There was some slippage in timescales for project completion and therefore Tayler Associates was contracted in November 2017 by The Logie Legacy to undertake a post implementation review (PIR) of the Water for Life Project. The resulting report identified 15 key lessons and made 6 recommendations for future implementation. These were:

1. Formally recognise the role of all partners in the implementation of a project with clearly defined roles and responsibilities
2. Clearly defined planning around sustainability needs to take place at the start of a project
3. Independent contracting should be a preferred mechanism for delivery of infrastructure works but appointment of contractor should be subject to public tender
4. Regular reporting as defined in a contract is essential and failure to report must have consequences
5. The establishment of a 'Donor Forum' could result in better coordination, sharing of resources and raise the standard of delivery across the board
6. A full project plan and budget with milestones and clear deliverables linked to a contract needs to be in place before each project begins

Phase 3 - sustainability (£10,000)

- install a further booster pump and 10,000 litre storage tank
- fit water consumption meters to the domestic and commercial properties
- establish a mechanism to collect water rates

COMMENCED 09/2018 - COMPLETED

Impact of development

Over 1200 people use the water supply daily. This is set to grow significantly over the next 5 years.

- **Hospital wards and departments**
 - 450 occupied beds at any one time
 - 22,600 admissions per year
 - Over 93,000 outpatients seen annually.
- **Wider hospital compound**
 - 130 houses
 - 7 hostels
 - Nursing and midwifery school with kitchen
 - Visitors mess with kitchen
 - 2 schools
 - Chada (small shops)
 - SFH training centre and accommodation lodge

A more reliable and safer water supply is now operational. The successful implementation of phase 3 should see a sustainable development to benefit the hospital community for many years to come.

"I wanted to report on and thank you wholeheartedly for the fantastic work you have done on the water system. 24/7 clean water, enough pressure. Really excellent" Senior Doctor

Next steps

The Logie Legacy commissioned a technical study of the wastewater treatment system at St. Francis Hospital. It was conducted in October 2017 by Bremen Overseas Research and Development Association (BORDA) with funds provided by Scottish Government (International Division). An estimated £250,000 is needed to fully implement the recommendations.

A visit by Chris Faldon to SFH in May 2019 signed off the successful completion of the Water For Life project and secured full support from the hospital management to work in partnership with the Logie Legacy to address the major public health implications stemming from long standing pressing sanitation needs. A plan is now needed to secure funding for this ambitious and yet vital development.