Water point maintenance in Togo

by Tonia & Bartolomé AMAT (*)

The idea behind FORMENT, the Togolese Government's maintenance training project which is being run with financial support from the EDF, was to come up with a maintenance strategy for village water engineering installations throughout rural Togo and to apply it to a first batch of 300 villages in the Centrale and De La Kara regions where hand pumps were to be fitted.

The ultimate aim was to get the hydraulic installations working more efficiently by transferring responsibility for them from the central authorities to both the village communities and private operators. "Decentralise and Privatise" was the banner under which the project was launched.

It created a new kind of relations between the State and the community, one which was made official by the signing of a contract in which the rights and obligations of each party were clearly defined and freely accepted. This obviously conditioned the programming of those technical (drill-hole, pump installation etc.) schemes which can only be run if the villagers agree and shoulder part of the responsibility for the programme.

The strategy used by FORMENT in Togo has the benefit of the results of similar schemes being run in other countries of West and Central Africa. It is based on four, equally essential things—the village committee, the private repairmen, the spare part sales network and the government agent (whose work is being phased out).

The two project regions, representing two fifths of the country, were divided into seven linguistically and geographically homogeneous zones, with 30 or 40 villages each. Each zone was put the hands of a hydraulic agent who had been trained in both pump mechanics and rural extension work in theory classes and on practical field courses.

A year after this training began, all 280 villages involved had been made aware of the need to consume drinking water and 83% of them signed a maintenance commitment, while 22 project-trained repairmen started their new job at the request of the Village Committees.

The first estimates showed a noticeable drop in the number of pump breakdowns and the repair time in both regions. Although it will take longer to consolidate the system, the Togolese Government thought the results were sufficiently encouraging for the strategy to be applied elsewhere in the country.



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When villagers agree to have a pump installed, they also undertake to cover the costs of its maintenance or remplacement

Basic structure of the maintenance system

The starting point for the maintenance system the Togolese Government has opted for was the decision to make a gradual shift of the responsibility currently shouldered by the authorities to the rural communities and to the commercial and artisanal firms in the country areas. The policy therefore means decentralised management of work and privatisation of repair services and spare part sales.

In this system, the villagers are free to accept or refuse the water engineering equipment suggested by the authorities. But if they accept, they have to make a contractual commitment to cover the maintenance costs and even replace the pumps where necessary.

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The Village Committee, which represents the local community, has to be involved in all decisions relating to the siting and construction of the facilities and to their management and upkeep.

The pump maintenance system is a three-tier one. At the basic level, village leaders are responsible for everyday upkeep and minor repairs, then there is a repairman, with the training and tools to cope with all kinds of breakdown, for every 20-30 villages and, lastly, the Hydraulics Department takes care of system operation and only steps in, on an exceptional basis, in cases of necessity.

Enlargement and reorganisation of the spare part distribution system is a vital complement to the system. If breakdowns are to be dealt with rapidly, then the villagers must have spare parts to hand at a price they can afford.

So the system is focused on four entities of different levels (see inset), although active involvement by the rural communities is the foundation on which Togo's village water engineering policy is based. It means that information, awareness and training schemes have to be run to ensure that the villages take over the water points willingly and in full knowledge of the facts.

Village and State – sharing responsibility

The village is considered to be a legal entity, with rights and duties, in the national maintenance policy. State-village relations relating to drinking water supplies and upkeep of the installations are contractual and enshrined in a written document signed by the representatives of both parties at a public, and often very solemn, ceremony.

Responsibility is divided as follows:

The State seeks a source of usable water as near as possible to the housing. When it locates one, it instals the most appropriate (technically and financially — the villagers must be able to afford to maintain the pumps) tapping system, a rim on which to mount the pump and a drain. It provides the village with extension workers, helps set up the Village Committee, advises on the relevant standards of maintenance and hygiene and trains the various Committee members to perform their duties. It also trains the local pump repairmen, ensures that spare parts are available on the distribution network and monitors the condition of the water point.

The village elects a Village Committee responsible for the use, maintenance and repair of the water point and the pump. It organises a fair water rate system so the users pay for all the recurrent costs and, on the maintenance front, buy spare parts and pay the repairman's fees and travel expenses. It completes the development of the DHE[1] water point by building a fence round the rim to keep animals out, tidying the ground around the pump and installing a dead well for waste water and possibly a trough for livestock. It also ensures permanent maintenance of the facilities, in accordance with the instructions for use and recommendations on hygiene provided by the relevant staff, calling in a repairman for major breakdowns and paying him for his work.

Village organisation

Togolese villages will be in one of the following situations as regards drinking water. They will have received no equipment at all, they will already have a borehole but still be waiting for the pump, or they will have both borehole and pump — which may be working or broken down.

If work is to start or to continue in villages in the first two categories or official help to be given to villages in the third category, then the following conditions have to be met — all Committee members have to have been appointed, the money to cover any repairs must be available and the contract with the authorities must have been signed.

