THE SAVE THE CHILDREN FUND, UK.

THE HAND-PUMP MAINTENANCE PROJECT IN SENO AND OUDALAN, BURKINA FASO.

EVALUATION REPORT

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EVALUATION REPORT

CONTENTS

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THE H. ID-PUMP MAINTENANCE PROJECT IN SENO AND OUDALAN, BURKINA FASO.

EVALUATION REPORT

EXECUTIVE SUMMARY.

The northern semi-desert zones of Burkina Faso have benefitted fr m much investment in improved water sources through the drilling of boreholes and the installation of handpumps especially during the water decade of 1980 to 1990. Nearly 1000 pumps have been installed in Seno and Oudalan, however, in common with most of rural Africa, the majority of these handpumps fell into disuse because donors paid little attention to assuring the long term sustainability of their installations. In response to a perceived urgent need to help improve water supplies in the Sahel, SCF took the innovatory step of deciding to try to help assure the long-term functioning of the hand pumps.

With worsening climatic conditions in the Sahel, handpumps have become the principal source of water in the dry season for most villages. Before the introduction of the SCF programme villagers wishing to repair their pumps were faced with the following problems 1) lack of personnel skilled in the repair of all makes of pump, 2) difficulty in obtaining appropriate spare parts 3) lack of organisation or motivation on the part of the village to mobilise funds for repairs, especially during periods when alternative sources of water were available and 4) some pumps were of poor design or very old, and required unreasonable expenditure to keep them running.

The SCF water programme aimed to respond to these needs through: 1) training and retraining rural pump mechanics 2) making available spare parts when these were not available commercially 3) training pump caretakers in villages 4) replacing outdated or poorly functioning pumps.

The evaluation team felt that the objectives of the programme were entirely appropriate, and congratulate SCF on its decision to try and tackle this difficult problem which has been avoided by so many donors. The programme has apparently been successful in it's main objective which was to have as many pumps as possible working. Figures from a survey of 87 pumps carried out by the evalution team suggested that only 21% were broken down in Seno and Oudalan. In neighboring Soum, which is in many ways comparable to Seno and Oudalan, but has no comparable pump repair system, 48% of pumps are broken down according to a recent survey by the Direction Regionale de l'eau. This suggests that the SCF programme is having a significant impact.

There is much about this project that is exemplary, and it is already well-known in the country and in the region, being the object of visits and publications. Staff have been especially good at identifying key problems and in looking for appropriate solutions. SCF is now well equipped to contribute to national and international debate concerning handpump maintenance systems.

The evaluation team wish to encourage SCF to continue to build on the success of the present programme. In particular, they would like to see SCF contribute to efforts being made by other agencies to facilitate village organisation. During the evaluation it was noted by the team that villages with strong organisations kept their pumps running 100% of the time. Village organisation holds the key to providing motivation and funding for a variety of fundamental development activities, including the maintenance of water supplies. To advance in this domain it is vital that SCF improves its relations with other development partners in the Sahel.

The team would also recommend that SCF develop an integrated approach to water and health since they have teams who are at present working separately on these issues. If successful, such an approach should help to increase demand for pump repairs. One member of SCF staff is already working with the Seno Provincial Directorate of Health on Guinea worm which is a serious water related health problem prevalent in the Sahel rehion. (Adopting a focus on Guinea worm could provide an important source of future funding for the SCF water/health programme because of the current world eradication effort.) A focus of such future joint water/health activity should be to encourage mothers to change their hygiene behaviours. However, it should be remembered that there are no standard approaches to encouraging hygiene behaviour change which have been shown to be effective. SCF would be well advised to adopt an experimental approach to a any health communications activities before any attempt to 'go to scale'.

17 teams of pump mechanics are now active in Seno and Oudalan, a typical team may repair about 20 to 40 pumps a year. (Previously there were 14 teams who had only been trained in the repair of the single type of pump belonging to the project that trained them.) A detailed appreciation of the technical capabilities of the mechanics was not carried out during this evaluation, however the team found no evidence to suggest that the mechanics were inadequately skilled to deal with all types of pump. Mechanics in areas with large numbers of pumps appeared to be making a good living from the work. It may be neccessary to increase the number of teams in the departement of Sebba which has a large concentration of pumps. SCF is running an excellent scheme to assist mechanics in buying sets of tools on credit.

Though mechanics asked for help with transport, they appear to manage to get to repair sites under their own steam (moped, donkey cart, camel) within a day or two of receiving a request for help. A new phase of the project should bear in mind the request for transport but not intervene unless strictly necessary.

The availability of spare parts on the commercial market has, if anything, worsened during the period of the SCF project. Fewer other projects are supplying parts, and traders and parastatals are apparently less able to obtain parts from factories in Ouagadougou. Though SCF only supplies parts which are unavailable elsewhere, the SCF stock in Dori does provide a disincentive to others to import parts. SCF needs to continue to wrestle with this problem, possibly by helping repairers to form a cooperative and to obtain bank or other credit to provide a stock of spare parts.

There are many possible future routes open to SCF in the continuation of their water programme. Whatever the route chosen, more careful project planning, objective setting, monitoring and personnel management is needed. In an innovatory activity with no standard solutions SCF would be well advised to adopt an experimental approach, trying out different approaches and seeing which works best.

Senior management need to ensure that problems of collaboration, both within SCF and with other development partners, are resolved. The guiding principle for any new programme should be to provide a minimum of interventions. It is probably not realistic to expect the programme to become entirely self-sustained in a context of worsening climatic and economic conditions in the Sahel. SCF needs to work more closely with a local partner to reduce costs and dependance on expatriates.

The preferred option of the evaluation team is for the SCF water programme to begin a form of engagement with the Direction Regional de l'Eau with a view to marriage. SCF will thus be well placed to assist in developing rural water supply policy and to build fruitful collaborations with other partners, not just in the realm of pump repairs but in rural development in general. A new project proposal should be developed in close collaboration with other partners working in the Sahel to help to ensure more harmonious cooperation.

THE HAND-PUMP MAINTENANCE PROJECT IN SENO AND OUDALAN, BURKINA FASO.

EVALUATION REPORT

1. INTRODUCTION

The present evaluation was carried out at the request of the Save the Children Fund (U.K.) to identify the successes and weaknesses of the water programme after five years of activity in the Burkinabè Sahel and to suggest future directions. The evaluation visit took place between 25th March and 9th April 1993.

1.1 The evaluation team

The team members were:

Isiaka DIALLO, Director of the Fonds de Developpement Communitaire (US SCF) in Sapone, Burkina Faso.

Jaques KONATE, Directeur Regionale de l'Eau, Dori, Burkina Faso.

Tom SKITT, Water Engineer, SCF, Zimbabwe.

Valerie CURTIS, Research Fellow, London School of Hygiene and Tropical Medicine, Centre Muraz, Bobo-Dioulasso. (Team Leader).

TS and JK had particular responsibility for evaluating the elements of the project concerning the rural mechanics and the supply of spare parts. ID and VC were especially responsable for investigating the opinions of villagers and meeting with other partners. The writing of the report was a joint effort coordinated by VC.

1.2 Terms of reference

The terms of reference as drafted by Maria Ribeira, SCF field director, and Gert Kroon, SCF water engineer in March 1992/3 were:

> As the SCF water project in Burkina Faso goes into its 5th year it was decided that a review or evaluation be carried out of the present work in order to assess or recommend future directions for SCF in the area of village water supply in the Sahel. The following terms of reference are proposed for such an evaluation.
>
> 1. To look at our experience in hydraulique villageoise in terms of what can be learnt of our strengths and weaknesses.
>
> 2. The review should take into account the technical, social and economic aspects of the project in terms of sustainability and appropriateness of intervention.
>
> 3. Partnership with local water related structures and other NGOs involved in similar projects.
>
> 4. Have the initial objectives of the project been achieved? Were those objectives appropriate and corresponding to real needs?
>
> 5. Who benefits from the project? Who else could benefit?
>
> 6. How appropriate and useful to the villagers and those involved in the project were the implementing tools: i.e. water pump repair, tools, training, health messages etc.
>
> 7. Recommendations for the future.

1.3 Approach

The approach adopted by the evaluation team can be summarised as follows:

1- Examine some of the basic issues and assumptions concerning water supply programmes and pump maintenance in particular.

2- Construct a list of project objectives by consulting project documents.

3- Develop indicators to demonstrate how far the objectives have been achieved

4- Collect data, both qualitative and quantitative.

5- Interpret these results and report.

The financial aspects of the project were not examined by the team because figures were not made available in time. It would be enlightening for future project planning to evaluate the running costs both in and out of Burkina Faso.

2. PUMP MAINTENANCE: THE ISSUES

2.1 Handpumps and improved water supplies

The experience of recent years suggests that there are three principal benefits stemming from investment in better water supplies for domestic use in rural areas:

1- Improving the quality of life, especially for women, by bringing water closer so as to reduce the task of water hauling and releasing time for other actiities

2- Improving family health through making water more available (better availability of water can facilitate improved personal and domestic hygiene which can have a major impact on the health of family members through reductins in diarrhoeal disease, trachoma etc)

3- Improving family health by providing water of better quality (less water borne diseases, diarrhoeas, dysentery, dracunculiasis)

In the past, programmes to improve domestic water suplies in rural areas have concentrated on making water of high quality available. This approach stemmed from the view that the chief danger of poor water supplies was from the ingestion of pathogens in drinking water. However, recent thinking has led to a reevealuation of this assumption, suggesting that the major impact on health may stem from making water more available. Increased availability of water enables improvements in personal and domestic hygiene which can break the main transmission routes of infectious diarrhoeas and other hygiene related diseases. Thus improved availability of water may be more important than improved quality of water. (See Cairncross A.M. Health impacts in Developing Countries: new evidence and new prospects. Journal of the Institute of Environmental Engineering Management. 1990 4 571-577).

A policy to improve water supplies for domestic consumption needs to carefully evaluate the water supply situation in the target region and produce a strategy which can optimise the benefits as listed above. In most cases such a policy will aim to make water more accessible, to reduce women's workload and encourage the use of more water. If a safe source of water is made more accessible then it is more likely that safer water will be consumed. Borehole drilling programmes have not always been set up to optimise these benefits, leading to a situation where boreholes may have been placed further from a village than a traditional source of water, or may have been drilled side-by-side, for example. In deciding whether it is worthwhile investing in the maintenance of handpumps it is important to first evaluate whether the pumps are providing real benefits to the communities that they serve.

2.2 Handpump maintenance

During the International Decade for Improved Water Supply and Sanitation (1980-1990) an effort was made by donors, governments and their partners to bring safe water within the reach of all families. Partly as a means of achieving this ambitious objective, the accent was placed on drilling large numbers of boreholes, usually combined with handpumps. Less thought was given as to how these sources would be maintained in the long run. Though most handpump programmes included activities such as forming a village water committee, training a pump caretaker and giving 'health education', in practice, the 'hardware' was usually given far more attention than the 'software'.

