COMMUNITY PARTICIPATION AND WATER SUPPLY

-An Attempt To Provide Sustainable Water Development Solutions For Africa

Compiled and edited by
Antoine Sendama and Joseph Mbuthia

African Water Network

Proceedings of the AWN Workshop on Sustainable Water Development Solutions.

Nakuru 14 - 20 January 1990

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African Water Network (AWN)

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PREFACE

In Africa, the provision of water is crucial. About 80 per cent of Africa's rural population still has to trek over long distances in search of clean drinking water. The consequences of using unclean and unsafe water are universally known -cholera, Guinea-worm, dysentery, diarrhoea and other water-borne diseases that kill thousands of children every day. The poor being the most vulnerable.

The United Nations Decade for Water which has just ended, aimed at providing safe drinking water to about 414 million people in Africa. However, towards the end of the Decade, this goal was declared unattainable by project implementors - mainly because the communities concerned were not involved in the projects that were meant to benefit them.

The African Water Network NGO Workshop on Sustainable Water Development's objective was to review and strengthen on-going efforts. It has been recognized that, because of their close relationship with community groups, NGOs in Africa have been most effective in implementing community-based development projects. It has been noted that projects implemented benefit the entire community and more specifically, women and children.

Although non-governmental organizations (NGOs), have been in the forefront in promoting the development of community-based water programmes, their endeavours have been taking place in isolation. All over Africa there is need to improve links between NGOs in English speaking Africa, French speaking Africa and Portuguese speaking Africa as well as between NGOs in the North and those in the South.

The Nakuru NGO Water Workshop came at a crucial time when water resource development actors were reviewing the Decade with a view to making the necessary adjustments and hence avoiding similar mistakes in the future.

From the papers presented at the Workshop, it was clear that the authors had a long experience with grassroots organizations working in water development. They have witnessed the near failure of the United Nations Decade and have been struggling alongside community groups to define and implement socio-culturally, economically and environmentally sound alternatives.

This report gives new insights into the water development problems in Africa. It provides a new appreciation of what succeeded and what did not - and why.

James Aremo
Chairman, AWN Steering committee

FOREWORD

Water, an essential and vital ingredient for man's survival and, at the same time, a limiting factor in development, has received a new focus of attention in the last decade (1980-1990). This decade was baptised by the United Nations as the International Drinking Water Supply and Sanitation Decade. Its goal was aptly dubbed "Clean Water and Adequate Sanitation For All by 1990".

When the International Water Decade was launched in 1980, a large number of countries thought that this goal was attainable. Doubts later cropped up as to whether the target was realistic, given that the rate of inflation was getting out of hand; the population (and therefore the demand for water) was soaring overwhelmingly; and the drought which struck Africa in the early '80s caused a change of priorities in the economies of many African countries. Consequently, the need to review the approaches that had been undertaken arose with the aim of reaching the end of the Decade with greater successes. Several countries reviewed their priorities and anxiously explored new ways and means of achieving the target.

Among the new approaches were Low-cost Technologies, Integrated Approach for Development, Management Skills, Community Involvement etc.

Governments and non-governmental organizations (NGOs) attempted to tackle this problem for years. Regrettably little was achieved. On a broader scale, even the efforts of all those involved in the United Nations International Water Decade came nowhere near achieving their goal of water for everyone by 1990. Collectively however, these efforts have largely succeeded in putting water and sanitation on the agenda in a much coherent and serious manner.

In particular the experiences of the Water Decade have proven the need for community participation in water projects. Many governments have abandoned hopes that they can provide access to water for all their citizens, and instead moved to the more pragmatic realisation that such goals can only be met with the active participation of the communities concerned. At the same time the role of NGOs in bridging the gap between peoples aspirations and the governments capacity to meet these needs has been heightened. The NGOs have in turn become more aware of the common challenges they face in their endeavour for change.

Deliberations in the Nakuru Workshop, whose proceedings are spelt out in the following pages, have highlighted two things: (i) The importance of involving communities in water development projects; and (ii) The involvement of the same in the collection and dissemination of information.

The Sustainable Water Development Solutions Workshop which took place in Nakuru, Kenya, 14-20 January 1990, brought together 50 representatives from

13 African countries and 9 observers drawn from governments, international organizations and donor agencies. The Workshop was convened by the Environment Liaison Centre International (ELCI) and the Kenya Water for Health Organization (KWAHO).

The most important outcome of the six-day workshop was the establishment and official launching of the continent-wide "African Water Network" (AWN). The Network, which was long overdue, was mandated by participants at the workshop to look into ways and means of increasing NGO effectiveness by ensuring speedy exchange of ideas, documentation of successful approaches to sustainable water development, coordination of activities in order to avoid duplication of efforts, improved communication with international and donor agencies and personnel training programmes. The workshop was an offshoot of the 1988 International Rivers Network Meeting in San Francisco, USA, which focused on the search for an economically, environmentally and socially sustainable Water Development in which the need for improved communication and cooperation amongst NGOs working in water development was raised.

The workshop is also a result of long-term consultations among water-related NGOs. Besides rekindling the San Francisco meeting, these NGOs have held meetings focusing on the possible objectives of a regional African network and the procedures to be followed in setting it up.

The new-born African Water Network has been given a mandate to enable NGOs, grassroots and community groups dealing with water development in Africa to share ideas more freely, exchange experiences, see what has succeeded or failed elsewhere and adopt measures that correspond to the needs of the continent for a more sustainable development drive.

It is hoped that in the coming decade, the network's role in the exchange of information between NGOs, grassroots groups, governments and international agencies will help strengthen links, support and promote the implementation of activities leading to sustainable water development.

Antoine Sendama
AWN Coordinator

I. EXECUTIVE SUMMARY

(i) Introduction

From January 14 to 20, 1990, in Nakuru, Kenya, the African Regional Workshop on Sustainable Water Development Solutions brought together more than 50 representatives of 24 NGOs from 13 African countries. In addition, there were eight observers from the Ministry of Water Development in Kenya, international organizations (UNICEF, UNESCO, IRN) and the donor agency DANIDA. The workshop was organised by the Kenya Water for Health Organization (KWAHO) and the Environment Liaison Centre International (ELCI).

The main aim of the workshop was to assess the need for networking among African NGOs, with participation geared to ensuring effective communication. Another priority was to involve women in the workshop to promote a strengthened role for them in sustainable water development solutions. However, although priority was given to women applicants, only 14 women from NGOs attended. Seven of them were leaders of community projects in Kenya who had been invited to provide the workshop with input from the grassroots level.

The objectives of the workshop were:

- o to provide a forum for the exchange of ideas among African NGOs;
- o to define African problems and solutions for economically, environmentally and socio-culturally sustainable water development solutions;
- o to promote a strengthened role for women in water development solutions;
- o to establish terms of reference for an African Water Network (AWN).

The six-day workshop culminated the establishment and official launching of the African Water Network.

(ii) Background

The International Water and Sanitation Decade launched by the United Nations in early 1991 never achieved its ultimate goal of bringing safe water to all by the year 1990. However, the Decade did succeed in putting water and sanitation on the development agenda in a much more coherent and serious manner.

It is now generally recognized that past failures in water development projects are largely due to lack of community participation and proper community training. Community-based water management is crucial to sustainable development. Development projects can only succeed if communities are fully aware of and involved in the entire process from initiation to design, construction and maintenance.

Non-governmental organizations (NGOs), because of their closer relationship to local communities, have been quite effective and successful in facilitating a community-based development process. NGOs have in particular, been effective in stressing the need to involve women and to raise public awareness on water-related issues.

Recognizing the crucial role of NGOs and the need to reinforce their activities, two Nairobi-based NGOs, Kenya Water for Health Organization (KWAHO) and Environment Liaison Centre International (ELCI), took the initiative to strengthen networking amongst NGOs active in water development projects in Africa.

In September 1988, more than 70 NGOs in Africa were contacted by a circular letter informing them about the ELCI/KWAHO initiative. This initial activity was funded by the French Ministry of the Environment. The enthusiastic response to this letter prompted the two to develop a proposal for a workshop seeking the support of the Danish International Development Agency (DANIDA), who generously agreed to provide the funds.

(iii) Workshop Programme

The workshop was opened by the then Minister for Water Development, Honourable Ndolo Ayah, and closed by the Minister for Environment and Natural Resources, Honourable J.J. Nyagah. Both acknowledged the essential role of NGOs in the development process and pledged their full support for the establishment of an African water network.

The Honourable Ndolo Ayah urged the participants to identify areas where water resources were being wasted, saying that more resources are likely to be diverted from rural water requirements, only to be squandered by the urban rich, who, he stated, use about ten times more water than rural people. Saying that water was a dynamic element in all ecological systems, the Minister emphasized that the impact of any planned intervention should be carefully examined to ensure that the benefits far outweigh the negative impacts. Policies should be designed to promote efficient use and equitable distribution of water resources. He commended the workshop for seeking to devise practical solutions such as involvement of communities in the development of water resources.

The Honourable J.J. Nyagah on his part underlined the importance of ecological considerations in water development and the need for community, hence NGO, involvement to achieve environmentally sustainable water development. The Minister, who had been appointed as Chairperson to the council of Ministers responsible for environment in the Intergovernmental Authority on Drought and Development (IGADD), said that in that capacity he would urge other governments to support an NGO water network in Africa.

On the opening day of the workshop, Dr. Naomi Nhiwatiwa, on behalf of the UNICEF African Regional Office, presented a keynote speech on UNICEF strategies to achieve safe, sufficient and accessible water for all. Dr. Nhiwatiwa and the Kenyan representative for UNICEF, Mr. B. Namazi, both strongly supported the AWN initiative.

Papers presenting examples of community-based projects had been solicited from all NGO participants. Four papers on water projects in Ghana, Rwanda, Tunisia and Kenya were presented and discussed in a plenary. Other papers were discussed in regional groups for western, eastern/central and southern Africa.

The papers emphasized community participation as a pre-condition for sustainable water development solutions and discussed the different approaches of people-centred and people-driven projects, for example self-help projects as opposed to the more traditional interventionist donor-led projects.

(iv) Issues Discussed During the Workshop

o The role of NGOs as bridging the gap between peoples' aspirations and the governments' capacity to meet their needs. Traditionally, African NGOs have been seen as representing the aspirations of the most underprivileged sectors of society. NGOs participating in the workshop actually integrate this aspect of social justice into their work to a greater or lesser degree since some social justice and environmental considerations are starting points. Others provide technical and material services to those segments of the community (usually wealthier) which request them.

o The role of communities as repositories of knowledge regarding local resources. Relatively young African governments do not have sufficient databases on local and regional water resources. If projects are to be successful, they must rely on the accumulated knowledge of local people.

o Community participation means many things to many people. The question is, whose participation and in what? Do agents participate in community projects, or do communities participate in the agents' projects? Some projects presented at the workshop were initiated and implemented entirely by communities with very little, if any, outside participation. Other communities benefited from outside stimuli. The level and degree of intervention depends on local conditions and national politics, as well as on the philosophy of the intervening agent. While several NGOs have developed guidelines for community participation, it is clear that there is no single right approach and that the natural flexibility of NGOs is an important asset here.

o The role of governments in national rural water programmes have changed over time. It was noted that many governments in recent years have abandoned hopes they had harboured earlier that they would be able to provide water to their citizens and have adopted a more pragmatic realisation that, without the active involvement of the communities themselves, aided by NGOs, such goals can never be met. One role for which governments are most well suited is to ensure equitable distribution of water resources, for example, between urban and rural communities.

o Regarding the role of women, the question was raised whether illiteracy is sufficient reason to keep women out of responsible positions. A strong case was put forward that women should hold responsible positions. This is due to the fact that though they may not know how to read,they are usually more knowledgeable about local conditions and needs. In some countries unfortunately, the legal system favours men by excluding illiterates from participating in project committees. Combined efforts need to be made to facilitate not only women's education but to also include them in decision-making bodies whether they can read or not. Moreover, professionals should be reminded to approach rural issues with humility and respect for local knowledge.

o Water quality and personal hygiene as priorities in water projects: What emphasis should be placed on water quantity as opposed to quality? How should health benefits resulting from water projects be evaluated? Health education, with particular emphasis on sanitation and personal hygiene, is a vital component to any water programme.

o Traditional and modern technologies: The choice of technology for any water project was highlighted as being crucial when considering long-term sustainability. Very often, too little value is given to traditional technologies which have stood the test of time. The viability of any technology which is too dependent on imports, whether for capital or operation and maintenance costs, is questionable. The capacity of communities to share costs requires careful analysis.

o Community water projects as entry points for development: It was noted that community water projects act as catalysts for fundamental change and development of rural people.

o On the importance of self-motivation of communities, an example from Ghana illustrated that external aid may in fact be a hindrance to development. In the case, support for traditional cultural practices mobilized the community to use their own resources for self-reliance.

II. SPEECH BY THE KENYAN MINISTER FOR WATER DEVELOPMENT, HON.W.N. AYAH, EGH, MP, DURING THE OPENING CEREMONY

Ladies and Gentlemen,

It gives me great pleasure to be here with you this afternoon and to perform the official opening of the African Water Network workshop on sustainable water development solutions. Access to water for everyone is an objective which all governments continue to pursue with considerable effort and, therefore, workshops of this nature, which seek to devise practical solutions such as the involvement of communities in the development of water resources, receive the full support of the Government of Kenya.

As you are all aware, the last decade was designated by the United Nations General Assembly as a period within which potable water and sanitation would have reached all persons of the world. One of the major constraints which hampered realisation of this objective was lack of community involvement in water projects. This workshop, therefore, comes at a crucial time when those charged with water resource development activities should be reviewing the lost decade with a view of making the necessary adjustments required to avoid similar mistakes in the future.

One practical approach likely to ensure increased effectiveness of non governmental organizations within Africa, is creation of a continental body. This new body will ensure speedy exchange of information, ideas and other aspects of water development such as personnel training programmes, effective methods of tackling specific problems and how to attract funding for community-based projects.

We in Kenya encourage close liaison between the government and non-governmental organizations. It is possible for us in government to receive feedback from non-governmental organizations regarding problems they encounter in implementing specific policy-decisions.

However, there is a need for a body to provide feedback on water-related policies adopted by regional and continental bodies in Africa.

I have put emphasis on the need for adequate communication between water-related regional and continental authorities and non governmental organizations due to a variety of reasons. Our experience in my ministry has been that non governmental organizations that encourage community participation are often closer to the people and are able, therefore, to offer valuable advice on sustainable water projects. Through this valuable link, it is now common currency in my ministry that beneficiaries of a water project should be fully involved in the conceptualization, design and implementation of water projects.

It is only natural that people must feel that a project is relevant to their needs before offering their support. In other words, people we intend to serve should define their own needs first. Engineers will be better off after acquainting themselves with the traditions and sensitivities of residents of a locality before commencing with their design work and so on.

During your deliberations, you may wish to address yourselves to another area of insensitivity arising from ignoring local needs of a people. As you will agree with me, in a number of instances, projects have been known to take away water resources from communities to a distant town or city.

For instance, cases are known where water from a local spring is pumped away to an urban location with little or no regard to the needs of the local residents.

You may wish to discuss another touchy subject which revolves around the popular subject of the rich versus the poor. The urban affluent for example, use about ten times more water than the rural poor. Since those of us in the water sector are well aware that water is a resource limited in supply, we need to initiate policies which ensure optimum use of water by all. For instance, we should start campaigns that will result in adoption of policies that promote development of water resource saving technologies.

It, therefore, remains a challenge to us all in the water sector to devise practical ways and means to ensure efficient use of this limited resource. Unless a proper survey is held in time to identify areas of water, more resources are likely to be diverted from water projects aimed at serving the rural areas only to be squandered by the urban rich. In addition, urban authorities should consider recycling sewage water after treatment. Water coming out of sewage systems can, for instance, be used to irrigate immediate drier rural areas instead of being left to flow away to waste.

So far, ladies and gentlemen, I have only addressed myself to the issue of water resource development without looking at its immediate consequences to our environment.

When discussing water development, we are often talking about interfering with the normal natural order of things.

Hon. W.N. Ayah addressing the Workshop

Water being a dynamic element in all ecological systems, intervention affects the system as a whole, upsetting complex ecological balances.

We should, therefore, examine carefully the potential impact of any planned intervention to ensure that the benefits for everyone outweigh negative results in the short and long term. For instance, you may cut down trees today with plenty of benefits in the short term but deprive future generations of the water and soil they will require for survival.

Before concluding my remarks, I would like to make a few observations with regard to non governmental organizations. Initially non governmental organizations in the West were associated mainly with political pressure groups specialized in promoting a cause of some. I am pleased to note, however, that our experience of non governmental organizations in Africa has been completely different. Non governmental organizations in this part of the world have played a complementary role in promoting government policies in their specific areas of specialization. They have also assisted immensely in shaping sustainable policies by reflecting the needs of communities to governments. As a result of this partnership in development, governments throughout the continent have continued to accord non governmental organizations their well-earned recognition and support.

I wish to commend the Kenya Water for Health Organisation (KWAHO) for having been a reliable partner in water resources development with my ministry. KWAHO has continued to provide the necessary community awareness and involvement we require to ensure sustainability of rural water projects. I would like to urge other non governmental organizations in Kenya and the continent as a whole to emulate KWAHO in order to ensure speedy development in our rural areas.

In conclusion, I would like to take this opportunity to thank both KWAHO and the Environment Liaison Centre International for co-hosting this important workshop and the Danish International Development Agency for kindly agreeing to fund it.

With these few remarks, it is my great pleasure to declare the African Water Network workshop on sustainable Water Development solutions officially opened.

Thank you.

Kunste Hotel,
Nakuru 1990

III. CONCEPTUAL ANALYSES

(a) Community Participation - A Precondition For Sustainable Water Development.

By Ellen Buch-Hansen (Ms)

Community participation or "development by people" has become a new catchword in the international donor community. After supporting thousands of projects that failed, donor organizations began to look for alternative strategies for development.

It was obvious that the massive transfer of hardware to the developing countries in the 1950s and 1960s mainly left behind lots of physical structures, either too complex or too expensive to maintain - at least in most rural areas. Such development aid projects did not reach the majority of the rural poor or the women. In the 1970s, the new development strategy focused on "basic needs", and deliberately aimed at reaching the poorest sectors of the community. During the UN decade for Women from 1975 to 1985 women increasingly became a specific group. It was realised that development processes are not neutral. There are both class and gender aspects to be considered.

Throughout Africa where women are the main producers of subsistence crops, training only men in modern agricultural methods helps little in the improvement of the quality of food production. And it does not secure sustainability of water supplies if women as the daily procurers of water for the family are not involved.

However, the basic needs strategy did not appear to be very dynamic, or able to trigger off economic development. Thus the focus was shifted towards production and labour intensive sectors such as agriculture, handicraft and small scale production. This entailed methods to involve and mobilise local communities to participate in the development programmes and projects defined by governments and donor organizations.

The International Labour Organization (ILO) and the United Nations Research Institute for Social Development (UNRISD) developed theories on "people's participation". The American donor organization, USAID, contracted Cornell University to develop a participation strategy. During the 1980s this approach became increasingly popular in development programmes and was especially stressed by the donor organizations.

One example is the Swedish donor organisation, SIDA, which has been involved in water supply and sanitation programmes in Botswana, Ethiopia, India, Kenya and Tanzania for more than 20 years. Apparently, SIDA felt that the implementation of expensive water schemes could continue for another 20 years at the same speed without the rural communities actually getting improved water. This was because projects were not maintained properly. After a phase of continuous

rehabilitation of schemes earlier funded by SIDA, the donor organisation came up with a "Water Strategy for Rural Areas". The first edition came out in 1979 prior to the International Decade for Drinking Water Supply and Sanitation (1980 to 1989). A revised second edition came out in 1987. It stressed community participation in planning, implementation, operation and maintenance of water projects "to instil a feeling of ownership and responsibility among the consumer community". Women, children and the rural poor were mentioned as the main target groups.

The Need for Participation

So much for development on the international donor community scene, community development or participation is a concept that has been known for long in Africa. The concept of community development conjurs up memories of colonial presence connotation amongst other negative things indicating the use of forced labour.

What is then the content of this new concept of community participation? It is obvious that the mere placement on a physical structure, be it a water project, a health clinic and so on, in a community does not secure the optimal use of the installation. Projects become meaningful and are more geared towards local needs if they are initiated and implemented together with the local communities. More than 30 years' development experience proves this fact.