The Village Committee is made up entirely of people living in the village. They are elected by the people and their numbers vary to reflect the size and ethnic composition of the local community. The suggested minimum number is seven — a chairman, a treasurer to take care of the funds, a secretary to record meetings, two members to look after the pump and be responsible for technical maintenance and two members in charge of cleaning and applying the relevant hygiene measures. As many women as possible should be on the Committee.

Many of Togo's villages already have their Village Development Committees, which were set up by the Government to promote self-sustaining development and cover all areas of economic and social development. If such a committee already exists and is in operation, it is strongly recommended that a special Water Commission (with the members listed above) be formed within it, rather than set up an entirely new committee.

The committee (or Water Commission) is convened once a month by the chairman. It is responsible for eve-

(1) Directorate of Hydraulics & Energy at the Ministry of Equipment.

Level	Entity
Equipped village	*1) Water point committee responsible for running costs and day-to-day pump maintenance*
Group of villages	*2) Pump repairman, independent but with a recognised qualification and later on, with a spare parts store.*
District capital (or large town)	*3) Spare parts sales point (organised by the private sector)*
Region	*4) Regional water supply service running a network of staff inside the region ensure its smooth operation*

rything to do with keeping the pump in proper working order, for the way the funds are collected and managed and for carrying out the work around the borehole.

Committee members are not paid, although they receive adequate training for the job from the staff of the authorities or the project (2).

The village contributions – cash and kind

The idea here is to motivate the people to keep the facilities in proper order. This, together with the formation of the Committee, is one of the conditions that has to be met before any equipment is provided.

In 1986, the minimum contribution was CFAF 50 000 per pump p.a. – i.e. CFAF 100 per person p.a. in a village of 500 people.

The Village Committee, which may be advised by the DHE, is responsible for both collecting the money and deciding how it should be collected. The only requirement is that there should be enough in the bank for forthcoming repairs and never less than F 50 000 – so whenever any money is spent, more must be paid in to ensure that the basic amount is always there.

If there is a branch of the National Agricultural Credit Bank near the village, the Village Committee is recommended to open an account for the village and to pay in the annual water rate. The signatures of both the chairman and the treasurer are needed to release any such funds.

In all projects, it is the pump supplier who has to build the rim on which the pump is to be mounted and in most cases he sub-contracts this to the DHE. But it is the villagers who have to provide the materials– 12 bags of cement (CFAF 18 000), sand and gravel–to build the mud-prevention pavement. Both these jobs are done by the same team of DHE masons. The villagers then also have themselves to build a fence to keep animals away from the water point and a dead well to drain away any waste. They may also build a water trough for their animals between the water point and the drain, outside the fence, and a public wash-house. DHE staff help the villagers with the design and implementation of these additional works and special contributions will have to be made to pay for them, over and above the amounts collected for pump maintenance.

A special system has been designed for villages that are very small or without resources.

The inter-village repairmen

Training for repairmen and the constitution of a network which covers the whole of rural Togo is essential to proper maintenance.

The repairman's job is to provide a rapid response to calls from villagers in the area, mending breakdowns which cannot be handled by the people in charge of the pumps. He reports any breakdown he cannot cope with himself to the DHE.

Extension sessions are an opportunity to ask the villagers to give the names of any local craftsmen who do mechanical or similar (blacksmithery, carpentry etc.) work and might maintain the pumps. The extension team has to decide how many repairmen are needed for each rural area, in the light of the relevant geographical and socio-economic criteria.

The geographical spread of pumps has to be planned carefully by means of maps produced by the DHE or the project. Repairmen should not have too far to travel (15-20 km), although, if the job is to be a paying proposition, they each need to look after a minimum of 20-25 pumps.

It is wise to avoid monopolies–i.e. only one trained repairman for a particular area–as this can easily lead to abuse (overcharging, inefficiency etc.), slackness (lateness in replying to calls etc.) or neglect.

Using these criteria, it should be possible to decide in advance how many repairmen will be needed to provide a proper service in the area.

Trainee repairmen are selected according to the following criteria:

– **Location.** The craftsman must already live in the area, with his family, and be carrying out paid work there. This is to avoid creating new jobs which do not provide a living from pump repairs alone.

– **Type of activity.** He should be a repairer of cars, motor-cycles or mills, or possibly a blacksmith or a carpenter. People who can only repair cycles are not thought to have enough grounding to do the job.

– **Facilities.** He should have a workshop, a forge, tools etc.

– **Skills.** He should be known in the village, have experience of the job, hold a diploma and speak French.

– **Transport.** Neither the authorities nor the project provide any transport, so the craftsman should have his own or agree to use public transport.

– **Availability.** He should be able to attend, at his own expense, the training courses organised for repairmen.

The technical training of the repairmen is in the hands of the pump suppliers (under contract), who have to provide the DHE with technical assistance staff with sound experience in the training sector.

The training offered sets out to teach the repairmen how the pumps in the area work, how to dismantle and reassemble all the parts (even those which are the hardest to get at), how to diagnose breakdowns and produce estimates, how to carry out all repairs and replace all parts and how to fill out the pump data sheet after each intervention.

