

Now in my backyard — Zimbabwe's upgraded family well programme

by Peter Morgan, Ephraim Chimbunde, Nason Mtakwa, and Anthony Waterkeyn

The well programme is a hit with the people, but goes against the government grain. Can an NGO allay the bureaucrats' misgivings that something so simple cannot be serious — and persuade them that offering material subsidies to individual families is *the* cheap option?

THIS IS NOT an article about a new initiative; pieces about Zimbabwe's Upgraded Family Well Programme appeared in *Waterlines* in 1991 (Vol. 9, No. 3) and again in 1993 (Vol.11, No. 4). In the early 1990s, the Mvuramanzi Trust's programme was experimental and, whilst popular with the users, government officials viewed it with some caution. The approach seemed to be almost too simple, from a technical point of view. In addition, material subsidies were offered to individual families, rather than communities. Neither element fitted into the guidelines set for National Water Decade (NWD) objectives at that time.

When it became clear that users were overwhelmingly positive, however, the Ministry of Health and Child Welfare (MOHCW) was prompted to expand its operations and, by the end of 1995, over 18 000 units had been completed, serving an estimated 180 000 people. The obvious success of the programme led to its acceptance and then endorsement, not only by the MOHCW, but also by the National Action Committee which oversees all NWD activities within Zimbabwe. This acceptance included offering a material subsidy to each participating family.

Whilst such an approach seemed extravagant at first, *the cost to the*

funding agencies was actually much lower, per person served, than providing improved water sources in any other way (see Table 1 below). The

Programme outline

Many families in Zimbabwe have dug wells in their own backyards, and a considerable number have been in use for many years. Whilst each traditional well varies somewhat, many have common features which improve the strength, safety, or water quality of the well. These traditional improvements include lining the well with bricks, providing a cover of some sort, and fitting a windlass which helps to lift the bucket.

Such features have been improved



The Upgraded Family Well — simple, robust, reliable, and not a blot on Zimbabwe's traditional landscape.

simple reason for this was that, once the incentive was provided, in the form of a material subsidy, the owner provided the remaining two-thirds of the entire cost.

further and combined in the Upgraded Well, which incorporates not only a fully brick-lined well chamber, but also a concrete well slab, apron, and water run-off. A raised collar, cast as part of the well slab, is covered with a tin lid.

Each well is also fitted with a strong windlass, mounted on supports. Originally, these supports were made of wooden poles, but these have been largely replaced by more substantial, brick columns, fitted with bearings made from the treads of old car tyres, which are loosely wrapped around the windlass and anchored within the brickwork. Wooden bearings made from treated pine and eucalyptus are now being tested.

The final unit is simple, robust, and reliable, and blends in well with the traditional surroundings. Many are decorated to improve their appearance. Because the method has evolved from traditional practice it is well under-

Table 1. The costs of supporting three types of rural water supply in 1995

Type	Project contrib.	User's contrib.	Total cost	No. of users	Project cost (Z\$) per user
Family well	300*	700**	1000	10	30
Deep well	7900	1200	9100	150	53
Borehole	48 000	n/a	48 000	250	192

* Including costs for material subsidy, transport, staff training, health education and running Trust office

** Cost includes well digging and construction

NB both deep well and borehole are fitted with a Zimbabwe Bush Pump.



Clichéd but true — Upgraded Family Wells are usually kept so clean one could eat off them ...

stood and easily copied. The maintenance problem, common to most communal water installations, is largely overcome, partly because the method is simple, and partly because the units are owned by the family, rather than the community.

The lining of the well and the hygienic nature of the headworks lead to noticeable improvements in water taste, because the water becomes less turbid. There are also significant improvements in water quality. *E. coli* counts are reduced to between one quarter and one sixth of the amount found in water from less-protected

wells. The cover also makes the unit safer for children.

Implementation strategy

Whilst the current success of the programme is related to the simplicity and acceptance of the technology itself, the sheer number of units built reflects the effectiveness of the Mvuramanzi Trust's implementation strategy.

Many of Zimbabwe's rural water and sanitation programmes are characterized by too little control of the materials provided. The staff of the Trust operate a very different, stricter method

of distribution. Lorries carry the cement, windlasses, and lids to a pre-selected site where someone from each family collects and signs for its material subsidy. Thus each family receives the subsidized materials directly from the Trust and is wholly accountable.

This process is only carried out, however, after several earlier stages have been completed. First, following an approach from the Trust, a meeting is held at MOHCW's provincial and district offices, attended by other representatives of other government departments and Rural District Council staff. Then the precise locality is chosen by the Trust staff, in collaboration with Environmental Health Technicians (EHTs) working for the MOHCW.

A group made up of Trust and government personnel then convenes a meeting with the villagers, at which it outlines both the plan of action, and what families can expect to contribute if they want help in building their own upgraded well. Shortly afterwards, builders, employed by the Trust, train local artisans how to upgrade family wells, which then serve as 'show wells' for the rest of the villagers. Before long, the community is convinced of the benefits of supporting the project.