Photo: UNEP

Community participation instills a feeling of ownership and responsibility to beneficiaries

How is the concept of community participation defined? Indeed there is a lot of confusion in its content.

As stressed earlier, community participation could mean the mere involvement of community members to secure a more efficient project implementation. The outlined strategies formulated by ILO, UNRISD and USAID stress participation as a way to involve and mobilise communities in programmes and projects. In most cases, community participation is an "aspect" or a "component" put into already designed programmes after goals have

been defined and agreed on by the government and donor agencies. In this respect, community participation is a "top-down" approach to facilitate an efficient project implementation and its acceptance by the same local communities.

Another variation of the concept is as a means to obtain a more self reliant development at the local level: To mobilise local communities, to put people in charge of their own development within a framework of external support. Realising that communities know best their needs and problems, and how to overcome them best of all, community participation or development by people in this sense is a "bottom-up" approach. It calls for a great deal of community training and awareness arising from, for example, the connection between water and health, and profound discussions in the community before actual projects are defined. As such, this approach can be seen as a goal in itself to obtain a sustainable, self reliant development. The projects then become the means to attain a goal instead of the reverse, where community participation is seen only as a means to realise project goals.

This brings in the question of power and control: who is in charge of project design, who owns the projects, who has the final - say for example, in the choice of technology? The independence and self-reliance of local communities demands a certain degree of "empowerment" to people. But since this touches more profound structural matters, which are deemed beyond the reach of this workshop, these observations will be borne in mind while seeking a clearer picture of the implications of the community participation concept.

In short, the community participation approach can be described as of two main types:

1.Community or popular participation - where people get involved in already existing or defined projects and programmes.

2.Development by people or community-based development where communities play a crucial role in initiation and design of development programmes and projects.

This workshop should establish a resource-book or reference-book on positive as well as negative examples of community participation in water programmes and projects from all over Africa. There are lessons to learn from the documentation on failure as well as success. As David C. Corten says: *"We should be on our guard when we hear that a programme is working effectively or exactly as planned.* Mistakes are likely to be kept under wraps, along with ineffectual leadership and programmes often in disarray. Errors should be realised to be growing points for energizing constructive action." (UNICEF News 124/1986).

Achieving Genuine Community Participation

It is obvious that projects where communities have not been involved experience a lot of problems. One example from a water programme in Kenya illustrates how the implementation approach in itself defines the failure or success of the programme. In a big rural piped water scheme, fifteen communal water points (CWPs) were installed to serve those consumers who cannot afford their own private connection. After one year, only two were working. The Ministry of Water Development (MOWD) concluded that CWPs were not sustainable.

During rehabilitation of this scheme, KWAHO was involved. It later transpired that the engineers had placed the 15 CWPs at random without any consultation with consumers. Some of the points had been placed where nobody needed them, while others were placed on private land, and the owners told to sell water to the surrounding community. Some of the landowners did that and used the proceeds from the sale of water for other purposes. The result was that the taps got disconnected by the MOWD due to non-payment. The community's hopes for access to clean drinking water came to nought. During rehabilitation consumers who wanted water were organised into committees. These committees were responsible for the management of the waterpoint, including paying the bills. Since rehabilitation the new CWPs have been very successful in providing a large group of consumers with clean drinking water.

Planning with community input demands a high degree of respect for local communities and background of local conditions. This certainly demands a lot from project staff. Technical problems must be discussed with the community and solved as fast and as sustainably as possible. When people have used time, energy and money to dig trenches for instance, there is deep commitment to ensure that their efforts are not in vain.

The main reasons for programmes to introduce community participation could be summarised as follows:

1.To instil a feeling of ownership and responsibility in community members, to avoid projects being seen as 'god-sent" deliveries beyond their influence. Problems like vandalism and breakdown of equipment are as a result avoided.

2.Community labour is believed to be cheap - so community participation could be introduced to save project costs.

3.More efficient implementation.

These seem to be the reasons mostly recognised by programme implementors. Bearing somehow the feeling that only if it pays, the community approach will be used - the satisfaction of communities is ranked much lower.

However, even if programmes and projects have been largely designed by government and donor agencies for these reasons, a genuine community involvement can still be established. By establishing a social organisation, community feelings and conditions can be communicated to the technical staff and vice versa. It should be noted that a great amount of patience and time is needed with this approach. This is not always compatible with project planning or achievement of defined physical goals. Projects governed by strict defined development plans or projects blue prints are not very open to independent local input from the so-called recipient community.

This may be one of the more important reasons to stress the role of NGOs as being able to handle more flexible and community-oriented projects. At the moment, the amount of time seems much more crucial than the amount of money to ensure success of community based development projects. This workshop should take the opportunity to appeal to donors and governments to apply a more flexible and long-term funding for community projects. Instead of the usual 2 to 3 years project period, community based implementation needs at least 5 to 10 years to prove its sustainability. This includes preparatory planning with the community, training, implementation organised with the community - and after physical implementation, continued monitoring and evaluation, preferably participative monitoring to keep the community aware of any positive or negative development.

Ironically enough, this approach demanding more time and less money at a time collides with donor organizations' need to spend funds in a situation where aid funds are growing, while administration of aid is being cut down.

Documenting and Monitoring Community Participation

In community development, not only the achieved results but also the way they are achieved matters. Thus the implementation is more focused towards the process than the actual results achieved. Focus on evaluation should be therefore more on qualitative measures than quantitative results.

The problem is how to measure qualities such as community satisfaction, inspiration to engage in other development activities or the quality of community organization and training. Though many checklists and guidelines have been produced, they have rightly been criticized as providing a stereotype approach which does not take the special community conditions and feelings into consideration.

There is no one model which can be repeated everywhere, as assumed by the blueprint model. David C. Corten's comments on this in UNICEF News: 124/ 1986; are again relevant;

"The blueprint approach with its emphasis on detailed, static pre-planning and time frames for projects is antithetical to genuine community based development. However, this approach is very popular with governments and donor agencies, because the simplistic assumption of a clearcut sense of order in development efforts, allocation of funds for precisely stated outcomes, reliance on hard data and expert judgement as well as the rigid implementation schedules make it easy to justify projects in budget presentations."

Consequently, even programmes with stated objectives to apply participatory approach are dominated by such a blueprint approach.

Community Mobilization

Ideally any community project should not be initiated before communities have defined their own priorities. More often than not the community participation approach has supported the local elite instead of serving the rural poor. Another well-known experience is the pseudo-participation, where local chiefs call village meetings or important senior officers from outside "inform" wananchi (local people) in top-down manner.

To create a genuine mobilisation process, facilitators and trainers from outside can act as catalysts and help the community to analyse problems and help set up possible solutions to benefit the whole community. Communities are able to choose the best solution for themselves if alternatives are properly explained in terms of costs, maintenance, output, availability and so on, and if the implementation approach is genuinely community oriented. This demands a lot of time and discussions with the community, as well as commitment from project staff. More than choice of technology and scale, this approach is the crucial precondition for economically, socially, culturally and environmentally sustainable water development projects.

(b) Water for All by Year....?

by Mr. M.B. Namazi,
UNICEF Representative in Kenya

The UN declaration of a water decade was a brave statement. One objective was to draw attention to the vital role that water plays in all our lives and the very serious effect it has on people, communities and whole nations when it is severely limited in its availability or is polluted to an extensive scale. Another objective was to mobilize the resources of the world towards providing clean and wholesome water to all together with the necessary education and awareness of the links between water and good health.

Now that we are at the end of the decade it seems a naturally good time to reflect on the extent to which these goals have been realized. What have we learned? Where have we failed? What chance is there that this dream might one day be a reality?

We can begin our reflection in a number of ways.

We could reflect by asking if we have met our original objectives. Does everyone have access to water and sanitation? The answer, quite clearly, is No. We could also reflect in terms of the processes which have begun to make possible improved access to water to vast numbers of people in the world. Here we may feel a little more positive, a little more encouraged.

Globally, the level of public consciousness has been raised as to the vital role that clean water and sanitation play in improving health and well-being. This is not a finished job, rather it is one that has just begun. We must continue to develop information delivery systems so that public consciousness is raised still further. Every child of primary school age should understand the important distinction between water and clean water and the links between health and hygiene.

Global institutions have developed a capacity to generate resources for water and sanitation development programmes. However, there have clearly been difficulties in making choices about how to allocate those resources fairly. There has been a strong bias towards committing funds to urban schemes rather than rural projects. To some extent this is justified. The major urban centres in the world are those where very large numbers of people flock together generating high population densities. In those situations the risks of large epidemics are much higher than in areas with much lower densities. On the other hand, had we been more successful in implementing rural water programmes perhaps urban population densities might not have increased at such a rapid rate.

A major factor in water development is implementation capacity. To develop a global water access programme pre-supposes the availability on a global scale of an infrastructure for implementing schemes wherever and whenever they are needed. Certainly when it comes to large scale dam construction, major urban and peri-urban water and waste water infrastructural development, there are many public and private water institutions with the technical and management expertise to implement these.

However, the vast majority of people in the world still live in rural areas with low population densities and often low water potential as well. The number of institutions able and willing to spend time developing creative low-cost schemes in these marginal areas are significantly few. Most institutions are quite naturally attracted to the big schemes with their high profitability and their greater engineering challenge.

The engineers who work in the water sector are highly trained and able to design schemes of great complexity. There is a natural tendency to move from small, simple projects to larger more complex and challenging design tasks. Many of the schemes needed to satisfy our goal of providing water for all are not technically complex and do not provide a particularly professional challenge. there is a shortage of trained, competent engineers living and working in the areas where water infrastructure is in most need of development.

This is not a static situation. Throughout the water decade more and more implementation institutions have been venturing towards the areas of great need. More and more training institutions have begun to offer courses in water engineering for developing countries. It is still a trickle, not yet a flood, but we can hope for better and faster implementation when the lessons of the past have been absorbed and new initiatives taken up.

Throughout the decade we have seen a change in attitudes of governments as to their role in water development. As the decade begun, many governments saw their role as providers of water, owners of water structures and operators and maintainers of the structures. Today it is becoming increasingly clear that it is impossible for one institution to take on such a task. There is a movement now towards decentralized planning and implementation, decentralized ownership, operation and maintenance. In Kenya the whole development strategy is now based on a district focus, on community-based planning and on cost sharing. This strategy is full of promise for sustainable innovative water schemes with full local participation and management.

Local participation and ownership are key elements in successful water projects.

Many large rural water programmes have been undertaken throughout the decade but the results have too often been less than satisfactory. It is not so

difficult for such programmes to be planned and implemented but the difficulties come afterwards when broken facilities remain unrepaired and when functioning systems fast fall into disuse.

These situations are really disappointing because the recipients feel let down and perhaps even feel that the project only made matters worse. Equally donors feel let down because all their planning and investment has not provided the expected outcome. Both donors and people are naturally reluctant to try again.

Perhaps if the people were involved in a much more fundamental way in the planning, perhaps if the projects were not so rigidly tied to rapid implementation schedules, the success rates might be higher. Certainly where individual projects have evolved out of an expressed local need, where local involvement in planning and implementation has been significant and where implementation schedules have been linked to local priorities, sustainable infrastructures have and are being developed. An important factor here is that of scale. Small local projects apparently have higher possibilities for success. In making these comparisons we raise a fundamental question - how do we move to scale whilst retaining the apparent efficiency of the small project?

How do we maintain small within big?

How do we maintain slow and easy within the need for rapid implementation?

One other experience of the decade concerns the environmental impact of even small scale water schemes. Here again there are examples of schemes which have had serious negative effects on the well-being of people because of environmental factors: increased erosion rates, lowered water tables, over-grazing, overused sources. In other situations we have examples of carefully thought out schemes improving both the environment and the livelihood of the people.

Those with most to gain from improved water delivery systems are the many millions of women whose task it is to carry water over long distances in order to sustain their families. The reduction of the amount of time and energy spent on this task can significantly reduce their work-load and make time available for other more productive or valued activities.

The UN water decade, far from ending, is only just beginning.

Perhaps in 1979 we were too optimistic about what we could achieve. In 1990 we are, or should be, more determined to find the right answers, to go forward but with more caution.

We certainly should not be despondent. We should be prepared to redouble our efforts and keep trying.

As we deliberate together over the most effective strategies for achieving our goals in the 1990s, focus should be made on the significance of NGOs as development partners. With the new and developing approach of networking between organizations, the non governmental organization is increasingly recognized by governments and international bodies as being in a unique position to provide a bridge between large organizations and grassroots communities:

NGOs have several key features which enable them to operate with greater effectiveness.

1. Grassroots links: Perhaps the greatest strength of NGOs as development partners is their close link with the communities they serve. They are already working with people at the grassroots level and understand their problems, their needs and their attitudes.

2. Cost effectiveness: When compared with government and multilateral bodies, NGOs are almost without exception low-cost, low-overhead institutions. this allows for a greater part of resources to pass through their structures to intended recipients.

3. Implementation rates: Associated with cost effectiveness is the matter of effective implementation rates. Perhaps a key issue here, again, is the close relationship which NGOs enjoy with the communities in which they work. This engenders a high level of commitment by both NGO personnel and community members and leads to more realistic planning and more sustainable projects.

4. Flexibility of approach: Because of the size of many NGOs and their decentralized approach they can afford to be more flexible in their strategies and more able to change direction should they find better ways of doing things.

5. Willingness to experiment: Many NGOs are willing to experiment with new methodologies and technologies which communities are better able to respond to and hence improve their participation levels.

6. Use of appropriate technologies: The development of effective new technologies is not a simple matter. Apart from the technical aspects of improving the effectiveness of these technologies, the question of social and cultural acceptance by communities is a vital aspect. NGOs in many parts of the world are proving their ability to work with such complexities and to improve these rates of technology transfer.

Given all these positive factors, we need to consider ways in which we can improve the level of dialogue and understanding so that governments, NGOs and donors can appreciate one another's strengths and weaknesses. What structures do we need however to develop and improve the transfer of knowledge and the other resources needed to accelerate rates of development in a sustainable way?

We have the opportunity today, particularly in Kenya where the government fully recognises these possibilities, to significantly improve our development efforts by working in more collaborative ways with NGOs. Some suggestions are:

1. It is important for NGOs to reflect on their past and present activities, to identify any weaknesses they might have and areas where they could strengthen or expand their capacity to operate.

2. It is important for NGOs to come together to share experiences, to identify strategies that are proving more successful and perhaps those that are less so.

3. It is important for all partners to collaborate with governments in order to better coordinate areas of operation and thus reduce overlapping activities and enhance mutual operation effectiveness.

4. A major area of need is the more widespread use of development leadership training techniques, as these methods clearly improve the capacity of communities and local organizations to participate in their own development activities. NGOs in Kenya have been particularly successful in this respect.

Photo: UNICEF

UN Water Decade: We should be prepared to redouble our efforts and keep trying

What are the lessons we have learned?

a. The task we have is a big one; success is going to take a long time.

b. No one organization is big enough to take on the task of water provision alone.

c. What is needed is the development of a collaborative network of agencies involving donors, governments, NGOs and communities in a coordinated, shared approach.

d. Attempts need to be made to work out appropriate working relationships between different organizations so that each plays a role consistent with its type and capacity to act.

e. Essentially, programmes need to be community-based with significant inputs of community mobilizations and capacity building.

f. Significant efforts need to be made at developing planning, training and implementation strategies at the local level to enable community leaders, artisans and members to understand their own potential for developing their own water resources and for managing, operating and maintaining their own services.

g. There are still needs for the development of appropriate surveying techniques for innovative designs based on environmental and cultural needs as well as technical and economic criteria.

h. There is a need to develop a cadre of local water technicians who are able to make a living by providing technical expertise for families and communities.

i. There is much to be done to spread knowledge of water technologies that can be applied to the local level without having to wait for outside experts.

j. It is difficult for large national and international organizations to operate at a community level. This task is much better done by NGOs.

k. NGOs, therefore, should be the primary link with communities and together, the primary implementors.

l. Government personnel should provide the long-term coordinating, advising, technical support role to both NGOs and communities at district and sub-district levels.

m. Government should provide a similar coordinating, monitoring, advising role with NGOs and potential donors at the national level.

n. Government, bilateral and multilateral donors should play a supporting role to implementing organizations, supporting the growth and development of indigenous organizations.

Organizations in the network should be responsible for such tasks as:

i) Technical resources surveys;
ii) District level feasibility studies;
iii) Programme monitoring and evaluation;
iv) Technical support, and
v) Provision of long-term resources for extensive low-level programmes.

o. All the groups should be prepared to work together in defined area-based programmes, each using its own style and methodologies within an agreed broad framework of operation.

IV GRASSROOTS APPROACHES

1. GHANA

(a) Sustainable Development Solutions - The Ghana Experience

By Theo Anderson

Country Background

The Republic of Ghana occupies an area approximately 238,000 sq.km. in the West Coast of Africa. It is bordered by Burkina Faso to the north, Cote D'Ivoire to the west, Togo to the east and the Gulf of Guinea to the south.

The 1984 population census estimated Ghana's population at 12.2 million. The national average growth rate is established at 2.6 per cent. The per capita income is calculated as $420 and the growth rate at over 5 percent per annum.

Introduction To Text

Since independence in 1957, Water Development programmes have become one of the priority areas of national development plans. The year 1965 witnessed the completion and operation of a gigantic water scheme - the Akosombo Dam on river volta which is believed to hold the largest man-made lake in the world

Subsequently, both large and small scale projects have been embarked upon, these included the Kpong dam, Weija project, Bue project and domestic water supply projects. The major objectives of these schemes, among others, are to provide electricity for industrial and domestic purposes, to provide water to irrigable lands in order to increase crop production and finally to supply potable water to serve domestic needs.

A review of the water supply sector in Ghana at the end of the International Drinking Water Supply and Sanitation Decade (1981-1990) shows an extremely uneven situation. Despite the overall efforts made to date, some 4.4 million people (Approx 37 per cent) do not have access to potable water.

Overview of Current Water Development Projects

The existing water infrastructure consists of five main types, namely.

1 High capacity systems based on large water plants, utilizing water from impoundments or reservoir formed by large dams; and rivers serving ten regional capitals

2 Medium capacity systems which are located in district capitals.

3.Low capacity systems which are basically mechanised boreholes and surface water treated by small packaged water treatment plants in small towns.

4.Drilled boreholes fitted with hand-pumps which are usually developed for rural communities with population of between 500 and 2,000.

5.Hand-dug wells using bucket and rope or hand pumps which are usually provided for rural communities with a population below 500.

In the volta basin alone, about 20 water development projects have been planned and are currently operational.

Institutional Framework for Water Development

There are a multiplicity of organizations involved in the sector. The main public organizations are:

The Irrigation Development Authority (IDA)
The Volta River Authority (VRA)
The Ghana Water and Sewerage Corporation (GWSC)
Water Resources Research Institute (WRRI)

A number of non-governmental organisations are also active in rural water supply. Bilateral and Multilateral Agencies are also deeply involved in community projects and their support during the past 10 years has brought water to some 2 million rural people. Some of the Bilateral and Non governmental organizations include Canadian International Development Agency (CIDA), German Technical Corporation Agency (GTZ), Water Aid - UK and the World Vision International (WVI).

General Shortcomings of Water Projects

1. In respect to the dams for Hydro-electric projects, most of the Ghanaian cases are gigantic, eg., the Akosombo, with its attendant myriad of environmental problems; though "economically" viable.

2. The high technology involved places high demands on the national exchequer since spares for maintenance and repairs have to be imported. This makes the government dependent on foreign expertise and repairs take a long time to be effected.

3. Existing rural water technologies in Ghana tend to limit choice of technology to pipe-borne and borehole systems ignoring other technologies which might be

simpler, socially acceptable and cost effective.

4. Incompatibility with current cultural practices in certain cases.

5. Limited institutional capacity to construct and later maintain the water system coupled with local unsuitability in terms of skills, materials and equipment manufacture.

6. The prolonged delay in the completion of on-going water development projects, resulting in high cost overruns.

SOME EXPERIENCES:

(i) Rural Water Supply - Upper Region Water Supply Project (URWSP) and Water Utilization Project (WUP)

Phase I of the Upper Region Water Supply Project funded by CIDA started in 1974. It involved the drilling of 1000 boreholes fitted with hand pumps in rural villages. This region was selected because most of the 860,000 had very limited access to potable water. They relied on polluted surface sources which dried up in the dry season. Water-related diseases such as schistosomiasis, and guinea worm were prevalent.

