

Learning Lessons from Sector Studies

Uganda, Tanzania, Nigeria and Kenya

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by Paul Deverill, edited by Andrew Cotton

WELL
Water and
Environmental Health at
London and
Loughborough

London School of Hygiene & Tropical Medicine
Keppel Road
London
WC1E 7HT

WELL@lshtm.ac.uk

www.lboro.ac.uk/WELL

Water Engineering and Development Centre
Loughborough University
Leicestershire
LE11 3TU UK

WEDC@lboro.ac.uk

www.lboro.ac.uk/WELL

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Executive summary

This study synthesizes lessons learned from donors (including DFID) and NGOs during recent country sector studies in water supply, sanitation and environmental health in Uganda, Nigeria, Tanzania and Kenya. Following a brief overview of the sector in each of the countries, the lessons learned are presented in an attempt to reflect current priorities. The following key issues emerged.

- The majority of projects and programmes reviewed were not demand responsive because communities were given neither the authority nor the necessary information to choose the technology and supporting management system for operation and maintenance. Successful adoption of demand responsive approaches requires well trained facilitators who have access to the detailed information needed by the community.
- Few of the projects reviewed ensured the inclusion of poor and vulnerable groups who exist within particular communities. This issue has rightly become a development priority; even so there is still a clear need to test and disseminate participatory tools for use in this context.
- The impact of several major programmes could not be assessed due to the lack of baseline data and monitoring systems. The more successful projects were well documented, with participatory evaluations proving particularly useful. This reinforces the need for adequately trained facilitators competent in the use of appropriate participatory tools.
- Sanitation, health and hygiene promotion received far less priority than water supply and tended to be treated as 'add-ons'. This has been a key omission in terms of health impact. An unresolved issue is how to combine social marketing approaches with those of demand responsiveness.

In addition, further lessons are grouped according to the different modes of programme operation.

Working with communities uses examples from Kenya, Nigeria and Uganda. The key lessons are as follows.

- The technological options adopted were limited. There is scope for more emphasis on simple, lower cost solutions, particularly upgrading of traditional water supplies which may benefit the poorest families in a community who cannot afford the use of a handpump.
- The cluster approach in which similar projects are implemented in neighbouring villages can facilitate the operation and maintenance of infrastructure through economies of scale and reduce the overuse of water sources by surrounding communities.
- Gender awareness has to be actively encouraged. Techniques and indicators need to be developed to ensure that women participate in making decisions.

Working with NGOs is based largely on a successful project in Tanzania. The key lessons are as follows.

- The WAMMA project in Tanzania is an excellent example of a partnership between an international NGO and different government departments, made possible through an enabling policy environment. The programme structure dovetailed with the government structure, facilitating communication and helping to clarify roles and responsibilities in order to reduce the possibility of confusion. This model clearly has a lot of potential.
- In general, NGOs need to develop a more proactive dissemination strategy to ensure that their experiences are more widely known. It is important to recognise the difficulty of obtaining information when allocating time and resources to sector scoping studies.

- The NGO sector has significant capacity to facilitate community participation and to train other facilitators.

Working with the private sector for which little information could be found. The key lessons are as follows.

- Government policy and organisational culture are significant barriers to increased private sector participation.
- The private sector lacks the capacity to provide quality and timely services; in rural areas, there is a problem in establishing a viable market for the supply of spares and repairs at an affordable price.
- During project preparation, careful note needs to be taken of local capacity and markets when advocating private sector participation.

Working with government draws principally on the UNICEF Water and Environmental Sanitation Programme in Uganda. The key lessons are as follows.

- There has to be a common understanding and ownership of the programme aims by all the stakeholders; this should reflect the over-riding importance of sustainability rather than solely numerical coverage.
- Lack of capacity, authority and resources within local government is a major barrier which impacts on programme objectives, phasing, budget and time frame.

In some cases, Government extension workers in other sectors are underused and with appropriate training can be extremely valuable for water supply and sanitation projects. The WAMMA project in Dodoma, Tanzania is a good example of this and is now being replicated in other regions.