Though it is easy to understand why water supply programmes have tended to favour hardware over software, this approach has led to the situation where many pumps break down and are not, or cannot be, repaired. (For example, it was estimated that only 50% of handpumps in the Ivory Coast were working in 1992). In the present difficult economic conditions, African Governments are unlikely to be able to assure an effective pump repair service. Hence it is essential that villagers are able to keep their pumps functioning. Efforts have been made to develop a VLOM (village level operation and maintenance) handpump. But it is clear that, however easy a pump is to maintain, a minimum of conditions have to be fulfilled if villagers are to be able to keep their handpumps working:

1- Desire on the part of the villagers to use water from the pump rather than other sources

2- Organisation in the village to arrange payment for spares, repairs and transport

3- Spare pump parts available at a reasonable price and distance

4- Trained mechanics available at a reasonable price and distance

5- Occasional specialist back-up available for repairs which are beyond the capacity of a trained mechanic

Indeed the better each of these conditions is fulfilled, the more likely a village are to repair their pump when it breaks down.

2.3 What price water?

Urban communities in Africa are getting used to paying for water. In ~~Bobo-Dioulasso~~, for example, domestic connections are cut if bills remain unpaid after a month. Water has then to be bought at about five times the cost ~~per litre~~ from vendors who manage public standpipes. To keep any water system running efficiently some expenditure in maintenance and spare parts is necessary. It has been suggested that rural communities are too poor to be able to afford to pay for water; if handpump water was sold, villagers would return to traditional, less healthy sources. This assumption merits some reexamination. Villagers expect to pay

for goods and transport and some food items. The amount that it would be necessary to charge families to keep a handpump running is very small when compared to the cost of other necessities. However, such approaches can only be succesful where villagers have effective organisations which can manage money and a commitment to using pump water all year round.

2.4 Sustainability

A key issue when designing and evaluating aid projects is their long-term sustainability. However, there are some environments where worsening economic conditions mean that it is unlikely that donor support could be entirely removed without the collapse of the programme, or without unacceptable suffering to populations who were previously aided. In such cases it may be more realistic to set a medium term target of 'minimum external intervention' rather than complete sustainability.

2.5 Handpumps and 'health education'

'Health education' is generally left to the end of any discussion of rural water supply policy, so we follow the same convention. It is often stated that health education is a necessary accompaniment to any new water supply project, often as a means of encouraging villagers to use the new sources of water rather than existing sources. This assumption also needs some reexamination. Firstly, we still have little evidence that health education, as commonly implemented, is effective or has any impact on water use. Secondly, the consumption of 'safe' water is not necessarily the primary benefit of a water supply programme (except where the eradication of dracunculiasis is a major concern). If a water supply is more convenient and tastes reasonable, villagers will generally use it, thus gaining health benefits independant of any 'health education'. Thirdly, practical considerations mean that long-term and painstaking health education efforts do not marry well with the short-term practical construction and maintenance targets of projects led by water engineers. Fourthly, the concept of 'health education' is regarded as outdated by specialists in the domain. They prefer the systematic 'health communications' approach which implies a two-way dialogue, building the whole approach on local knowledge and concepts about illness, cleanliness and social acceptability and using strategies drawn from marketing and anthropology (see, for example the excellent WHO guide "Communication: a Guide for Managers of National Diarrhoeal Disease Control Programmes." WHO/CDD, Geneva, 1987.)

It needs to be recognised that effecting changes in water use behaviour through health promotion efforts is unlikey to be easy. Efforts have to be adequately resourced, systematically designed and implemented, and progress must be monitored.

3. THE SCF WATER PROJECT IN THE SAHEL

3.1 The Burkinabé Sahel and the water situation.

The Burkinabé Sahel is an arid zone with average but unreliable rainfall of between 450mm in the South of Seno Province and only 200mm in the North of Oudalan Province. Since 1970, average rainfall has declined and there have been several years of serious drought. The main economic activity is cattle rearing, though rainfed agriculture becomes more frequent as one moves from North to South. The region is a net importer of cereals. In Oudalan the ethnic groups are mainly Tuareg, Bella, Songay and Peulh, and in Seno mainly Peulh, Peulh Rimaibe and Gourmatche.

The Peulh, Tuareg and Bella have a tradition of semi-nomadism, whilst the other groups are mainly sedentary. Though described officially 'villages' the character of settlement is very varied; ranging from individual households dispersed over a radius which may be up to 10km, to compact mud built nuclear villages. At the last census in 1985 the population of Seno was 229 000 and Oudalan, 106 000.

During the drought years of the 1970s traditional water sources (wells, ponds, river beds) began to dry up. To help meet the needs for water two drilling projects were carried out in the 1970s in the Sahel. Since then there have been at least five other projects which have drilled boreholes and installed a variety of types of handpump. Donors have included the French government, UNICEF and the Islamic Development Bank in partnership with the Office Nationale de Puits et Forages (ONPF) or with private contractors. In Oudalan a private French company, the Bureau de Recherche Geologique et Minière (BRGM), are nearing the end of a programme of installation of 164 boreholes with handpumps. The 'animation' and health education component is carried out by an NGO called CASADES. This programme has insisted that villages repair their existing pumps before being considered for further boreholes. The presence of Guinea worm was also a criterion for selection of sites.

Given this multiplicity of donors, it was not surprising that one of the first problems facing the SCF engineers was the lack of accurate information about numbers and location of the pumps. However, with the introduction of satellite mapping systems and a computerised database by the Direction Regionale de l'Eau, poor information about borehole sites is in the process of becoming a thing of the past. The SCF engineers estimate the number of pumps currently as 680 in Seno and 255 in Oudalan, which is on average 3.6 pumps per village in Seno and 2.5 pumps per village in Oudalan (However, the number of villages varies depending on the source of information, and averages include towns which may have many boreholes).

Boreholes are mostly drilled into fissures in the underlying granite or granitic schists which contain discontinuous reserves of subterranean water. Hence, in most cases, water points have to be carefully sited, and only about a half of boreholes find exploitable quantities of water. Though siting boreholes is difficult, working boreholes in Seno and Oudalan are mostly within a 500m radius of a centre of population. One borehole drilling programme apparently took shortcuts to achieve construction targets and installed boreholes side by side, much reducing the potential benefits to the communities.

Most pumps are either of the India (India Mali and India Mark II) or ABI lever action variety. Though previously imported both varieties of pump are now manufactured in Ouagadougou; India Mark II at APICOMA and ABI at DIACFA. A large number of foot operated Vergnet diaphragm pumps were removed and replaced with ABIs in 1986/1987 by the Islamic Development Bank funded project.

Efforts were made during several of these projects to train pump caretakers and to set up village water committees to supervise the use of pumps and to collect money for repairs. The UNICEF/ONPF programme organised village committees of seven members who were trained in groups of ten villages. They were encouraged to contribute cement for the building of the plinth and to subscribe to a maintenance fund. Pump caretakers were trained to monitor pump use, grease the chain and carry out health education. The UNICEF/ONPF programme also began the training of rural mechanics to carry out repairs. However, these programmes were not completed or followed up.

Spare parts for ABI pumps became available in 1988 when DIACFA installed containers of ABI spares in Dori, Gorom-Gorom, Aribinda, and Djibo. These containers are no longer functioning as spares depots.

In 1986 the BID project trained eight rural mechanics in Seno and one in Oudalan. They were equipped with tools and some ABI spares by DIACFA. In 1987 the UNICEF/ONPF project trained four mechanics (two in Oudalan and two in Seno) to repair India pumps. The BID project also trained rural mechanics (number unknown).

A local NGO; l'Union Fraternelle des Croyants, formed to provide assistance in Seno and Oudalan in the famine of 1969, also funded the installation of boreholes up to 1978. They set up mobile pump repair teams to provide continued maintenance for their installations. These teams gradually took on repairs throughout Seno and Oudalan. They provided spare parts from their own sources and generally did not charge villagers for their work.

Another NGO, the American SCF; le Fonds de Developpement Communautaire (FDC) have trained 80 village pump caretakers/animateurs in Seno and 80 in Oudalan in the villages in which the FDC work, before handing over operations to SCF in 1988.

3.2 The SCF water programme

SCF has been working in Burkina Faso since 1974 on the provision of primary health care services in Seno and Oudalan provinces. In the last few years SCF has been active in support of health management and planning within the provincial health services.

In 1986 the SCF field director in Burkina Faso responded to requests from teams working in Primary Health Care in Seno and Oudalan to examine the state of water supplies in the region. A consultant Engineer (Charlish M.J.) reported in August 1987 that the water situation was indeed critical and that SCF could support a great variety of activities including the construction of water retention structures and the repair of existing handpumps.

A survey of potable water sources in the three Sahel provinces of Seno, Oudalan and Soum in 1987 suggested that 34% of the 540 pumps were not working and that their were very few people with the skills or the spare parts to replace them. SCF then developed a project proposal was which had the following objectives:

- -raising awareness of the rural population for hand-pump maintenance
- -training of rural pump mechanics for handpump maintenance
- -creation of one mobile team per province for supervision and monitoring of rural pump mechanics.

However, by the time that an expatriate water engineer had been recruited and a mobile team set up, an urgent appeal had been made by the government of Burkina Faso for donor agencies to support the provision of drinking water to rural communities to combat drought. SCF decided to begin with an emergency intervention to repair pumps in villages most seriously affected by water shortages. Thus between April and July 1988 50 broken down pumps were repaired by the mobile team supported by SCF free money. This intervention has not formed part of the present evaluation.

A new phase began in November 1988 with the recruitment of the present expatriate engineer and the development of a project proposal which was sent to Comic Relief for funding in October 1989. The following section details these objectives and examines how far they have been acheived.

4. EVALUATION

4.1 Objectives

The objectives for the long term intervention outlined in the document sent to Comic Relief are given below:

1. To train one team of rural pump mechanics for handpump maintenance for each department and to support their work.

2. To set up one mobile team each for Oudalan and Seno respectively, to follow up the Rural pump mechanics and to repair pumps which are beyond their technical capability. (These teams to be transferred to UFC/Ministry of Water within five years.)

3. To train and equip between 1 200 and 1 600 village pump caretakers for the maintenance and minor repairs of handpumps.

4. Conduct a programme to raise awareness about water related diseases, protection of water sources and management of water points and to encourage the establishment of village pump funds to pay for the cost of maintaining their own pump.

5. To maintain a security stock of spare parts in each of the provincial capitals

6. To encourage traders in small towns to sell spare parts or to make them accessible to rural pump mechanics.

In addition a document reviewing the project prepared by Geert Kroon in May 1992 added the follwing objectives:

7. To establish close collaboration with local, provincial, regional, national authorities and other NGOs.

8. To develop appropriate tools to reduce reliance on the mobile team.

4.2 Methods used in the evaluation

The team developed methods to evaluate whether the project objectives had been achieved. The details of these methods are provided below.

4.2.1 Pump repair survey

To document the experience of villagers with pump repairs 87 pumps in 42 villages were surveyed by the evaluation team. Pumps were chosen in clusters of ten (or eleven) in eight départements by two stage sampling. Eight départements were chosen by making the chance of being chosen proportional to the number of pumps. One village was then chosen at random, as far as was possible and the nearest 10 pumps to that village were visited. There may be an element of bias in the sample, since it was not always possible to visit the most remote sites in the time available. However, the sample does

include some of the most remote and some of the most accessible handpumps. The survey concerned the state of water supplies in the village, the level of organisation of the village, and a history of pump repairs over the last two years. The map in fig 1 shows the location of the départements which were chosen.

