

Harvesting the rain

VSO volunteer **Alice Simonds** profiles one water project where the women took over to provide their own technological solution.

Small, young and female – my new employers tried hard to cover their initial horror, but I was definitely not the water engineer they had dreamed of. I had been posted by VSO as technical adviser to a water project in Karagwe, a remote district of north-west Tanzania, and the employers in question were the local development association, KARADEA.

The first visit they took me on was to meet the district officials, and then to the male-dominated village councils. There I heard of the terrible problem of water, due, among other things, to the unfavourable geology and a state of deforestation. These factors combined meant that any water that was needed had to be carried up from the deep valleys to the villages on the ridge-tops.

I listened to what they wanted. Pumps, pipes, boreholes and standpipes – like the systems seen elsewhere, only theirs needed to be bigger and better. I asked what they proposed to finance such plans with – and I was met with an expectant silence. I took a deep breath and spent a few minutes explaining VSO's policy of technical as opposed to

financial assistance. They were clearly disappointed.

The women's view

I then began to visit the women's groups. I listened to them talking about the problem of water: disease, time, energy, etc. Suddenly, as it started to rain, the group disappeared: they were putting buckets and saucepans under their eaves to collect the rainwater.

As the weeks passed the women and I came to discuss the advantages of rainwater collection. Clean, safe, cheap and on their doorsteps – literally! Then one week a group invited themselves to the weekly village council meeting. After the usual banter about water pumps, pipes, diesel and repair costs one brave woman stood up, faced the men and suggested they consider rainwater collection instead. After all, Karagwe was one of the rainiest districts.

There was an insulted silence under the tree. A look of indignation came across the men's faces. Rainwater? Individual tanks? What, no pumps? No pipes? No prestige?

Seeing is believing

That brave woman and I persuaded a group of about 20 to visit a rainwater harvesting project about 150 kilometres to the east. Seeing was believing, and they returned with new attitudes and enthusiasm. They set about distributing questionnaires for me, gathering information and spreading the good news of affordable rainwater harvesting as they went from door to door.

I soon had quite a set of information on water demand, roof sizes and type and potential income (goats, coffee, beans and beer) from each house. Using this in a feasibility study the design, scale and expenses of the water project became clearer.

The questionnaires revealed that many households had five or six goats – others more than ten. Many women had quite a good regular source of income in their monthly beer brewing. And they all harvested beans, maize and coffee twice a season from the fertile soil. We calculated that a large cement water jar with the capacity of approximately 100 buckets (1,400 litres) would cost the equivalent of two sacks of beans, three goats or four monthly brews of beer.

In the shade of a tree beside a stream we began to build small, affordable 'rain jars'. These were installed at each customer's house after they had put up gutters, which they had also started to make in the village.

When I left three years later over 15 per cent of the village had their own clean water supply for at least six months during the erratic rainy season. It was a small step, but it changed the lives of the women, who could give more time and energy to increasing their harvests. And the queues at the health centre started to shorten. It had taken a long time but the project had been designed by the villagers themselves. And they were very proud of that. □

Alice Simonds was a VSO volunteer in Karagwe between 1991 and 1994

Photo • VSO/Alice Simonds



Spenciosa Kahendaguza, the first rain jar customer with VSO visitor Caroline Shepherd

"Why build this way?"

The most important tool for a building development worker is communication, says **Andy Bennett**, VSO field officer and former building volunteer in Kenya.

Before arriving at Muka Mukuu, in Eastern Province, Kenya, I assumed that mastery of the local language, Kikamba, was the essential factor in enabling me to communicate with people in the community I was to work with. I was wrong. The barriers to communication lay not so much in language, but in perceptions. Mine and theirs.

Building is a classic hands-on subject. The principal components are stone, soil, wood and metal. Methods of assembly can be shown by action better than by words. There is nothing abstract about the erection of a pit latrine.

The project at Muka Mukuu was to set up a training programme to instruct community volunteers in methods of low-cost housing, maximising the use of local materials. VSO provided three volunteers - a community worker, a building instructor, and a project coordinator.

Muka Mukuu Farmers' Co-operative Society is comprised of 2,500 shareholders, each allocated a plot of land varying in size between four and ten acres. The total population was almost 20,000. The shareholders, mainly subsistence farmers, live in a belt around Ol-Donyo-Sabuk (Buffalo Mountain). They were to be the 'beneficiaries' of our programme.

Public meetings

The problem faced by a building development worker lies not so much in communicating techniques but rather when someone asks, 'why?' "Why are we building this building?" or "why are we building it this way?"

Our team was to build ten different demonstration low-cost housing units, using community volunteers, at the sites of the primary schools which ring the mountain. The emphasis was on training rather than building.

With the help of the local Chief we organised a series of outdoor community meetings at the various sites to explain the broad objectives of the programme. Up to 200 people would attend. Anne Martin, the community worker, and I would speak to the group in English and an interpreter would translate in to Kikamba. A question and answer session would follow.

Three distinct and conflicting assumptions emerged: that we would build a free house for each of the 2500 shareholders, as had been promised by a local politician; that we would build teachers' accommodation at all the primary schools; and finally that we would build classrooms and workshops.

At the meetings it was invariably the men who spoke. Their questions were addressed to me rather than to Anne, who became increasingly frustrated by this. She wanted to involve the women in the project, not just in terms of design, but also as builders. After the community meetings Anne formed smaller building committees at each location comprising equal numbers of men and women and including the school head and community elders. The committees were to discuss and amend the drawings I was to produce.

Basic lessons

My initial black ink drawings were not a success. I assumed the committees would understand a scaled-down representation of a house. They did not. One elder pointed to an external dimension line and enquired why I had placed the washing line so close to the building. So back to the drawing board. The result: multi-colour designs. As I only had access to five colours there was general amusement that the roofs of the house were to be purple!



Building a teacher's house in Muka, Kenya

The many amendments, usually to the layout of the kitchen, reflected the growing confidence of the women involved in the project.

During this period I studied traditional methods of construction. A local builder, Joseph Nzyoka, agreed to employ me as an unpaid labourer. In return he answered my stupid questions about his methods of construction. He had the worst of the bargain. "The mortar mix is dry because the stream is dry." "The timber is warped because it is not expensive." "I do not need a drawing because the house is in my head."

From this initial period we learned some basic lessons. Traditional methods of construction are based on economics and availability of materials and a pragmatic historical experience of what works. We learned that rural communities perceive that they cannot afford the risk of new methods of construction - the costs of testing new ideas must be borne by someone else. And that the success of technology transfer is constrained by very specific local conditions. Also, in a seemingly male-dominated society it is often the women who control the village. Their active involvement is essential to the success of a community building project.

Over the next few years the VSO team made many mistakes, but our successes had their foundations in the process of understanding and communication. ■