# Buying into rural water supply

## by Michael Wood and Negash Dhinna

**During Ethiopia's long civil war, NGO intervention was limited to emergency relief. Now, agencies are helping to provide water supplies to a largely unserved rural population. Is sustainability impossible without community ownership? And what scope is there for building more productive relationships between NGOs and government?**

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ETHIOPIA HAS BEEN called 'The Water Tower of Africa'. No fewer than 14 major river systems flow out of the country into neighbouring countries like Sudan, Somalia, and Kenya. Each year, 110 billion $m^3$ of water flows out of the country from the 11 major river basins.[1]

Despite this endowment, only an estimated 19 per cent of the total population of 55 million (1984 census projection) has access to a safe water supply.[2] Of this, about 12 per cent of the population has been provided with water by the government while the remaining 7 per cent has been provided by NGOs. Of the 12 per cent of Ethiopians served by the government, about 90 per cent live in urban centres, including Addis Ababa's estimated population of three million. Taking this into account, it is clear that the small percentage of the rural population of Ethiopia (estimated at 48 million) who have been provided with safe domestic water supplies, has been provided by NGOs. According to Unicef, 37 NGOs were active in the rural water sector in 1992.[2] Since then, another 20 NGOs have become involved.[3]

### Sustainability

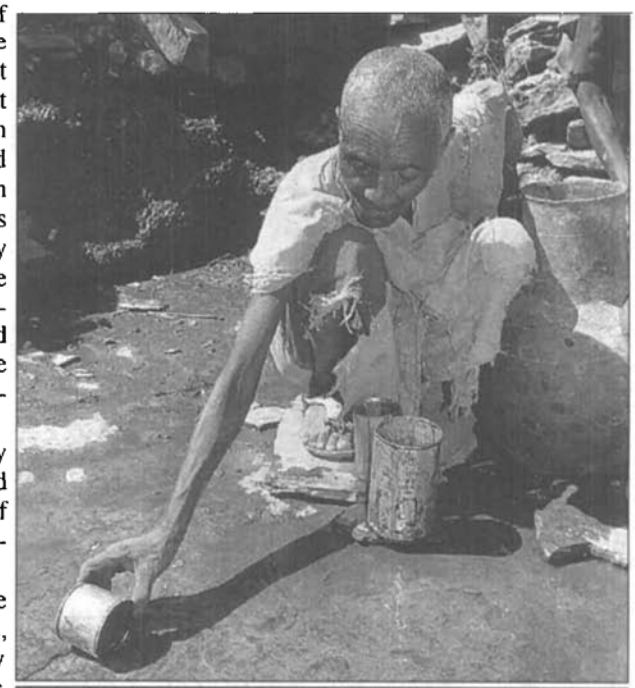
For the purposes of this article, we will define sustainability as an intervention which the community can maintain and manage for more than ten years with the minimum of outside assistance. In this context, therefore, the Ethiopian Government's record of installing sustainable rural water systems is not good. For example, in the former southern provinces of Bale, Borana, Sidamo, and Gamo Goffa, it was reported in 1992 that 40 per cent of the government systems were not functioning, for a variety of reasons.[4] One of the main reasons was that the users had no direct input into the system until it was handed over to them upon completion. Villagers were not properly trained in maintenance or management. Maintenance was seen, and often continues to be seen, as being a government responsibility.

Systems installed by NGOs, however, tend to fare much better, if not perfectly. The principal reasons are:

- NGOs concentrate on a smaller areas, and work closely with the community;
- rural people tend to trust NGOs more than government organizations (GOs) who have ripped them off in the past, particularly during the Derg regime which was in power from 1974 to 1991:
- NGOs tend to respond to community requests to intervene: initiatives are demand-driven, not imposed by the Central Planning Office in Addis Ababa; the whole community participates at all stages;
- NGOs tend to have better human and material resources than GOs — bigger salaries, more vehicles, well-equipped offices — and NGO staff tend to be rather more motivated; and
- NGOs are usually able to respond more quickly, and appropriately, than GOs.