Table of contents

- Executive summary..... i**
- Table of contents..... iii**
- List of boxes v**
- List of tables vi**
- List of acronyms..... vii**
- 1 Purpose..... 1**
- 2 Introduction 2**
- 3 Sector overview..... 3**
 - 3.1 Uganda..... 4
 - 3.2 Tanzania 4
 - 3.3 Nigeria..... 4
 - 3.4 Kenya 5
- 4 Lessons from water scoping studies 6**
 - 4.1 Working with communities..... 6
 - 4.1.1 Poverty focus..... 6
 - 4.1.2 Community management..... 6
 - 4.1.3 Gender..... 7
 - 4.1.4 Technology and willingness to pay 8
 - 4.1.5 Sanitation and hygiene promotion 10
 - 4.1.6 Participatory approaches 11
 - 4.1.7 Summary: working with communities..... 11
 - 4.2 Working with NGOs..... 12
 - 4.2.1 Role of NGOs 12
 - 4.2.2 NGOs working with government 12
 - 4.2.3 Funding delays and bureaucracy..... 13
 - 4.2.4 Final support and co-ordination 14
 - 4.2.5 Summary: working with NGOs..... 14
 - 4.3 Working with the private sector 14
 - 4.3.1 Need for an enabling policy 14
 - 4.3.2 Change of organisational culture 15

| | | |
|----------|--|-----------|
| 4.3.3 | Lack of capacity | 15 |
| 4.3.4 | Difficulties of serving rural areas..... | 15 |
| 4.3.5 | Summary: working with the private sector | 16 |
| 4.4 | Working with government..... | 16 |
| 4.4.1 | Programme aims and targets | 16 |
| 4.4.2 | Capacity of staff..... | 17 |
| 4.4.3 | Policies, roles and responsibilities | 17 |
| 4.4.4 | Monitoring and evaluation..... | 17 |
| 4.4.5 | Field workers | 17 |
| 4.4.6 | Summary: working with government..... | 18 |
| 5 | Concluding remarks | 19 |
| 6 | References..... | 20 |

List of boxes

Box 1. Expansion of gravity water supplies: Kenya7

Box 2. Women on committees: Oju & Obi, Nigeria 8

Box 3. Technology choice and WTP: RUWASA I, Uganda 9

Box 4. Supply driven contributions: RUWASA I, Uganda 10

Box 5. Sanitation preconditioning: RUWASA I, Uganda 10

Box 6. NGOs working with government: WAMMA, Tanzania 13

Box 7. Limited capacity of the private sector: Uganda 15

Box 8. WAMMA: Involvement of government extension officers 18

List of tables

Table 1. Country statistics3

List of acronyms

| | |
|------------|--|
| CBO | Community Based Organisation |
| Danida | Danish International Development Assistance |
| DFID | Department for International Development (UK) |
| DTB | District Tender Board (Uganda) |
| DWD | Directorate of Water Development (Uganda) |
| GoU | Government of Uganda |
| GoK | Government of Kenya |
| GoT | Government of Tanzania |
| GTZ | Gesellschaft für Technische Zusammenarbeit (Germany) |
| NETWAS | Water & Sanitation Network (International NGO) |
| NGO | Non Governmental Organisation |
| PRA | Participatory Rapid Appraisal |
| RUWASA | Rural Water and Sanitation (Danida programme - Uganda) |
| RWASSA | Rural Water Supply and Sanitation Agency (Nigeria) |
| RWSG | Regional Water and Sanitation Group (UNDP) |
| SIDA | Swedish International Development Agency |
| UNDP | United Nations Development Programme |
| UNICEF | United Nations Children's Fund |
| UNICEF/WES | UNICEF Water & Environmental Sanitation Programme (Uganda) |
| WAMMA | WaterAid, Maji (Water Department), Maendeleo ya Jamii (Community Development Department) and Afya (Health Department) (Tanzania) |
| WASCOM | Water & Sanitation Committee (Nigeria) |
| WASU | Water & Sanitation Unit (Nigeria) |
| WS&S | Water Supply and Sanitation |
| WELL | Water & Environmental Health at London & Loughborough |

1 Purpose

The purpose of this study is to synthesize lessons learned from donors (including DFID) and NGOs during recent country sector studies in water supply, sanitation and environmental health in Uganda, Nigeria, Tanzania and Kenya. The readership for the study comprises DFID advisors, their local project partners in government, NGOs and consultants involved in project and programme identification.