There is a different course for each type of pump. Each lasts three to five days, depending on the type of pump, and is given in the chief town of the prefecture or region.

Terms of employment of repair

If the repairman is taken on after training, he is given a list of villages to cover.

He has to sign a contract to stay in the area until he has completed the hire-purchase payments on the toolbox he received at the end of the course. This will take about five years.

(2) Staff of the Hydraulics Department should, in theory, do no more than provide technical training for the two members in charge of the pump. However, they will also have to train other members when the specialist departments (Social Affairs, Hygiene etc.) are not represented in the area or do not have the material means or staff to carry out a sustained operation in the villages covered by the water engineering programmes.

Alongside this, the Village Committees are given a list of names and addresses of repairmen in the prefecture and the name of their particular repairman. This means they can call on other repairmen if they are not satisfied with the one they have been allocated.

The repairmen and the Village Committees are also given the repair price scale.

They may deal with each other in two ways — the village may call in the repairman whenever there is a breakdown, paying him according to the DHE scale, or it may take out a maintenance contract whereby the repairman services the pump, for a standard fee, every month. In this case, the monthly price will vary with the distance the repairman has to travel, but a reasonable estimate is F 1 000 per pump.

Relations between the authorities and the repairmen

The above procedures and standards are simply there to ensure that there is a permanent, efficient repairs service for the village pumps. However, it would be impossible to apply them without a prior agreement from the repairman and the authorities and this is formalised by the signing of a contract in which the rights and obligations of each partner are clearly described.

The spare part marketing network

A network of spare part sales points near the users is the third thing which, together with the village organisation and the repairmen, ensures the autonomy and efficiency of the new maintenance system.

Every pump supplier has to have an official representative in Lomé and conclude precise agreements with him on domestic distribution and price policy. Suppliers have to set up a basic stock of spare parts in Lomé for every type of pump used in Togo, plus decentralised stocks for the whole of the area concerned, with sales points at the basic level in the chief towns in the prefectures and sub-prefectures.

As the number of pumps increases, small stocks of the commonest spare parts are needed in individual villages or groups of villages and they can be managed by the Village Committee or the repairman.

The role of the authorities

This is now to inform people, to make them aware of what is going on and to train them. The DHE has an intervention organisation for this purpose near pump sites throughout the country. Members of the organisation are, as in the previous system, civil servants, working directly under the DHE. But they will no longer be required when the system is 100% privatised and operating autonomously.

Typically, modern borehole drilling and equipment programmes are short, cover a large number of villages and follow a prescribed route. Industrial logic dictates that the most should be got from high-performance teams with a very high daily cost. Village extension work, which precedes or accompanies the programmes, responds to this, obviously, by becoming a kind of awareness campaign aimed at helping the recipients give themselves the institutions and means they need to carry out their future tasks — and as quickly as possible too, to avoid delays between the external technical interventions and the local community taking over.

The official should be given 30 or 40 villages to cover in each awareness campaign. More than 40 would mean the visits would be too far apart and the official unable to establish confidence or a dialogue or run the number of sessions needed to train the villagers.

Each official should be responsible for a particular area and speak the various languages used by the villagers there. There should be only one administrative authority in this area, the official should be able to do a return journey to its furthest point in one day and the water engineering programme should cover between 30 and 40 villages.

The introduction of the new maintenance system is an integrated operation covering a number of areas — village organisation, training in health and environmental hygiene, technical training, drainage etc.

Although concerted intervention by the specialised State departments (and aid organisations) is particularly vital, the DHE official posted to each area must, equally clearly, be *au fait* with each of these essential fields — so he is given special training.

Consequences of the system

The first has to do with the choice of pumps. So far, the technical choice has been made in the light of the price-quality ratio of the competing models.

Although the new maintenance system retains this fundamental consideration, it demands that three other criteria be taken into account. They are the cost of maintaining the pump (upkeep and repairs) in relation to the financial resources of the rural populations, the level of technical achievement required to install it in relation to the craftsmen's skills and tools and the case of access to the spare part sales points in relation to the pump users' means of transport.

This leads to the following conclusions:

1. Togo should not purchase any hand pumps for installation in the villages at the moment if they cost more than F 50 000 p.a. (average cost over 10 years, for example) to maintain.
2. Any pump which the repairmen cannot install, maintain and repair with their own equipment should be rejected.
3. No pump should be used if the supplier cannot guarantee the creation and operation of a spare parts service at a level accessible to the villagers (chief town in the prefecture or sub-prefecture).

A further consequence of the system is the problem of the legal ownership of the pump and the whole set of water engineering equipment.

The State, in principle, is only transferring responsibility in applying this new policy. But the transfer will only be made permanent when the people concerned really own the facilities. For private ownership is essential and without it the machinery of supply and demand will not work.

The rural community's ownership of the pumps should be in line with the traditional view of property in Africa, be it family, individual or collective. o

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