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TOWARDS THE MILLENNIUM DEVELOPMENT GOALS

## Public private partnership for water yards in Sudan

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ACCORDING TO A recent study by CARE International rural communities in western Sudan are paying up to 60% of their income on water and they are not assured of a safe water supply during the five month dry season from the many state run water yards that were constructed 30 years ago.

Under the Humanitarian Plus Programme managed by Arcadis Euroconsult under the EU a number of NGOs have been contracted to carry out sustainable development projects in Sudan. One of these is the Community Managed Water & Sanitation Project, Gubeish Province, West Kordofan State, being implemented by CARE International. This initiative is designed to make safe water more affordable and ensure that downtimes are minimised.

Local Water User Associations will manage 10 rehabilitated water yards where tariffs will be affordable and poor households will be exempted from payment.

Although Sudan is by far the largest country in Africa, about the size of continental Europe, it has a comparatively small population, about 31 million according to the last census in 1991. One of the reasons for this is the harsh landscape that characterises much of the north of the country. There are vast areas of desert and semi desert where hundreds of thousands of people are engaged in transhumance pastoralism following centuries of nomadic movement south during the dry season and then back north as the inter-tropical convergence zone moves north bringing vital rain to replenish pastures and water tables.

During the 1930s the British colonial administration constructed a series of water-yards- essentially a deep (up to 1000 feet) boreholes equipped with reciprocating action pumps elevating water to 10,000 gallon overhead steel reservoirs connected to a simple distribution system of animal troughs and tap-stands enclosed within a perimeter fence.

The nodding donkey type pumps were made by the Engineering Development Company (EDCO) of the UK. These pumps are driven by 8hp Lister diesel engines. Water-yards are the main source of water for people and their livestock in most of Greater Kordofan and the Darfur states of the vast area that is western Sudan stretching west from the river Nile to the Chadian and Central African Republic borders.

It is the management of these water yards that is the subject of this paper.

### Past management of water-yards

During President Numeiri's Anti-Thirst campaign of the

early 1970s many water yards were constructed in western Sudan to counteract the occurrence of frequent droughts. These were run by the National Water Corporation through its branches in the state capitals. The NWC employed staff to operate the water yards and to collect revenue from users, which was remitted to the state capitals. This revenue was ostensibly to pay for maintenance of the water yards and to pay civil servants in the NWC but it is also used to pay other civil servants and to meet other government costs, as it is one of the few sources of revenue the state governments have.

But by the mid 1990s it was realised that the NWC could not maintain all the water yards to a satisfactory level. It was also realised that the efficiency and yield of the boreholes and the pumps was declining due to silting and frequent breakdowns due to poor maintenance.

In 1999 the government in West Kordofan State decided to sell 30 water yards to the communities who used them. This was facilitated under an IFAD program whereby the communities had to secure loans from the Agricultural Bank. Loans were also extended to communities to pay for much needed maintenance of the ageing water yards as some of the pumps and engines were up to 30 years old and had never been changed yet during the five month dry season were working for up to 18 hours per day in very dusty conditions. The community were given legal title to the assets and since then the government has had no hand in the running of these facilities.

### Management of water yards

Most of these 30 water yards are being well managed by the Water Users Associations which were formed with elected leaders and established constitutions. Most still charge the old NWC tariff whereas government owned water yards charge the new more expensive tariff introduced at the start of 2003. The El Khwei water yard, 120km west of El Obeid, used the private sector to replace pumps and engines and has contracted the supplier to maintain them.

In the west of West Kordofan lies the huge province of Gubeish home to Hamar agro pastoralists and Zagar cultivators.

Of the 120 water yards operated by the State Water Corporation, 30 are not working and a further third are operating at well below their design capacity because of worn out pumps and low yielding boreholes.

When a water yard breaks down, which they normally do several times during the five month dry season when they are under most pressure, communities have to walk long distances

over desert-like terrain to fetch water on donkeys from neighbouring water yards or hafirs (dugouts). On a recent visit to the village of Faj el Halla, 100 km south east of Gubeish town, people were forced to endure a seven hour walk to the next water yard as theirs has been broken down for ten days with no sign of the SWC coming to repair the 30 year old engine and pump.

### **Income for the government**

The water yards in western Sudan provide a valuable source of income for cash strapped state governments. In Arak, West Kordofan the water yard clerk collects the equivalent of US\$1280/month during the peak five month dry season. At water yards which break down frequently income is less than this but on average a water yard generates about US\$1000/month in the five dry season months. This revenue is collected by the Provincial office of the SWC who use it to pay salaries and for the cost of maintaining the water yards. However, 20% of this revenue is remitted to the state government treasury. Records show that only 12% of revenue is used for maintenance by the SWC.

As the provincial SWC does not receive a budget for their operations from the state government they rely on water yard revenue to operate. However this dry season they only had one truck available for maintenance over a vast area. Because the pumps are old, the stock of spare parts is largely depleted and second/third hand parts re used.

Users complain that these parts do not last long.

### **European Union Assistance**

The EU has been involved in development activities in Sudan since the 1980s. After breaking off relations in 1993 the Humanitarian Plus Programme was launched in 2002 to assist rural communities by rehabilitating basic infrastructure and training community organisations to run them with some government assistance.

CARE, with funding from the Humanitarian Plus Programme operated by Arcadis Euroconsult is planning to rehabilitate 10 water yards and to introduce a type of public private partnership for managing them

in cooperation with the SWC. There is a general consensus that SWC management of water yards is not very efficient as long down times and reduced revenues are common. But the SWC maintains that handing over water yards to the community will not work either because there have been cases of corruption and they say the community does not have the technical know how to manage the maintenance.