2 Introduction

In 1998 WELL undertook Water Supply and Sanitation (WS&S) sector scoping studies for DFID in Uganda, Kenya and Nigeria. The first two studies involved fieldwork and consultation with stakeholders and donors; the third was based on a detailed desk study. WELL had previously completed environmental health reviews for DFID in Kenya and Uganda. Also in 1998, DFID commissioned a fourth sector scoping study in Tanzania, which was undertaken by Howard Humphries (Tanzania) Ltd.

One of the objectives of these studies was to identify lessons from programmes funded by DFID and other donors. This work reviews those sector study reports and supporting documentation with the stated purpose of synthesizing important lessons from them.

The original sources of information used to prepare the scoping studies have been updated as far as is possible. Information gaps in water supply and sanitation which have not been fully filled to date include:

- peri-urban issues;
- integrated water resource management programmes in semi arid areas; and
- environmental impact and environmental sustainability even though seasonal water scarcity and population pressure are particular problems.

To an extent, this is indicative of the availability of documentation and the priorities of donors at the time. The majority of the reports, visits and consultations referred to by the scoping studies concern major bilateral or UNICEF programmes. With one or two notable exceptions, there was very little detailed information regarding the smaller scale work of NGOs, despite their significant presence in the WS&S sector and the significance of lessons learned from NGO led projects.

The report is structured as follows:

- Section 3 briefly examines the nature of the sector in each of countries concerned;
- Section 4 is divided into four sub-sections which focus respectively on lessons learnt working with communities, NGOs, the private sector and finally with government; a summary of lessons learned is given after each sub-section;
- Section 5 presents the conclusions of this study; and
- Section 6 contains a listing of the references used.

We wish to acknowledge the assistance and kind co-operation of Lena Schildt (SIDA, Stockholm), Nick Burn (WaterAid, London), Piers Vickers (DFID, Kampala) and George MacDonald (DFID, Nairobi). All helped by making available additional documentation without which some of the key lessons would not have been identified.

3 Sector overview

The scoping studies present data relating to the overall coverage in terms of safe water and sanitation, together with statistics relating to health and poverty. This information is summarized in the table below. Gaps exist because the data gathered was incomplete.

Table 1. Country statistics

| Parameter | Country | | | |
|--|---------|---------|-----------------------|-----------------------|
| | Uganda | Nigeria | Kenya | Tanzania |
| Population estimate (1998) | 20.3 m | 121 m | 28 m | 31 m |
| Rural population | 86% | 61% | 75% | 72-78% |
| Poverty related ⁽¹⁾ | | | | |
| Infant mortality rate /1000 | 141-203 | 191 | | 144-159 |
| Life expectancy | 42yrs | 50yrs | | 51yrs |
| UNDP poverty ranking /175 | 160 | 141 | | 150 |
| Water supply: per cent of population with access to safe water | | | | |
| Water supply (Total) | 43% | 43% | 43% | 30% |
| Water supply (Rural) | 35– 42% | 37-40% | 34-45% | 22-26% ⁽²⁾ |
| Water supply (Urban) | 60% | 52-84% | 70-76% ⁽³⁾ | 64% ⁽³⁾ |
| Sanitation: per cent of population with access to safe sanitation | | | | |
| Sanitation: total | 45-47% | 39-58% | | 48% |
| Sanitation: rural | | 30-48% | | 30% |
| Sanitation: urban | | 52-84% | 70% | |

Notes

1) One useful indicator of poverty not referred to in the sector studies is malnutrition. This data may be available from Health Departments.

2) In this case, only piped water supplies seem to have been considered as safe, hence the low figure of 22 per cent. Apparently, about 40 per cent of rural piped water supplies were not functional (Howard Humphries, 1998).

3) These figures are known to be declining over time.

The accuracy of the coverage figures presented above is unknown; coverage varies considerably on a regional and sub-regional basis, which is masked by the national averages.

For example, safe water supply coverage in Districts in Uganda varied from 10 per cent to 74 per cent and sanitation ranged from 4 per cent to 88 per cent. At a local level, there was also considerable variation, as coverage tended to be limited to sites accessible by vehicle. This especially applied to boreholes. (WaterAid, 1999, 1). A similar degree of variation was noted in all four countries.