4.2.2 Focus group discussions

To provide further, more detailed information about the experience of villagers with their pumps and their repairs we held focus group discussions in two vilages. This technique involves discussing issues in question with a group of concerned people, ideally 10-12 at a time. Discussions are guided by a facilitator and notes are kept by a rapporteur who may also intervene for clarification of any point. The objective is for participants to reach some sort of consensus, or agreement to differ, on the issues in question.

Villagers in Salmossi, (Markoye, Oudalan) and in ~~Gaogol~~ Gangal, (Bani, Seno) were invited to participate in discussions in their villages. M Diallo used a prepared guide to facilitate a discussion concerning the water supply, pump repairs and health. Notes were kept of what was said and the reports of these discussions are to be found in annex 3.

In addition seventeen artisans were invited to a meeting in Dori. Following a prepared guide, M. Diallo facilitated a wide ranging discussion concerning their problems. In the afternoon the artisans discussed how to find solutions to these problems. A rapporteur made notes of what was said. The report of this focus group discussion is in annex 3.

4.2.3. Interviews with other organisations and partners

Interviews with individuals with a particular knowledge of the villages, their water situation and the problem of pump repairs were interviewed by the evaluation team. The list of persons and organsations contacted in person or by telephone during this evaluation is presented in annex 2.

The team wanted to evaluate progress on the health education aspects of the project and to make recommendations for future directions. Unfortunately this element of the evaluation is deficient because key health sector staff, both from SCF and Government, were absent during the period of the evaluation.

Any new proposal for the future of the water programme must be developed in close consultation with the provincial directors of health and the new SCF health programme director.

Suppliers of spare parts were also interviewed. In addition a large number of miscellaneous project documents were consulted during this evaluation.

Data gathered by all of the above techniques was collated and interpreted by the evaluation team. The results are presented in the following section.

4.3 Achievement of objectives

4.3.1 Objective 1: To train one team of rural pump mechanics for handpump maintenance for each department and to support their work.

Rural pump mechanics are technicians who are trained to carry out repairs to handpumps in their local area. In theory the communities chose a local person who has distinguished himself in community service and has some notion of mechanics. Choices were then ratified by the local préfet. At the initiation of the project there were 23 RPMs who had been trained by UNICEF, DIACFA and BID. They comprised 14 teams. Most were not optimally active, having been equipped only to repair pumps of one type or other.

Since then SCF has retrained these existing RPMs to repair both India Mk II and ABI pumps and has trained 13 more RPMs. Presently the total number of RPMs is 29 and the total number of teams is 17. Seven rural mechanics are no longer working. The major change during the SCF project period has been the increase in the number of teams in Oudalan from two to five. In theory, mechanics are based in a centre of population where they are contacted directly by villagers, or sometimes by the préfet, when they are needed to repair a pump. In addition, in our survey we noted two occasions where the mechanic had taken the initiative in proposing repairs to the village.

Choice of RPMs

It was suggested to us that, at least at the outset of the project, the role of pump mechanic was seen as a dirty job, to be given to someone who was not a respected member of society. However, communities have now understood the value of their RPM and have tended to select more reliable persons. Some mechanics who were grossly overcharging were weeded out by SCF and are no longer recognised as RPMs.

RPM training

SCF gave the mechanics a training that was mostly practical, by taking groups of RPMs to repair pumps with the mobile team. Once they had satisfactorily repaired 6-8 pumps RPMs were then allowed to work alone. Artisans said that they were satisfied with their training, but would like further training as 'animateurs'. ('Animateurs' carry out awareness raising, 'community mobilisation' and health education using a variety of methods in Burkina Faso). One project document suggests that RPMs should also train pump caretakers, follow up pump caretakers and carry out awareness raising of health and hygiene issues. Pump mechanics willingly come to pump caretaker training courses as a means of marketing themselves. If pump caretakers are keen to be trained in 'animation' to encourage villagers to repair their pumps then this opportunity should be siezed by SCF.

However, it must be borne in mind that there is a conflict of interest between pump caretakers who act as 'client' on behalf of the village and RPMs who are selling their services. Pump caretakers who are effective are capable of ensuring that the RPM gives them a good service and does not overcharge for spares. RPMs should therefore not be given any direct supervisory role over pump caretakers.

In order to improve their literacy skills SCF encouraged RPMs to attend literacy classes. Few mechanics attended for long and they questioned the effectiveness of the training.

Some NGO partners raised some doubts as to the techical capabilities of the rural mechanics. Though this may have been a problem in the past, the evaluation team found that villagers are now mostly satisfied with their pump mechanics. However, a detailed appreciation of the technical skills of pump mechanics was not carried out during this evaluation. If questions about the RPMs technical capabilities continue to be asked, it might be possible to ask the technical school in Dori to carry out an appraisal.

Tools

After training each team of RPMs are offered a pump repair tool set and asked to contribute CFA 45 000 in Seno and CFA 35 000 in Oudalan (where there is a lower number of pumps per mechanic) towards the cost of the kit. The actual cost of the complete kit is in the order of CFA 200 000. RPMs are expected to put some money away to repair or replace broken tools. SCF will replace a poorly designed tool when new models become available in the tool development programme.

RPMs are also offered a pack of commonly used spares up to a value of CFA 50 000 on credit. Each team signs a contract with SCF agreeing terms of reimbursement for tools and spares. The contract specifies that the tools are to be used for pump repairs in their area only. Some RPMs have had difficulties repaying these loans and 2 out of 15 RPMs have defaulted on their credit. If the default extends beyond two years SCF takes back the tools and they are inherited by a new team. Apart from the defaults, no other problems with the revolving funds were noted.

The RPMs felt that their tool kits were adequate. They would like a pipe die to thread rising main pipes on site. This expensive tool might be made available by SCF for borrowing or sharing between teams. The RPMs are also awaiting the development of better pipe fishing tools.

The future sustainability of the project depends to a large extent upon the status of the pump repairer. Is he a charity worker providing a public service or a private individual working on a commercial basis? Though SCF is clearly working on the basis that the RPM is the latter, the RPMs continue to hope for the maximum support from SCF. As a result, it is not surprising that it is hard

to get precise information about the living that repairers make from pump repairing. The number of pumps for which an RPM is responsable range from 9 to about 120. The fixed price for lifting out rising mains is CFA 500 per 3m length of pipe. They can also claim for head repairs and for transport. On average a team makes about CFA 107,000 per repair.

Over one six monthly period (Jan-June 1992) figures were available for the repairs for 13 teams, who made a total of 240 repairs. If these figures are typical then an average team would earn CFA 135 000 in six months (range, CFA 410 000 to 50 000). However, pump repairing is very seasonal, as is shown in the graph in figure 2. Only 20% of repairs are carried out outside the months of January to June. Adjusting the figures accordingly, average yearly earnings can be estimated at about CFA 220 000. Pump repairing is the main activity of most RPMs apart from cultivating in season. (One RPM in Gorem, Maiga Daouda, has also been involved in the supply of spares as a commercial activity. See below.) Such earnings are certainly not bad for the region, approaching as they do, the regulation minimum wage of CFA 22 500 per month. RPMs take some risks that they will not be paid for their work by villagers and some have small debts outstanding.

RPMs are expected by SCF not to charge a mark-up on spare parts but have been known to do so. In an excellent initiative, pump caretakers trained by SCF are given a photographic catalogue of spares and can thus ensure that villages are not overcharged. (We heard RPMs complain about interference from pump caretakers; a sign of the success of this approach.) RPMs are apparently considering the formation of a cooperative which would allow them to buy and sell spare parts in the region. SCF might help the RPMs to contact UCEGB (Union de Cooperatives et Groupes d'Epargne du Burkina) or other specialized organisations providing support to such initiatives.

Transport

RPMs complain that their main problem is transport. They get to repairs on foot, by motorbike, with donkeys and carts and, sometimes by camel. Villagers often arrange transport for the RPM and his tools. However, if pump mechanics can mostly get to repair sites within two days as they say, then it is debateable whether assistance from SCF with transport is necessary. Any credit provided by SCF for the purchase of motorbikes, for example, would undermine the attempt to make mechanics more independant of SCF. However, if RPMs decide to form a cooperative, credit for transport will probably be a priority activity.

Observations

It is clear that boreholes have become the main source of domestic water supply in the Sahel. Of the 43 villages in our survey, two thirds claimed that their water situation would be critical without the pumps. The demand for pump repairs can only increase in future as pumps age and more boreholes are drilled. A programme which can help to keep pumps running is therefore highly appropriate to the needs of the Sahel.

In Oudalan, out of a total of 33 pumps surveyed 10 were broken down (30%). An inventory made by the Ministry of Water in Oudalan in December 1992 of 153 pumps in villages found 62 broken down (41%). (The lower percentage of broken down pumps in our survey is probably because it was carried out during the dry season when more pumps are repaired. Though we did include some very remote villages, it is also possible that we may not have surveyed the most distant villages, who were more likley to have broken down pumps.) In Seno, of 54 pumps surveyed only 8 were broken down at the time of the visit (15%). The Ministry of Water's inventory for Seno was carried out at the same time as our survey and suggested that 24% of pumps in rural zones were not functioning.

To give an indication of what the state of the pumps might have been without the SCF intervention, we compared breakdown rates with neighboring Soum, which is similar in many ways to the combined provinces of Seno and Oudalan, but has no equivalent pump repair programme. According to the DRE inventory of Jan/Feb 1993 the rate of breakdowns in Soum was 48%. Taking Seno and Oudalan together, the breakdown rate for our study was 21%. According to the DRE figures the breakdown rate for Seno and Oudalan combined was 27%. It therefore seems that the SCF programme has had a major positive impact on the pump repair situation, perhaps almost halving the breakbown rate. It seems that Objective 1 has, in the main, been successfully achieved.

Recommendations

RPMs are an important development resource in the area. They should first of all be encouraged in their efforts to form a professional organisation. SCF might help by putting them in contact with specialised cooperative/credit organisations. The cooperative should serve to articulate the needs of the RPMs and to negotiate any future actiities with SCF.

RPMs have asked for help with transport, however, they seem to manage adequately at present. The evaluation team were divided on whether transportation was a problem requiring solution or not. One part of the evaluation team felt that SCF should avoid taking on the role as transport provider so as not to make RPMs more dependant on SCF, whilst others felt that SCF should actively help with transport. One solution might be for credit for improved transportation (trail bikes, for example) to be provided through the cooperative if RPMs feel that they could reimburse the costs.

In a future project phase pump mechanics should be offered the opportunity to train in techniques of 'animation'. This would include communications skills, and basic health messages. On an experimental basis it would be interesting to see if RPMs could help train villagers to manage repair funds. Since encouraging villagers to repair the pumps is in their own best interests, RPMs may prove effective in this role. Further attempts should be made to offer literacy courses.