Phase II followed, and it involved the drilling of additional 1,500 boreholes fitted with hand pumps. This phase commenced in 1977 and ended in 1981. The second phase also included the up-grading and improvement of three urban water systems at Bolgatanga Was and Bawku.

On completion of phase I, GWSC and CIDA realized that health education was necessary if the project was to achieve its objective in solving water related health problems in the area. Therefore, in 1978, the Water Utilization Project (WUP) was conceived and its implementation began in 1979 ending in 1983. The aim of the WUP was to ensure that the hand-pump system was maintained by the beneficiaries. Towards the end of the WUP project a review was commissioned to appraise all aspects of the project. It was recommended that WUP should be continued under the Phase II.

Just before the Phase II came to an end, it was realized that there was a need to provide maintenance support vehicles and spares for the hand-pump system. The project began in 1983 and ended in the middle of 1986. It succeeded to replace 1,200 hand pumps which were found unsuitable.

This project has been a great success largely due to financial support given by CIDA in 1985. Evaluation of the project established that 80 per cent of the

population of almost 900,000 was within a walking distance of approximately 800m from a hand pump instead of 10 to 20 km to a polluted source. Each pump was expected to serve a population in the range of 300-500 persons. But a survey carried out between 1983 and 1985 revealed that on there were about 215 drawers per pump per day during the dry season as against about 142 drawers per pump per day in the wet season. The per capita water consumption was determined to be 25 litres (5.5 gallons) in the dry season compared to 22 litres in the wet season.

The same survey revealed that over the 13-year period the hand-pumps had been in operation, between 78 per cent and 88 per cent (i.e. average of 85 per cent) of the 2055 hand pumps were in operation at any given time compared to an average of 40 per cent (in 1987) in respect of the KfW 3,000 wells programme in southern Ghana. KfW's poor performance was largely due to lack of spares and the nature of the ground water.

The Upper Region Water Supply Project (URWSP) has had a few problems, however. A total of 180 boreholes have been classified as shorting boreholes; 56 per cent of the acquifers had maintained or increased their transmissivity. In the Lawra District, boreholes have been adversely affected by lowered water level and sediment accumulation. This is not the case in other districts and can be explained by the poor rainfall pattern in the area.

Cost recovery on the project was initially very poor. However, with the health education component included, coupled with an increase in tariff, percentage cost recovery is improving. Recent cost recovery for capital and recurrent costs are as follows for the period 1985 to 1987:-

(a) Capital and Recurrent Costs:

Year	1985	1986	1987
% Cost Recovery	22	36	33

(b) Recurrent Cost Only:

Year	1985	1986	1987
% Cost Recovery	52	76	75

C. Monthly Revenue Collection For The Year 1987 (000' CEDIS)

Jan.	Feb.	March	April	May	June
3361.3	4860.8	3854.4	2004.7	2806.8	1806.8
July	August	Sept.	October	Nov.	Dec.
411.2	333.9	360.7	824.9	1226.2	22,814.1

The beneficiaries who are mainly farmers are able to pay for water consumed during harvesting season as seen from above.

Community Participation Element

The search for an alternative framework for successful delivery of development programmes has brought to the fore of the concept of grassroots participation, as a condition for goal realization.

Problem Identification

Most communities in the catchment area, until the advent of the project, walked up to 20 km for water for domestic use. Diseases such as guinea worm infection and schistosomiasis were prevalent as a result of polluted water source. Their desire for potable water was a local initiative championed through their community elders to the regional administration for action. A fact-finding mission of donors and local water experts was dispatched to the localities for a feasibility study mission.

Implementation

The history of self-help tasks expresses itself mainly in the form of communal labour. In the scheme, communities offered their labour free in order to advance a common community aspiration: In this case especially, the drilling was done by community members. Others provided food to support the project. In this case the project opposed any relationship that reduced the people to "passive executants". The communities were also involved in the installation and maintenance of the equipment.

Evaluation

A review was commissioned to appraise all aspects of the project. A social survey which involved communities was also carried out between 1983 and 1985. Here communities were given the opportunity to comment on their acceptability and performance level of the water systems to meet their felt needs. The results were encouraging.

Funding

Community involvement in funding was related to cost recovery processes. Data available indicated that in 1987, a revenue of C22,814,100 (US$75,535) was realized. The beneficiaries, who are mostly farmers, are able to pay for water consumed, on either per unit basis or flat rates. As can be seen from the main text, cost recovery in 1987 on capital and recurrent items was 33 per cent while recurrent cost recovery alone was 75 per cent.

(ii) Akatsi State Farm Irrigation

Akatsi state farm was established in 1961 with the assistance of Foreign Technical Aid Programme. The project went through various stages of development and decline till it ceased to be operational. A bilateral contract was signed to rehabilitate and reactivate the irrigation system with full community involvement in the project. It was reactivated in 1981 but never completed.

LOCATION: Akatsi lies approximately 140 km east of Accra and occupies an area of about 1,240 ha. The area is bounded on the northwest by the Accra - Keta Road, while the Kelo River flows some 3.2km to its west.

Irrigation Network

The earth dam, with its small impounding reservoir was originally used for irrigation of about 66 ha. of farm. the dam is roughly semi-circular in shape, has a total length of some 650m (2,130ft.) and a maximum height of 8m (26ft.). The reservoir has a maximum capacity of about 0.5 MCM (350 acre-ft) when the water is at the spillway crest or at an elevation of 10m (33 ft.).

Originally, a floating intake for drawing water from reservoir was connected to pumps by means of a flexible hose. A pumping station is built on the crest of the dam with two horizontal pumping units, each with a capacity of Q=600 gpm, (163 cu.m/hr.); TDH=120ft. (36.5m) at 1,380 RPM, directly coupled to diesel engines.

The pumps discharge into a steel rising main of 12" diameter running along the downstream slope of the dam to the toe. From there the pipe, supported by concrete blocks, continues above ground to the main Accra-Keta road. It passes below the road and continues underground up to the farm pressure release tank. This is a concrete structure, approx. 7m along by 3m wide by 3m high, commanding the irrigation network.

Originally, the 66 ha area was irrigated in furrows, 0.6m (2ft) apart, about 70m (230ft) in length, and with a longitudinal slope at 0.2-0.4 per cent. Water was

provided from risers fitted onto the A.C. pipes at the head of the furrows at about 2.5m (80ft) intervals.

Planning Approach

In a broader context, the farm is seen to be particularly suited to serve as a pilot project and demonstration farm, as the area is representative of others. The location is typically savanna to enable it function ideally as a model.

The scheme aimed at among others, identifying any other means that may be utilised to the advantage of further development of the area as well as training local personnel at various level for attending to the day-to-day running of the farm. The tentative cropping programme proposed is based mainly on intensive maize and vegetable cultivation along with other traditional field crop.

The nature of such community based projects has the objective also of experimentation as opposed to profitability.

Field Surveys and Studies

The studies were done by external consultants, however, preliminary field surveys involved local perception, prospectives, traditional roles, habits and local priorities.

Evaluation of data collected from the field was done in consultation with the local people in the formulation of a tentative cropping plan, identification of existing problems in farming practices.

Administration

The proposed mode administration was to be with the Ghana state farms corporation and trained local community personnel will help set up community based schemes to be managed by the local agricultural cooperatives.

Conclusion

It has been the objective of this paper to give an overview of water development schemes in Ghana. Although some of the large projects have environmental consequences, others have been of tremendous successes. Ghana's performance in the provision of potable water, for instance, compares favourably with other good and reputable projects on the continent.

Citizens participation which is crucial to the success of such schemes should be seen as a direct means of development, not for the product it yields, but in its process.

Technologies with particular reference to Ghana's circumstance should be that which invokes the benefitting communities full involvement in the development process and its economies fundamental to the analytical standpoint. The technology should be the lowest possible cost, consistent with achieving satisfactory standards of service, so as to maximise the utilisation of limited financial and human resources.

Strategy For Future Plans: Recommendations For Irrigation Schemes

There is a considerable potential for further development of irrigation in the country. The main constraints to its exploration are mainly economic, social, institutional and to a lesser extent technical. The following recommendations are made:

o Project should be selected and implemented where carefully selected criteria are satisfied;

o Promotion of small projects necessitating least cost and detailed studies including the socio-cultural dimensions;

o Recognition of the role of women as irrigators;

o Destructive effects of projects on the environment should be assessed and controlled.

o Farm management studies to complement all the rest. The objective of reducing the size while expanding the total irrigation programme multiplies the number of needed project management personel and accentuates the shortage of competent managers;

o Decrease or elimination of paternalism and promotion of a self-reliant independent farmer;

o Measures to ensure permanent land tenure;

o Review of existing irrigation projects to modify them to become technically, socio-culturally, financially and economically viable;

o Securing the sustainability of future projects by recovering project costs from beneficiaries.

(b) CLEAN WATER FOR MAFI-KUMASE -A Community Initiated Water Project In Volta Region Of Ghana,

by Okeame Ampadu

Until about the year 1844, water supply was not a public responsibility as it is today in Ghana. Individuals, trading and mining companies, missionaries and small communities were each responsible for their own supplies. These depended on wells, streams, ponds, dug outs into the beds of ephemeral streams and from tanks built in houses and public buildings to collect rain water via roofs and stored for dry season use.

With the opportunities offered by trade, employment in the civil service and foreign companies, population concentrations towards such employment centres began. As a result, the dry season supplies which hitherto had been sufficient for these communities could no longer meet the increased demand.

In the years 1894-1895 and 1903-1904, this situation was dramatized by severe drought which hit various parts of Ghana. Accra and other major towns were badly affected and the Government decided to assume responsibility for the provision of permanent water supplies for all the major towns.

From 1918 to 1920 another serious drought hit the whole country. It became evident that intensive efforts had to be made if the situation was to be contained. Consequently, a special water supply body was set up and its policies and programmes were incorporated into the First Development Plan of Ghana which was formulated in the 1920s.

Since 1920, over eight Development plans aimed at the economic and social advancement of Ghana have been introduced for implementation. These have led to an increasing rate of urbanization and industrialization, but not a comparable increase in the water supply situation especially in the rural areas which have the majority of Ghana's population.

Most of the rural communities get their supplies from sources of doubtful quality. The result is that various forms of water-borne endemic diseases such as guinea worm, dysentery, bilharzia and typhoid are common.

Efforts have been made by the Government in recent times to solve the acute water shortage situation especially in the rural areas. As a result of this effort, the total population provided with portable domestic water supply rose from 38.2 in 1975 to 56.4 per cent in 1985. The coverage for the urban population increases from 92.4 to 93.0 per cent in the same period.

Once again in 1981 and 1983, about 3,000 productive water wells and a number of hand-operated pumps were provided in about 9,000 villages through Ghana/ West German Government water project.

In addition, the government through the Water and Sewerage Corporation has been supplying water to many rural communities under the following:

- Water-aid programme
- UNICEF assisted water programme
- National well/hand pump programme
- PAMSCAD assisted water programme

Though many towns and villages have benefited from these on-going programmes, it must be, however, pointed out that the percentage without good drinking water is very disturbing because of the ever-increasing incidence of guinea-worm and bilharzia.

The government is handicapped by financial and logistics constraints. It is for this reason that the efforts of NGOs such as World Vision International, CIDA, Water Resources Institute must be commended. Again, there are a number of rural water projects which have been undertaken or are being undertaken through community initiatives with the assistance of other NGOs.

It is estimated that about 45 per cent of the rural communities which were provided with water in 1989, got it through NGOs or community initiatives. A notable project among these is the Mafi-Kumase Self-Help water supply project.

Mafi-Kumase Self-Help Water Project

Mafi-Kumase is a rural agricultural community of 13 villages in the Volta Region of Ghana. Until 1975 it had suffered severely from acute water shortage every year. The only source of water supply were a few ponds which were over 10 km from the nearest village. In addition to the problem of distance, the ponds could not sustain the community throughout the year, especially during the dry season.

Soon after the ponds and the individual water reserves were exhausted, the whole community was plunged into total distress to an extent that people were known to have exchanged personal possessions for water.

Having failed to obtain assistance from the government or NGOs the chief and his elders mobilized the villagers to solve the problem. As the first phase, the people erected an earth dam to create an impoundment. This was done to collect all the surface run-off water for their use. The exercise proved a great success, for, since 1975 the small dam developed into a lake measuring about 170,000m^2. The dam is always full during the rainy season and has a capacity of 1 million m^3.

It does not run out even during the dry season so it has been the only source of drinking water for the entire Mafi-Kumasi community since 1975.

Guinea-Worm and Bilharzia Infestation

As with many standing surface waters, the lake is replete with guinea-worm and bilharzia disease. In 1985 as much as about 45 per cent of the entire Mafi-Kumase population especially women and children were found to have contracted the guinea-worm disease. The economy of the community was badly affected because many farmers got bedridden. An acute food shortage in the village also resulted. Many people's limbs, legs and hands-were deformed while affected schoolchildren had to abandon their education because they could no longer walk to school.

The plight of the villagers became known to the government and many health organizations. An environmental education programme was mounted in the area to educate them to boil the water before drinking it but all was in vain-the villagers had a belief that it is unnatural to drink boiled water.

Realizing that the health education programme had failed and that the guinea-worm cases were on the increase, the chief and his elders again organised a grand durbar (meeting) to discuss the issue. At the durbar, a public-spirited son of the village who happened to be a civil engineer volunteered to help them to filter the water at source. A technical committee chaired by the engineer recommended slow sand filtration process for the community.

Slow Sand Filtration (SSF) TEchnology

A slow sand filtration process was recommended because of cost, technical know-how and maintenance implications. The process which has been adopted at Mafi-Kumase involves a two-line gravity flow treatment plant. It is made up of:

-a horizontal flow roughing filtration as refilter;
-an underground clean water tank and a single relief cistern;
-a reservoir
-a 10 km pipe network.

The use of flocculators and other chemicals is excluded obviously to avoid dependence on foreign inputs and to make the project self-reliant and sustainable. The horizontal flow roughing filtration units are installed as a pre-treatment process to reduce the raw water turbidity which rises during the rainy season and fishing activities. A long distribution network - the highest cost bearer of the project was considered necessary to supply water closer to the people so as to avoid their using polluted nearby ponds.

Project Execution

The project was implemented through communal labour by nine villages out of the 13 which are within the 5 mile radius of the dam. All the residents and non-residents of these nine villages participated through various contributions. In order to achieve effective implementation, committees were set up to undertake specific roles. These were:

- The Water Project Committee
- Procurement Committee
- Project Co-ordination Committee
- Overseas Support Team

The Water Project Committee, which comprised of five women leaders and nine headmen (one from each village) responsible for organization of works, mobilization of communal labour, collection of project levies, periodic durbars with the communities, mobilization of finance and monitoring. The committee was based at the village.

The Procurement Committee was based at Accra and it was made up of "sons and daughters" of the villages involved in the projects and also living in Accra. The main function of the committee was to procure materials for the project. Owing to the technical nature of the project, an engineer who hails from the area was appointed as the Project Co-ordinator responsible for all work scheduling, and co-ordination. The last team was made up of overseas friends in Switzerland who donated materials, money and technical assistance to the project.

Action Programme

An action programme was drawn up at the beginning of the project. All able-bodied men and women were identified and enlisted. The nine villages were placed into nine groups responsible for specific duties or activities. some of the activities were:

- the digging of refilter pits;
- the digging of trenches for pipes;
- the cracking of stones;
- the collection of sand and water.

The villages were arranged to work on competitive basis. All artisans, e.g., carpenters, masons, etc., were

Traditional cultural practices mobilize the community to use their own resources for self-reliance.

identified, mobilized and assigned to the various groups. While men were assigned to difficult tasks women were permitted to undertake light duties. For example, during the construction of the reservoir on a high rock 23 metres high, women and the older generation could not help much. So men were specifically given that responsibility while some of the women did the cooking and other light duties to sustain the efforts of the men-folk.

It was the responsibility of the women leaders also to organize singing and dancing to motivate participation and enjoyment during communal labour days. It was also the responsibility of the women to see to the cleaning of the tools used in the construction after each day's work. They also kept the tools under lock and key.

Through the concerted efforts by the entire village community, the project which was started in 1986 was completed and commissioned in October 1989. It took three years because of a number of constraints. For example, during the rainy season, the project was suspended because of flooding. Again, funds ran out but friends in Switzerland came to their aid by providing the community with cash and materials to complete the project.

Maintenance of Project

In order to ensure sustainability through proper maintenance, a number of measures have been instituted. These include:

i) A resident caretaker who has been appointed to be responsible for safety and day-to-day monitoring and evaluation of the performance of the project and to report findings to the community.

ii) Water levies are to be paid monthly on every tap (C5).

iii) Annual water festival and fund raising ceremonies have been instituted to create environmental awareness and raise funds for maintenance.

Major Constraints

The implementation of the project was delayed or constrained by a number of factors for which the following are very important:

1. Inadequate education: It would seem that the entire Mafi-Kumase population was not properly educated on the objectives of the project. Four communities within the vicinity of the project apparently refused to participate in the implementation.

2. Inadequate funds: The major source of funds for the project was from the local

levies and from Swiss friends. Any project whose sources of finance for implementation are charity has a 50-50 chance of survival. At one time the project came to a near collapse because the villagers and the foreign friends were not responding to the request for finance, hence the suspension of the project for a further two months.

3. Lack of equipment and materials.

4. Suspicion, rumours, misinformation and misrepresentation.

5. Poor project manning. It was never taken into account that the villagers do not work on Saturdays and Sundays.

6. Uncooperative attitude of the community towards continuous communal labour.

Impact of the Project

Though the project is relatively young, the positive impact on the health of the community cannot be over-emphasized. Since their drinking water is filtered at source, the guinea-worm and bilharzia diseases would be eradicated one and for all.

An immediate impact of the project is the adoption of stone cracking as a source of income. During the construction of the earth dam and the reservoir, villagers learnt how to crack stones by using simple tools. This technology has been adopted and many of the villagers, especially women, who have taken to it as another source of income. They crack stones meant for sale to builders and feeder roads contractors.

Again, many of the villagers have benefited from the leadership training workshops which were organised before the commencement of the implementation of the project. Finally, the entire community appears to be very content and united. Their achievement has received considerable attention and a number of villages in Ghana are adopting their shining example.

Lessons

One major lesson from the Mafi-Kumase water project is that the success of any project depends upon certain core elements within the community. These are hidden built-in levers from growth and development in every community. Any development plan without due reference to the core elements would never be successful.

These core elements are:

- The existence of traditional institutional support;
- The awareness of the problem;
- Leadership qualities;
- Societal cohesion-local nationalism;
- Unity of purpose.

These are not mutually exclusive but reinforce each other for a common purpose. Furthermore the excellent organizational structure upon which the project was founded is an appropriate vehicle for undertaking development activities in the rural areas.

The need for community participation in decision-making at all levels must be emphasised. The villagers implement what they have planned with much precision and alacrity. Under such circumstances tradition is easily fused with modernity in a congruous marriage that can give birth to positive achievement.

Governments, NGOs and donors interested in rural development should firstly identify the core elements in each particular settlement, tie the project to it to ensure success. This means that they must work with the villagers but not for them. The success of any development project will therefore depend largely on the commitment, and active involvement of the recipient and not necessarily the donor. If projects are for the people, they must be planned and implemented by the people; no matter how long it will take, for it will ensure sustainability.

2. KENYA

(a) Ngusuria Water Project: A Case Study of a Small Scale Community Initiated Project in Rural Kenya

by Margaret Mwangola

Introduction

The Ngusuria Self-Help Water Project in Baringo District of North Western Kenya represents a successful community water project. Since its inception, more than 10 years ago, the project has manifested all ingredients of a sustainable approach by a rural community to solve a water problem experienced in the area. It has had a high degree of the community participation component in all phases of its implementation. The project was initiated by the Ngusuria people with adequate political and technical support from the Local Administration.

- It is a self - managing enterprise;
- The community itself is responsible for the operation and maintenance of the facility; and
- It has attracted the support of governmental and non governmental organizations operating in the area.

It is within this background that the success of the Ngusuria self-help community water scheme should be viewed.