Coverage also varied according to the source of the information. For example, a World Bank figure for coverage was often quite different to the one used by UNICEF. Neither is it always clear

what is meant by terms such as 'safe' or 'adequate'. This makes comparison between countries and sub-regions within them extremely difficult. Finally, with the exception of Tanzania, there is very little information regarding the functionality and sustainability of improved water supplies and sanitation facilities.

3.1 Uganda

There are two major WS&S sector programmes active in Uganda, both of which are based in rural areas. The Water and Environmental Sanitation Programme (UNICEF/WES) works through the Directorate of Water Development (DWD), supported by UNICEF with majority funding from SIDA. It is a national programme active in 34 out of Uganda's 45 Districts, to which authority and responsibility is being devolved under an ongoing decentralisation programme. Between 1995 and 1999, UNICEF/WES was involved in community water supply, sanitation, capacity building, institutional support, advocacy and communication. Problems include poor co-ordination between the many different ministries involved in the WS&S sector.

The other large-scale water and sanitation project in Uganda is the Rural Water and Sanitation East Uganda Project (RUWASA), implemented at District level and supported by Danida. RUWASA is currently in its second phase, which started in July 1996. Information on RUWASA available for this study was limited to a detailed impact analysis of RUWASA I, carried out by a UNDP/World Bank team in July 1997.

In 1999, there were approximately 2,000 NGOs active in Uganda. WaterAid and NETWAS were the only international NGOs focusing on the WS&S sector (WaterAid, 1999,1).

3.2 Tanzania

In Tanzania, the Government structure is already largely decentralised. Budgeting and development planning has been devolved to regional and more recently to district levels. In 1991, the National Water Policy was comprehensively rewritten. This transferred responsibility for managing rural water supplies from government to communities, although a proportion of the population continue to expect Government to deliver services free of charge (a similar situation exists in parts of Uganda). Since 1997, communities have had to contribute towards the capital cost of improved water supply. Most villages have a water committee.

On the whole, the favourable institutional environment has provided opportunities for a number of successful partnerships involving communities, government and NGOs. GoT has welcomed the involvement of international NGOs including WaterAid, Oxfam and Concern. A key NGO led project from which many lessons have been drawn is the WAMMA rural water supply and sanitation programme. Supported by WaterAid, WAMMA started in Dodoma Region, and is now being replicated in Tabora and parts of Arusha as well.

3.3 Nigeria

Nigeria has followed the path of decentralisation since independence. The institutional arrangements made for water supply have not yet been fully realised. The Federal Ministry for Water Resources and Rural Development was to assist individual states to establish Rural Water Supply and Sanitation Agencies (RWASSAs). By 1999, this had been completed in 22 of Nigeria's 36 States. Similarly, local government was to establish Water and Sanitation Units (WASUs) to implement projects and communities to establish Water and Sanitation Committees (WASCOMs). This process is ongoing, tied very much to UNICEF supported work in Nigeria (WELL, 1999, 1).

The UNICEF supported Water and Environmental Sanitation Programme is the largest development programme in the Nigeria, covering the states where RWASSAs have been established.

The community normally gets a borehole fitted with a hand pump and the responsibility for paying for operation and maintenance. Implementation has been slow due to insufficient funds and a lack of local capacity.

The number of international NGOs involved in the sector has grown since the recent change in political climate. WaterAid has supported the key Oju & Obi Water and Sanitation Project in Benue State since 1997. In 1996, it was estimated that there were over 40,000 local NGOs, church organisations and CBOs in Nigeria (WELL, 1999, 1). There is a strong tradition for communities to organise themselves as self help groups covering a variety of purposes including fund raising.

3.4 Kenya

In the last five years, bilateral donors have reduced their exposure in Kenya. GoK has acknowledged problems that include a large, inefficient and poorly paid civil service, a lack of integrity in public life and the erosion of law and order. However, it seems unwilling or unable to do much about the situation (DFID, 1998). Nevertheless, many agencies maintain a presence in Kenya.