Some members of the evaluation team felt that RPMs might be trained to take on further roles in other development activities. Before taking on this idea it might be best to wait for the formation of the professional organisation to represent the views of the RPMs. Some members of the evaluation team were concerned that the status of the RPMs might become somewhat complicated, as they might become 'charity workers' and their dependance on SCF increase if they took on a wider role.

The number of pump teams seems adequate at present, none are apparently overworked however the situation in Sebba needs to be revived once the new teams are established. Some partners felt that more mechanics should be trained to increase competition and reduce prices to villagers. CASADES hope to train more mechanics, PSB and UFC wants to have more mechanics near their sites of work. SCF should try to analyse the delay in responding to requests for repairs to examine whether it is, in fact, adequate. They should then take the initiative in bringing together development partners under the auspices of the DRE to harmonise policy on RPMs.

When future RPMs are selected, communities should be encouraged to consider selecting women.

NB DRE DOES NOT TRAIN MECHANICS, DIACFA DOES

4.2.2 Objective 2: To set up one mobile team each for Oudalan and Seno respectively to follow up the Rural pump mechanics and to repair pumps which are beyond their technical capability. (These teams to be transferred to UFC/Ministry of Water within five years.)

One mobile team has been set up which was initially intended to support RPMs in activities which were beyond their techical capacities. This is no longer it's primary function, rather the team uses the vehicle to carry it to it's daily project activities. The mobile team consists of three people, translator/mechanic, driver/mechanic and expatriate engineer. (In fact the whole of the present water project team.) Their work has consisted of training pump mechanics, undertaking repairs of difficult breakdowns and supporting the training of pump caretakers and the execution of the scheme to replace worn out pump heads with salvaged repaired pumps. The team is carrying out difficult repairs less often (only 11 repairs in Jan-June 1992) and spends most of its time currently on pump caretaker training. (Incidentally, further evidence of the effectiveness of RPMs.)

The mobile team has had to adjudicate on two occasions in the last year between users of the pump and the RPMs. Hopefully the training of village pump caretakers and the involvement of the local authorities will enable the mobile team to be less involved in such disputes in future. Difficulties have been created by the mishandling of money by members of the mobile team. Money handling procedures need to be reviewed to minimise this risk.

The mobile team has not been transferred to the UFC, or to the Ministry of Water. Indeed the UFC in Seno continue to run a repair service which competes with the system set up by SCF.

Developing a partnership between SCF and UFC is an attractive option. This local NGO has experience and committment to the water sector and is willing together, despite having had a history of difficult relations with SCF. Though UFC has some rather old-fashioned ideas about development and has not taken the idea of helping villagers to help themselves, fully on board, it could only profit from closer contact with a 'progressive' NGO like SCF.

However, an easier option would be for SCF to build a partnership with the Ministry of Water, Direction Régionale de l'Eau in Dori. The Ministry is supposedly in charge of pump repairs, has stated that its aim is to hand over responsability for pumps to villagers and is keen to collaborate. Well qualified technical personnel can be provided by the Ministry, and would have been provided already, had there been funds to allow them to carry out field activities. SCF could work in tandem with the DRE in the same way that they currently work with the MoH.

However, it remains unlikely that the MoW will have a budget available to support such activities, were SCF to withdraw entirely in, say, 5 years. If activities have been handed over to MoW successfully, would SCF be happy to make a committment to long term financing of an activity which is implemented by another agency?

Recommendations.

The need for support to the pump repair programme from a mobile team is happily much reduced. The present solution, which keeps the mobile team polyvalent is appropriate to the needs of the field. The number of mobile teams needed should be reviewed after developing a plan for the next phase of work.

SCF need to take a policy decision about working in collaboration with, and eventually handing over of operations to a local organisation. The Ministry of Water seems the obvious choice.

SCF should evaluate the maintenace performance of different types of pump and become involved in the debate over the rationalisation of the choice of pumps. (This needs to be handled sensitively because there are commercial/political issues involved.)

A management system which enables the setting of objectives, the easy recording of progress against these objectives, a document retrieval system, and a simple accounting system is essential to the efficient running and monitoring of the programme. Senior staff are already aware of the urgent need for an overhaul of policy regarding SCF personnel and conditions of service.

4.3.3 Objective 3. To train and equip between 1 200 and 1 500 village pump caretakers for the maintenance and minor repair of handpumps and for the dissemination of health education messages.

Pump caretaker training is now the main activity of the SCF water programme in the Sahel. From April 1991 to April 1993 350 pump caretakers have been trained by SCF. Since the total number of pump caretakers to be trained may be as many as 1900 (2 for each of 900 pumps) and assuming that training takes place at a rate of 300 per year (twice the present rate) then it will take five years for all the caretakers to be trained.

Though each handpump installation programme nominally trained pump caretakers, these efforts were sometimes sketchy or incomplete. The SCF training programme retrains these existing pump caretakers. In previous programmes caretakers were mostly only asked to help install the pump, shown how to grease the head and told to ensure that the villagers used the pump with care. In some cases pump caretakers were also taught about the transmission of disease through dirty water and were expected to pass on this message.

Villages are initially contacted by SCF to introduce the caretaker training programme, to encourage participation and to support the villages to choose their candidates. The SCF pump caretaker training programme happens over 4-5 days with groups of about twenty caretakers gathered in a local centre. The training programme includes discussions about the importance of pump repairs, introduces SCF and the local RPM and then spends the rest of the time on practical teaching concerning the different types of pump and the names and costs of the spare parts. Health education does not figure in the training programme.

In the pump survey we asked villagers about the training of pump caretakers and the activities that they carried out. 20 villages had SCF trained caretakers, two per pump. In the 23 villages where caretakers had not been trained by SCF the village mostly recognised only one caretaker per village. In 5 villages we were told that there was no trained caretaker. We asked villagers what activities the caretaker carried out. Answers included greasing the pump head mechanism, contacting the artisans, supervising the correct use of the pump, collecting money for repairs and cleaning the pumpstand area. In one village health education was mentioned. In the 20 villages where SCF had trained a caretaker an average of 2.6 activities were cited as activities of pump caretakers whilst only 2.1 activities were cited on average in villages where SCF has not yet trained caretakers. Only 1 village in the SCF area did not mention greasing, whilst 8 omitted this activity in the area with no training. In villages with SCF trained caretakers we asked how many tins of grease had been used since their training. Answers ranged from 4 to 31. This would also have been a good question to ask in villagers with non-SCF trained caretakers, however, the idea occurred too late. Taken together, these figures suggest that the SCF caretaker programme is having some successs.

Another indicator of success is that rural mechanics complain that the village pump caretakers know too much. This suggests that caretakers are becoming good 'clients'; taking some part in controlling the quality of the mechanics work and stopping them from overcharging for spares.

However, it is important that SCF include detailed performance monitoring in future projects. An annual survey of 20 or so villages selected at random from amongst those with trained caretakers and a discussion with a group of caretakers could be carried out in a few days and would provide useful information to guide the development of the caretaker training programme.

Observations

The pump caretaker programme is now a major part of the SCF activities. It appears to be successful in training caretakers to carry out basic maintenace and better represent the village in it's relations with pump repairers. However, it is not trainig caretakers to disseminate health education messages, or providing significant help in the fundamental task of helping to support village organisation so that they can resolve their own problems, including raising moeny for pump repairs.

SCF needs to develop a health communications strategy. It may be that this strategy will involve training caretakers to disseminate health education messages in which case this will become part of their training in future (see objective 4).

Costs of repairs

If SCF has helped to solve the problem of the availabilty of mechanics and spare parts, then the most serious outstanding problem is a lack of motivation and/or organisation on the part of villagers to provide the funds to repair pumps.

We looked at the reasons given by villagers for not repairing pumps that were broken down. Of 16 broken down pumps where a reason was given for not having carried out repairs 4 said "lack of money", one said that they would repair the pump if there was a good harvest, 5 had had four or more expensive breakdowns recently (CFA 30 000-55 000 over two years) and were having trouble collecting more money, 4 explained that there was some dispute about who was responsable for the pump, one pump was not repaired because villagers preferred to use another which was closer, and one had a low yield, so villagers did not think it was worth repairing. Thus we can conclude that the cost was the most important reason for not repairing pumps (10/16) followed by problems of organisation (4/16), followed by technical reasons (2/16). Of course, cost, village organisation and motivation are intimately linked. A village which is well-organised and motivated is likely to put the repair of a water pump high on it's list of expenditure priorities, whatever the cost.

However, asking villagers to subscribe to pump repairs during the dry season may be a real source of hardship. The season when money is the most scarce is also the season when water is the most scarce and when pumps are most likely to need repair. Village organisation thus becomes vital in creating a reserve to repair pumps in the dry season.

Villagers have been asked to form village water committees of seven people and to set up pump repair funds by some of the various projects who have installed water points. Though most villages claimed to have a committee, in about half of the villages it was stated that the committee was not active. Few villages had a pump repair fund and so had to collect money by subscription once the pump was broken down. However in our survey all villages visited in Seytanga and most of the villages visited in Gorgadji had well organised pump repair funds. In those villages, of 21 pumps, only one was broken down and this was about to be repaired. The average delay in repairing the pumps was one to two days.

The case of Seytanga is worth looking at in more detail. Here villages are mostly Gourmatché and are renowned for being well organised. Villagers have adopted a system of asking families to pay either 25 to 50 FCFA per wife per week or 100 FCFA per wife per month. The money is collected on a Friday or a Saturday at the pump. In one village they decided to collect on Friday and on Saturday as well because otherwise people stored water so as not to have to come on a Friday. In one village where the pump was used extensively to water animals herders were expected to contribute 300 FCFA per month as well. Villagers said that those who were recognised as having no money were not asked to pay. In most cases repair funds stood at at least CFA 20 000. This system dates from at least five years and was probably instigated by the UNICEF/ONPF programme.

Village organisation is critical to development in the Sahel. Most agencies active in the area have targetted encouraging the formation of village associations as a prime activity. SCF should link in to this network of knowledge and coordinate efforts in training villagers to manage money with other such programmes. For example, after discussion with the evaluation team, the delegate in Tin Akoff is studying whether villages who are setting up cooperative cereal banks could at the same time subscribe a little extra to cover pump repairs. Such experiments should be initiated and followed up to see if they have been successful.

Recommendations

Pump caretaker training is a valuable activity that should form a major component of the future water project. However, pump caretaker training needs to be fitted into an overall strategy for encouraging the development of village organisation for better self-help. The element most critical to the success of a pump repair programme in the Sahel is effective village organisation. Supporting village organisation to help them create cash reserves for pump repairs especially during the dry season is likely to be the single most effective measure for keeping pumps in a good state of repair. However, supporting village organisation is a long term activity which produces results slowly. SCF may not be best placed to carry out such activities, but might instead develop partnerships with organisations experienced in this domain in the Sahel. Any training of pump caretakers should fit within this framework and should be a support to village organisation.

Decisions to be taken about the training of pump caretakers need to be made in the light of this future implementation strategy. Should two caretakers per village be trained, or would it be better to include the treasurer of the pump committee, the chairman, the Community Health Worker or the village delegate? The content of training should also be reviewed. Is technical training alone (though useful) sufficient? Should money management and organisational skills form a part of the training? If caretaker training for the whole region is to be completed in under 5 years then further staff will be needed to take on this task.