Family and donor contributions

Once agreement is reached, the EHT lists the families who want to take part.



Reaping the rewards of a family well — a lush kitchen garden near Gweru.

Neil Cooper/Panos Pictures



Villagers — women, in particular — find family wells convenient. Additionally, the water tastes better, the quality is improved, and children are safeguarded against accidents.

In any ward or village the greater proportion of those who already have a well in their backyard will respond and, often, many more dig new wells to take advantage of the scheme.

In practice, this involves a family digging its own well, or deepening an existing one, and lining it fully with fired bricks. The future well-owner must agree to pay both a well-digger and a trained builder to carry out the work. It is also up to the family to provide bricks, sand, and other construction materials. In return, the family receives three 50kg bags of cement, a strong, steel windlass, and a tin lid — the material subsidy; but not until there is a fully lined well in the backyard. Usually, work commences immediately, between April and November, before the main rainy season.

Checking and reporting

The process does not end there. Each EHT supervises the construction of wells in his or her area and reports back, through the MOHCW, to the Trust, which also receives a monthly record of the number of completions. In addition, Trust staff make random checks.

Costs

The value of the material contribution by the Trust amounts to about Z\$200 (US\$20.80) per unit, which serves about 10 people. The additional costs (staff, transport, training, health education, and Trust-office support) increase this figure by about Z\$100. The owner's contribution varies, depending on whether the family has to sink a

new well, or simply deepen an existing one. Some existing wells are already fully lined, whilst others require a full lining. On average, the family contributes two-thirds of the total cost. About half of all the upgraded wells are made in completely new well sites.

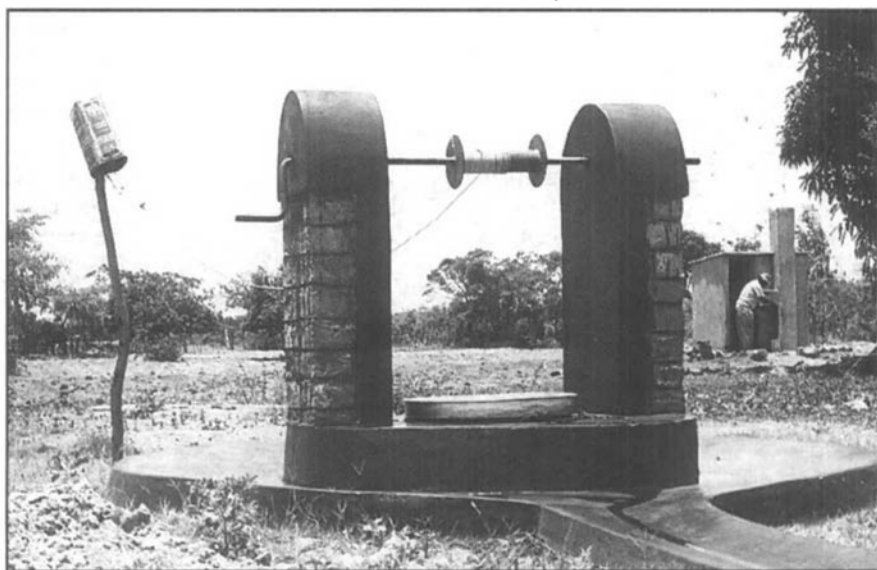
Hiring a trained builder costs the family about Z\$100 (or the equivalent in kind). Working under the supervision of the EHT, he may get involved with the construction of several wells

have been constructed in 15 districts. Over 1000 artisans and builders have been trained, together with several hundred community leaders. One hundred and fifty EHTs and other MOHCW staff have also been trained. The project has created many new jobs, and contributed significantly to local development.

Advantages of the NGO route

As an NGO, the Mvuramanzi Trust can operate with greater flexibility than its government counterparts. The Trust can purchase hardware easily, which the staff transport in reliable vehicles. Finances are carefully monitored, and accountability for material and other costs is considered

important. It is clear that, increasingly, the role of the NGO is becoming vital to the success of this type of rural development project. In Zimbabwe, the number of NGOs operating in water supply and sanitation activities increases yearly; ideally, they collaborate with government departments and the beneficiaries. Such an approach has been particularly effective in the Family Upgraded Well Project in Zimbabwe.



Family well programmes work because they form one plank of an integrated approach which also covers sanitation. In the background, you can see a Blair Latrine, equipped with handwashing facilities. The Mvuramanzi Trust also supports the Ministry of Health and Child Welfare's rural latrine programme.

simultaneously, such is the demand. For the householder, this means that may be a choice of trained builders.

Training

To date, over 18 000 upgraded wells

Problem areas

No programme in which the users are active partners is completely problem-free. One of the most serious, potential problems is the general falling off of water-table levels in southern Africa,

which began in the mid-1970s. Every year, a proportion of family wells dry out. Most are deepened by the owners and this is considered a routine maintenance job. Indeed, the fact that so many family-owned wells retained some water during the driest part of the severe 1991-2 drought, proves that families do follow the water-table down within their own well. More recent studies show that, in any one area, some wells are more reliable than others, and are often shared when the water-table is at its lowest.