SIDA has been involved in water and sanitation in Kenya since 1970, undertaking a series of programmes from which many lessons have been learned. Danida has worked in Kenya since the late 1970s, and is currently involved in a number of water and sanitation programmes. Other donors include the governments of the Netherlands, Japan, Germany and Finland and the European Union. The UNDP/World Bank Regional Water and Sanitation Group (RWSG) is based in Nairobi and has provided technical support to a number of programmes. UNICEF is less involved in Kenya than in Uganda and Nigeria and is working in a number of districts incorporating Participatory Hygiene and Sanitation Transformation (PHAST) methodology developed by RWSG.

There are 8,000 indigenous NGOs and Church organisations registered in Kenya. About 70 of these are involved in the water and sanitation sector, most being supported by bilateral donors including DFID and SIDA through a NGO led self-help scheme. Maybe responding to needs, Kenya has a strong tradition of *Harambe* or 'Pulling Together'. This involves community members getting together to collect funds and implement projects themselves.

4 Lessons from water scoping studies

4.1 Working with communities

4.1.1 Poverty focus

Many of the programmes and projects considered for this report have a poverty focus. Poverty assessment and the identification of the poor are therefore very important. Related points emerging from this study are:

- The situation in rural areas dominates the sector scoping studies. Relatively little information is presented about the poverty in urban and in peri-urban areas and related WS&S projects.
- The poorest areas are often the most difficult to work in. In the case of the countries considered, the most extreme poverty is found in rural areas characterized by water scarcity, food insecurity and fragile ecosystems. The multi-sectoral sustainable rural livelihood approach needed to meet people's needs may discourage external support agencies that have a sector-specific organization.
- Selection of projects based on an expressed demand may exclude the poor if they cannot communicate their needs nor afford an up-front contribution of time or resources. It has been reported that this may be a problem with SIDA's self-help NGO programme in Kenya (WELL, 1999, 2). If poverty is to be targeted, a strategy is needed that enables poor communities to participate in the programme.
- Few projects have identified the poor and their needs as distinct groups within a community. This very important lesson emerges from both the Oju WS&S programme in Nigeria and WAMMA in Tanzania. For example, poor people may not be represented or their situation considered in a meeting that agrees tariffs. Older people may be particularly vulnerable if they cannot sink a latrine pit or pay an able bodied person to do it. (Sakafu, A. *et al*, 1999). Although not mentioned in any report, the impact of HIV/AIDs may be a contributory factor if elderly people are fostering AIDs orphans.

These issues emphasize the importance of a poverty sensitive demand responsive approach. This suggests the need for participatory techniques to identify the poor, establish their priorities and monitor project impact on poverty using carefully selected indicators. There are significant implications in terms of the *quality* of community-based fieldwork needed and the resources and the time required.

4.1.2 Community management

Water and sanitation committees are often established and given major responsibilities in terms of the planning, implementation and subsequent management of projects. Many of the associated lessons identified by this study arise from just two NGO supported projects: WAMMA in Tanzania and the Oju & Obi project in Benue State in Nigeria. Key points are listed below.

- The development of an effective WS&S committee requires a number of inputs over an extended timeframe and cannot be accomplished with a one-off training course. Capacity building should be considered as an individual output and resourced accordingly.
- It is very important to establish and agree roles and responsibilities for the committee and other stakeholders and their inter relationships.
- WS&S committees rarely have the information and tools they need to make an informed choice of technologies and their long term management and financing. In this way, *very few* projects can be said to be demand responsive.

- If poverty reduction is an objective, emphasis should be given to ensure that vulnerable groups are identified and their interests safeguarded by the committee.
- Women should not just be members of the committee, but actually participate in decision making. This may be a difficult message to translate into understanding and practice, depending on cultural norms.
- The extension or expansion of a reticulated water supply project can present the water committee with unforeseen operational difficulties after the supporting agency has left. Many such projects have failed as a result (see Box 1 below).

Box 1. Expansion of gravity water supplies: Kenya

SIDA identified a particular problem associated with a gravity water supply project it was supporting in Kenya.

Gravity water supplies have low initial operation and maintenance needs. Householders enjoy low tariffs and lots of water. Later, as more households connect to the network, those lower down the hill start to suffer from an interrupted supply at peak times, and stop contributing. Those at the top do not want to pay more for the same level of supply. Positions become entrenched and the committee loses credibility.

This situation reinforces the need for a strong committee, equipped with technical, financial and communication skills to cope with expansion.

It was recommended in the SIDA report that from the start, the tariff should be fixed to pay for O&M and to save for additional storage tanks, long before the problem takes hold.