Monitoring systems must be set up to guage whether the programme is attaining preset gaols.

No women have been trained as caretakers by SCF. Experience in India and in Kenya, for example, has shown that there are advantages in targetting women as caretakers. (Women suffer most when pumps are out of action and are thus most motivated to ensure it's constant functioning, women are in daily contact with the pump, women are less likely to leave the village.) SCF should encourage this.

As an example of how well pumps can be run, the system used in Seytanga should be studied in detail with a view to replicating the experience. Caretakers and village delegates from other villages could be invited on 'study visits' to learn from the experience of the villagers of Seytanga. The community development advisor from UNICEF is also happy to share his experiences.

SCF should collaborate much more actively with other development agencies in project development and execution, especially with those working to promote village associations (see section 4.3.6)

4.3.4 Objective 4. Conduct a programme to raise awareness about water related disease, protection of water sources and management of water points.

A health educator was employed to carry out the above elements of the project in May 1990. Having been trained on two short courses, he then worked on the mobilisation of communities to take responsability for their water pumps and on the dissemination of health and hygiene education. He stated that he had covered 10 villages in Seno and 2 in Oudalan. In October 1992 he was transferred to work on the health programme and is now involved in the MoH's guinea worm eradication efforts.

The apparent achievements of this part of the programme are slight. This was due to a series of interrelated problems which included a lack of clear objectives for the health educator, a lack of collaboration between the health and water sections in SCF and doubts as to the capacity of the educator to work at TA level. Personal difficulties arose concerning this issue between the programme managers, which were allowed to continue without intervention from senior management.

As a result of these difficulties SCF are missing a unique opportunity to set up an exemplary collaboration between the health and water sectors.

A major international campaign is being carried out to eradicate dracunculiasis (Guinea worm) by the end of the century. The SCF health programme is already involved in these efforts and together with the pump repair programme SCF is well placed to become one of the agencies responsable for the disappearance of Guinea worm from the Burkinabé Sahel. In the national guinea worm survey carried out in 1990 54% of the villages in Seno and 53% of the villages in Oudalan reported at least one case of Guinea worm. The prevalence of infection was 66 per 10000 persons in Seno and 48 per 10000 persons in Oudalan. Seno and Oudalan thus rank sixth and seventh amongst the 30 provinces of Burkina Faso for guinea worm prevalence. If SCF can present a concerted water and health education strategy which includes guinea worm eradication amongst its objectives then resources to cover a large part of the two programmes should be readily available.

SCF could also then join an active network of sharing of experience and tools (e.g. newsletters, results of operations research, satellite mapping technology, communications materials (like a small overhead projector to demonstrate the cyclops moving in water). Though major donors are active at national level, there is a shortage of effective agencies working on guinea worm eradication at the provincial down to village level. SCF could not only intervene effectively, but could also carry out trials of materials and techniques and feed that information back to inform national and international policy.

Recommendations

The SCF health and water programmes need to join in defining common objectives and then clearly defining the responsabilities of each programme.

SCF should make Guinea worm eradication in the Sahel one of its major objectives.

There are no simple answers to effective health communications, and it is not known whether health education can make villagers change their source of water. SCF should try out different approaches on an experimental basis and monitor their effect.

SCF senior management needs to be more pro-active in creating a team spirit amongst staff in the Sahel, a climate which avoids staff disputes. A system is also needed which can resolve such disputes when they arise. The problem of the status of the health educator is being resolved, this process should be completed urgently since it is a source of discomfort to many of SCFs employees in the Sahel.

4.3.5 Objectives 5 & 6: To maintain a security stock of spare parts in each of the provincial capitals and to ensure that a sufficient number of traders hold spare parts for the programme.

SCF has a substantial stock of spare parts in Dori for both ABI and India MkII pumps. These stocks re intended as a security in case the traders have run out. SCF only issues spare parts on presentation of a signed form sent by the appropriate trader that he has run out. This procedure protects the trader from SCF acting as competitor, however, the availability of parts through SCF must also act as a disincentive to the commercial import of parts to the region. SCFs stocks are intended to be sufficient for 6 months. The following parts are currently in stock in Dori:

ABI	1 369 735 FCFA
India Mk II	1 407 160 FCFA
Universal	176 260 FCFA
Tools	2 576 000 FCFA

Spare parts are sold at cost price. Stock keeping seems very well organised.

Parts for ABI pumps are sold by Faso Yaar, a government run chain of shops. They are present in Dori, Gorom-Gorom and Sebba. However, there are problems with the volume of sales and in getting new stocks from Ouagadougou. In Dori turnover is perhaps about FCFA 30 000 per month of the most needed parts during the dry season of March, April and May. However, they are currently short of parts and having been waitng over 6 months for new stocks. The manager suggested that there are traders selling spare parts in the bush.

In Gorom-Gorom Faso Yaar has not sold any parts for a year. It is not clear why this should be. Perhaps DIACFA, who are installing ABI pumps in Oudalan, are also selling spares directly. DIACFA used to have a container of spares in Gorom which was run by Maiga Daouda, an RPM. However, DIACFA removed the spares to use the container to stock pump heads for their current programme.

Daouda was also given a stock of India spares on credit by SCF. This facility has now been withdrawn since he defaulted on a part of the loan.

A trader in Dori, Maiga Dibani, has a small stock of India spares which he gets from APICOMA, the manufacturer. He buys small quantities at a time and does not hold on to many because of the high cost. He sells mainly leather seals and has a turnover of FCFA 15-25 000 per month during March April and May.

Repair of damaged pump heads, pump handles and pierced pipes was undertaken at welding shops. One welding shop visited 'Nana et Frères was very interested in the project and saw the possibility of doing good business. The cost of repairing parts is much lower than replacing them. However, villagers need to know that galvanised rising mains should never be welded.

The status of Faso Yaar as a government owned enterprise is under review. However, they are apparently not interested in selling parts for India pumps

UFC currently procures spares in Ouagadougou, and occasionally from SCF in Dori.

CASADES is currently investigating the possibility of setting up five depots for stocks of ABI spares in Oudalan. They are open to the suggestion of including India spares in their programme. SCF should offer to cooperate with CASADES in this venture.

The solution to the problem of the provision of spare parts of all makes at reasonable distance and cost without the help of outside agents is not simple, as can be seen from the near failure of current efforts with commercial bodies. It is hard to see how a system could function on a purely commercial basis given the problems below:

a. high capital outlay
b. low turnover, especially for parts that wear out less often
c. extreme seasonality of demand
d. spares available at lower prices from other sources.

Recommendations

SCF needs to invest further effort in trying to find a solution to the problem of supply of spare parts. The next avenue to explore could be in encouraging the artisans to form a cooperative to buy and sell spares, possibly at an increased mark-up.

Further information is needed about all sources of spare parts. The possibility of helping traders to get credit to buy spares, preferably from a source other than SCF, should be investigated.

For the commercialisation of spares to be successful, traders will need protection from unfair competition from NGOs and the like. Very clear guidelines on the supply of parts need to be agreed in the Sahel.

Some development projects (eg PSB) include the development of village shops. It would be worth exploring whether a limited number of shops might stock spares.

4.3.6 Objective 7. Close collaboration with local, provincial, regional, national authorities and other NGOs.

There are many NGOs and multilateral and bilateral donors active in the Sahel. There is little coordination between the different programmes and relationships between staff of the various organisations is notoriously bad. Regrettably, the same applies to the water sector. A brief description of the activities of each organisation intervening in water is given below:

Government agencies

Ministry of Water: ten regional water 'directions' (DRE) were created in 1989. The DRE in Dori covers Oudalan, Seno and Soum provinces. Their principal functions are: quality control and 'client' for water supply projects; inventory of water sources; technical support for the identification and implementation of new water supply projects; technical support for the maintenance of water supply systems; coordination of donor activities.

In November 1992 a meeting of partners concerned in rural water supply convened at the DRE to discuss policy regarding pump operation and maintenance as a result of which the Ministry were to circulate a set of draft guidelines for comment. This has not yet appeared. SCF appears to be on excellent terms with the staff of the DRE.

The Haut Commissaire in Dori was appreciative of the project. He keen to see the population become less dependant on NGOs and other outside agencies. This was not a criticism of SCF but his view as to the future direction of the programme. The SCF programme appears to be well known and appreciated by the prefets of the départements in the Sahel.

Of the various government rural development organisations the one that may be most useful for SCFs purposes is the Union de Groupements Villageois. This is a federation of farming groups brought together in order to order cooperative supplies and to provide agricultural extension. There may be potential here for collaboration on village organisation and management of funds.

Bilateral and multilateral agencies

BRGM: this private French contractor are currently completing a programme to drill 164 boreholes in the province of Oudalan with financial support from the French Government. Drilling is subcontracted to FORAFRIQUE, pump installation to DIACFA and the social elements to an CASADES.

CASADES: Activities include: Instructing villagers to rehabilitate existing water points as a condition for the installation of a new one; helping to select pump sites with villagers and hydrogeologists, training of pump caretakers; training of village committees to manage a repair fund; setting up a stock of spare parts for India pumps in 5 dépots; support to the MoHs Guinea Worm eradication efforts in Oudalan, plan to set up depots of ABI spares in Oudalan.

The director of this agency, Karim Konate, is highly experienced in rural development and problems of rural water supply. In Oudalan, the interests of CASADES are not confined to just carrying the subcontract for the BRGM programme. They also have plans for other activities such as an interesting initiative to set up autonomous village water points to sell water, with pumps powered by solar cells. They could become a major partner for SCF and should be asked to contribute to the evolution of the programme for a new phase of SCF support to the water sector.

PSB: The Programme Sahel Burkinabé is described in detail in annex 4. In their zone of intervention they have no special water activities but use the SCF system when pumps in their zone need repairs. They would like to collaborate more in finding solutions to the problem of pump repairs. PSB was especially interested in working with SCF to develop systems for village funding of repairs to handpumps.

UNICEF: Despite their long involvement in well drilling and support to pump repair sytems, UNICEF are not currently active in this domain in the Sahel. However, they have a major programme of support to the MoH's Guinea Worm eradication efforts which involves training village health workers to educate villagers about guinea worm and to sell water filters. They are supporting pump repair systems in other provinces, notably in neighboring Sanmantenga, Obretenga and Bam. It would be useful to SCF (and perhaps to UNICEF) to review the achievements of this programme.

NGOs

Most important amongst the NGOs for SCFs water programme is the Union Fraternelle des Croyants:

UFC: The activities of the Union Fraternelle des Croyants are described in detail in annex 4. Water activities in Seno include: constructing about 12 large diameter wells a year; providing a mobile team to carry out pump repairs; arranging to provide spare parts from Ouagadougou. Though the UFC team in Dori said that they shared equipment with SCF on occasions, they do not share the same policy as SCF and often act in competition with the RPMs. They want to provide as quick as possible a repair at as low as possible a cost to villagers. In Oudalan the UFC has stopped maintaining handpumps largely because of complaints by SCF. Both SCF and UFC have adopted defensive attitudes rather that trying to find common ground. There is certainly enough work for all, and it is a shame that UFC Oudalan have given up pump repair activities. Such problems require not only a more mature attitude on the part of the SCF water programme, but also better coordination by the MoW.