Background

Ngusuria Water Project is situated in Kibeino Sub-location of Kabarnet Division, Baringo District - 10 km west of Kabarnet main town centre in the area. Much of the area is semi-arid - with rocky and steep terrain, and scattered vegetation cover. The weather is hot and dry, and occasional spells of drought are experienced. The estimated population of the project area is 6,000. Livestock keeping is the main occupation of the Ngusuria people, who keep some 20,000 herds of indigineous cattle and goats. They also practice subsistence farming, growing maize millets and cassava.

Before the starting of the project people obtained their water supplies from seasonal streams and shallow wells in the vicinity. During dry seasons, however, the inhabitants were forced to trek long distances in search of the precious commodity. The Kerio River to the west provided this alternative which is as far as 20 km away from some villages. In the early '70s, this traditional

source was badly polluted by the effluent from the flourspan factory which had been established some distance upstream. Something had to be done to alleviate this untraceable water problem.

The Ngusuria women had the answer. Towards the end of 1976, during one of their group meetings they proposed that a pipe-borne water supply system was the ideal solution. They identified the Ngusuria springs 13 km up in the rugged hills of Kabarnet range as the proposed source of their water supply alternative. A committee of 11 people was elected by the community to work out modalities of bringing down the water from the hills.

Project Planning and Implementation

The elected project committee swung into action immediately. They contacted the local Ministry of Water Development (MOWD) personnel for advice. The Ministry confirmed that the community proposal would be feasible and pledged to offer technical assistance. In the meantime, barazas (mass meetings) were held in various villages, where committee members explained that the solution to the old age water problem had at last been found, and that all members of the community should get involved in the process. The response was overwhelming and the community was so full of enthusiasm that they promised to avail themselves for any construction work.

In accordance with Kenya's local planning system, the committee forwarded the proposal to the Locational Development Committee, who in turn endorsed it to the District Development Committee (DDC) for official sanction. The DDC approved the project. Soon thereafter the MOWD prepared a technical design according to the community's preferences. A gravity scheme was designed including a weir at the intake; a 3-inch main GI pipeline with branch lines spanning from it; break pressure tanks; main storage tanks, and communal water points. The MOWD registered the project as a self-help scheme and not a Government rural water supply scheme.

Photo: UNEP

To achieve people-driven projects, village committees are very important

The committee then organized a harambee (fund-raising) occasion which netted over Kshs.10,000 and

construction commenced on the project. It was agreed among the community members that in addition to cash contribution, everyone would physically do trenching, breaking stones for ballast, and construction of the weir across the spring. In 1980 a weir was constructed at the source, and while the community members were making available their unskilled labour and materials, MOWD provided artisans (skilled labour) to assist in the construction.

Project Funding

In 1980, Kenya Water for Health Organization (KWAHO) started self-help community water projects in Kenya, particularly those initiated by women groups. Ngusuria was identified as one of the six pilot projects in each province for support. An amount of Kshs.100,000 was allocated for each project.

The socio-economic status of the community was comparatively low, and although determined to provide resources for the construction of their project, the pace was rather slow. It became clear that external assistance was necessary to achieve the objective. KWAHO (then under the UNICEF armpit), and other NGOs approved some other resources for assistance.

Slowly, the "dream" pipe-borne water supply for Ngusuria was becoming a reality. By 1982 a 15 km water pipeline, two break pressure tanks, and one supply tank, had been completed through this support. The community on their part through cash, material and labour made a contribution valued at Kshs 600,000 (excluding even more valuable non-quantifiable inputs). The project had now established itself truly as a peoples' property, and the local community was proud to have accomplished this through their own efforts - and the support of well-wishers. A sense of ownership and responsibility pervaded the entire community, and the impact of the water supply was tremendous.

Phase II was projected to extend branch lines to the outlying villages from the Kiboino Centre. By 1986 however, the demand for water had outstripped the supply and the output for the weir could not cope. The committee sat again to find a solution, and invited the MOWD to give technical input. To the amazement of the villagers, MOWD informed them that they were sitting on a big reservoir of water "beneath the rocks". A technical ground water survey had revealed that non-saline water was available only some 100 metres below the Kiboino surface and its tapping would greatly improve the water supply situation in the area.

Further discussions aimed at searching for funds to provide the answer. MOWD agreed that the community make use of the borehole that MOWD had drilled sometime back, whilst KWAHO pledged to cap and equip it with requisite installations. Through funds from Water Aid London, KWAHO provided about Kshs 500,000 for the installation of a submissive pump, and the supply of electricity all the way from Kabarnet to the facility.

KWAHO further, through water aid provided funds for the construction of a 90 cubic metre storage tank, two pressure/supply tanks, and extension branch lines to the various villages not covered under phase I. To assist the community accomplish its tasks, KWAHO made available its water engineer on site for three months. In monetary terms all this support came to Kshs 1.1 million.

At present a total of 41 km of pipeline network has been completed on the project, covering nine of the 13 villages and covering a population of 6,000 with safe potable water,on communal water point and individual connections basis. The satisfaction of the initial need for the provision of water has in its wake, however, created new aspirations and horizons for the community: consequential spell-off and multiplier effect situation.

Diversified Activities

What had begun initially as a quest by the Ngusuria community to solve their water problem, gave it impetus to develop into a truly integrated community development programme. As the community became aware of the health issues inherent in the water supply scheme, they initiated the construction of a dispensary in 1982 on the self-help basis. KWAHO supported the project both in material and logistical aspect.

Animal Health was not also forgotten and to alleviate the tick- borne diseases prevalent in the area, the committees started a self-help cattle dip in 1982.The Ministry of Livestock development chipped in with Kshs 60,000 whilst the community contributed Kshs 20,000 in cash, materials and labour.

On a more pleasant note, in 1983 the women group in the project initiated an income-generating enterprise in the form of a posho (flour) mill. The Ministry of Culture and Social Services through the Women's Bureau was interested in the idea, and donated Kshs 200,000 towards the purchase of the machine. The ministry also provided a full time adult education teacher in order to eradicate illiteracy and create mechanisms which would take over the running of the project soonest.

Alongside the water supply schemes, the women group undertook also an agricultural demonstration plot in 1982, to improve the nutrition status of the community, and also a tree-nursery to improve the water catchment area, soil conservation, and source of energy.

Project Organisation and Management

The project has evolved a number of community organization structures to manage its various activities. It has enabled the development of a strong leadership base, capable of running the affairs of the project successfully, and with great potential to sustain its operation and maintenance in the long term.

The Central Management Committee is the apex organizational expression around which the major decisions, policies and external relations issues revolve. It has a membership of 11 people mainly the local influentials. Each of the other main activities undertaken by the project are run by a sub-committee whose main function is to ensure that all matters related to operations, maintenance, and local management of their line, are effectively attended to, e.g., tap siting, clean lines, revenue collection, and repairs. A number of attendants in each village has been trained in operations and maintenance of the pipeline.

A number of Government extension workers are stationed within the community to help the committee. In addition to the local Assistant Chief, there is a resident artisan, a public health assistant, a nurse, a MOH field educator, an adult teacher, and teachers of the secondary and primary schools. This constitutes a strong institutional back-up for the community at such a grassroot level.

Well co-ordinated community organization, sound leadership, effective training in management and maintenance skills, strong agency backup, and above all, a conscientized community - all have contributed to make Ngusuria the vibrant grassroot level project it is.

Management, Operation and Maintenance

The water pipeline, the borehole, the posho mill and the dispensary, all are "hardware" facilities of the project that must need to be maintained in and kept going at all times to be of real benefit to the community. The operation and maintenance of these facilities account for a large proportion of the recurrent and overhead expenditure of the project. The project leadership has, however, taken contingent measures to ensure that these facilities sustain themselves in the long run.

First, intensive care-taking training has been carried out for suitable members identified by the community itself. This has ensured that any issue needing to be addressed is given prompt attention by a committed corps of community attendants. Secondly, to build up a viable financial base for the project operations, a reasonable fee of Kshs 15 per household per month is charged on the members for the usage of the facilities. The default rates due to non-payment are characteristically minimal. Strong social pressures among this cohesive community makes it obligatory to contribute.

Though women may not know how to read, they are usually more knowledgeable about local conditions and needs.

When major breakdowns which are beyond the village operators occur, the committee calls in the Ministry technicians for assistance. Where this is not readily forthcoming, the private sector service (which is comparatively more expensive) is resorted to. All in all, a well organized operation and maintenance system of the project facilities, solidly being based on the community's ability to manage them effectively, does exist in the Ngusuria project.

Women Participation

It is in the first place the women who identified and initiated the entire process. Although the main committee has a higher proportion of men than women, the actors still remain the women. This is signified by the way the women have control in the running of the "posho" maize mill.

The multiplier effect of the water supply in the project area is evidently attributed to the resourcefulness of the women themselves. The emergence of the income-generating schemes such as the posho mill and the tree nursery as well as the socio-economic infrastructure in the form of the cattle dip and dispensary, are all the function of the women's initiatives.

Major Constraints

A number of factors have been encountered in the process of the project implementation. These have constrained the pace to accomplish the targeted objectives. Some are geographical, others economic, and socio-cultural. But they are of course not mutually exclusive, and in some ways they reinforce each other. First, the semi-arid climatic nature of the area has a devastating effect on the water level in the spring. During the dry season and the frequent drought conditions, water supply from the source is very low. This necessitated resorting to a very expensive technology - the borehole with an electrically operated submersible pump, to supplement the supply. Paying the huge electricity bill has therefore remained the biggest single recurrent item of expenditure for the community.

Ngusuria lacks major resources that can effectively be exploited to create a social wealth of the community. In relative terms therefore, majority of the population are poor. There is danger that the low socio-economic status of the community may compromise their self-reliance, as the impressive infrastructure now existing has been built with funds from outside.

Ngusuria has also witnessed the leadership wrangles that are common in similar projects elsewhere in the country. Dominance by the local elites may be creating latent resentment and a political subterranean conflict situation may not be ruled out.

Lessons learnt

No doubt, from the foregoing sections - Ngusuria Water Project has had a tremendous impact on the community, their economy and environment. The resounding success of the project has triggered the community's initiative and resourcefulness, giving rise to the building of grassroot institutional capacity and support systems. In the process, a number of lessons have been learnt.

First, the success of the project is dependent upon the high degree of community participation in its conception, planning, implementation and decision-making at all stages. The people of Ngusuria were involved in executing what they had envisioned, this created in them a sense of satisfaction, ownership and strong identification with the project.

Community participation can secondly, be assured only when there is attitudinal changes. Members are sensitized to cultivate appropriate perceptions and relationships with the project issues. In the Ngusuria case, the community's awareness of improved water sources vis-a-vis the traditional ones created the right social and individual conditions at that particular time that unleashed their energies for full participation.

Thirdly, the project demonstrates that proper leadership, popularly chosen and mandated by the community to manage project affairs on their behalf, is sine qua non for ensuring long term sustainability of the project's operation and maintenance. A strong leadership base is in turn a function of proper organization of the beneficiary community.

The fourth element that has made the success of the Ngusuria community water project, is the right mix of the community's inputs with those of the governmental and non governmental agencies in supportive relationship. It should be noted again that, it was the community that in the first instance involved these agencies to assist in technical back-up, and therefore, these agencies did not initiate an interventionist program, where community involvement is coaxed. Community participation in Ngusuria was an instantaneous phenomenon which has ensured that it has retained its self-help character - huge support by these agencies notwithstanding.

One of the other lessons learnt from the Ngusuria scheme is that an initial community undertaking that succeeds always triggers off a multiplier effect - which in the economist's lingo creates forward and backward linkages to the project activities. This last lesson therefore truly sums up the essence of sustainability: a community undertaking that has generated internal capacity for self-management, operations and maintenance, has a potential, ceteris paribus, to sustain itself in the long term.

(b) Kajiado Community Water Project

By Barasa Sitati Wasike

This paper briefly looks at the NGO's role in the provision of water in Kajiado District for both human and livestock. The survey on this was carried out early in January 1987 in specific areas of the District, over an approximate area of 40 km, considered most developed in solving the problem of water shortage, by using local methods that can be easily sustained. Boreholes are nowadays, seen as a last resort only. It is being realized that the Maasai use various other sources of water, especially wells, and tap underground streams. What is needed is an integrated approach, on an area (water catchment) basis, combining various sources and different types of methods.

Kajiado District

The current population in Kajiado district is estimated at 240,000. Between 50 to 60 per cent are Maasai. The population growth rate is high, both because of immigration and natural "increase". The current estimate is 4.8 per cent per annum.

Population Composition	1969	1979
Maasai	58,961 69 p.c.	93,560 63 p.c.
Non-Maasai	26,942 31 p.c.	58,445 37 p.c.

Population Estimate (1988) Per Division

Central	81,521	10 Inh/Km x Km
Ngong	73,178	21 Inh/Km x Km
Loitokitok	75,138	12 Inh/Km x Km
Magadi	15,255	8 Inh/Km x Km

Population Structure (1988 estimate)

0- 4 years	51,000
5-14 years	73,000
15-59 years	107,000
60 plus	8,000

Water Facilities (February, 1988 according to livestock survey)

	Central		Loitokitok		Ngong		Magadi		Total	
	F	NF	F	NF	F	NF	F	NF	F	NF
Boreholes	57	31	11	4	14	9	0	0	82	45
Waterpumps	127	0	2	0	6	0	0	0	135	0
Water dams	32	5	4	0	5	1	9	1	50	7
Wells	20	0	8	0	1	0	0	0	29	0
Springs	15	1	22	0	7	3	0	0	44	4
Rock Catch	4	0	2	0	0	0	1	2	7	2
Tanks	87	14	27	0	36	0	20	0	170	14
	Central		**Loitokitok**		**Ngong**		**Magadi**		**Total**	
	F	NF	F	NF	F	NF	F	NF	F	NF
Km Pipeline	229	18	87	0	173	0	85	0	574	18
Troughs	151	9	28	0	19	0	19	0	217	9
Dips/SR	67	33	28	16	50	7	1	7	146	63
Crushes	95	3	35	6	23	0	9	0	162	9

F = Function

NF = Non-Function

Note on the water Supply Situation

It happens millions of times a day in many parts of the world that someone turns on the tap and fresh clean water comes gushing out. It is done so automatically that we take it for granted, rarely pausing to be grateful that we live where clean water is literally available.

A study of the tabulated figures on water facilities indicate what is economically feasible for the rural people in Kajiado. Water pans and natural water springs are considered most ideal and appropriate under the prevailing circumstances. A typical example is illustrated by the total number of pans and springs functioning in the whole district. Christian Mission Aid's (CMA) role in this particular project has been mostly advisory with the provision of technical know-how, and readily understood information. Another issue raised was whether boreholes would be ideal, but the rate at which they were subjected to abuse and harassment made

them last for a very short period before being declared obsolete. A solution was sought that would utilize local resources and encourage local participation.

The Implementing Agents Role

Due to many technical and economic factors, such as the complications of engine and wind-driven pumps and the high cost of fuel, non-conventional facilities for good production of water will continue to be used in most parts of the district, not only for portable water but also for domestic use,livestock and irrigation (being practised by non-Maasai in Ngong Division).

Christian Mission Aid realized that conventional pumps were not designed for the level of stress and abuse encountered from large user groups with the rural communities. Furthermore the materials from which they are made, mainly cast iron and steel, are not only expensive, but are not readily available locally. Many developing countries have been relying on imported pumps and parts supplied by international and bi-lateral donors. This has implications in terms of costs, maintenance, requirements and problems of procurement of spare parts.

For the past two years that the agency has been in the area, it has mostly supported the development of equipment that easens the construction of water pans and the subsequent protection of natural water springs.

The situation before the project

There are few water streams in Kajiado district. Many are seasonal and the only reliable water sources are the water pans. Before Christian Mission Aid's involvement in the project, the situation at the water points was deplorable. They would clean their saucepans and water containers with the sand from the bottom of the pan, rinsing them out when they finished. They would then skim off the cloudy scrum from the top of the water, dip their saucepans in and fill up their containers. Their dog would probably have followed them down from the house and might paddle around in the water having a drink. It was impossible to keep it clean.

Over the years, people have built up a certain amount of immunity from effects of polluted water. Young children are vulnerable. Few people boil water as firewood is expensive (Kshs 5 per piece) and hard to come by. The decision to clean up the water was on individual basis, since the agency involved (Christian Mission Aid) did not have the funds to develop the water facilities. As evidence of commitment of the people they were asked to provide all the resources required, except the organization which provided the technical know-how.

The problems that led to development of this very worthy project were:

a) Water scarcity which meant that women and children had to trek for long distances to secure the 20 to 30 gallons of water the family needed daily. This was both strenuous and time-wasting.

b) Water pollution which is inevitable where stagnant water abounds or in streams where people fill their containers, wash clothes and at the same time utensils. The water is also contaminated due to animal and human waste.

c) Water use: considering that there was a definite lack of firewood, this meant that water was rarely boiled.

d) Death and disease claimed people's lives each year through dysentry, diarrhoea, malaria, typhoid and cholera, resulting from unclean or insufficient water or inadequate sanitation.

e) Local and national effects of diseases are disastrous. People could not work so they lost income and their family's health declined as a result. This damaged the already precarious economy of developing countries.

Some of the solutions to these problems on rural water supply of which this workshop is addressing are numerous, but I would like to point out the three considered most important:

i) Local community involvement and targeting are essential if water improvement and supply programmes are to be effective, encouraging self-reliance and giving priority to the poorest members of the community.

ii) Education and training help the local people understand the need for improved sanitation facilities and how to construct, use and maintain the equipment to ensure a trouble-free supply of clean water.

iii) Appropriate technology keeps equipment costs down and means a project requires a minimum of maintenance in order to meet a community's needs. A nearby source saves the women's time and energy.

CONCLUSION

In the coming years, limited resources will have serious consequences upon the provision of safe, adequate, water supplies for rural populations. If this problem is to be addressed, governments and water authorities must focus their resources on developing low cost technologies that are easily understood, operated and maintained at the village level.

3. MAURITIUS

IMPROVEMENT OF WATER SUPPLY AT CHAMAREL VILLAGE

By Hurbungs Iswarlall - Mauritius

Introduction

The development of Water Resources for potable water supply for the whole country has been planned in three distinct systems which are as follows:

(i) The Port Louis System which serves the major part of the City of Port Louis;

(ii) The District System serving the North, East and South East of the island; and

(iii) The Mare aux Vacoas system which serves the urban areas of Plaine Wilhems, and Black River District.

There are many villages which are devoid of piped water. The problems are numerous and there is pressing need to find a solution. The Central Water Authority is extending the supply network under the District Water Supply System to reach these such zones.

The Problem

There exists some villages which cannot be effectively served by the distribution system. Chamarel village, situated in the South West of the island and locked on the top of the mountain is one. With a population of about 1,500 people, the villagers depend on natural stream flow for their water uses. The water is untreated and after the rains, it becomes quite turbid making its consumption unsafe.

Situation

At Chamarel, there is a perennial stream, the 'La viande sale' flowing into the village. People use its water for all purposes - drinking and washing of clothes, dishes, tools, etc. As a result, there is high incidence of scabies diarrhoea and other water-borne diseases. The Ministry of Health is putting up a health centre in order to cope with the health situation. But all health-related intervention will be negated if the water supply is not improved. What can be done?

Planning the Project

In order to bring a rapid development to the rural areas, the government has appointed Village Development Officers to work with the community and find out

solutions to pressing needs. In Chamarel,one of the officers called a meeting of all the leaders, the women's groups and influential persons to discuss the village problems. All were accorded the opportunity to express this themselves. Among others, the most important problem was that of water; as it was the most essential requirement for the improvement of the life of the people.

The officer convened a second meeting and he ensured that the authority responsible for the supply of piped water was present. After an exchange of views on the situation the following decisions were reached:

(i) As it was not possible to bring piped water from the normal system, the water from the river has to be used;

(ii) In order to make the river water wholesome it was essential to carry out some construction works:

a) a dam;
b) digging for the laying of pipes;
c) maintenance.

The Water Authority agreed to participate in the scheme. The people were happy to work on a project that would solve their hardships. They all promised to help in terms of material and labour.

Implementation

In order to implement the scheme a technical committee was set up. The officer in charge of the area was the secretary. Co-ordinating all the operations. The authority designed the plan and drew the alignment where the pipes were to be laid.