(Schultzberg, G. et al, 1998)

Project guidelines can greatly assist a committee understand and fulfil its responsibilities. A degree of flexibility is needed so that the community can tailor the system to its needs without compromising any principle. RUWASA I in Uganda did not use guidelines; what happened in each village was very much up to the extension officers concerned. Despite the project being designed as being demand responsive, communities had little say in terms of the technology used or level of service, thereby influencing its long term sustainability (UNDP/World Bank, 1997).

Formal guidelines facilitate the adoption of a cluster approach in which projects are initiated in neighbouring villages, either sequentially or simultaneously¹. This permits a more efficient spares distribution or maintenance system. Clustering may also get around the problem of a village water supply being used by people from adjacent villages, causing queues and possible friction. This situation was observed during the UNDP evaluation of RUWASA I.

4.1.3 Gender

Despite the attention that gender awareness is getting, without disaggregated baseline data and the identification of specific indicators, it is impossible to know how effective a project is in this respect. This is a problem with several programmes such as UNICEF/WES (Wang, C. et al, 1998).

¹ This is quite different from grouping villages together and implementing an ‘umbrella’ project. Although this may be perfectly acceptable, social and cultural issues would have to be investigated thoroughly to ensure equitable ownership in terms of benefits and responsibilities.

From the reports considered, many WS&S committees are male dominated in terms of decision making. The gender 'problem' is not addressed by ensuring that women are represented on the water committee, even though this has been used as an indicator of inclusion. Women may not have the confidence or authority to express an opinion in front of men in such a formal setting.

Box 2. Women on committees: Oju & Obi, Nigeria

During an evaluation of the Oju & Obi Water and Sanitation Project, Nigeria, it was observed that when a woman was elected or selected to sit on the executive committee, she would often assume the responsibility of treasurer. This was because a woman could be trusted by the rest of the executive, which was invariably made up of men.

This particular project brought women involved in water committees together in a separate forum to discuss issues of common concern. Other projects have learnt to seek a place where women met and felt comfortable, such as a clinic or school.

(DFID, 1998)

From the reports considered, it would seem that a suitable PRA tool (together with facilitators trained to use it) is needed by many projects. This could be designed to ensure that men perceive the relative importance of water and sanitation to women, in order that women are encouraged to play an active part in decision making.

Finally, when materials or labour is accepted *en lieu* of money as a contribution to capital costs, it must be remembered that women often bear the brunt of the workload. The RUWASA I programme in Uganda illustrates this point, where women provided the bulk of materials for spring protection, amounting to 25 per cent of the total cost. This was undertaken with neither payment nor consultation (UNDP/World Bank, 1997).

4.1.4 Technology and willingness to pay

The long-term sustainability of a water project depends on its effective operation and maintenance (O&M) and the willingness to pay for this by the community. It is clear that many communities were not given the opportunity to choose which technology to use, or they were not given sufficient information about operation and maintenance and its costs to make an informed decision. In this way, many water supply projects cannot be considered as demand responsive including UNICEF/WES (1995-1999), RUWASA I in Uganda (see box below) and the UNICEF supported Water and Environmental Sanitation Programme in Nigeria.

Box 3. Technology choice and WTP: RUWASA I, Uganda

Villages participating in RUWASA I were not normally involved in choosing the particular technology to be used, either a borehole fitted with a hand pump, a protected spring or a shallow well. Neither were communities informed about the long term costs associated with maintaining a handpump. Many of the Uganda Mk2 and Mk 3 pumps fitted have proved unreliable after 2 - 3 years operation due to corroding riser mains. The repair involves lifting the pump, risers and cylinder out of the borehole, best done with a tripod.

Communities have managed to pay for minor maintenance during the first few years of operation by collecting money as and when needed. Their willingness and ability to pay for major repairs is far from certain. A key conclusion from the UNDP evaluation of RUWASA I is that the willingness to sustain protected wells and springs appears to be greater than that for boreholes fitted with hand pumps. This reflects the community's current perceptions of the long term benefits and costs involved.

(UNDP/World Bank, 1997)

If a demand responsive approach is being followed, a wide range of technical options should be considered by the implementing agency. Some can quickly be ruled out as impractical. The remainder should be presented to the community together with the long-term costs and other inputs needed to maintain them. Five key points arise from this study.