Under this arrangement, the ownership of the facilities would remain with the SWC but the community would be allowed to keep up to 50% of the revenue for regular maintenance costs such as fuel, and lubricants and paying the employees who would be employed by the Water Users Association and not by the SWC.

CARE plans to replace the old engines and pumps with new gensets and submersible pumps, which are more efficient and less costly to maintain. New circular animal

troughs will be built and a separate area fenced off for public taps to improve hygiene. At the moment people and livestock compete for water from old troughs in a general quagmire, which is very unhygienic.

Communities have already agreed to pay about US\$4/ household towards the cost of rehabilitation.

CARE will assist in training village water committees in various aspects of community management and will train a mechanic at every site. Hygiene education will be targeted at women.

CARE will also work with village leaders and the SWC in drawing up policy and regulations governing the management of water yards including a maintenance schedule and will work out details of spare parts procurement.

CARE, the community and the SWC will draw up an agreement spelling out each side's roles and responsibilities regarding maintenance. This will include a tariff structure designed to ensure that maintenance costs are met and some revenue will be left for replacing the pump at the end of the depreciation period.

The SWC will agree to replace the pumps at the end of their depreciated period from their part of the revenue. The community will be free to negotiate a maintenance contract either with the SWC or with private companies.

The percentage of the revenues that the community will be allowed to retain has not yet been finalised but 50% has been verbally agreed between CARE and the SWC.

The state governor (Wali) of West Kordofan has also verbally agreed that he will introduce legislation to allow communities to collect and retain a percentage of the revenue.

This money will be used to cover operating costs like fuel, lubricants and to pay the operator, clerk and guard. The rest of the money will be deposited into a community bank account and will be used to improve schools and health centres. At water yards run by the community they have already built schools and are subsidising the salaries of teachers employed at low salaries by the Ministry of Education.

### **Poverty and water tariffs**

On the 1st January 2003 the NWC raised water tariffs at water yards by a massive 65% to the following levels:

20 lt jerrycan	15 Sudan Dinar
1 sheep/goat	15 SD
1 cow	22 SD
1 donkey/horse	30 SD
1 camel	40 SD

(About 26 SD = US\$0.10).

Everybody says this rate is too high but they have no choice but to pay, as there are no other water sources available during the five month dry season from November to May.

A study by CARE in May 2002 showed that families in some areas of West Kordofan are spending up to 60% of

their income on water. People in rural areas of Sudan are paradoxically paying more for water than people living in the capital Khartoum where households are charged a flat rate of US\$11.00 per month regardless of the water used.

If we assume that residents in Khartoum are using 50 l/c/d and an average household size is six, one family will consume 9000 lt/month (9 cu.m) at US\$11 equals US\$1.25/cu.m

For those in rural areas paying for water at water yards they pay \$1.42/cu.m but for those living in outlying villages water vendors charge 600 SD/cu.m (US\$ 2.27 per cu.m).

One family, for example, in Dampair, North Kordofan is paying 9,000 SD per month for water from vendors. This equates to 60% of the families income.

The other element that exacerbates poverty is the amount of time women spend collecting water. Studies by CARE have shown that more than 40% of the communities in the Gubeish Province walk long distances to water sources. It is not uncommon for women and children to walk three hours with donkeys to collect water, and then they have to queue before walking three hours back home. This time could be spent on more productive activities such as going to school, farming, caring for younger children processing food for sale or making handicrafts for sale to increase household income.

The health of people also suffers because of unhygienic collection practices. At most water yards operated by the SWC, humans and animals compete for water from the same troughs. Jerrycans are put among animal excreta and then immersed in the trough to fill thus transferring bacteria into the water.

### Benefits from rehabilitation

After CARE has rehabilitated the water yards, people will not need to walk as far and so they will save time for more productive activities. Public taps will be provided in fenced off areas so the incidence of water contamination will be less. In addition, CARE will launch a hygiene education campaign in the villages to raise people's level of awareness about the need to keep water safe from the tap to the home. People will also be encouraged to use more water for personal hygiene in order to reduce eye and skin infections, which many households currently suffer from.

As submersible pumps have proven to be less costly to maintain than the old reciprocating action pumps, water committees will be able to reduce the tariff on water so that households will pay less of their monthly income on water and will have more money available for other expenses such as health care, school fees and buying food.

At some water yards, which are already community managed, tariffs have been reduced as it costs less to maintain submersible pumps than it does to maintain the old reciprocating action pumps.

If communities are going to be allowed to retain revenue to manage their own water-yards this will deprive the state government of a significant source of revenue in a state where the tax base is very low and there are few other sources of revenue. Even though oil is being pumped and sold for export from the state, the state government does not receive much of this revenue from central government. Therefore, it will be necessary for CARE and other INGOs, the EU and UN agencies to lobby the central government to allocate more money to the states particularly funds earmarked specifically for the State Water Corporations to enable them to provide technical assistance to communities for tasks they are not able to do themselves.

### Conclusions

In conclusion the following learning points can be drawn from this paper:

- Water supplies can be managed profitably and responsibly by the community if they receive some training from an external agency.
- Despite pledges that they are going to reduce poverty, the government policy on charging for water is exacerbating poverty.
- Governments need to increase the budgets they allocate to the Ministries responsible for water supply instead of increasing users fees.
- Governments need to review their water policies to allow communities to manage their own water supplies.
- The private sector has an important role to play and should be given space to engage with communities.
- Water tariffs should be linked to peoples' incomes. People should not have to pay more than 5% of their income on water.
- International NGOs need to allocate more resources to advocating for changes in government policies which have a direct bearing on poverty alleviation in developing countries.

### References

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