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Rural water supply - a challenge for development



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In 1969 I arrived in Burkina Faso as a project engineer for a variety of water supply and irrigation projects. During my stay I designed the new principle of the Hydropump as well as a thermal solar pump. I did not realise at the time that I was beginning a long love story with Africa. After more than 20 years, I am still confronting the challenges we all still face in developing sustainable rural water and energy supply systems.

In the beginning, the problem of rural water supply in French speaking countries, was to find water. Today, drilling programmes are undertaken with a very high rate of success.

The next challenge was to improve the quality and lower the cost of well construction. Modern techniques and increased competition have permitted progress toward these objectives.

Selection of acceptable pumping equipment became the next task. Systematic tests eliminated unsatisfactory equipment.

In this context, the International Water Supply and Sanitation Decade began.

In their desire to improve the quality of life in the rural areas, some political authorities undertook to provide water at no cost to village populations using centralized maintenance. Though, this was certainly a worthy undertaking, the number of rural water supply installations in many African countries grew to such proportions that support services had become over-burdened.

A number of African states are attempting to transfer the ownership of water points and pumping equipment to the villages.

Analysing what we observed in the field, we became convinced that the real secret to achieving a sustainable system of water delivery to the village did not depend on the development of an indestructible pump. Rather, success would be assured if the equipment could be installed and maintained by villagers helped by local mechanics. The concept of VLOM pump was born.

A radically different pump design had to be developed. The specifications I defined for the new pump were:

- total weight of the pump and risers had to be less than 50 kg for a 60 metres depth; the pump had to be installed by hand without any lifting equipment even at 100 metres.

- all wearing parts had to be located at the surface; village caretakers must exchange easily the wearing parts without special tools.
- all components had to be made from corrosion resistant materials able to withstand the aggressive conditions so frequently encountered.

We reached this goal with the Vergnet Hydropump which is driven by a hydraulic transmission.

We have three models of Hydropump:

- the 3C Hydropump down to a depth of 30 metres
- the 4C Hydropump down to a depth of 60 metres
- the 4D Hydropump down to a depth of 100 metres.

They all use the same standardized wearing parts. The yearly average cost of maintenance on the 35000 Hydropumps already installed about 20 US \$.

Today, we are moving towards the second step of the rural water supply: the VLOM concept as it applies to after sales service: the criteria outline above are insufficient to ensure the reliable operation of a village water point.

- what good is it to have the best VLOM pump if there are no trained village caretakers and local mechanics available to take care of it?
- what good is it to have the best and easiest pumps to maintain if there are no locally available parts to repair it when it breaks down (for it will definitely break down one day).?
- what good is it to have trained mechanics and the available spare parts if the village does not generate the resources to sustain its water supply? Water must be paid for; local mechanics have to be properly paid; spare parts vendors must be economically motivated.

We believe that, today, the major technical problems have been solved. Our real challenge is to build a self-sustaining community of interest. Such a community supposes that:

- the village accepts that it must pay for the service it receives,
- the area mechanic must earn a decent livelihood in return for a high standard of service,
- local and regional parts suppliers must be economically motivated,

- the hardware supplier must show responsibility in supporting his products and be rewarded for doing so.

We wish to start a real debate on the following themes:

- centralized maintenance runs against real development,
- true VLOM is not hardware driven; it depends on a real after sales service strategy,
- local manufacturing can only be justified when it yields quality and profits,
- strict adherence to "low bid" procurement in calls for tender is often counterproductive; all too frequently village populations become its victims.

Only a decentralised system which depends on participation and private initiative can meet the goals of real development of truly sustainable rural water supply systems.

Rural Africa is living a very deep modification of its way of life. Step by step, with hesitation, it is taking responsibility for its own development.

Movement towards greater privatisation can not be revolutionary. It will only succeed as an evolutionary process. Flexibility is a must. Solutions which are already adopted in one situation may not be easily applied to another.

The Vergnet Company is helping in that way. We have already equipped more than 35 000 villages with about 20 million people in 25 countries. We have trained more than 2000 local mechanics, created 8 African subsidiaries with African friends I taught when I was a professor in the International Water and Equipment School in Ouagadougou.

All water supply programmes that we undertake today are decentralised, privatized programmes. In Cameroon, Niger, Benin and so on, we are rehabilitating more than 4000 water points following this policy. Now, we can say that thousands and thousands waterpoints are working unattended. The village populations pay for water. We have 110 shops in the bush. The local mechanics, our subsidiaries and the spare parts sellers earn money.

It is by persevering together with the African governments from the bases which already exists with the same energy and enthusiasm as in the past that we will succeed in improving a self sustaining rural water supply system.

The Vergnet Company in cooperation with dynamic African countries and regional water service companies, is ready to support the private sector initiatives and is eager to help you to develop feasible privatization policies.

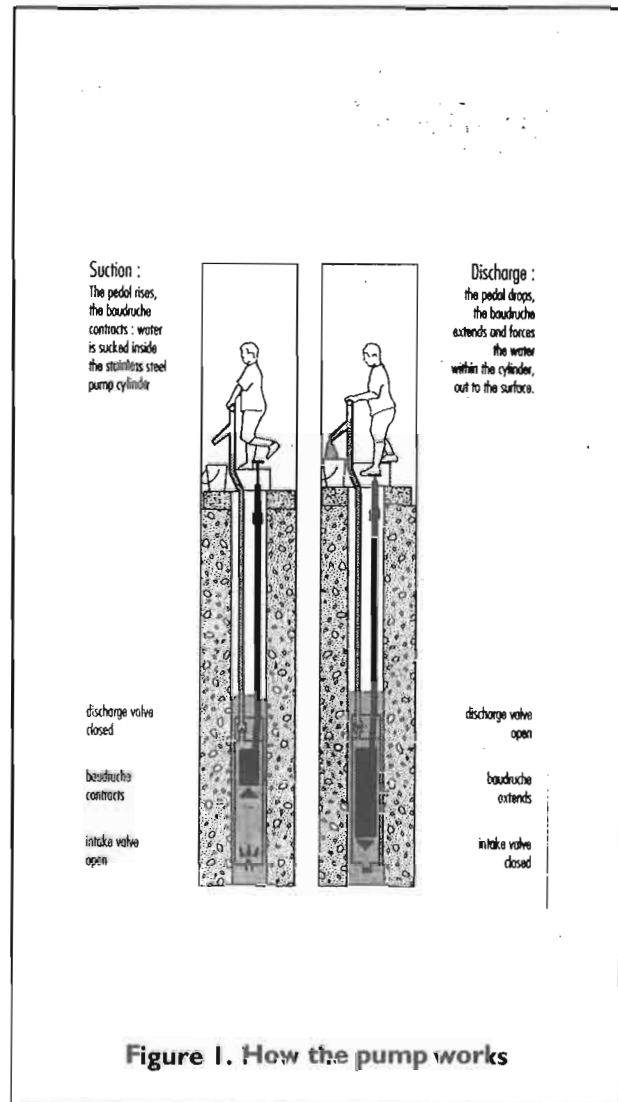


Figure 1. How the pump works