- Information concerning long term operation and maintenance costs of various options was generally unavailable to most field staff. If this is the case, establishing these costs must be a priority.
- Few communities were presented with a choice of payment options. During the sowing season when cash is in short supply, the ability to pay for a pump repair may be less than the willingness to pay, unless there is a saving scheme which has been tailored to the needs of the community.
- Communities generally paid for minor breakdowns on an 'as and when' basis, rather than making regular payments, a proportion of which could be put aside to pay for major repairs. Little if any preventative maintenance was undertaken.
- Maintenance systems often failed due to the unavailability of spares.
- Technology choice was restricted to hand pumps, lined wells and in some cases protected springs. There was little mention of rainwater harvesting, in house water treatment and the protection of traditional water sources other than springs. Simple, affordable technologies are more accessible to the poor.

A notable exception to the last bullet point is the SIDA supported Environmental Health Programme based in Kenya's Eastern and Rift Valley Provinces. The technology, which has been refined, demonstrated and reproduced over ten years of implementation, includes water jars, ferro-cement tanks, hand dug wells, spring protection, VIP upgrades, vent pipe manufacture and composting pits. Lack of funds prevented replication of this programme in other provinces (WELL, 1997).

It is evident that many communities are more willing to contribute a proportion of capital costs than pay for O&M. Without knowing O&M costs communities can be expected to opt for the cheapest option in terms of their contribution to capital costs.

Box 4. Supply driven contributions: RUWASA I, Uganda

The RUWASA I project required a payment of 980/- per person for a hand pump option (4 per cent of the total cost), and 1,737/- per person (25 per cent of the total cost) for spring protection. This favoured hand pumps, which are more expensive to maintain. In practice, extension staff tended to choose the technology themselves (UNDP/World Bank (1997)). A similar pricing imbalance resulting from Government policy seemed to favour pumped schemes rather than more simple technologies in Tanzania (Howard Humphries, 1998). There is a case for developing contribution systems that reflect long term O&M costs.

4.1.5 Sanitation and hygiene promotion

It is clear that sanitation receives a very low priority from communities unless an awareness of its benefits in terms of improved health, privacy and convenience is created. Once there is demand, different options can then be introduced to satisfy it. This approach is very different from that adopted for water supply.

In fact, all the projects reviewed concentrated on water supply, a difficult enough task in itself. Domestic sanitation tended to follow on when the water supply side was well established and resources could be spared. One exception was when sanitation was made a precondition for a community water supply by RUWASA I.

Box 5. Sanitation preconditioning: RUWASA I, Uganda

Between 1992 and 1995, RUWASA I attempted to improve sanitation coverage by using it as a qualifying *precondition* for a water supply project. There is no information as to the use or condition of the sanplats built in this way, nor how hygiene was promoted.

Communities which had to meet this precondition in this way did not have to contribute to the capital cost of the water supply. Possibly as a result, their willingness to sustain water supplies was assessed to be less than in others.

The precondition was removed in 1995 and does not feature in RUWASA II.

(UNDP/World Bank 1997)

Regardless of if or when it was introduced, sanitation was taken to mean having a toilet in the form of a VIP or sanplat. There was no mention of more simple options being considered to dispose of faeces safely, for example, disposal of faeces by burial away from the homestead. Linked to appropriate hygiene measures this could be an affordable but effective option in rural areas with low population densities. In some cases, the VIP and sanplat designs being promoted ruled out the use of locally available materials and thus encouraged a sense of dependency (WaterAid, 1999, 2).

Hygiene promotion is more often associated with sanitation than water supply. The reality is that it is needed for both. The UNDP / World Bank Impact Assessment of RUWASA I showed that in one district almost half the protected springs were contaminated with faecal coliforms, and in another area, less than 15 per cent of the water stored at home was safe to consume. Community wells are notoriously difficult to keep clean, and both physical and behavioural measures have to be identified and targeted to ensure that water consumed is relatively safe. There is no information presented as to how this was achieved.