As for the finance, the government provided the materials and the local authority gave the technical services required. The people dug the trenches and built the dam. The dam is chlorinated once a month.

Evaluation

The water scheme at Chamarel is very successful. The community participated actively in its realization. Most of the health problems were solved and the people have realized that together they can do many other projects for the improvement of the quality of life. In this spirit all the leaders, women's groups, the church and the village clubs have grouped themselves in one association called the Village Development Committee.

The role of NGOs

This project demonstrated that the community members could solve many problems by actively participating at the different stages of planning, implementation and evaluation of all development projects. The NGOs played a catalytic role in improving the quality of life of the people.

Similar Projects

A number of similar examples can be cited. Rodrigues, a dependency of Mauritius is much less developed. The situation of water supply is limited to the main regions like Port Mathurin, La Ferme and Mont Lubin, while distant villages on the hills still depend on rivers and wells for their water supply. Together with the water authorities the NGOs like society for International Development, Council of Social Services, MAUDESCO, Church Organizations, etc, are working with the local inhabitants in order to improve the water supply. And through discussion the people have become active partners in the process of development.

Photo: UNICEF

Health-related intervention will be negated if water supply systems are not improved.

4. NIGERIA

How community participation in water supply projects is promoted in Nigeria

By Luke O. Onyekakeyah

Preamble

Nigeria is the most populous country in sub-Saharan Africa. Current estimates put her population somewhere around 100 million people. Seventy per cent of this live in rural areas. These areas are problem-prone lacking in a number of basic social amenities such as good roads, electricity, health facilities, industries, among others. Perhaps the most crucial facility lacking is clean drinking water.

Water is life. Lack of adequate clean drinking water is a major problem suffered by thousands of Nigeria's rural dwellers, and the need for this cannot be over-emphasized. Water shortage has serious ramifications on food production, human and animal populations and their general survival. Besides, water-borne deceases such as cholera, typhoid, gastro-enteritis and dysentery are rampant.

For over a decade, efforts to alleviate the acute scarcity of drinking water have been stepped up. Many community groups have initiated mini-water projects in their areas in addition to government assistance towards achieving this objective. Many of these projects are now completed or are at advanced stages, and this gives the communities a new lease of life as clean water flows through their taps.

Initiative for Water projects

Generally, the initiative to embark on water projects at the community level emanates from the people. The social structure of communities in Nigeria is an important factor in decision-making at this level. In southern Nigeria, particularly the east, for example, towns are made up of socio-political entities called age groups. Age groups in a town/village range from the youngest (youths) to the elders, and comprise males born within a particular age group.

For purposes of community development, all the age groups come together to form what is called a town union. All important matters affecting the general welfare of the people are decided by the town union. The initiative to embark on water projects in any community is taken by this body. For example, the water project in Owuy (author's village) was initiated by the Owuy Progressive Union.

In addition to this, some water projects in some communities were initiated by government and its agencies. For instance, under the UNICEF/World Bank

assisted water schemes, a number of water projects have been initiated in several communities. The UNDP has also contributed in this direction.

Planning Water Projects

The question as to who plans the project depends on who initiated it. This planning stage is very crucial in the realization of the objective. For example, a number of issues are considered such as the population of the community to benefit from the project, type of water hardware to be selected, criteria for selection, cost, ease of maintenance and proven efficacy of hardware.

Water projects initiated by community town unions are usually given to contractors. It is therefore the duty of the contractor to do the planning and execution of the work. On the other hand, where it is the government that initiates a project, the planning is carried out by the water corporation which is a government parastatal.

Implementation

Each town union usually has a subsidiary body called Committee on Water project (CWP). This committee often consists of indigenous experts from the locality who have the technical know-how in engineering, planning and related fields. The committee is charged with the responsibility of implementation, coordination, supervision and monitoring of the project, and this has been successful in many areas. Government community water projects are implemented through the agency of task force on water supply. The role of task forces is now seen by government as necessary in all forms of community development programmes.

Source of Funding

There are two major sources of funds used in executing community water projects in Nigeria.

First, through community fundraising activities, carried out in form of launching. During launching campaigns which are often scheduled at the end of the year or any other important festivals, wealthy sons and daughters of the community return to make generous donations. Many towns/villages are known to have raised millions of nairas through launching, and the funds are used in executing specific projects.

The second way is through government grants-in-aid for water projects. The amount may cover up to 10 per cent of the cost of the project and is given when the project has been completed.

Maintenance of Water Projects

It is sad to note that the issue of maintenance is a neglected aspect of community water projects in Nigeria. Generally, as soon as a project is completed, and the contractor settled, the whole facilities are left with little or no maintenance. This attitude is responsible for the breakdown of many community water supply facilities. The result is of course, that a number of boreholes are out of use, and public taps have gone dry.

The Water Corporation in the states which is in charge of maintaining water projects performs this function occasionally.

The Role of NGOs

Many NGOs have become involved in community water supply programmes and are playing active part in promoting them. The activities of NGOs in this regard include medicare for local inhabitants suffering from water borne diseases (such as guinea worm), building of water supply facilities, public enlightenment campaigns, seminars, workshops and conducting research on water problems. The work of Rotary Club in medicare and Earth Search in research activities is noteworthy. The role of NGOs is to supplement community and government effort.

Involvement of Women

Prior to the 1980s, the involvement of women in wider community planning operations was limited. This situation rested on the erroneous belief that deciding on important matters affecting the community was the exclusive preserve of men. But things are changing, and fast too. Women are being educated equally like their male counterparts. There are as a result, women scientists, engineers, lawyers, professors, to mention but a few. This crop of educated women are mobilizing the majority of other uneducated lot into strong pressure groups that now have a say in community development programmes.

There are a number of women co-operative societies that promote food production and their marketing. Other women organizations make significant donations in aid of water and other projects. In so doing, they contribute ideas on how such projects should be carried out. The Better Life for Rural Women (BLRW) programme initiated by some top class women in Nigeria is quickly gaining ground in the minds of rural women. The fact at present is that women's role is no longer overlooked as they continue to make positive contributions in all aspects of community development.

Community Training

Before the civil war in 1970, there was a dearth of trained manpower in the country and many communities had training schemes for their academically promising sons and daughters. The objective was to assist in the training of these people so that they could be in a position to manage the affairs of their community. In order to achieve this aim, scholarships were given to promising young men and women to enable them pursue higher education at home or abroad.

Today, few communities retain this idea. The result is that few people now benefit from such programmes. People who go for higher education now do it at their own expense without any assistance from their community.

Conclusion

The provision of clean drinking water for the rural masses in Nigeria has become a community affair with little or no government involvement. Many communities have therefore embraced the idea of self-help development as the only means through which people's lot can be improved. This trend is bound to continue for sometime as the people continue to embrace the idea as an essential part of their socio-political development.

THE OWU RURAL WATER PROJECT

Initiative

In the eastern states of Nigeria, many water projects are initiated by the communities. This is the case with the Owu Project. The Owu progressive Union (OPU) took the decision to embark on a water project. After considering a number of issues such as the geographical position of the town and the fact that there is a nearby stream-Oramiriukwa, from which the people had fetched their water over the ages, it decided to embark on a pipe-borne water project to bring clean drinking water

The question as to who plans the project depends on who initiated it.

nearer to the people. This initiative was subsequently brought to the attention of the Imo State Water Board for purposes of approval and assistance where necessary. It is important to note that the entire community embraced the idea of the project and gave support to the OPU.

Planning

The objective of the Owu community water project was to provide potable water at strategy points which are easily accessible to the people. These include market places, church compounds, schools, village squares and other public places.

The planning of the project was carried out by a technical team set up by the OPU and headed by a staff member of the Water Board who is also a top member of OPU. While planning the scheme, the team liaised with the water Board in order to conform with the government policies and guidelines on rural water supply projects. The Board gave full assistance at this stage and the project was then worked out.

Designing

In designing the scheme, a number of issues were taken into consideration. These were the types of water schemes (in this case pipe-borne water), water demand based on population, source of water (an overhead reservoir in a neighbouring town Nkwogwu served this purpose), economic appraisal involving construction costs, operation and maintenance. The final design calculations, working drawings, bills of quantities were thus prepared for execution.

Implementation

The whole work of implementation was carried out by the OPU water Project Team. The project, being regarded as the people's own, forced this team to act like a task force in seeing that the whole scheme was carefully executed. The team recruited the local people who are consumers to take part in the construction. They were involved in digging the pipe-lines, mixing of cement, carrying the pipes to designated points, etc. The idea is that by involving the people in the construction of the scheme, they would regard it as theirs and protect it from damage as well as use the water judiciously. The team carried out the work of supervision, coordination and monitoring until the project was executed. Pipes have been connected and water now flows at strategic points in the town. It took roughly three years to execute this work (1987-1989).

Funding

The Owu water project was financed from two sources:

1. The community contributed money and labour under the umbrella of OPU. The amount raised was enough to execute the project.
2. Government contributed its own quota towards the execution of the project. It is government policy to give any community that has executed rural water project a 10 per cent grant - in-aid for the scheme.

The project cost about N250,000.00 (US$ 35,000).

Evaluation

The OWU water project is a people's project. This is in view of the fact that the whole idea emanated from them, in their quest for clean water. Thus, the people were involved in the project right from its conception to the final execution.

The scheme is still new, having been completed in 1989. The OPU and its team are keeping close watch on the facility to see that it is properly used, maintained and protected. This aspect of evaluating a scheme's efficiency is very crucial in the life of a project.

5. RWANDA

Rural Water Development-Overview In Rwanda

by Annonciata Mukayitete

Introduction:

Water is the source of life. This is an indisputable fact worldwide.

In Rwanda and elsewhere there is a growing need to have safe drinking water. This was exemplified in 1981 when the President of the Republic declared that year "the year for rural water development". It was an opportunity for national departments and NGOs involved in water development activities to review the work already done in this field and plan for the future.

It is true that great strides have been made, but a lot remains to be done.

Like other developing countries, Rwanda lacks financial means to meet its needs in drinking water. Faced with this problem, Rwanda does not twiddle its thumbs. It calls upon its partners, technical and financial assistance. It is into this framework that the turbine pump canalization project run by Care Deutschland in the Parish of Kinyami, Byumba County fits.

Introduction of CARE DEUTSCHLAND

Care Deutschland is a humanitarian NGO working in Rwanda since 1982 under the umbrella of CARE International. Up to 1987, it gave assistance related mostly to public health, social work and the development of cottage industries in the rural areas. It diversified its activities in 1987 by introducing a water development component.

Project Description: turbine pump

Through a twinning arrangement with Rwanda, Rhenanie - Palatinat/FRG provided 90 per cent of the project funds through CARE DEUTSCHLAND. Feasibility studies were carried out by FAKT (a consulting firm in West Germany). Work started in 1987. A pumping system involving a turbine driven pump was used and not a gravity fed. It consists of six small reservoirs of 8 to 20 m^3, 20 fountains which will supply water to 700 families at the completion of the first phase.

It is a sophisticated system that cost 38,000,000 RWF. The second phase will run the costs to 8,000,000 RWF. Technical work is carried out by a Rwandese

company, les Compagnons Fontainiers "COFORWA". CARE hired a social worker (animator) to take care of the animation and the training component on a two-year renewable contract.

Community Involvement

(a) Sensitization meetings

These are organised at all levels (parish, location, cell) at the launching of every development action.

Aim:These preparatory meetings aim at:

-Informing the population on the project;
-Discussing its relevance to their own situation; and
-Inviting them to take part in its implementation and maintenance.

(b) Involvement in project implementation and maintenance

At the beginning of any water supply project in Rwanda, the population carries out all the layout, earth and material transport work during the collective development contribution session. These sessions are commonly known as "Umuganda".

(c) Maintenance

Once the equipment is installed, each beneficiary family contributes 100 RWF every year.

These contributions are meant for:

- The day to day maintenance;
- Small and big repair;
- Replacement

So far water contributions deposited into the savings account in the bank amount to 600,000 RWF and represent 30 per cent of the total contributions expected in 1989. The shortfall results from collection starting late on the one hand and the inadequate support of local political authorities to the collectors at water points on the other. These local authorities make many collections at the parish level that some take precedence over others.

Apart from the contributions, user groups establish water point committees in charge of maintenance.

When repair work is needed, the community helps the repairer by transporting the material needed.

Though there is permanent consultation between the parish authorities, the NGOs and the community, decisions are taken by the two former bodies while the latter's involvement is only at the implementation level.

Nevertheless, in the rural water development projects, the management role played by the Association Management Committee is being acknowledged.

The Women's Role

Women involvement in drinking water supply activities is marginal. It becomes significant in the maintenance of water points, sanitation and water conservation at home. Their involvement in water points committees is also negligible due to illiteracy which stands at 50 per cent among Rwandese women, hence their low involvement in decision making. The CARE DEUTSCHLAND project has tried to encourage their involvement in the election of water points committees but the 10 per cent score attained remains inadequate.

Animation - Training Activities Problems

a) The implementation of various projects has experienced shortcomings which were due to lack of involvement by the beneficiaries. Water development initiatives launched in the past are a clear indication because of their complete disappearance.

   In conformity with the MINITRAPE requirement (Ministry of Public Works, Energy and Water) and the wish of CARE Deutschland, any water project has to include an animation component in its technical activities.

b) The ultimate objective of this component is to convince the population to con sider these water facilities as their own and consequently, to be responsible for their management and maintenance without waiting for outside assistance.

c) The terms of reference of the CARE DEUTSCHLAND are:

   1.To carry out preliminary study on the needs, know-how, habits and aspirations of the target groups as far as water supply public health is concerned.

Photo. UNEP

Population in action at one of the collective "Umuganda" sessions

2.To prepare a programme for the implementation of activities.

3.To help users to establish structures for self-management, through meetings, visits and evaluations.

4.To follow up on a day-to-day basis, the activities of water committee leaders.
5.To lay special emphasis on the establishment of a maintenance and repair service in the self-management structure.

6.To constantly listen to the wishes of the population and local authorities and to present them to Care DEUTSCHLAND for study and reaction, if necessary.

7.To prepare the necessary documents and to update all the files.

8.To attend, on invitation, national and regional animation meetings organized by MINITRAPE, CARE and by other bodies.

d) In July 1987, The Rwandese government voted a law on the management of water facilities in rural areas. This law provides for a framework to govern the collective management of water facilities by water users associations. It is a guide for all water projects and NGOs in rural water supply activities.

Some presidential decrees in this law spell out the various categories of water management bodies possible in a rural setting:

1. Collective management: management is in the hands of users.

2. Administration management: by the parish administration authorities;

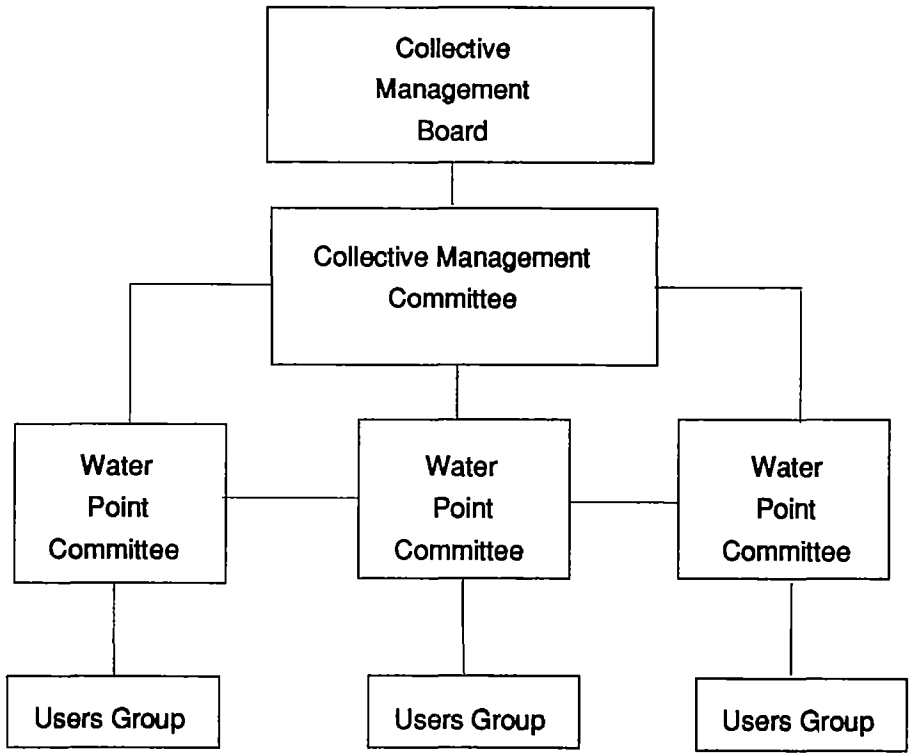
3. Professional management: management is entrusted to a third party on a specialised institution.

Parishes are poor and can ill-afford personnel to manage the water facilities while professional management is far too expensive to undertake.

The collective management described further on is more encouraged by the national policy.

e) How the Animation - Training Component functions in the AEP Project at Kinyami:

1. Diagram and Notes on the Structure of the Collective Management Systems.



Notes

To ensure people's involvement in project implementation and maintenance the national policy provides for stages to be followed.

- *Establishment of water users groups*

  This involves the identification of users of a particular water point who form a "user group".

- *Establishment of Water Point Committees*

  Each group elects a committee for its water point consisting of one representative, one alternative representative and one person in charge of maintenance.

- *Election of Divisional Water Leaders*

  Given the number of water points in Kinyami (300), it was found necessary to elect divisional water leaders who act as a link between the water department at the parish level and the water point committees.

- *Collective Management Committee*

  It consists of all point representatives in the parish and is the supreme body of the collective management board.

- *Collective Management Board*

  It is elected by the collective management Committee and comprises a chairman, a vice-chairman, a secretary and treasurer.

Each board has its own constitution spelling out terms of reference for every officer.

All elected officers work on a voluntary basis.

N.B. There is no parish in the whole country with a collective management system already in operation - but many of them including Kinyami, have already established the structure which is being consolidated.

Collaboration With CCDFP

This centre coordinates all the parish activities relating to community training. Each section head works out his own programme and submits to the CCDFP training board meeting. The meeting comes up with a single programme which fits every trainer and also saves people from attending more meetings in a week.

Furthermore, women animators are trained in water subjects in CCDFP sectorial branches. They, in turn, train water points committee members and community members in their respective sectors.

At the parish level, the two CCDFP animators, the person in charge of the fountain, the youth and collective movement animators work in close collaboration with the CARE DEUTSCHLAND animator in almost all activities. (Study of the milieu, training evaluation, meetings, etc....)

Problems Encountered

o Inadequate rate of water contribution in 1989 which might have an adverse effect on the maintenance of the system.

o Volunteers in the collective management system can eventually make it fail especially if the officers do not get some bonus.

o External support for the animation component. This might reduce efficiency and even curtail animation activities once the animator from CARE Deutschsland is withdrawn.

o Shortage of staff and lack of finances at the parish level.

o Difficult follow up of all water points given their high number (300).

Conclusion

Involvement of the beneficiary community is indispensable in every development project in order to ensure their support. It is also true that collaboration with parish officials is also necessary at certain levels. This is because they can give assistance when necessary and even take the responsibility of the animator at the conclusion of the project.

The support of parish practical authorities is also to be underscored for the success of animation-training activities otherwise any effort would be in vain.

6 TANZANIA

COMMUNITY INVOLVEMENT BASED WEEK DEVELOPMENT APPROACHES IN TANZANIA

By Hussein Chomba

Tanzania Environmental Society (TESO) undertakes the catalistic role to initiate a project at village level and the village authority decides on the project. However, there is overwhelming evidence that water and sanitation projects often fail to achieve their longer term goals of reliable functioning, general use and progressive development. Community participation, based on joint planning and decision-making, helps to serve more people with reliable and acceptable budgets and can be a catalyst for further community development.

A Case Study of Arusha Region - Arumeru District

For a very long time, Arumeru village had a big problem of water shortage. TESO and village authority organised a meeting of villagers, district authority and water authority. The aim of the meeting was to find a solution to get clean water to the village. After that meeting the decision was made to form a committee which will prepare a plan of action. The committee was formed with the following members- one from the district authority, two from village government, one from water authority and two from Tanzania Environmental Society. The trend was towards joint decision-making between agency and community organization representative in-charge of water supply.

-The village water committee was charged with the duty of contributing labour force and 20,000 Tanzania shillings.

