

The main innovation of this project is the production of curved, interlocking blocks that can be made at the Community Work Programme (CWP) sites. These blocks are ideal for constructing water wells, pit latrines, water harvesting tanks. They can also be used to build rondavels. The intention is to empower communities to create the appropriate technologies needed to provide for their own housing and water needs. This technology also has job creation potential through the setting up of local co-operatives that can then build houses and water tanks.

Implementing organisation: Zululand Centre for Sustainable Development

EMPLOYMENT CREATION FUND WATER CONSERVATION – BRINGING RESOURCES CLOSER TO HOME

Having clean water on tap can transform life in rural areas where access to water can mean walking miles to fetch it. Building water tanks at households is a solution – and also has the potential to provide work for young people.

Water is an essential commodity and supplying it is usually a municipal service. However, because of the sprawling nature of rural areas, many smaller municipalities are unable to provide adequate water services.

Dlangubo in Northern KwaZulu-Natal near Empangeni is one such area. Access to water is difficult. Many people still collect daily from the river and, in some areas, from tankers that supply water.

This project was tested at the Dlangubo site because it is one of the poorest CWP sites and the need for reliable water sources is high. Unemployment is also high, and the effects of HIV and AIDS have left many children orphaned. These children are either living with *gogos* (grandmothers) or on their own with their siblings in child-headed households.

An innovative system of water harvesting from a traditional-styled Zulu hut was developed by Zululand Centre for Sustainable Development (ZCSD). This involves making specially designed concrete blocks using a unique block machine. These blocks can be used for water harvesting and storage, improving access to clean water through water wells, and improving pit latrines. They can be used for the erection of both a hut for housing, storage and crèches, with a water tank that has a capacity of 2 000 litres of water.

Another advantage of building water tanks instead of buying them is that the money is spent locally.

Forty beneficiaries were selected from the Dlangubo area and employed by the CWP programme. The initial approach was to involve the youth in this programme and the two teams were selected with a mix of both men and women. Selection was carried out by the Dlangubo CWP Reference Committee.

The block making yard was established alongside the Mhlathuze River, where sand and water are readily available, on land allocated by the local Traditional leader. Two groups of 10 community members each, selected from participants in the CWP programme, respectively received training in both block making and the construction of the structures. The beneficiaries selected are mainly youths and a mix of women and men.

Two different designed blocks are produced at the block yard. Both designs are arced so that they form the traditional rondavel shape of a traditional Zulu hut. While the blocks used for the housing units look very much like a normal concrete block with a hollow centre, the water tank blocks are solid, which makes them water-tight. Besides being used to build water tanks for harvesting rain water from the roof of the dwelling unit, the smaller, solid arced blocks are also used to construct a separate latrine.



Around 300 blocks are used in the construction of a rondavel, and the block yard produces around 250 blocks a day.

Following their training in block making and in the construction of the structures, the 20 participants were presented with certificates and each received a 'tool kit', donated by the Zululand branch of the Master Builders' Association.

The tool kits together with the training they have received means they now have the skills and tools to start their own co-operatives as small construction and block making businesses, which they can run when not working on the CWP programme.

The block making team received training in all aspects of making the blocks and includes the proportions of sand, water, and cement required for a strong dry-mix; effective yard lay-out; curing techniques; the important aspect of safety; troubleshooting; and how to care for their tools.

The construction team was trained in all aspects of constructing the huts, toilets and water harvesting tanks. This includes measuring the building circle for the relevant structure; casting foundations and floors; laying the interlocking blocks; proportions required for a strong mortar; waterproofing; roof construction and assembly; fitting doors and windows; health and safety requirements on a building site; as well as troubleshooting and caring for their tools and equipment.

A pilot, or showhouse-type hut, water tank and latrine were built at the Izulu Orphan Project situated in the Dlangubo area so that members of the community can see the end result. This facility is visited by around 570 indigent families from the local

communities on a regular basis to collect food parcels and attend medical clinics. Many of these families are child-headed households.

Says ZCSD managing director, Gavin Eichler: "This site was selected as it is well-used and will have good visibility, and was used for the training of the construction group. The idea is to show communities what the house and structures look like, how it is an improvement on their traditional earth brick houses, and how water is harvested from the roof of the structures and channelled to the water storage tank. Each litre of water harvested in this way is a litre of water that does not have to be processed and pumped by the local municipality. As part of their practical, the trainees also laid the concrete slab for the block yard. A further two huts were also built at the block yard site as part of the training."

Several rondavel and water tank combinations have already been built in the community at households where vulnerable children live.

For establishing the co-operatives, the teams were subsequently thinned down to two groups of 10 instead of the planned two groups of 20. This was done to allow for a more focused group that can work together as a business co-operative after it was found that some of the people in the group were not interested in being part of a co-operative but preferred to remain employees.

The Department of Economic Development and Tourism has been contacted to assist in the establishment of the co-operatives. They have indicated that they will be conducting training with the groups to assist in setting up a business unit. Participants will be receiving their certificates and a full tool box of building tools on graduation.

A new home for orphans

Frans and S'phiwe Mdletshe are an elderly couple who have children of their own but have taken in 13 young orphaned children from the area even though they are not related.

They are now the proud and happy owners of a new rondavel and water harvesting system, built as part of the water project. The addition of the rondavel provides extra accommodation for their cramped, small family homestead. "We are *jabula* (happy) for the children to have this extra house. I love to look after children," says S'phiwe. "It is a love that comes from my heart."

The couple also have a large, well-established vegetable garden that provides produce not only for their enlarged family's needs but also to bring in much needed extra income. Having water on tap will make maintaining it easier.



This profile is part of a series that looks at local innovation in the South African government's Community Work Programme (CWP). It was produced by Trade & Industrial Policy Strategies (TIPS) for the Department of Cooperative Governance (DCoG). For more information about the CWP go to www.cogta.gov.za/cwp.