A properly built upgraded well is strong and long-lasting. Poorly built wells develop cracks in the columns or the headworks, and wells lined with poorly fired bricks may collapse. Sometimes, poor rubber bearings are fitted — perhaps from the side of a car tyre rather than the tread — they wear out more quickly. For these reasons, the well programme is constantly monitored, and considerable effort is placed on retraining builders where necessary.

Self-help makes sense

The success of the Family Well Programme in Zimbabwe is largely due to the fact that users genuinely want to improve their own water facilities, and become self-sufficient. Such enthusiasm is rarely in evidence when villagers are asked to participate in — and pay for — community-based water schemes. Perhaps this is because the community approach to building and servicing community water facilities is only in its infancy in Zimbabwe, and an adverse reaction to the considerable distances between home and community schemes? Communities tend to regard communal facilities positively when there is no other source of water available, and they are vital for survival. If water exists outside the back door, you will use it.

The availability of fired bricks throughout most of rural Zimbabwe is a great advantage, as these are used to line the wells and build the headworks. The widespread use of bricks as a building material in Zimbabwe has also greatly assisted the development of the country's Blair (VIP) Latrine Programme.

Spin-offs

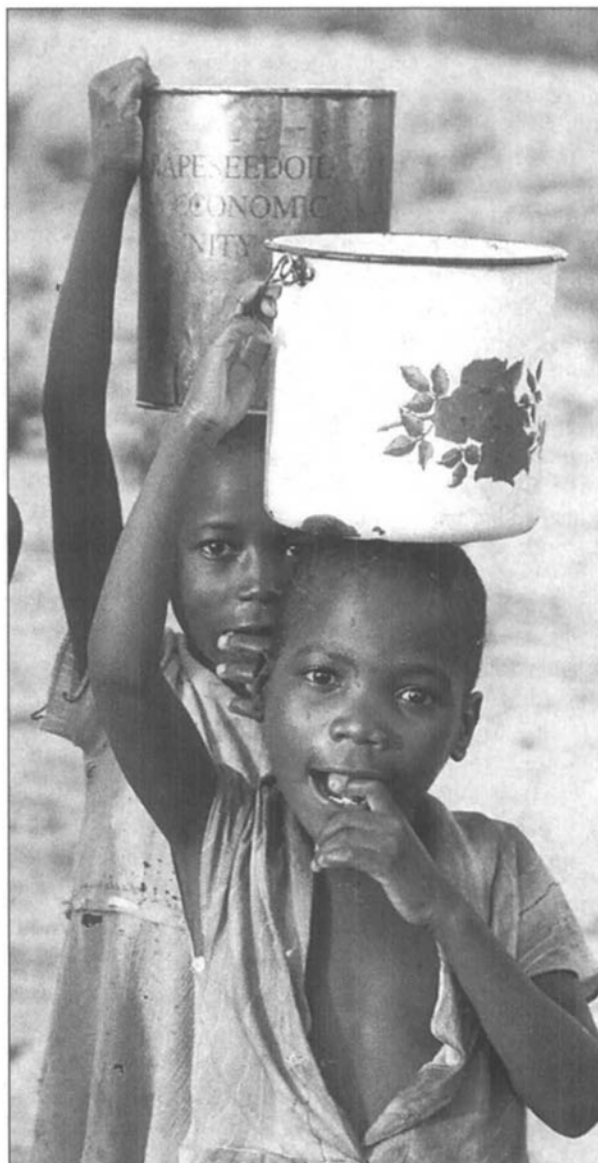
The completion of the family-owned well is not the end of the story. Vegetable gardening becomes a practical option, with its obvious nutritional and income-generating benefits. More

water is used within the home, which has a direct impact on people's hygiene and health. Because the water is close at hand, less needs to be stored in vessels vulnerable to contamination. The collection time is short, so women, in particular, have more time for other activities.

The family well programme can only take place in areas which have a water-table relatively close to the surface; in general, this is less than 15m. This poses few problems for Zimbabweans, however, as such areas are widespread — and in the most highly populated districts. Whilst not every family may be able to afford an Upgraded Well, they usually have access to ones nearby.

The programme complements the handpump programme, rather than competing with it. Handpumps, which take water from deeper aquifers, are essential in the drier parts of the country, and act as back-up sources in areas where shallow wells are common. They are also essential for schools and other community centres. In areas where family wells are common, the demand on existing hand-pumps is reduced, so pump maintenance costs are reduced.

The concept of upgrading simple wells, especially those owned by families, is a logical one, but one that is still overlooked by many governments and donor organizations. It is hoped that the experience in Zimbabwe will show



Less time spent collecting means more time for other tasks ... or fun.

Neil Cooper/Panos Pictures

that the aims of the Water Decade can be achieved, not only by choosing more modern approaches, but also by updating traditional methods, which may have been in common use for generations.

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