### CARE in Ethiopia

CARE has been operating in Ethiopia since 1984, when it became involved in famine relief. Since then, CARE has diversified into longer-term development activities in Oromia, the largest of Ethiopia's 12 regions. Since 1989, CARE has been involved in a



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#### Background

**During the 17-year Communist administration — ousted by the present leaders in 1991 — civil war prevented virtually all water development in Ethiopia's densely populated north. Tigrai, with a population of around three million, received no government or NGO development aid.**

**The Derg régime poured money into equipping and feeding its 40 000-strong army in an attempt to defeat the northern insurgents. Little money was left for rural water supply in other parts of the country; NGOs were discouraged from doing anything but relief work.**

**In 1991, the Tigrayan-led EPRDF transitional government came to power. Since then, more money has been spent on water provision in the north but, in regions like Oromia, the regional government is still without adequate funding, and water supplies are found only in the towns. There are no government guidelines for NGOs.**

natural-resource development project in Western Hararghe zone, about 400km east of Addis Ababa. Funded by the British Government's Overseas Development Administration (ODA), the project is working with approximately 13 000 rural families in two *woredas* (districts) ranging from the arid lowland of the rift-valley, to the highland area forming the western part of the Hararghe mountain range.

The CARE Habro Community-Based Development (CBD) Project works with local farmers to increase their crop yields and reduce soil erosion. Using a participatory extension approach, sustainable interventions are being introduced, with particular attention being given to the needs of women.

Sustainable improvements will only come about if the water supplies are improved. Communities are assisted in the construction of shallow wells, equipped with handpumps, and in protecting springs.

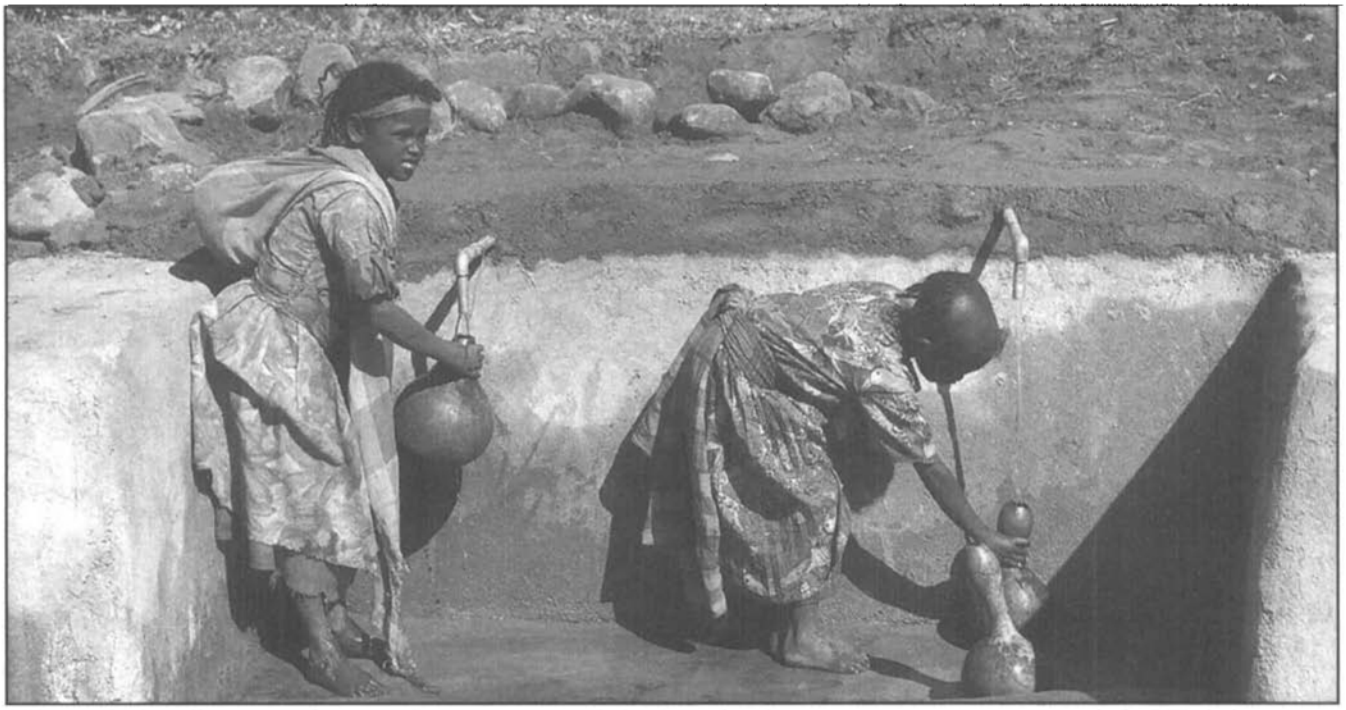
## Community awareness

The first stage of CARE Habro's approach was to increase the communities' awareness of the benefits and advantages of improved water supply. The largely female extension workers organized meetings where they showed videos of water schemes in other villages; the community then made 'cross-visits'. This process helped create the demand.