-Tanzania Environmental Society was charged with the duty of seeking a funding agency locally or externally to assist in protecting water catchment areas.

-Tanzania Environmental Society was also assigned the duty of giving technical support and training to the villagers to maintain the pumps. The total project was worth one million Tanzania shillings. The villagers have dug the water pipe trenches from catchment areas up to the first village and they have built two water storage tanks. Under the project agreement, the village will maintain the water pipes and tanks and undertake small repairs. The district authority will support village water project by providing spares and Tanzania environmental Society will continue seeking funds for other two villages.

Source of Funding

The project was funded locally by four authority village governments, Tanzania Environmental Society, local government and water authority in the region. The four authorities are also in charge of the maintenance of communities in the initiation; design, construction and maintenance of water projects.

The role of NGOs is to ensure enduring livelihood for the majority of the people, mainly in the present economic south and also indigenous and other deprived people to seek sustainable approaches to development for the community based on the equitable access to the resources and respect nature. Due to their small size and independent nature, grassroots organizations have significant disadvantages including isolation from each other, insufficient access to financial and technical resources and insufficient political influence. NGOs also should influence policy that impacts on the environment and sustainable development through their own involvement in the planning and policy-making processes.

Assessment and Exchange of Experience

Better use can be made of existing community participation experiences with improved documentation and dissemination of results. Assessing results of varying levels of community participation in on-going programmes in a particular country or region can encourage use of field experience in national programmes and policies and stimulate inter-programme co-ordination among programme planners and donors.

Planning and Decision-making

NGOs should focus on joint decision-making between agency and community organization representatives in charge of water supply clearly defined rights, responsibilities and training are integral parts of this community-based approach to improved water supply and sanitation.

Involvement of Women

An impressive amount of field material shows that women play important roles in achieving project success through participation in local planning, design and management. Nevertheless, they continue to have only limited involvement in large scale programmes. Participation of women should be systematically encouraged by indicating during project identification and programme planning how and for what purpose they will be involved in each phase of the project and by allocating required resources for project staff, research, training and financing.

Community Financing, Planning of Community Participation

More flexible approaches stressing community choice, affordability of option and locally appropriate financing systems are emerging to enable communities meet recurrent costs of improved water supply and sanitation. There is a danger in inviting local participation too late in the project planning and implementation process. During pre-planning at the local level, organized community support in data collection and problem identification can already influence future relatonships and lay a basis for partnership.

The professional calibre of planning required for technical aspects of water supply and sanitation projects is also needed with respect to community participation. Social scientists have played valuable roles in vital data collection, in anticipating potential pitfalls, in developing and testing community participation procedures as part of new or on-going projects, and in training field workers, including preparation of very useful field manuals.

Community organization and education process leading to high and appropriate level of community participation require sufficient time, especially trained manpower and enough flexibility to cope with varying socio-economic and cultural circumstances. Each project plan should indicate how it will allow for this process and earmark reasonable and separate funds for that purpose.

Change of Attitude to the Community

Achieving higher levels of community participation sometimes requires painful changes within agencies, greater flexibility, sensitivity and less paternalism; as well as within communities which have come to expect government to take care of them.

Marginal groups such as dispersed population and low-income urban areas are too often excluded from large-scale programmes. Programmes which foster community self-help improvements in water supply and sanitation, such as carried out by many non governmental organizations offer an excellent potential to serve these groups. They deserve greater and more co-ordinated support.

Research

There is still lack of systematic operational research on community participation in water supply and sanitation programmes. Reliable data are needed, describing the cost effectiveness of various aspects of community participation, including various levels of local involvement in planning, forms of decision-making, innovative educational and motivational techniques, manpower training, and secondary benefits such as reduced health risks and time gains.

Recommendations

Information about community participation and education should be made available in appropriate forms in offices of donor and national agencies with responsibilities for project planning and implementation. There is a need to promote the exchange of existing information about community participation at the regional/country level and to generate additional information on selected issues such as cost-effectiveness of participatory approaches, community-based financing and management, socio-economic benefits at micro-(community and house hold) level, and agency support and monitoring systems. Further, at the regional/country level, donor agencies and national-governments involved in water supply and sanitation programmes need to clarify and co-ordinate their policies to ensure strong and consistent community participation activities.

Assessing results of community participation in on-going programmes can encourage use of field experience in national programmes and policies, says Hussein Chomba of Tanzanian Environmental Society.

7. TUNISIA

WATER RESOURCES MOBILIZATION FOR SUSTAINABLE RURAL DEVELOPMENT-THE TUNISIAN CASE

by Mohammed Fakh Fakh

Small and large scale water systems have co-existed in Tunisia since the Carthaginian era. But from the Byzantine Empire to the beginning of colonization (A.D. 7th to 19th century) various technics of small scale water systems adopted to the natural environment and to human capacities have helped different rural communities to survive.

Big development undertakings and dams built in the 20th century have helped to claim new arable land and to tap almost 70 per cent of water resources today.

Nevertheless, the imbalance between the rate of population growth and mobilization of available water resources has recently compelled the state to rehabilitate small scale water systems and to opt for community management suitable to that type of systems. The project undertaken in central Tunisia, in the semi-arid region of Sidi Bouxid, Kassuine and Gafsa (150 to 300 mm of rainfall/year), aimed at mobilizing surface an deep underground water layers for irrigation and drinking purposes.

Naturally dry, these regions could not make sustainable use of the limited water resources for the following reasons:

-Total state management

-The dispersion of the population which is an obstacle to water management and distribution and to the maintenance of water equipments.

-Lack of participation of rural communities

-Digging of deep wells without prior impact assessment and site selection (200 to 300mm)

-The water policy in force, up to 1986, which encouraged the proliferation of surface wells with limited reserves of fossil and non-renewable layers.

-The excessive exploitation of water layers boosted by the use of motor driven pumps increased water an soil salinity, reduced the quantity of water meant for irrigation and curtailed the output which had increased considerably over the first ten years (1975-84).

It is true that rural migration was tremendously reduced and population density stabilized and boosted in the irrigated areas. but what was the fate of these peasants whose income was dwindling?....

Water associations consisting of a number of peasants were established in each rural community. Their responsibility was to manage water supply directly and to maintain surface water equipment, thereby rehabilitating the water council system, traditionally applied over centuries. Since then, even simplest equipments such as manual pumps no longer break down.

From the time deep wells were sunk, water was managed by the state. Prior study of the deep well location is done to ensure proper and economic water use.

There are two options:

1.Water is channelled from the drilling site to the settlement.

2.The community is moved near the drilling place.

Drinking and irrigation water supply is expensive and difficult to organize in a system where the population is very scattered (70 to 80 per cent).

Hence the importance of the distance between the water point, the settlement and the cultivated areas.

All the problems encountered by water projects in central Tunisia and those facing the low valley of Majerda (more humid: 400 to 450 mm) call for the following recommendations in an attempt to ensure sustainable rural development:

1.To mobilize small scale water resources an to rehabilitate traditional techniques, such as water distribution dams (ponds), reservoirs, small dams, etc.)

2.To strike a balance in water requirements between the economic sectors (agricultures, industry, tourism and urban consumption) and the regions.

3.To develop reservoir banks in order to make dams more durable.

4.To plan the management of fossil or non-renewable sheets of water by avoiding excessive exploitation.

5.For areas with a concentration of wells, to set standards to avoid contamination of water sheets by pollutants (distance between wells and sceptic banks).

6.To encourage and popularize the use of solar energy for water desalinization, purification and pumping.

7. To involve the communities concerned in all stages of water exploitation, each in her/his own field of competence: designing, planning, implementation, maintenance, evaluation.

8.The authorities should not under-estimate experiences acquired by the local rural communities to do work out on action plan adopted to each locality.

9.Water associations would be more efficient if they were supported by elected rural communities: this would encourage an integrated rural development policy whereby water is the drinking force in a coherent and balanced agricultural eco-system.

10.The P.D.R. action (Rural Development Programme) followed by the P.D.R.I. One of them, undertaken by the state since 1987, between 1973 and 1987 reached only 25 to 30 per cent of the rural population hence, the attention given today to the establishment of local associations capable of undertaking development activities with assistance from the state.

NGOs

National and Foreign NGOs are more and more interested in water problems since the three years of drought (1986-88). Among the NGOs involved in community development in rural areas is the Foundation Tunisienne de Developpement Communautaire established in 1986. It spearheads practical action to benefit 22 rural groups in central Tunisia, a semi-arid region where poverty and under-employment are rampant.

Its objective is to change the attitudes of every member of the community to improve the community structure, and techniques. Extension work in the fields of health, education, infrastructure, crop systems and equipment is done by a member of the rural group (particularly women) after undergoing training. Sixty-five per cent of the community development programme concern women:

-Training of health workers, mostly illiterate between 18 and 65 years selected by the community.

-Training of trainers under the supervision of women doctors: the health worker from the village trains families in hygiene (drinking water, additional feeding for children....).

In one year, volunteer workers carried out 3,600 visits to 727 families. They ensure coordination between the village community and mobile health units,

especially for immunization. The rate of vaccination has climbed from 33 per cent to 65 per cent among children; for women, the anti-tetanus vaccination has reached 48.6 per cent.

-Training of volunteer women in agricultural extension has been found necessary, 80 per cent of workers in the villages are women while the state trains men mostly. After undergoing training and refresher courses, 17 agricultural extension workers aged between 16 and 30 selected by their community demonstrate to families in their villages better irrigation methods and integrated systems (poultry farming, fruit trees, etc....).

-More than before, women have access to petty trades and obtain subsidies and loans (40 per cent of loans grounded compared with 60 per cent for men). In the past, banks never considered women's requests. Today 84 per cent of loan applications made by women are accepted. For example, to set up four weaving workshops, a rabbit breeding centre, a tapestry workshop employing 124 young girls etc. All these workshops are self-run.

The objective of the foundation is to promote women activities and to help them to regain confidence in themselves to ensure vocational and health training, literacy, improvement of the household living conditions and their integration into the socio-economic life of the community and the family.

These two actors: national and foreign NGOs and the state have complementary roles in seeking to reach the most disadvantaged families and communities, to help them to be responsible for their own lives.

8. UGANDA

SUSTAINABLE WATER DEVELOPMENT SOLUTIONS IN UGANDA

by Joseph Oryekot

Introduction

In recent years community participation has assumed an increasingly important role in development philosophy. Similarly, in water supply programmes, planners have come to realize that community participation is an essential ingredient for projects to succeed. This represents a vast change from former procedures where the community was seen as passive recipients of facilities accorded by central government.

The support of community initiative by appropriate government policies and proper management procedures are clear essentials. In order for community participation to be effective it is necessary to ascertain a suitable social, cultural and economic climate at the sites of projects. Thus, before launching a water programme that is based on community participation; it would be wise to assess the viability of the contemplated approach.

UGANDA SPRING CAPPING PROJECT

BACKGROUND

The CARE/EIL spring project began in January 1987 and has successfully capped over 100 springs. The technology being used is to build a retain wall with an embedded delivery pipe. Other components include side walls and steps. The Thrust of this program is to demonstrate that much more can be done in rural water supply programs to involve the community in the construction, operation and management of their water systems.

This spring project is located in West Nile Region in Uganda. It consists of three districts: Arua, Meye and Nebbi; of which Arua district is the geographic focus of this activity. This activity is funded by USAID, and is being implemented jointly by CARE and EIL, two US-based NGOs.

ENHANCING COMMUNITY PARTICIPATION

CARE, in her efforts to improve the availability of and access to clean water has involved communities at grass-roots to plan and implement their water projects. CARE is concerned with this participation because it is a precondition for sustainability; a strategy for building community independence, responsibility and

accountability. It is also a possible strategy for responding to the inability of governments to meet basic social needs.

In this project, community involvement entails developing a sense of responsibility among water system users. Additionally, it involves people in the selection and design of what is to be owned and maintained.

STRATEGIES CURRENTLY BEING IMPLEMENTED TO ENHANCE COMMUNITY PARTICIPATION

1. Meetings are organized at the community level for all parties for the purpose of introducing the programme and confirmation of the need for improved water.

2. Analysis of water problem

3. Organizing community group to work with. This is accomplished through a representative group.

4. The project and community conduct a feasibility study to determine the technology appropriate for the community. Technical staff work with community at this stage along with project's trained volunteer extensionists.

5. System options review the project works with the community in explaining various technical options that can be used in the area. Borehole? Spring?

6. Water system option is selected by the community within technical limits.

7. Site selection for physical placement of the system.

8. Understanding, and confirmation of community participation with the users.

9. Identification of inputs required for project start up.

10. Community definition of project duration and time frame.

11. Organization and mobilization of inputs: all parties produce the inputs promised during identification of inputs.

12. Community involved in the identification of training needs and training organized. Caretakers and pump machines are trained on how to protect, ,maintain springs and repair broken boreholes.

13. Implementation of plans/activities with regular follow-up technical support from project.

14. Inauguration of new system through community initiatives.

15. Evaluation of new system by the project and the community.

WOMEN INVOLVEMENT IN WATER ACTIVITIES

The project has trained two dynamic women from West Nile Women's Association (WENWA) to work as extensionists in our water activities with good results. So far, five springs have been protected through their efforts.

SUSTAINABILITY STRATEGIES

One of the goals of this project is to establish a sustainable community maintenance system for water sources:

1. Operation of district and community water committee. These committees are expected to meet regularly without CARE/EIL input. The committee can continue meeting on monthly basis via the present local government structure to review and provide recommendations on water issues.

2. Bicycles will be provided at subsidized rates to extensionists so as to ease their transport problems.

3. The use of locally available resources such as bricks, stones, sand and labour are being provided by the local communities.

4. Extension services are now available throughout the district. It is expected that these will continue sharing information with the communities and monitoring project activities after the end of the project. Receiving support from the beneficiary community.

PROJECT CONSTRAINTS

The fluctuating political stability within some project areas has posed a constraint on the implementation of activities. Some areas have consequently not benefitted from the programme because of occasional rebel movements in the affected areas. Vehicle thefts have also limited the movement of project staff.

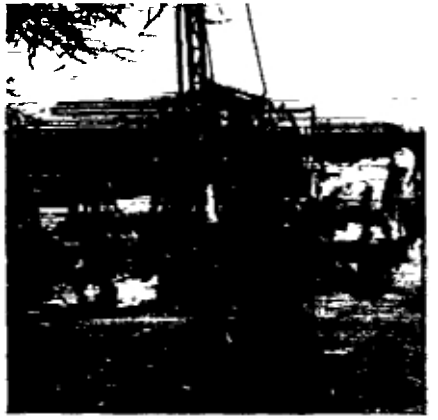


Photo UNEP

Uganda received severe setbacks caused by past dictatorships and war, this resulted in serious famine situations especially in the karamoja area-Northeast Uganda.

9. ZAMBIA

HUMAN SETTLEMENTS OF ZAMBIA AND INTEGRATED WATER PROJECTS

by E. M. Chitondo

Human Settlements of Zambia (HUZA) is a Zambian voluntary organization formed in 1982 and registered the same year, under the Societies Act of the Laws of Zambia. HUZA's major objectives are:

(a) To promote self-reliance endeavours for social and economic development;

(b) To undertake charitable and benevolent work among the most needy within the Zambian society and bring relief to persons in distressed or reduced circumstances;

(c) To promote local service leadership to advance the economic and social welfare (economic and social well-being) of the Zambian community and to provide social and technical services, training in low cost construction, artisan skills, business management and book-keeping, health and nutrition education.

Immediately after independence, there was rural-urban migration which led to a lot of squatter compounds mushrooming in urban areas. It was the obligation of the local Government to provide the infrastructure in some of these areas and to upgrade them. The first programme HUZA was involved in was the upgrading of the Kalingalinga compound.

1. KALINGALINGA INTEGRATED PROJECT

This project was initiated by the Lusaka Urban District Council and funded by GTZ from 1979 to 1988. Amongst other things needed when upgrading a compound, there was reticulation of water for the whole compound.

(a)The Role of NGOs in the project

The NGOs, together with HUZA did the implementation in conjunction with the council staff and helped in mobilizing the residents to work and participate fully in digging trenches and laying of pipes on self-help basis. The supervision was done by the council and HUZA staff. It was also the task of NGOs to educate the community so that they could understand that the beneficiaries in this project were themselves, and that their lives would become bearable if they had safe piped water for home use. HUZA also played a very big role in teaching skills to promote self-sufficiency since some people were not in employment.

(b) Role of the community

Since this was the project which would benefit Kalingalinga residents, they played a leading role with the help of the experts in planning, through meetings, implementation and guarding the material from being stolen through self-help. The community participated fully in all stages of the project.

(c) Role of women

Economies depend on women. Women are acknowledged as a major force in HUZA's programmes. They combine childbearing and rearing with managing the household economies. The management of home-building and much of the labour was provided by women. When the men went to work, the women did the digging of trenches and carrying of cement bags and other building materials to the site of their buildings. They carried water on their heads. During week-ends, the working people participated in community projects and building.

(d) Maintenance

This was and is usually done by council personnel .If the pipe bursts somewhere, The ward chairman usually reports to the Council's Maintenance Department. One stand pipe served a section of 25 houses and the payment of water bills was shared amongst all those houses using that particular stand pipe.

2. THE KANYAMA WATER PROJECT

The Kanyama designated water project was started in 1987 and hopes were that by October, 1989 it would be complete. It was funded by Water Aid-UK. Kanyama is one of the areas where HUZA operated which is not yet upgraded. The residents felt that the council should provide them with water since they depended on waterwells. The council was approached but it had no funds for such a big project. This is where HUZA came in and requested WaterAid-UK for funding. WaterAid-UK agreed and put the entire project in the hands of HUZA.

(a) The Role of the Community

This project is done on self-help basis. The digging of trenches was done by men and women of Kanyama. Since Kanyama is a rocky place, breaking of stones was the toughest, they managed this feat by using hammers and burning tyres on top of the rocks, then breaking them. The community also have embarked on making concrete blocks for the building of the wall fence around the borehole site. The building of the wall fence will be on self-help. HUZA staff gives technical advice on how to go about it. Human Settlements of Zambia has also taken the task of educating the community, so that once the pipes have been laid down,

they will not be stolen. The transformer was put up by Zambia Electricity Suppliers Corporation.

(b) Planning

The planning of this whole project was done by community leaders of Kanyama, HUZA members of staff and Lusaka Urban District Council staff.

(c) Implementation

The implementation of this whole project was done by the residents themselves and HUZA just provided and continues to provide the assistance throughout the project.

(d) Maintenance

When the project is completed, HUZA will then handover to a water and sewage company the total maintenance of the whole project. HUZA will however continue regarding developing the total human activity. These are real possibilities and the emphasis shall be on getting the communities to take a leading role, and HUZA the enabling role which demonstrated that it can be done.

10. ZIMBABWE

(a) RURAL WATER SUPPLY IN ZIMBABWE-OVERVIEW

By D. Connolly

Rural Water Supply

In Zimbabwe a lot of people got infected with water-borne diseases due to lack of clean water especially in the rural areas where 80 per cent of the population lived. It was worse during the war as most people were put into "protected villages". Here, there was poor sanitation and the boreholes broke down very easily due to contact use by many people. Hence many resorted to collecting water from rivers, unprotected wells, springs and dams.

It was during this period that research on the Blair pump was in its infancy. Zimbabwe freedom from hunger campaign was one of the first organization to respond to the call of trying the pump in rural areas.

It was not easy since many people had to be taught how to use the pumps. Another problem was overcoming the traditional beliefs and barriers. Many people died from diseases such as typhoid, cholera, amoebic dysentry and a good number suffered from bilhazia. Many more died from the war. In order to gain confidence and trust in the people Zimbabwe Freedom From Hunger Campaign had to work extra hard to convince people and to prove that it was necessary to have clean water in the home.

The introduction of the Blair pump started off in the protected villages because it was easy to get people together at certain times of the day or week. Demonstrations were carried out together with health education. A lot of people who participated in the construction of wells and fitting in the pump were the vehicles used by Zimbabwe Freedom From Hunger Campaign to reach the masses in the rural areas.

While the pump was proving to be a success in certain protected villages the politicians were busy discussing the ceasefire. With the advent of independence in 1980, people left the protected villages and went back to their villages. Most of these people were the ones who encouraged health personnel to seek for assistance for construction of wells in their villages.