FDC: The activities of the Fonds de Developpement Communautaire (American SCF) are described in annex 4. Between 1986 and 1988 the FDC trained 160 pump agents in Oudalan and Seno. They withdrew from this activity in favour of SCF in 1988. They also handed over their stock of spares to SCF. Though the proposed regular meetings between SCF and FDC have not materialized,

relations remain cordial. FDC would like to see a more coordinated programme with more pump mechanics, a defined role for FDC and the integration of animation and training of water committees.

Peuples en Marche: an NGO with two part-time workers in Tin-Akoff helping to develop local craft skills and support the creation of cereal banks. They arrange free deliveries of water to the school and health centre and have paid for pump repairs when they felt that times were too hard for local people to afford pump repairs. They would like to see more discussion of the problem of what to do about repairing water points when populations have serious money problems during drought years (as often as 7 of the last 10 years).

A further local NGOs, the Associations des Caisses d'Epargne et de Crédit de l'Oudalan (ACECO) work with village groups. They have no activities specifically in water but because they deal with village management of finances they may be able to contribute to the resolution of the problem of the funding of pump maintenance.

Recommendations

However difficult collaboration is with other agencies working in similar fields, SCF must try to improve matters. SCF should not only mend its relationships with existing actors in the Sahel as a priority, but could also adopt a peacemaking role between others. This could be done by SCF supporting the organisation of a series of workshops to help define policy in the sahel on such issues as village organisation and the maintenance of water points.

SCF should involve as many partners as possible in the development of a proposal for a new phase of SCF support to the water or the sector.

4.3.7 Objeccive 8. Development of appropriate tools.

One aim of the project has been to try to make the pump repair system as sustainable as possible. A limitation to this objective has been the need to have a mobile team on call if the repairs prove too difficult. To dispense with this team, mechanics need to be as fully equipped as possible. At the beginning of the project the existing pipelifting equipment and the vice to hold pipes and rods were found to be inadequate. SCF worked with APICOMA to produce a stronger set of tools which have proved excellent. Fishing tools to recover pipes and rods which have fallen back into the borehole are under development.

Good relations have been established with APICOMA, a government run factory (soon to be privatised) which has the franchise for the manufacture of India Mk II pumps. They are very interested in the water programme and are currently developing an India MkII which can be motorized, a customised mobylette for RPMs and a teflon piston. However, there may be problems in future as APICOMA are concerned what will happen with the introduction of the new 10% sales tax and their imminent privatisation.

Recommendation.

The tool development programme is impressive and should be completed. Tools should be made available to other agencies not only in Burkina Faso. The advice of the Water and Sanitation Centre for West Africa (Abidjan) might be sought as to how to make these tools more widely available.

4.4 General observations

4.4.1 Waterpoint surroundings

It was noted by the team that few of the waterpoints visited had adequate facilities, although the newer pumps have adequate concrete surrounds. Once communities become more organised they may wish to have such facilities as washing stands and cattle troughs.

Recommendation

SCF could train masons to build improved pump surrounds in one of the départements were villagers are well organised (eg. Seytanga) on an experimental basis. Hedge planting and simple irrigated gardening around the water point could also be encouraged, possibly in partnership with other NGOs.

4.4.2 Sanitation

Despite being advanced in some aspects of rural development, Burkina Faso has been slow in joining the movement to construct Ventilated Improved Pit latrines (VIPs). The construction and use of simple latrines are probably at least as effective in promoting health as the construction of water points. The provision of latrines in small towns and in schools are particularly important.

Recommendation

SCF should seriously consider moving into this field, in a small way initially, by training builders to construct VIPs for schools. Expertise is available in Burkina Faso in the field of low-cost sanitation (e.g. Sandy Cairncross, UNICEF, VC), if this option is followed up a more detailed plan of action could be prepared. As SCF gain experience, the project can be widened to small towns and nucleated villages.

4.4.3 Construction of low cost water sources

The DRE has a simple and effective approach for helping improve water supplies in areas where pumps are not sufficient. DRE staff are contacted by a donor who request a study of water supplies in a particular village, the DRE dispatches an engineer to carry out a study and propose an appropriate solution which is designed and costed (rain water catchment, Booly, water retention structure, wide diameter well, etc). If the donor then agrees to the funding the DRE engineer supervises the construction.

One possible addition to the repertoire of construction techniques is the hand auger as used in Niger. The SCF water engineer has been to Niger to study this technique and is interested in introducing it to the Sahel. However, most of Niger sits on alluvial deposits which are easy to drill and which contain reserves of water. In the Burkinabé Sahel such alluvial deposits are limited to river beds and their immediate surrounds. Constructing water points in river beds and in zones liable to flooding brings with it the difficult problem of how to protect the water point from flood damage. The evaluation team had serious doubts as to the feasibility of this approach in the Sahel but encourage SCF to investigate further whether some appropriate sites might be found.

At present the SCF project, in common with other donors, aims to improve water supplies for domestic consumption. However, cattle rearing is one of the most important economic activities in the Sahel. Some water points, especially in Oudalan, are used for watering cattle. Pumps are not designed for the heavy use that this implies. One solution to the problem of watering cattle that has been used in the north of Uganda is the installation of solar pumps with small reservoirs. As with any mechanical installation, management and maintenance is essential to assure efficient functioning. If SCF could identify a structure capable of running such an installation (a village with an active cooperative, possibly a school) it could offer credit for the installation of such a scheme on an experimental basis. Water could then be sold to cattle rearers to reimburse the cost of the installation and eventually for a profit. Since CASADES are considering importing solar pumps SCF could take the opportunity of working with them and sharing their experience.

Recommendation

SCF could make available funds for some ten low cost water sources per year on a similar basis to that adopted by other donors. SCF might investigate further the possibility of helping one or two villages install solar pumps on a credit basis. Such pumps could be used for watering cattle as a trial of the technology.

5. CONCLUSIONS

The Save the Children Funds handpump maintenance programme in the Burkinabé Sahel is an exemplary programme which has been successful in helping villagers to keep their handpumps running. Choosing to set up a system by which handpumps can be repaired by villages was an appropriate response to a real need of populations in Seno and Oudalan. According to a sample of 87 pumps surveyed during the evalauation, only 21% were found to be broken down. In neighboring Soum which is roughly comparable and where there is no pump repair programme, 48% of pumps were broken down in Jan/Feb of this year. It seems that the system set up by SCF is making a significant contribution to the critical water supply situation in the Sahel.

The programme has gained recognition locally, nationally and internationally. Locally, the SCF water team is well known in the villages whch have benefitted from the programme. Local government officials are supportive and appreciative. At national level, officials from the Ministry of Water make a point of visiting the SCF programme when they are in the district, and SCF was invited to contribute to a conference on rural water supply policy by UNDP which was well received. The handpump repair programme has recently been the object of a publication by the ALIN (Arid Lands Information Network. No 4. Mars 1993, Pompe manuelles au Burkina Faso.)

The achievements of the project include:

-the retraining of 23 teams of rural pump mechanics to repair all types of pump and the training of 13 new RPMs. There are now 17 working teams; more than one per département

-the equipping of RPM teams with appropriate tools so that they can cope with all but the most difficult repairs

-the running of a mobile team which carries out difficult repairs (which is called on less and less as RPMs have become more proficient)

-the training of 350 village pump caretakers to take better care of their pumps and to control the quality of work of the RPMs. The trained caretakers have apparently succeeded in this because RPMs complain of interference from SCF trained caretakers

-the maintenance of an adequate security stock of spare parts in Dori which is used by villagers when commercial supplies are not available

-the development of several tools for use by the water programme

-the development of close ties with the Regional Directorate of the Ministry of Water

The staff of the programme are to be congratulated for their hard work and especially for their dedication in trying to find appropriate solutions to the problems which they have met. However, the team have not been able to solve all the problems which have faced them. These problems need to be tackled as a priority in the next phase of the project. In particular:

-collaboration and cooperation with other actors in the water sector, and in rural development in general, in the Sahel, is poor and needs strengthening

-collaboration within SCF between the health and water programmes is poor and urgently needs strengthening

-a health communications policy has not yet been successfully developed in support or in collaboration with the water programme

-a programme to support village organisation to help pay for repairs has not been developed

-though efforts have been made to encourage traders to stock spare parts for pumps, the results will continue to be not very encouraging in the absence of a concerted policy amongst all concerned organisations involved in pump installation and repair in the Sahel

-objective setting and the monitoring of progress in attaining these objectives has been weak. A new proposal should make this a priority

However, there are no obvious answers to all of these problems. For example, it is not at all clear how health communications can best be carried out to encourage villagers to make exclusive use of their water points. For such a programme to stand a chance of being successful, it is vital to understand more about the knowledge and beliefs of the different populations in the Sahel about health and hygiene. It will be necessary to understand how mothers categorise diarrhoea related illness, how they prevent and treat these illnesses and whether they see any links with hygiene. It will also be necessary to discover whether safe hygiene practices can best be promoted as a route to increased social acceptability rather than as a means of preventing disease. It is also important that such a programme target the improvement of behaviours which are real risk factors for disease. A small qualitative research programme to answer these questions is an important first stage in designing a health communications programme to promote improved hygiene behaviours.

Neither is it clear how spare parts can best be made available to villages. When faced with such problems, SCF would be advised to adopt an experimental approach; trying out a variety of solutions and seeing which works best.

The evaluators suggest the following approach for the future to SCF:

1- Draw up a new outline project proposal based on the recommendations in this report in collaboration with the Ministry of Water

2- Invite SCF partners (NGOs, Government, UNICEF etc) and some of the many experts in rural water supply present in Burkina Faso to a workshop to help develop the proposal.

3- Produce a detailed proposal with detailed objectives, performance targets and a monitoring system, in collaboration with the Ministry of Water. Circulate this to all development partners for comment and revision.

4- Submit the final version for funding.

By using this collaborative and evolutionary approach SCF will be able to contribute its experience to the development of official policy on water in the Sahel, will be able to benefit from the considerable experience of other partners, and should also create a climate of harmony and collaboration with other partners working in the Sahel.

ANNEX 1.