## Community involvement

The farmers and their families actively participate in water-development activities. The project works with communities through democratically elected Community Development Committees (CDCs), whose members include respected elders and traditional leaders. People articulate their needs to the CDCs who then get in touch with the project through the extension agents. The project's water engineer then visits the community and, with the committee members, conducts a technical feasibility study to determine the optimum type and cost of the system.

The CDC is then told how much the system will cost, and how much the community will be expected to pay. Communities normally contribute between 60 and 70 per cent of the total construction cost. This includes a cash contribution of 30 to 80 birr (US$5 to 13) per household, plus contributions in kind, such as labour and providing project technicians with board and lodging. Before work starts, the villagers have to deposit at least half of the cash contribution with the project, and build an access road to the site. The cash contribution depends on the community's ability to pay, which is assessed by a project sociologist on the basis of a survey. This community input is essential to the success of the completed system, which the people must feel they control. It is an approach diametrically opposed to the government's.



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*(Above) Girls collect water from a safe water source; (below) two brothers operate a pump set up with CARE's help*

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## The government approach

Normally, the water systems constructed by the government in rural Ethiopia require no cash contribution and only the minimum of participation from the intended users. This approach guarantees dependency on outsiders

and, to a large degree, ensures that the system will never be sustainable. For example, a government-installed water system in another village in western Hararghe, broke down more than 12 months ago, and there have been no attempts to repair it.

on one spring for all their drinking-water, and to water their large livestock population. To alleviate this problem, the community mobilized themselves and contributed the required amount of money to have their spring protected.

**Table 1. Cost of improving the Hidha Medher spring**

| *Item* | *Unit* | *Quantity* | *Cost (birr)* |
|---|---|---|---|
| Cement | qtl* | 25 | 1000 |
| Sand | $m^3$ | 12 | 240 |
| GI pipe | pcs | 30 | 1500 |
| Ring | pc | 1 | 354 |
| Ring | pc | 1 | 177 |
| Nipples | pc | 4 | 60 |
| Reducers | pc | 10 | 100 |
| Tee | pc | 1 | 20 |
| | | Total (materials) | 3451 |
| Skilled labour and transport | | | 5400 |
| | | Total cost | 8851 |
| Community cash contribution | | | 2224 |
| Community labour value | | | 2000 |
| TOTAL COMMUNITY CONTRIBUTION | | | 4224 = 48% |
| CARE CONTRIBUTION | | | 4627 = 52% |

*Key: birr 6.2 = US$1* *1 quintal (qtl) = 100kg*

*The protected spring serves 80 families, so the community input per family is birr 52.80 (US$8.52), and the project input per family is birr 57.84 ($9.33). The per capita cost works out at birr 22 ($3.56).*

**Table 2. Cost of Gorometa's hand-dug well**

| *Item* | *Unit* | *Quantity* | *Cost (birr)* |
|---|---|---|---|
| Ring | pc | 4 | 448 |
| Handpump | pc | 1 | 2400 |
| Cement | qtl | 5 | 200 |
| Rebar | pc | 8 | 376 |
| Sand | $m^3$ | 8 | 160 |
| | | Total (materials) | 3584 |
| Unskilled labour | | | 1950 |
| Skilled labour and transport | | | 4168 |
| | | Total cost | 9702 |
| Community cash contribution | | | 2104 |
| Community labour value | | | 1950 |
| TOTAL COMMUNITY CONTRIBUTION | | | 4054 = 41% |
| CARE CONTRIBUTION | | | 5648 = 59% |

In contrast, here are two specific examples of communities which have made surprising financial commitments in order to get potable water with the technical assistance of CARE Habro.

Hidha Medher is a village of about 120 Muslim families, lying in the mid-highlands. Predominantly farmers, the community grows coffee, chatt, maize, and sorghum. The people rely

With the assistance of the people of Hidha Medher, CARE Habro protected the source of the spring and built a simple distribution point. Besides this, a cattle trough, clothes-washing facilities and even a (cold) shower with two bathrooms were built.The actual costs are shown in Table 1.