It was the most opportune time for Zimbabwe Freedom From Hunger Campaign as many people were coming back home from all corners of Zimbabwe and needed assistance in all forms. Many who had been displaced by the war were in the transit points and needed water, sanitation, food, clothes and rehabilita-

tion. Zimbabwe Freedom From Hunger Campaign used this chance to motivate them and to convince them that clean water was a necessity in one's life.

Once invited with their relatives and back home the people were willing to build up protected wells to save themselves from walking far. The first large programme was done in the Midlands at the beginning of August, in 1981. This programme was launched by Zimbabwe Freedom From Hunger Campaign together with the Ministry of Health.

There are ten provinces in Zimbabwe namely: Mashonaland central, Mashonaland east, Mashonaland west, Manicaland, Midlands, Harare, Bulawayo, Masvingo, Matebeleland south, Matebeleland north. Rural water supply projects were executed by the Zimbabwe Freedom From Hunger Campaign in the following provinces:-

a) Midlands 1396, wells were constructed and protected in 1980.
b) Mashonaland central - 1049 wells were constructed and protected in 1981.
c) Manicaland - 644 wells were protected in 1982 to 1984.
e) Mashonaland west - 560 wells were protected in 1985.

The population that has so far benefitted directly from the programme is 31.254. Indirectly the population is doubled plus, due to visitors, new births in families and newly resettled families in the various provinces and districts.

Objectives

-Provision of protected water to the community so as to free them from water borne diseases e.g., typhoid, cholera, etc.;

-Provision of adequate water for the irrigation of vegetables and fruit trees;

-To combat malnutrition and hunger by having food grown due to the availability of water;

-To counter fuel shortages by forestry plantation schemes, where some deep wells had big yield of water.

Project Initiation

As per the preamble, the project was initiated by the Government for the people. With mass education to the community, the programme was readily welcomed and adopted by the rural folks. Today the initiation comes from the community itself.

The Ministry of Health trained some cadres from the villages on how to construct and protect a well. These village members went on building wells under the supervision of Government Health Assistants and Inspectors. They received an allowance of Z$50.00 per completed well and this was paid by either the government, donor (NGO) or the villagers whose well was protected.

Local Participation

The high motivation and acceptance of the programme resulted in maximum participation from the communities. They cleared grounds where the well was to be sunk. In some areas where there were no rigs, the people dug the well themselves. They collected stones, gravel, river sand and brought them to the site. A bigger percentage of the work involved was carried out by the locals. The donor or Government's contribution was the expensive component such as the purchasing of cement, casings and the pump.

Due to high motivation, one soon heard that the villagers had formed what was called "well" committees.

The "well" committee members are responsible for the welfare of the well. In some provinces, the community decided to pay 10 cents per week to the committees. The money was to be used in the maintenance of the pump. This was an initiation taken up by the people themselves.

The programme is continuing satisfactorily. The government through the Ministry of Health Department, is now training people selected by the villagers as pump minders. These people on successful completion of six weeks training, go back to the villages and maintain and service the pumps free of charge. Spare parts for broken pumps, are brought by the well committee with the money donated weekly by each family in the village.

Functions of a "well" committee

The comiittee is entrusted with:

1) Ensuring that the pump is not misused;
2) Checking daily the surrounding of the "well" so as to keep it neat and clean and report erosion damages in order to get prompt repair.
3) Fencing the wells in order to keep animals away. Any fence breakage is reported immediately.
4) Checking daily to ensure that the waste water drains away and that the spillway is kept clear and in good repair.
5) Reporting pump breakages to the committees, which in turn report it to the pump maintenance committee for immediate attention and repair.

The type of pump which is commonly used is the blair pump and the bush pump.

The World water December 1981 "ZIMBABWEAN HAND PUMP PASSES VILLAGE LEVEL ENDURANCE TESTS". It goes on to say a revolutionary pump developed in zimbabwe could play a vital part in answering Africa's water decade needs. The pump, which can be bought in kit form for less than us$75, seems on the face of it to fulfil the World Bank/United Nations Development Programme criteria for village level operation and maintenance handpump (world water december 1981).

Originally designed by the Blair Research Laboratory, part of Zimbabwe's Ministry of Health, it has since been refined and mass produced by Prodorite, a local company which specialises in plastics extraction.

The Blair pump was initially conceived as a shallow well hand pump that could operate at depths of 6m or less and could be cheaply installed in the many unprotected shallow wells scattered around the remoter rural areas of Zimbabwe. Most of these wells operate with simple rope and bucket arrangements and about 90 percent are estimated to be less than 6m deep.

Why make a very expensive pump that will cater for 10 percent of wells which are deeper than that when can make a cheap one for the 90 percent ask Prodorite's managing director, Mr. Ernest Berk.

The pump has furtunately performed well and it can operate at depths of 6m or less. They can be installed cheaply in the many unprotected shallow wells scattered around the remoter rural areas of Zimbabwe. Most of these wells operate with simple rope and bucket arrangements and about 90 percent are estimated to be less than 6m deep.

As it happens the pump has performed well at depth of up to 15m and Prodorite is currently monitoring over a period of time a pump installed in an 11.5m deep communal well. this pump has been deliberately sited near a village shop where it will suffer regular rough handling and enable Prodorite to assess the modifications required. So far, after a year, there is no sign of wear or weakness.

What is interesting organizations like UNICEF and Freedom from Hunger - both Prodorite customers - is that despite the pumps low cost it is proving extremely robust and virtually maintenance free. The lightweight plastic pipe cylinders and pistons mean that installation requires only the simplest tools and little technical expertise. Such maintenance as might eventually be required can be handled locally with equipment no more sophisticated than a monkey wrench. Lifting equipment is unnessary and in fact the pumps can be removed from the well single-handedly.

Transporting it from manufacturer to site is also simple, only major constraint being the pipe length rather than weight. For pumps deeper than 6m, the piping is sold in lengths suitable for carrying by public transport, with joints for site assembly. The price - Z$53 (US$72) for a 6m pump - is low enough for groups or even indivi-duals to consider buying. Once they have seen pumps operating in their districts families will buy the pump, says Prodorite's Managing Director. Many of the firms's sales have been to individuals, he says "a real test of the pump's popularity". And of the thousands sold in rural villages Prodorite has not had a single comeback, claims Mr. Beck. A distinguishing feature of the Blair/ Prodorite pump is its compact above ground appearance. All that is visible is galvanised iron "walking stick" handle which doubles as the water spout and is attached to the moving plastic pistonrod. In its resting position it is barely a foot above ground. Accidental damage·by knocking or from children playing is thus avoided and another hazard that of pilfering of the removable parts for other uses.

Below ground, the pump is basically two plastic cylinders one inside the other each fitted with identical valves at the base. The inner pipe is the moving piston/ pushrod which is attached to the galvanised iron handle. the user moves the piston up and down within the stationary cylinder. On the upstroke, water is drawn into the cylinder through the lower fixed foot valve. When the piston is pushed down the foot valve closes, and the water is forced through the upper moving valve and up the hollow piston to the surface. In use the pump can lift 20 litres/ min. says Prodorite, and a young teenager would use 30-40 strokes to fill a bucket.

Minimum maintenance was a key feature of the original Blair pump design. Prodorite's mass produced version has gone further and is now, according to mr. Berk, a "no-maintenance unit". A machine at the factory had been set up to pump continuously and after three months non-stool pumping and six million strokes the individual parts have been found to show no detectable wear at all.

Could the Blair/Prodorite pump be manufactured in other countries? The basic Blair design carries no patents and if rights belong to anyone it is the Zimbabwean government. But it is clear the Prodorite's development of the pump for mass manufacture has been an important contribution. Managing Director Mr. Berk is not opposed to other countries manufacturing the pump under some licensing arrangement. But from a commercial point of view he would rather see the pump manufactured in Zimbabwe or at Prodorite's sister company in Malawi where he can be sure that manufacturing standards would be maintained. There are many non governmental organizations in Zimbabwe also implementing the programme of rural water supply. In Zimbabwe, is at having a healthy nation by the year 2000. Therefore in order to achieve this, all water projects are implemented alongside with sanitation. Again it is a Blair toilet that goes hand in hand with a Blair well.

The Zimbabwean community is well aware of the encroaching desert. Regular meetings and ideas are discussed between the rural communities, NGO and cadres from the Ministry of Agriculture. Positive reaction has been demonstrated by the rural people. As mentioned earlier, forestry plantation schemes are effected in some areas where there is plenty of water from wells, dams and river streams. The present denuding of trees and woods around establishment settlements on this continent is well known. In the absence of any alternative fuel source, the only solution is a replacement one. Therefore apart from one tree being replaced on only tree planting day on December 7, the communities are encouraged to plant a tree a day in their various areas. Competitions at district level are being held and this will encourage people to dot heir best in the programme of afforestation.

Impact

Through this programme, the rural people mostly women have had their families quality of life improved. There has been a tremendous decrease in water-borne diseases. Healthy people are able to work hard in the land and children alert at school, as they are free from diseases and with food in their stomachs. A sense of togetherness developed among the villagers as they worked together constructing the wells. This formed a platform for them to exchange ideas and views and solving each other's problems.

Problems

Not much problems were encountered since the programme was readily adopted by the communities.

Conclusion

In view of the successful exercise for the rural water supply which was implemented by Zimbabwe Freedom From Hunger Campaign and the marked reduction of water borne diseases and also the improvement of nutrition in all sections of the population and the quality of life, this exercise should be continued until every rural Zimbabwean has a protected water source at his/her doorsteps. As this depends on the availability of funds both local and international, I would like to appeal to friends and comrades to continue creating awareness in the rural folk of all our countries, that clean safe potable water is a necessity to life. Our appeals as NGO's to our governments and donors should be more meaningful, and our contribution to conserve life and development should leave an ever lasting impact on the population.

(b) THE ASSOCIATION OF WOMEN CLUBS AND WATER SUPPLY IN ZIMBABWE

by R. Y. Mashongamhende

The Association of Women's Clubs has actively participated in the water and sanitation programmes being carried out by government ministries, EEC and non governmental organizations.

Although the Ministry is very much involved in the water programmes being carried out in Zimbabwe, a large share of the work is being jointly carried out by NGOs.

The programmes are all community-based, in terms of how they are initiated, implemented, and maintained. However, the planning of the technical sign of the water source structure is carried out by the engineers hired by government. The ministry of Water in Zimbabwe works in conjunction with the Ministry of Community Development and Women's Affairs for Mobilization while the Ministry of Local government gives technical advice. The AWC works within the government development plan, although the government does not fund its projects, the government however gives its blessings to AWC to work and liaise with other internal NGOs.

A notable project which has been implemented by AWC members is the Chisvoteso Water project.

CHISVOTESO WATER PROJECT

(i) Historical background

The history of this water project dates back to 1984 when the community of Seke where Chisvoteso project is situated decided to embark on a water project in order to have enough for consumption, watering their gardens and fruit trees.

The need for the project was initiated by one of the club members who happens to be an area trainer for AWC. Together with other women in Chisvoteso, she developed the idea of embarking on a vegetable gardening project in order to generate some income and also to upgrade the nutritional state of their children.

The project started with 25 members. All the 26 members who are there now are women. When the project was started, each member contributed five Zimbabwean dollars each. The aim of the project is to promote self-reliance among the members and the surrounding community.

(ii) Problems faced by the project

Although the project members managed to secure land, garden implements and seed to make their project a reality, they soon confronted a problem of water. Initially when the project started, water was secured from a nearby well and with the continuous scarcity of rain in Zimbabwe over the past years, the well soon dried up.

When it dried up, the project members were forced to resort to working effectively in their fields during the rainy season. More members thus were able to attend various courses throughout the year. Of importance is the participation by some of the members in a forestry course which was conducted by AWC and the forestry commission.

After the course, the members went back to their communities and Chisvoteso project decided to expand its project to tree planting as well.

(iii) Project Execution

The 26 members in 1987 were assisted by AWC through assistance from donor agencies such as Africare and the Environment Liaison Centre International with a hand-pump to enable them to sink a well. The labour to sink the well was provided by the project members with assistance from AWC personnel who are skilled in well sinking.

In order for the well to be sunk quickly, project members worked everyday in turns. Some came in the morning and some in the afternoon. The division of labour was arranged such that mothers were able to attend to their household duties part of the day. The most interesting thing about this water project was the dedication and conscientiousnes that the group displayed during the time of much hard physical work.

The whole sinking was solely done by both women and men involved in the project without hired assistance. The only outsiders at the project were AWC personnel who assisted in the technical areas.

(iv) Impact of the project

The water project was successfully finished during the same year and many other provinces in Zimbabwe have shared this experience. The sinking of the well has enabled the project members to work throughout the whole year and thus secure funds for their project and homes. The growing of vegetables has also assisted family members and the community as a whole to have access to nutritious foods that will enhance their health and that of their children.

The water project has also had a direct impact on the environmental awareness programmes being carried out at national level. It has fruit and indigenous plantations.

(v) Lessons

The most important lesson that we have all learnt since the initiation of the programme is that through persistence directed towards goal achievement, Chisvoteso water project has managed to raise funds from donors to set up a well.

Faced with the problem that members encountered before and during the early years of implementing the programme, one member of the project said: "We had to do something to help ourselves. We have had to learn through trial and error. Indeed, we have learned to admire the words through trial leader, former President Julius Nyerere, who has stated that people cannot be developed by others. We have found that people, even elders, usually know what is best for them when the other factors impinging on a situation like ours, are equal."

It is against this strong belief of wanting to be involved in the alleviation of the common problem facing them that the participatory approach to development is taken seriously, as by the Chisvoteso Project members. There exists in Chisvoteso a strong belief; that if people are encouraged to participate in the designing and implementing of a self-help activity with them as beneficiaries, they will identify with that activity and in most cases, success, although varying in terms of manifestation and when it will be realised, will be inevitable.

(vi) The role of NGOs

Non governmental organizations facilitate the participation of communities in water projects as mediators. Some NGOs like AWC, which are indigenous, often lack ready sources of funding for projects but have to seek support from international donor agents who are sympathetic towards the needs of our communities. When financial support is received, NGOs are responsible for monitoring these projects with the co-operation of the project members.

The Government has five year plans that include the promotion of water projects through technical services and financial assistance in setting up some more. The water projects funded by the Government sometimes arise through additional external sources that provide financial assistance that is only channelled through the governments and not NGOs.

The communities most of the times initiate the projects that they would like within their areas in order of their priorities. Therefore water projects in most communities have come about as a direct call of need from the communities.

The involvement of women in wider community planning, operation, maintenance and evaluation of drinking water supply is minimal. From experience, women only take part in the decision making in projects wholly initiated by women only and have support from women's non governmental organizations.

The community participation on the whole needs to improve in the Zimbabwean context. Most of the time, decisions are made from the top to the bottom instead of vice-versa to enable the needs of the communities to be fully met. The community also needs additional training in activities that will improve their livelihood and hence promote more developmental activities within our communities.

AWC encourages community participation at all levels since its operations are from the bottom-up. The AWC structure starts from the village level up to the National Executive Council. Local women organize themselves into clubs, which are affiliated to AWC and pay a membership fee of two dollars each year. The clubs in an area select an area representative, called the Area Trainer. This trainer receives training from the regional office and returns to her area to encourage and support her clubs. AWC's method of operation is based on responding to the needs and requests of members (bottom up). This approach is adhered to in all AWC's activities.

(c) COMMUNITY CONTROLLED WATER SUPPLIES: A REPORT ON SIX WIERS IN THE MATSHETSHE AREA OF MATABELELAND SOUTH, ZIMBABWE

by Stephen Hussey

Historical Water Supply Situation

Traditionally, supplies of water in zimbabwe were obtained from river pools, springs and marshy areas, but presently the acquisition of water in the dry, western and southern areas is not easily achieved. In the early years of the century, settler farmers entered Zimbabwe and forced people away from the developing national infrastructure and their traditional land into the drier marginalized areas. Since that time, within the reduced land area, human as well as animal populations doubled and redoubled so many times that it quickly became impossible for society to exist from surface water supplies alone.

To meet these increased demands it consequently became necessary to dam surface water or to access supplies of ground water. To retain people within the land area which had been set aside, the authorities of the day decided that boreholes afforded the best option for reliable water sources. The decision on where to drill, the operation of the drilling equipment, the supply and installation of pumping equipment was all undertaken by centralized authority as communities themselves were in no way involved.

When pumping equipment broke down, as if frequently did from continued use, the people had to wait until technicians with the necessary skills and sophisticated equipment arrived from their central depots to effect repairs. The acquisition and supply of water was totally in the hands of the authorities and there was little or nothing people could do to effect any control over their own supplies. This system of water provision for the rural people within the country remained in operation for some sixty years until Zimbabwe gained independence in 1980. Obviously this situation proved most inadequate and generally unsuitable, as a result, since independence many communities have striven to be more self-reliant with their water supplies.

ORAP's Involvement

Water supply is not restricted to the supply of clean drinking water but has to supply community needs to sufficiency. An adequate supply of water is a prime necessity for human domestic purpose, for livestock watering and also, through irrigation, for the supply of vegetables for the general health of a family as well as to generate a small financial income. ORAP therefore is involved in a wide range of tube wells, as well as the drilling of boreholes. Water sources are also utilized from river pools and water bearing sand in "dry" river-beds.

ORAP work begins with people, and supports initiatives to improve water sources by helping communities and groups to access water, rather than in looking for people to utilize good water sources. ORAP encourages people to form groups within communities in order to effect their own development and to identify their own resources, materials, strengths and weaknesses. Because of this, ORAP is frequently involved in the more problematic areas where water sources are more difficult to utilize.

In many areas the sinking of boreholes is still seen as the most reliable way of providing water. Although boreholes do access deep water supplies and invariably allow for infiltration from several levels, they do not always offer the best water supply option particularly in high bed-rock areas.

Community initiatives

The Matshetshe area, in Matabeleland South is one such area. There are many high granite monoliths and the potential for reliable boreholes is therefore very poor. Within this area many communities wish to improve and establish themselves with a water supply sufficient for their requirements. The sources which they had to use were inadequate and invariably far from their homes. The initiative to do something was taken by the people themselves, brought about by the desire to make improvements in their everyday lives.

Initially members of each community met in a common cause to improve their situation and to try to establish systems whereby they could do things for themselves. Each met to consider their options for improving water supplies. Because of the nature of their area, near the country's watershed, with high bed rock granite and many small streams they decided amongst themselves to construct masonry weirs to impound water during the storms when the streams were running.

A variety of possible sites were considered and inspected and when each community had a prospective site, the local officer of the agriculture extension service (AGRITEX) was asked to approve and to assist the groups to obtain the necessary permission to commence construction. These AGRITEX officers surveyed and assessed each site, drew up rough site plans and submitted them to the government offices for the authority needed.

The groups formed "works committees" and elected office bearers to plan and oversee the preparation work, which began immediately with such tools as the groups could themselves produce. The sites were cleared and work began on excavating the stream beds, other participants began collecting the stones necessary for building and development began in earnest.

ORAP Group Support

From the outset ORAP members and staff had been involved with the groups within these communities. ORAP Board and staff members were aware of what was happening throughout the identification period and commencement of work. The ORAP Field Worker and members of the mobilization and technical staff had voted each group to meet and discuss with them their intentions and aspirations and also to establish their commitment and resolve generally, also to assess the type of support and involvement which might be expected of ORAP.

When each group had achieved as much as they alone were able a formal request was made to ORAP for support. Each group was then assisted with some necessary materials and a small selection of digging tools and wheelbarrows. Since many of the original tools were by now completely worn out, ORAP assisted with the supply and transport of cement, but the collection of sand and stone continued to be undertaken by the communities. ORAP technical staff maintained visits to the group at each site. Although some members of each group had some experience of building, because of the difficulties in suitably preparing each site and satisfactorily laying stones to make an impervious barrier, a builder who had been trained in ORAP was temporarily employed. The person worked in rotation with the communities at each construction site.

Since the inception of the work, apart from the ORAP builder, no one working at the site has been formally paid, although recently each site has been placed within the government "Food for Work" scheme, whereby people working on registered work in drought-designated areas are given Zimbabwean dollar 2,00 a day in order to purchase food. ORAP has supplemented peoples' efforts throughout the construction period and will continue to do so as long as such input is sought, until the development work is completed. ORAP was therefore expected on completion of the weirs to support the groups in the establishment of gardens or in any other way in which they may wish to utilize the water.