DEROULEMENT DE L'EVALUATION

1993

Vendredi 26 Mars	p.m.	réunion à SCF MR,TS,GK,VC
Samedi 27	a.m.	réunion à SCF MR,TS,GK,VC et JK
	p.m.	Sandy Cairncross (UNICEF)
Dimanche 28	a.m.	Ouagadougou - Dori
Lundi 29	a.m.	visite a Debre Talata reformulation des objectifs du projet critaires d'evaluation
	p.m.	visite avec Haut Commissaire et Secrétaire Générale de la Province de Seno visite de Courtoisie à la FDC
Mardi 30		planification des activités preparation des questionnaires
Mercredi 31	matin	Kyriollo
	ID/VC	Essaie de l'enquête
	JK/TS	Suivi des artisans/reparations
	soir	Dori
	ID/VC	Révision des questionnaires
	JK/TS	Commerçants/Stocks
	réunion avec l'UFC Dori	
Jeudi 1	matin	Sauga - Gorem-Gorem
		Enquète
	soir	
	TS/JK	Commerçants/Stocks
	ID/VC	UFC Gorem, Projet PSB
Vendredi 2	7.00 am	
	élaboration du guide pour le groupe dirigé	
	09.00-11.30	
	groupe dirigé des artisans	
	15.00	
	synthèse des solutions aux problèmes	
	JK/VC interroge la base de données	
Samedi 3	am	synthèse: artisans et pièces de réchange
	pm	départ de TS et MR
Dimanche 4	pm	préparation des groupes dirigés aux villages
Lundi 5	équipe Diallo: Salmossi, Markoye	
	équipe JK/VC: Tin Akoff	
Mardi 6	équipe Diallo: Bani	
	équipe JK/VC: Tin Akoff	
	synthèse: M.Diallo	

Mercredi 7	départ de M. Diallo équipe VC: Seytanga équipe JK: Sebba/Sampelga
Jeudi 8	équipe Hama Oumarou: Gorgadji interroger les bases de donnés synthèse avec KONATE Jaques
Vendredi 9	départ pour Ouagadougou discussion avec JP Meert, UNICEF synthèse avec MR. départ pour Bobo-Dioulasso.
Mercredi 14	analyse des donnés discussions avec l'UNICEF, CASADES
Mercredi 28	Remise du rapport à SCF.

ANNEX 2.

PERSONS MET:

Maria RIBERA	SCF Field Director
Geert KROON	SCF TA. Programme Hydraulique Villageoise
BARRY Abdul	SCF administrator, Dori
GARDNER Elaine	SCF administrator, Dori
Jean NADAMBEGA	SCF Health programme, Dori
BAMA Balily	SCF Health programme, Gorem
HAMA Oumarou	SCF Formateur technicien
BUKARI Boureima	SCF Chauffeur technicien
M. Idrissa BOLY	SCF Animateur de la santé
Boubacar Diallo}	
Abidin Mahomed }	Translators
Maiga DAODA	Pump repairer
CAMPAORE Noel	Union Fraternelle des Croyants, Dori
CISSE Abbaye	Union Fraternelle des Croyants, Dori
GUIDO Bouraima	Union Fraternelle des Croyants, Dori
DIALLO Hassane	Union Fraternelle des Croyants, Dori
Alfred KABORE	Union Fraternelle des Croyants, Gorem
Van de LEEMPUT	Programme Sahel Burkinabé, Gorem
M et Mme COUSENS	Peuples en Marche, Tin Akoff
Sandy CAIRNCROSS	Regional Guinea Worm Coordinator, UNICEF

By telephone:

Jean-Pierre MEERT	UNICEF water programme officer
Lamossa YAGO	UNICEF Community development coordinator
Karim KONATE	CASADES director

ANNEX 3.

COMPTES RENDUS DE DISCUSSIONS DE GROUPE

1. Compte rendu d'une discussion de groupe avec 17 artisans réparateurs des pompes à la DPE de Dori le 2 Avril 1993.

A joindre

2. Discussion avec un groupe de 15 personnes dont 2 femmes sur les problèmes de l'eau dans le village de Salmossi le 5 Avril 1993 par

DIALLO Issiaka Yéro

Rapporteur: DIALLO Boubacar.
Facilitateur: DIALLO Issiaka

1) Sur le système d'approvisionnement en eau actuelle

L'approvisionnement en eau du village s'effectue de façon multiple et multiforme:

- Puits et pompes situés dans le village et quelques fois sur plus de 10 km dans les villages voisins.

- Les moyens les plus utilisés sont entre autre: seaux métalliques et bidons en matière plastique (porter sur la tête des femmes pour les courtes distances) fûts de 200l et autres en peau des ruminants (transportés sur charrette et à dos d'âne pour les longues distances)

Le système de transport n'est pas performant mais repond aux besoins des populations et du moment.

- La plupart des pompes donne satisfaction quant elles sont à l'état neuf; mais la marque India semble mieux se comporter.

- Les gens préfèrent boire l'eau de pompe parce qu'elle est plus propre.

- Si la pompe est en panne et si le comité de gestion dispose de l'argent dans sa caisse, le délegué (agent de pompe) informe immediatement l'artisan et l'invite à faire la réparation.

Si le comité ne dispose pas d'argent, on lance une quête au niveau de la population dans certains cas, avant de faire venir l'artisan.

Il y a également des cas ou le délégué avance la somme nécessaire à la réparation et la côtisation sert à le rembourser.

2) Les reparations de pompes

- Le 20/03/91, elle est tombée en panne et 4 jours après elle a été réparé par 2 artisans de Markoye. C'est le délegué qui a été les chercher. Les réparations (main d'oeuvre et pièces détachées ont couté 8800 F provenant des recettes sur les ventes d'eau (le seau d'eau vendu à 5 F)).

- Le 8/05/92 a été encore en panne et a été réparée 17 jours après par l'artisan de Markoye Abdoulaye Arzouma. Les coûts de réparation de cette 2ème intervention sont de 10.500 F tirés des recettes sur les ventes d'eau. Linformation a été donnée par le délegué.

- Octobre 1992, nouvelle panne qui a été réparée 4 mois après par l'artisan de Markoye qui a été de 11.500F.

- Enfin une panne qui intervient le 25/03/1993; la pompe n'a pas été encore réparée car il n'y a plus d'argent de disponible: la collecte est en cours.

- Dans la plupart des cas c'est le délégué qui part à la recherche de l'artisan, le transport de son outillage est assuré ainsi que le reimbourssement des frais de son déplacement par village. Sa main d'oeuvre est calculée à raison de 500 F par tuyau demonté et remonté mais il arrive qu'il fasse des rabats. Les seuls problèmes avec les artisans c'est qu'ils ne sont pas toujours disponibles, vu leur nombres limité et les distances des points d'eau.

Quand l'artisan de la zone n'est pas disponible, ou lorsqu'il n'a pas le matériel nécessaire, il oriente le délégué vers l'artisan qui possède le matériel ou l'artisan disponible.

- Le problème des côtisations résident du fait que la recette rentre lentement pendant que la pompe attend en panne. La caisse de redevence existe à partir des recettes de ventes d'eau, seulement ces recettes sont très faibles. Ces causes sont gérées par le comité de gestion constitué de 7 membres dont 2 femmes.

3) Les Pièces

- A l'état actuel, le village ne peut pas constituer un dépôt de pièces détachées dans la mesure où il n'arrive à suivre le rythme des réparations. Il n'existe pas non plus un commerçant qui soit à mesure de les commercialiser. Il n'existe pas de mécanicien dans le village et gens se rendent au marché à pieds et dos d'âne ou avec des charrettes.

4) La santé et SCF

- Les gens connaissent bien le ver de guinée mais c'etait avant l'installation des forages dans le village, mais il a actuellement disparu.

- Les maladies diarrhéiques constituent des cas très rare car tout le monde utilise l'eau des forages.

- Les agents de santé villageois (l'homme et femme) travaillent en collaboration avec l'infirmier du village et sont actifs. La population leur apporte en contre partie des cadeaux (culture de champs pour l'homme et dons de bottes de mil pour la femme).
Ils ne connaissent pas la "SCF" ni ses activités mais connaissent les artisans et même les membres de l'équipe mobile de SCF.

- Ils ne savent pas qui a formé les agents de pompes.

5) Recherche de solutions

- Former les membres du comité de gestion en réparation de pompes et doter le comité en outillage pour réparation:

- Constituer un stock de pièces détachées a gérer par un comité à crédit qui serait à utiliser par tous les comités voisins.
- Approfondir le Bouly du village pour la nappe souterraine.

3. Discussion avec un groupe de 20 personnes à Gaugaol sur les problèmes hydrauliques villageoise le 6 Avril 1993

par DIALLO Issiaka Yéro

1) Système d'approvisionnement en eau actuelle

- A Gangaol centre, l'approvisionnement en eau se fait par des seaux métalliques, les canaris, les bidons de 20l, les fûts métalliques de 200l. Les canaris et les seaux sont portés sur la tête (femmes en général) les fûts de 20l et fûts de 50l sont transportés par les vélos (hommes). Les fûts de 200l sont roulés ou transportés en charrettes
(travaux de construction).

Les pompes qui sont implantées 1er préférence donnent satisfaction (INDIA) comme ABI) et les gens préfèrent boire l'eau des pompes parce qu'elle est plus claire et plus propre: 1 = pompe, 2 = puits busés et sans ces 2 types d'oeuvrage les gens sont obligés d'utiliser les puisards ou le bouly.

Les distances varient de 100 à 400m entre le forage et les maisons.

- Pour la pompe, il existe une caisse de redevence pour faire face aux pannes éventuelles; cette caisse est alimentée par des côtisations. En cas de panne, l'artisan de Bani est saisi par un membre du comié ou par le délégué pour la réparation. Si nous trouvons que l'artisan est disponible, il repond aussitôt à l'appel mais s'il a déjà programmé d'autre réparations, il faut attendre (2 à 3 jours ou plus).
L'artisan recoit en moyenne 3 demandes de réparation par jour car il est seul dans tout le département de Bani.

Pour les réparations, l'artisan vérifie la pompe et nous l'aidons dans ce travail.
S'il s'agit des pièces à remplacer, c'est nous qui les achetons avec lui ou à défaut, il prend de l'argent pour les achéter à Dori. Si les recettes de la caisse sont insuffisantes, nous côtisons. Il n'y a pas de difficulté dans la collecte des sommes à notre niveau. L'argent côtisé est geré par le comité.

2) Les réparations de la pompe

Dans les coûts des réparations nous supportons:
- le déplacement de l'artisan ou de l'équipe mobile
- la nourriture de l'artisan
- les frais de main d'oeuvre à raison de 500F par tuyau démonté et remonté.
- le prix d'acquisition des pièces détachées.
- nous ne recevons pas la visite d'autres artisans.

3) Les pièces

Nous n'avons pas eu a réflechir sur la possibilité de gerer un stock de pièces détachées. De même aucune boutique n'a eu à tester cette pratique, mais nous pensons que cela est faisable avec un minimum de soutien. Les gens cherchent leurs pièces pour le moment à Dori, Yalogho et Ouaga. Ils vont au marché à pieds à bicyclette, à moto et à charrettes.

4) La santé et SCF

- Le ver de guinée a totalement disparu du village depuis l'implantation des pompes. Plusieurs chefs de familles ont connu des campagnes agricoles sombres dans le passé avant l'implantation des pompe, suite aux vers de guinée. Actuellement on n'en voit plus.

Les maladies diarrhéiques existent encore dans bon nombre de familles et touchent les enfants de bas âges. Il existe de 2 ASC (AV et ASV) mais ils ne sont pas opérationnels (manque de produits).

- Le groupe ne connait pas la SCF comme tel mais il appréci bien les séances de vaccination de l'équipe PEV à l'endroit des femmes et des enfants.

ANNEX 4.

RENCONTRES AVEC DES PARTENAIRES

L 'équipe d'Evaluation a eu à retenir entre autres critères l'objectif sectoriel portant sur l'harmonisation des interventions des services et ONG en matière de réparation des pompes, par la mise en place d'un système de partenariat et de concertation permanente de tous les intervenants.