CARE has also been working with the people of Gorometa, a community 2800m high up in the highlands of Gubakoricha *woreda*. There was an acute drinking-water problem as there are no rivers, streams or springs in the vicinity. So the community agreed to dig a well and, assisted by technical input from CARE, fortunately found groundwater at a depth of 4m. The villagers asked the fieldworkers to supply a handpump, so an Indian Mk III was installed, and the community is now enjoying the benefits of a safe and reliable drinking-water supply. The total cost of constructing the well and installing the handpump is shown in Table 2.

Around 60 farm families use this handpump, giving a cost per family of birr 162 ($26); so the project input per family is birr 94 ($15.18) The total cost per capita works out at birr 27 ($4.34).

## NGO and government co-operation

NGOs working in developing countries like Ethiopia are often criticized for making non-sustainable interventions. What happens when the NGO leaves the area? Does the NGO have a proper counterpart relationship with government organizations who are there for the long-term? Has the NGO made an effort to involve GOs so that a smooth hand-over process is in place?

These are questions that both indigenous and international NGOs have to address.

Governments, too, have an obligation to provide NGOs with guidelines so that water systems are built to the required standard. Poor quality systems are being constructed by well-meaning but sometimes technically deficient NGOs.

Governments must also be able to inspect systems built by NGOs and have the authority to reject systems that do not come up to established standards.

## Agreeing on the future

Both parties should sign a tripartite agreement to include the user community in each and every system built, to ensure that the community can call on external assistance if they encounter technical problems which they cannot solve.

In the case of Ethiopia, guidelines for NGOs were drafted by the government agency responsible for rural water supply but, as a result of the turmoil ensuing from the change of government in 1991, they were never finalized. NGOs are, therefore, still working on their

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*For the women of Gorometa, the new handpump spells an end to an acute shortage of drinking-water.*

own and building systems incorporating designs which have not received official, government approval. So there is some risk that poor-quality systems are being built as they are outside the remit of any control body.

Most NGOs in Ethiopia regard GOs with apprehension and tend to steer clear of government bureaucracy in order to get the job done on time. Although this may appear to be the most pragmatic course of action in the short-term, it does not auger well for the future sustainability of the country's water-supply systems. The question of who is to take over the maintenance of rural water systems when NGOs leave has not been adequately dealt with.

NGOs must make it their business to keep government organizations informed at each stage of constructing and maintaining water systems. They must strive to train government staff in the management and maintenance of the systems, and hand over resources such as vehicles and spare parts to government agencies in a timely fashion. Governments, for their part, need to come up with practical guidelines for NGOs to follow, to ensure that quality is built in to rural water systems. Both sides have room for improvement if the goal of providing safe water for all by the year 2000 is to be achieved.

## References


1. Ethiopian Valleys Authority Annual Report, Addis Ababa, 1995.
2. Unicef/Water Resources Commission Report, UNICEF, Addis Ababa, 1992.
3. CDRA Report, Addis Ababa, 1994.
4. Evaluation of Southern Regional Rural Water Supply and Sanitation Project, CIDA, 1992.



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## Future plans for Western Hararghe

**Current project funding ends in July 1996. We have submitted to CARE a three-year proposal for a rural water and hygiene education project:**

- **A December 1995 Needs Assessment found that in six new peasant associations, water supply is the No. 1 priority. The new project will provide low-cost, safe water supplies to 24 000 people through 43 systems. The communities will pay between 25 and 50 per cent of the material costs, plus all unskilled labour and local materials costs.**
- **The emphasis will be on hygiene education before, during, and after construction. Aimed specifically at women and children, it will be carried out at the waterpoints and in the home by a trained team of six, led by a sanitarian supported by the Ministry of Health.**
- **A water engineer, seconded from the Bureau of Water, will be involved for three years.**
- **A tripartite agreement, spelling out roles and responsibilities, will be signed by the community, the project, and the Bureau. This aims to site wells closer to people's homes (to maximize the amount of water each family uses, thus improving their health); and to save women time and energy.**
- **Professional, local well sinkers will be contracted to dig deeper wells equipped with Ajay Afridevs (India). Shallow wells will have Tara direct-action handpumps installed.** ***NB There are no locally made handpumps in Ethiopia.***