This system of support is applied throughout any ORAP involvement, assisting communities to form groups and to identify their needs, resources and options. Communities are therefore made responsible for their own development. They themselves have instigated the work, the administration and operation of any scheme rests with the people and any benefits, social or financial accrue to them.

After groups have themselves made a start at community improvements, ORAP may assist with a tangible input, but then allow the group time to utilize this material or equipment before returning with a further contribution. In this manner groups control themselves and their development, as they establish their own facility improvements. On completion, also they get on and utilise the facility to their best advantage and reap the benefits.

Pros and Cons

With so much in the hands of the people, problems are encountered. In some instances, although many weeks of work were spent preparing sites for building, even this was inadequate, resulting in undue seepage at the weir base. As so many people were involved in the construction, occasionally there was insufficient quantities of a mixture or poor mixing of the building mortar and stones were not well bonded, again resulting in undue losses from seepage. It was primarily for these reasons that a builder was employed.

Future possible difficulties may lie in the fact that weir constructions are now within the "food for work" program. Hopefully there will be no problems between those who have been involved, unpaid, from the outset, and the recent "paid" arrivals. A further problem may lie in the fact that contrary to all efforts, people have over-exaggerated expectations on the benefits expected from their endeavours, with some hoping for large irrigation or piped water schemes from a source which is altogether too small.

These problems can all be overcome and the solution certainly greatly assist with further involvements. They are far outweighed by the benefits of such involvements, whereby people have affected and controlled their own development to produce more water and food. A fairly good income has been generated and people are in a position to master and manage their own water sources.

As soon as groups have themselves made a start, ORAP assists with tangible input.

IV. THE UN AND THE INTERNATIONAL WATER SUPPLY AND SANITATION DECADE

by Dr. Naomi P. Nhiwatiwa,
UNICEF, Eastern and Southern Africa Region

UNICEF support to water supply and sanitation dates back from 1953 when a limited number of demonstration schemes were assisted jointly with the World Health Organization (WHO). The main objective of UNICEF co-operation in water supply and sanitation is securing child health and well-being. This is achieved through improvements in the physical, biological and social environment of children and their communities. The central issue is the provision of safe, sufficient and accessible supplies of water; sanitation facilities and promotion of their use.

Impact on Child Health and Well-being

Adequate supplies of safe water and basic sanitation are essential elements of Primary Health Care (PHC). Each year an estimated 12.4 million deaths occur from water-borne diseases. These deaths are caused by poor environmental sanitation which is a major link in the chain of diarrhoeal disease that entraps young children of developing countries and claims the majority of deaths in the 0-5 years age group. Contributing factors are unsafe and insufficient water supplies, the lack of safe means of human waste disposal and inadequate personal and household hygiene, including poor food-handling practices.

Consequent health problems created by those conditions include gastro-intestinal, viral and bacterial infections; various intestinal parasite infestations that drain limited food supplies and heighten malnutrition, skin and eye diseases (notably trachoma). Studies by WHO in 28 countries indicate that improvements in both water quality and availability are especially effective, in reducing diarrhoeal morbidity rates by nearly 40 per cent. Reduction in diarrhoea-related deaths is thought to be even more significant where clean water supply is available.

Besides the prevention of diarrhoeal morbidity and deaths, improvements in water supply and sanitation are critical in controlling cholera, typhoid, and a variety of helminthic diseases. When water provides the only transmission route, as is the case with guinea worm (dracunculiasis), safe water supply is the single solution to combating the disease. However, most diseases are spread through multiple faec-oral transmission routes, necessitating improvements in sanitation, food hygiene and knowledge.

The benefits of water supply and sanitation far exceed the impact on communicable diseases. Accessible water supply can eliminate the wearisome labour of women and children who must fetch water from long distances - typically a walk of two to three hours each day. In releasing women's time for more productive activities, the introduction of accessible water supply is often the first step in women's advancement to full participation in the development process.

As water is universally a community priority, water and sanitation activities serve as an effective entry point around which communities can organize other basic services. Economic benefits accruing from water supply activities range from micro-irrigation leading to improved household food supplies, animal watering and promotion of commercial activity. In summary, water supply and sanitation enhance the overall quality of life for children and their communities in both the short and long term.

The International Drinking Water Supply and Sanitation Decade, 1981-1990

UNICEF co-operation in water and sanitation is within the overall objectives of the international drinking water supply and sanitation decade formally proclaimed by the General Assembly November 10, 1980. As a promotion measure, the Decade succeeded in dramatically heightening international awareness of the urgent need for the two essential services of safe water and sanitation. This trend is evident in the increasing number of countries making firm commitments to this sector. As of 1986, 76 developing countries had set full or partial targets for the decade. A similar number reported the establishment of decade plans. National action committees are operating in some 80 countries. Other examples of positive impact include more efficient co-ordination among the external support agencies; widespread approaches; and improvements in human resources development, including establishment of knowledge and experience network. One of the achievements of the Decade is the joining of forces and realigning of policies and action. An integrated international system is now in place to help governments extend water and sanitation services to the people.

Another major achievement of the Decade has been the mounting international commitment to reach the most deprived populations through the community-based approach. This international commitment is exemplified in the "Abidjan Statement" summarizing the conclusions of the 1986 World Bank/UNDP-sponsored international seminar in Côte d'Ivoire that was attended by representatives of 30 sub-Saharan African countries and 15 external governmental and non governmental agencies. The statement proposed a five-point strategy for achieving lasting health and economic benefits for the rural and urban "fringe" populations of Africa through community management of water supply and sanitation systems based on low-cost technologies.

The fundamentals of the strategy stressed:

(a) the responsibility of governments and donors in implementing projects adhering to a policy of sustainability and reliability;

(b) the vital role of communities, especially women, in planning, selecting, siting, construction, installing and maintaining their own water supply systems;

(c) the multiplier effect of an integrated approach combining water supply, sanitation and hygiene education with PHC, nutrition and other programmes;

(d) the necessary compatibility of technology choice with community resources for maintenance; and

(e) the essential element of community maintenance backed by a national strategy of standardization and distribution of spare parts, thereby cutting recurrent costs and increasing reliability. This resolve was endorsed by the external support agencies for the decade at a meeting in Interlaken, Switzerland, in October 1987.

Coverage

The Decade goal of "Water for all by 1990" was reached in only a few countries notably Bangladesh and India. Sanitation goals were not met because of the more complex challenge posed by specific needs for materials, knowledge and attitudinal changes required for community acceptance. Implementation experience showed that the Decade goals were ambitious. Many countries have since revised their targets downwards to more realistic levels.

The leading constraints to the Decade reported by governments include lack of funds, inadequate cost recovery frameworks, a shortage of both sub-professional and professional personnel, and operational and maintenance difficulties. Population increase, specifically the rapid urbanization affecting all regions, has also proved a constraint in achieving target coverage. In 1970, urban residents accounted for one-fifth of the total population in the developing world, compared to almost one-third of the total population in the developing world, and at present. In the year 2000, half of humanity will live in urban agglomerations, majority of them in slums and shanty towns.

At mid-Decade, the total number of unserved populations in developing countries (excluding China) was estimated at 1.2 million (i.e, 1,2000 million) in need of water supply (217 million urban residents, 932 million rural) and 1.7 billion in need of sanitation (355 million urban, 1.4 million rural), out of a total population of 2.5 billion (867 million urban, 1.6 billion rural). This number could increase if proper measures are not taken.

1.Shortage of Financial Resources

The Decade was planned in the mid '70s. The '60s and rapid economic expansion were fresh in memory and the world was still enjoying relative prosperity, despite the oil shocks of the early '70s. The '80s brought an abrupt halt to prosperity, forcing many governments to cut down investments in this sector. When incomes and revenues are low, development projects-especially those in "soft" sectors easily suffer at the expense of other priorities. Levels of investment in water and sanitation have remained constant while population growth has increased.

2.Population growth

The countries that urgently require improved water supply and sanitation services are unfortunately those fast population growths and the lowest income levels. Sub-Saharan Africa, for example, witnessed an annual rate of population growth of more than three per cent through the '80s. At this level of growth, just maintaining 1980 levels of coverage meant increasing services by more than 30 per cent during the decade.

3.Institutional options Increase

It has became clear that low-cost technologies alone are insufficient in ensuring sustainable services. A range of institutional options is equally essential i.e., "the concept of village-level operation and maintenance (VLOM) for rural water supplies. The VLOM concept grew out of experience: failed handpumps were more common than working ones. Central institutions proved again and again their inability to provide the maintenance and repair services needed to keep the pumps operating and local government institutions were generally not equipped to take on these responsibilities."

4.The adoption of unconventional ideas and strategies for serving the poor

Low cost technologies and community-based institutions are no longer viewed as unconventional, but are becoming a conventional approach that is recognized as the only hope for sustaining services and improving health and living conditions for most of the world's poor.

The lessons should greatly increase the chances that water and sanitation coverage will proceed more rapidly during the '90s and that the systems installed will be more likely to be sustained than those used in the past.

During the '80s there was a growth of awareness on the linkages within the water supply, sanitation, and waste disposal sectors. But the search for low-cost

feasible solutions to the problems of urban sanitation, environmental degradation, and water supply population growth remains is still one of the greatest challenges facing us today.

Perhaps the greatest achievement of the Decade has been getting national and local governments, donor agencies, non governmental organizations, and sector professionals to communicate, share knowledge, and work together more. This improved communication and the many important lessons of the '80s will help to make greater strides toward improved water and sanitation coverage in this decade and beyond.

What is the forecast for the '90's?

The urban population is likely to continue growing, putting more pressure on the existing system. Trends in population growth in Africa South of the Sahara, of three per cent, are unlikely to change. Thus the population growth and demands will continue to outweigh the capacity of the system to service these increased populations. The changes in Europe and elsewhere are likely to have negative impact on the economic activities of Africa. The continuous deterioration of the environment i.e., deforestation and desertification will compound the problems of water supply. The issue of water will have to be examined within the context of many variables which play a role in the process of delivering the services.

What are the Solutions?

The most important solution is empowering community members to assume responsibilities for their own development. This entails the provision of information to communities relevant to the realities of their situation. Many annual events such as tree planting, well digging, etc,, will have to be changed to routine work such as afforestation. Government leaders need to take a serious look at this problem and work out a practical solution.

What is the Role of NGOs in All This?

NGOs have been recognised as being very critical to the realization of water objectives. It is the NGOs who in many cases close the gap between community aspirations, needs, etc. and the capacity of governments to provide these services.

UNICEF has always recognized this very important role of NGOs and has worked together with, and supported NGOs. Community groups need to be strengthened in their efforts to find solutions to water problems. International NGOs should link with local groups to facilitate expansion of water services to the remote areas and access information to communities to enable them have multiple alternatives to the problems of their communities.

V. APPENDICES

(a) FRAMEWORK AND GUIDELINES FOR THE ESTABLISHMENT OF AN NGO WATER NETWORK IN AFRICA

Background

For some time now, African NGOs concerned with water development issues have been aware of the need for improved communication and cooperation to improve their efficiency in tackling a common problem.

While the UN International Drinking Water Decade has increased the awareness of the need for potable water for all, it has, however, achieved limited success in meeting this goal. Certainly water resource development has been accorded a high priority in many national development plans throughout the continent, but for these to succeed, a higher degree of sustainable community participation is required. This is best catalysed through NGOs and community groups.

Unfortunately, NGOs working with local communities to find water development solutions often find themselves working in isolation without any form of coordination at either regional or continental levels.

There is, therefore, a need to establish a continental body to facilitate effective communication, exchange of experiences and mutual cooperation among NGOs and to act as a channel through which NGOs may be represented at international forums.

This need was clearly defined by African participants at the International Rivers Network *"Economically, environmentally and socially sustainable water resources development solutions"* conference in San Francisco in 1989.

Following that conference 70 NGOs working on water development projects in Africa were contacted to consider the formation of a network to link all those involved in water development on the continent.

The response to these initial queries was so enthusiastic that the project sponsors, the Environment Liaison Centre International (ELCI) and the Kenya Water for Health Organization (KWAHO), organized a subsequent workshop in Nakuru, Kenya as a forum for the formation of an African Water Network.

The Nakuru Workshop

A workshop on "Sustainable Water Development Solutions" was held in Nakuru, Kenya from 14 to 20 January 1990, bringing together 50 NGO participants from 13 African countries, with seven observers from the Kenyan government, international organizations and donor agencies.
The key issues in African water development identified at the workshop are as follows:

(a)There is a need for sustainable community participation and control in their water projects;

(b)More recognition should be given to NGOs who provide an important link between communities, governments and donor agencies;

(c)Sustainable water resources development is severely hampered by lack of relevant data;

(d)Many water projects have missed the opportunities as entry points for integrated development;

(e)There is a need to ensure that the adoption and transfer of technologies is appropriate for sustainable development;

(f)Institutional capabilities to maintain and service water systems in the communities have not been adequately developed;

(g)Community conflicts tend to work against successful implementation of projects;

(h)Despite being the prime providers of domestic water, women at present play a minor role in water resources development and management;

(i)The framework of many projects, in terms of the time schedule and budget, often acts as a disincentive to genuine community implementation;

(j)There is a need to realize that public accountability is an essential component in community development;

(k)NGOs do not adequately address themselves to the marginalized sections of the community;

(l)Many water development projects have been implemented without proper environmental impact assessment and cultural considerations.

Recommendations

The following recommendations were put forward:

1.Government institutions, NGOs and any other initiatives should involve the community in the whole process of planning, implementation, monitoring and evaluation of all water development projects with final control given to the community;

2.Women should play a leading role in all phases of water resource development and management;

3.Government-NGO cooperation in the provision of water should be strengthened in order to maximize benefits to the communities;

4.An effective and practical database containing NGO activities in the field of water in Africa should be developed utilizing scientific and functional approaches;

5.The choice of technology should be appropriate and sustainable to ensure community operation and maintenance;

6.Traditional institutional capabilities should be utilized and functional training programmes instituted to enhance the existing structures;

7.NGOs should institute specific programmes to enhance the ability of marginalized communities to have access to sufficient and clean water;

8.There is a need to undertake proper environmental and cultural impact assessments before implementing community water projects;

9.In addition to establishing a continental body, NGOs in Africa should establish regional organizations to ensure speedy exchange of ideas and personnel training programmes; set guidelines for the management of community-based water projects; sensitize governmental donor agencies; and ensure the implementation of sustainable water development projects.

Mandate

Participants at the workshop approved

i)The formation of a continental NGO body to be known as African Water Network (AWN)

ii)The establishment of an interim steering committee composed of the following membership:

- Three members from ELCI;
- Three members from KWAHO;
- Present AWN Coordinator/Secretary
- One member from the Ministry of Water Development to serve as an observer
- Other NGOs to be co-opted at the discretion of the Committee.

iii)The appointment of a chairperson to be made by the members from the Committee

iv)The establishment of an interim Board comprising the members of the committee and all founding NGOs

v)The Steering Committee to report and review progress within a period not exceeding 12 months after the Nakuru workshop

vi)The Interim Board to endorse the constitution, and approve all other plans within the terms of reference of the Committee.

vii)The convening of a board meeting by the Committee at the expiration of the 12-month period, to enable it to review progress made and appoint Secretariat staff.

viii)The Committee to explore all possible avenues for raising funds to sustain its operations.

Terms of Reference for the Interim Steering Committee

1.To establish a secretariat for the network;

2.To draft a constitution which will govern the activities and operations of the network to be approved by the Interim Board;

3.To register the network within the policy and legal framework of the host country (Kenya);

4.To undertake any other activities which will promote the realization of the network and its objectives, as shall be determined by the constitution.

Activities of the African Water Network (AWN)

1.The Network shall publish resource materials (case studies, reports, brochures, etc).

2.The Network shall establish a regular newsletter for AWN;

3.The Network shall develop an NGO data base, to include social, economic, cultural, environmental and technical information on water resources in Africa;

4.The Network shall assist other NGOs carry out research on water resource development in their own countries;

5.The Network shall strengthen NGO capabilities through visits and exchange or internship programmes within the network;

6. The network shall establish liaison with all water-related organizations at national and regional levels and offer consultancy assistance;

7.The Network shall find ways and means of sensitizing government and donor agencies of existing water-related problems with a view to facilitating appropriate policy formulation.

The AWN Workshop: Participants came from all over Africa.

(b) LIST OF PARTICIPANTS

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(c) WORKSHOP PROGRAMME

Sunday 14th	18.00	:Arrival at venue - Kunste Hotel - NAKURU.
Monday 15th	9.00-10.30	:Briefing and Introduction AWN Initiative/ Introduction of Participants by Antoine SENDAMA, AWN-Coordinator.
	10.30-11.00	:COFFEE BREAK
	11.00-12.30	:Community participation and Workshop expectations by Ellen Buch-Hansen, AWN Consultant/DANIDA.
	12.30-14.00	:LUNCH TIME
	14 00-15.00	:Official opening by the Honorable Ndolo Ayah, MP Minister for Water Development - KENYA.
	15.00-15.30	:Keynote speech by Dr. Mary Racilis, UNICEF East African Regional Director.
	15.30-16.00	:Panel discussion.
	16.00-16.30	:COFFEE BREAK
	16.30-18.00	:Panel discussion continued.
	18.00-19.00	:Free time
	19.00-22.00	:SUPPER AND RECEPTION
Tuesday 16th	9.00-10.30	:Case Study One - Clean Water for Mafi-Kumase, Ghana: A Report on Community Initiated Water Project in Volta Region of Ghana. Presentation and Discussion.
	10.30-11.00	:COFFEE BREAK
	11 00-12.30	:Case Study Two - Rwanda. - Rural Water Supply in the Parish of Kinyami - Presentation and Discussion.

	12.30-14.00	:LUNCH
	14.00-15.30	:Case Study Three, Tunisia - "Water Resources Mobilisation for Sustainable Rural Development in Tunisia". Presentation and Discussion.
	15.30-16.00	:COFFEE BREAK
	16.00-17.30	:Case Study Four, Kenya - "Ngusuria Community Water Project". Presentation and Discussion.
	17.30-19.00	:Free time
	19.00-20.00	:SUPPER
	20.00-22.00	·Additional case study presentations in regional groups.
Wednesday 17th	all day	:Field trip. Led by team leaders.
Thursday 18th	9 00-10.30	·Field trip reports and discussions.
	10.00-11.00	·COFFEE BREAK
	11 00-12.30	:Presentation of concept paper on guidelines for strengthening NGO capacities and discussion by a geographically distributed core group selected among participants.
	12 30-14.00	·LUNCH
	14.00-15 30	·Discussion continued.
	15 30-16 00	·COFFEE BREAK
	16.00-18.00	:Water for All by the Year... ? - Address by B. Namazi, UNICEF - Kenya Country Representative. Discussion on Kenyan community women reactions towards the work shop theme.
	18.00-19.00	.Free time
	19.00	·SUPPER

Friday 19th	9.00-10.30	:Presentation of revised guidelines and plenary discussions.
	10.30-11.00	:COFFEE BREAK
	11.00-12.30	:Continuation of discussions.
	12.30-14.00	:LUNCH
	14.00-15.30	:Presentation draft terms and mandate of AWN and discussion.
	15.30-16.00	:COFFEE BREAK
	16.00-18.00	:Group discussions on terms/AWN mandate.
	18.00-19.00	:Free time
	19.00	:SUPPER
Saturday 20th	9.00-10.30	:Presentation and discussion, Consensus, AWN terms and mandate.
	10.30-11.00	:COFFEE BREAK
	11.00-12.30	:Closing session, Honourable J. J. Nyagah, Minister of Environment and Natural Resources -KENYA.
	12.30-14.00	:LUNCH
	14.00	:Departure for Nairobi.
	18.00-20.00	:AWN Reception at Panafric Hotel, Nairobi.

"Training only men does not secure sustainability of water supplies if women as the daily procurers of water for the family are not involved".

The African Water Network (AWN) comprises effectively 50 NGOs from 17 African countries. Its objective is to promote the durable development of water resources on the African Continent and, conscious of the key role of women in the development process, AWN considers the participation of women to be a decisive factor in the success of water planning projects.

The AWN intends to publish reference documents, such as studies on durable achievements regarding hydraulic planning on community level, a regular information letter dealing with water problems in Africa, as well as setting up a data bank on the social, economic, ecological and technical aspects of the African water supply.

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