A cet effet, l'Equipe d'Evaluation a pu rencontrer certains partenaires et a retenu ce qui suit:

1) Avec le Personnel de l'UFC de Dori

- Cisse Abaye membre fodateur de l'UFC
- Diallo Hassane chauffeur réparateur de pompes
- Djindo Boureima chauffeur réparateur de pompes
- Compaoré Noel gestionnaire

L'Union Fraternelle des Croyants (UFC) de Dori est le fruit d'une union des Musulmans et Catholiques de Dori en 1969, année de la grande famine pour venir au secours des personnes cinistrées.

Les premières interventions de l'UFC ont porté sur la distribution de l'aide alimentaire, et l'aménagement des points d'eau.

De 1971 à 1978, l'UFC a eu à installer plus de 140 forages, quelques retenues d'eau et un nombre important de puits à grand diamètre.

L'installation des forrages et la construction des retenues d'eau ont été suspendues a partir de 1978 et le programme hydraulique de l'UFC est actuellement consacré à la réparation des pompes (de toutes les marques et de toute provenance) ainsi que la réalisation des puits à grand diamètre à rythme de 12 puits par an.

Moyen matériel et technique

L'UFC dispose d'une Brigade mobile de puisatiers et réparateurs de pompes qui se déplacent sur un véhicule acquis en 1986. L'UFC dispose également d'un stocks de pièces détachée pour réparation des pompes.

Rayon d'Action et Méthode d'Intervention

La zone d'intervention couvre la province du SENO mais il est à noté que l'UFC peut intervenir dans les autres provinces du pays si on a besoin de ses services. L'UFC n'intervient que sur la base d'une démarche écrite. En matière de réparation de pompes, les communautés prennent en charge:

- le déplacement du véhicule 150F/km
- le coût des pièces détachées utilisées
- la main d'oeuvre du réparateur à raison de 500F par tuyau démonté et remonté.

Liens de Collaboration avec le Programme SCF.

- Rencontrer dans le cadre des réunions provinciales
- Participation de la SCF à une reunion de l'UFC pour échanges programmatiques.

La collaboration est plus perçue entre les équipes mobiles des deux organismes sur le plan soutien matériel (emprunt mutuel du matériel et matériaux de travail).

L'UFC ne reconnait pas les artisans formés par la SCF et même ceux formés avant l'intervention de la SCF comme artisans compétents pouvant prendre en charge toutes les réparations des pompes.

L'UFC continuera a intervenir dans la réparation des pompes et assurera également la formation des artisans réparateurs de pompe à raison de 2 par village; cependant, elle n'exclut pas une possibilité de collaboration avec la SCF.

2) Avec le Personnel de l'UFC de Gorom

Kaboré Alfred, président de l'UFC de Gorom-Gorom

L'UFC de Gorom avait les mêmes activités que celle de Dori;

. Implantation et réparation des pompes
. Construction de puits a grand diamètre
. Construction de retenues d'eau et de Bouly

Depuis Février 1991, elle a cessé d'intervenir en matière de réparation de pompes et s'occupe uniquement de la constructions des Bouly et des puits maraîchers à la demande.

A Gorom l'UFC laisse entendre que le programme hydraulique de la SCF n'a pas collaboré avec elle et n'a pas pris en compte ses contributions dans ce domaine. Tout comme Dori, elle soutien que le nombre limité des artisans et leur équipement très modeste font qu'ils ne sont pas en mesure de satisfaire tous les besoins en réparation des pompes dans l'Oudalan.

Fort de cette raison elle est disposée à collaborer avec la SCF pour contribuer à la réparation des pompes dans cette province.

3) Projet Sahel Burkina (PSB)

VAN de Leempat Pin, responsable à Gorom-Gorom

Le PSB est un programme de développement global initié par différents bailleurs de fonds au profit des Etats du CILSS. A Gorom, le PSB est dans sa phase intermédiaire et travail sur 4 zones test.

Sa méthode d'intervention repose sur la stratégie de la démarche gestion du terroir villageois.

Les actions du PSB touchent l'hydraulique villageoise, (creusement des puits, implantation et réparation de forage) et pastorale (puits pastoraux).

Le PSB a eu à soutenir la réparation des pompes dans les villages des zones test sous forme de crédit en pièces de rechange.

Les comités de gestion de terroir villageois ont été responsabilisés pour récupérer ces crédits.

Le PSB dispose de fonds destinés à la mise en place et à l'entretien des ouvrages hydraulique. Il n'intervient plus sur la réparation des pompes pour le respect de politique diffusée par la SCF en la matière mais pose tout de même certaines réserves quant à la satisfaction du besoin avec les artisans actuels.

Le PSB souhaite voir la SCF s'interesser à d'autres activité complémentaires (dont l'hygiène et l'organisation communautaire) pour dynamiser les comité et rendre plus opérationnels les artisans.

Enfin le PSB est ouvert à d'éventuelles possibilité de collaboration dans ce domaine hydraulique villageoise.

4) La Fondation pour le Developpement Communautaire (FDC) à DORI.

Abdouramane Bouro responsable de programme hydraulique.

La FDS qui intervient à Dori depuis 1976 a pour mission d'améliorer les conditions de vie des enfants les plus défavorisés. Elle intervient uniquement dans le SENO et utilise une approche multi-sectorielle du developpement. Au nombre de ses interventions figure le programme d'hydrolique villageoise, intervenant lié aux Activités de Santé, Nutrition et de l'Assainissement. Elle intervient dans une quarantaine de villages où elle doit appuyer les acteurs de maitrise d'eau potable par la formation des populations sur l'Hygiène et l'Assainissement des points d'eau ainsi le constatation des comité de gestion de points d'eau.

De 1986 à 1988 la FDC en collaboration avec l'ONPF a formé plus de 300 agents de pompes dans les provinces de l'OUDALAN et le SENO.

A partir de 1988, sur la base d'un protocole d'accord, la FDC va suspendre son programme de formation des agents de pompes et de réparation de pompe au profit de celui de la SCF.

Ainsi son stock de pièces détachées acquise dans ce volet sera remis à la SCF. Des échanges périodiques devaient être effectués pour permettre à la FDS de suivre l'évolution du programme; Il semble que ces rencontres n'ont pas eu lieu comme préconisées mais les programmes ont gardé de bons rapports entre eux. La FDC s'inquiète actuellement de son volet hydraulique notamment les pompes dont le fonctionnment n'est pas très satisfaisant.

La FDS pense que le rayon d'action des artisans est trop large pour leur nombre et leur moyen de déplacement. En outre l'équipe mobile de suivi reste également très limité compte tenu du nombre de personnes qui la composent et l'étendue des 2 provinces.

La FDC souhaiterait donc voir une nouvelle stratégie dans sa zone d'intervention en matière de réparation:

- d'abord definir un cadre de concertation
- définir des zones très limités pour l'intervention de chaque équipe d'artisan.
- être associée au suivi de ses artisans dans sa zone d'intervention
- intégrer les volets Animation, formation des comités de gestion et assainissement à la réparation des pompes.

Figure 1 : Chef-lieux des départements choisis pour l'étude des pompes

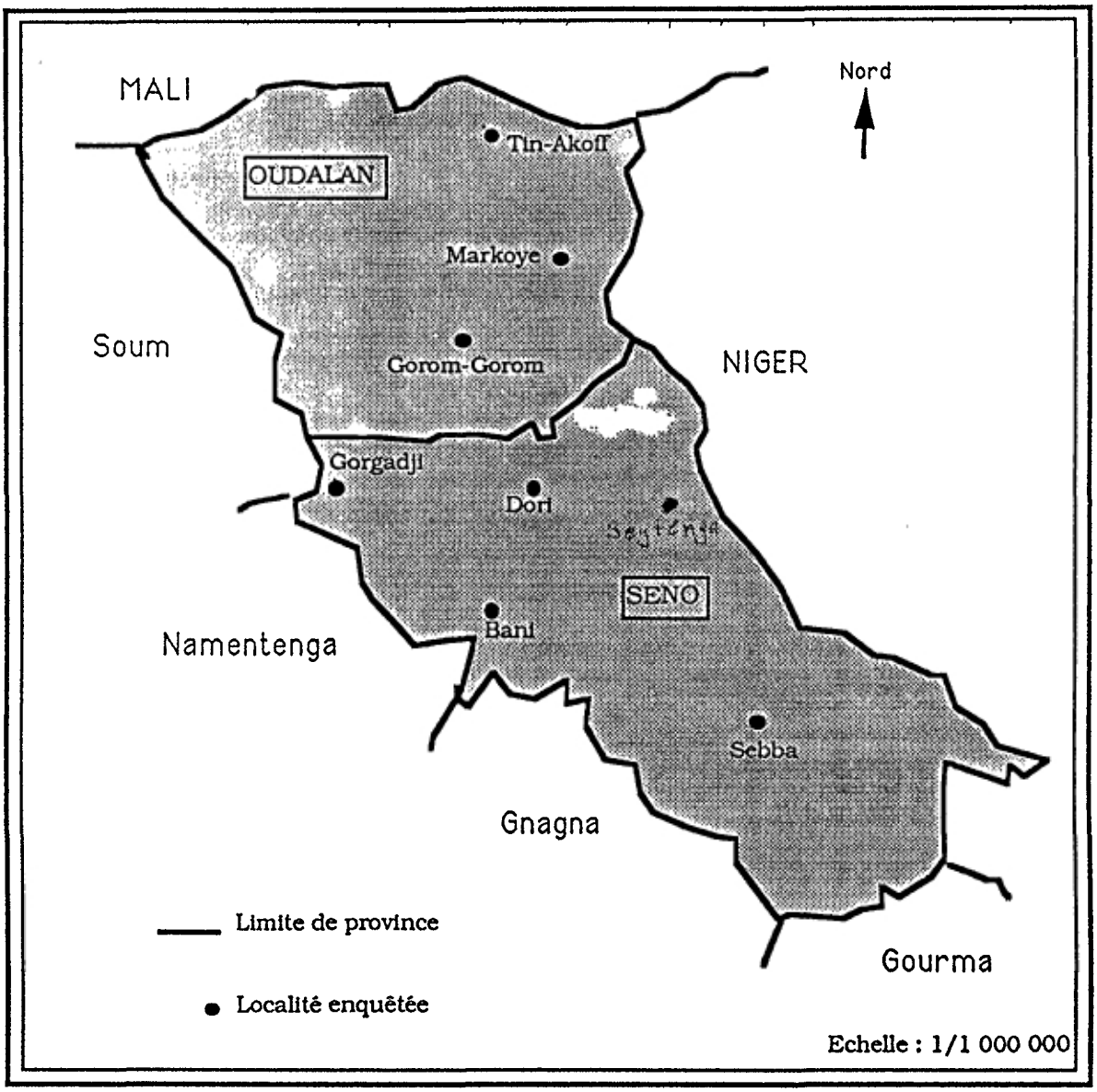

Fig 2. Pump repairs carried out by RPMs by month in Seno and Oudalan