4.1.6 Participatory approaches

Throughout this section, the value of adopting participatory approaches has been emphasised. Indeed, it is difficult to see how a poverty-focused, gender aware and demand responsive programme or project can be implemented otherwise. PRA and other tools can also be used to identify suitable quantitative and qualitative indicators necessary for establishing a baseline and measuring impact. Community mapping exercises carried out as part of the Dutch supported Katakwi District Development Programme, Uganda, proved an excellent multi-sectoral resource for both Government and non Government planners (WaterAid, 1999, 1).

In spite of this, there is little evidence of participative techniques being adopted by Government extension workers associated with UNICEF/WES programmes in both Uganda and Nigeria.

The overriding importance of participative techniques has several implications in terms of human resources and timeframe.

- Projects and programmes must have access to suitably trained and equipped facilitators with sufficient incentives and motivation to spend long periods working with communities.
- Projects must be of sufficient duration to ensure that participative approaches can be developed through their use and adaptation, together with the facilitation skills of the field-workers using them. This process can take several years. Longer time horizons reduce the unit costs involved.
- Sufficient time must be allocated for facilitation. Unlike an hour long, supply driven community meeting, participative exercises can easily extend over several days. Furthermore, people may only be available in the evening or at weekends, rather than during 'working hours'.

These points will have a major impact on the budget. However, if the result is improved sustainability, the adoption of participative techniques could be very cost effective.

4.1.7 Summary: working with communities

- The majority of projects and programmes reviewed were not demand responsive because communities were given neither the authority nor the necessary information to choose the technology and supporting management system for operation and maintenance, in particular the long term cost implications associated with a handpump.
- The technological options adopted were limited. There is scope for more emphasis on simple, lower cost solutions, particularly upgrading of traditional water supplies which may benefit poorest families.
- There was very little emphasis on identifying and focusing on the poor *within* a community.
- The impact of any activity on poverty must be monitored, implying the need to work with the poor to develop specific indicators.
- Formal rules and guidelines assist the implementation and management of community based water and sanitation projects. They facilitate a cluster approach in which similar projects are implemented in neighbouring villages.
- The cluster approach can facilitate the operation and maintenance of infrastructure through economies of scale and reduce the overuse of water sources by surrounding communities.
- Gender awareness has to be actively encouraged. Techniques and indicators need to be developed to ensure that women participate in making decisions.
- Most programmes and projects prioritised water supply with relatively little emphasis on

sanitation, health and hygiene promotion.

- Participatory techniques are central to the implementation of poverty focused, demand responsive programmes and to the development of impact indicators. However, considerable resources are required, with highly skilled facilitators working with communities over an extended period of time.

4.2 Working with NGOs

Despite the considerable involvement of both international and indigenous NGOs in the water and sanitation sector, descriptions of their work in the scoping studies tended to be limited to brief anecdotes, giving no indication of innovative approaches, difficulties encountered and lessons learnt. Little of the information collated for use by sector scoping studies concerned NGOs.

That is not to say that all NGO projects are not being documented. WaterAid's work in Tanzania and Nigeria is often 'featured' in this WELL study. However, these are exceptions. NGOs evidently need to improve the dissemination of information. At the same time, future scoping studies should not just be concerned with major programmes and DFID funded NGO projects.

In Tanzania, and more recently in Uganda, NGOs are now getting together to co-ordinate their activities and advocate particular approaches to Government and donors. This provides an excellent opportunity to improve the dissemination of project documentation.

4.2.1 Role of NGOs

Even though there was little information concerning NGOs, it is clear that they are fulfilling a number of roles within the WS&S sector.

- As direct implementers working with community organisations, such as Oxfam GB, involved in establishing pastoral associations in Wajir, Northern Kenya, and the many indigenous NGOs associated with SIDA's Self Help Programme also in Kenya.
- As indirect implementers working with local NGOs, such as WaterAid in Uganda.
- As indirect implementers, facilitating Government extension staff, such as WaterAid in Tanzania and Nigeria.
- As specialist service providers to Government, for example, if contracted for O&M.
- As advocates and NGO co-ordinators, such as NETWAS and WaterAid in Uganda.

It would seem that many NGOs are becoming increasingly specialist, identifying and occupying particular niches in order to be able become more effective and attract funds accordingly. Section 4.1 emphasised the central importance of participative approaches. Many NGOs can offer significant capacity in this respect, not only to facilitate but also to train facilitators.

4.2.2 NGOs working with government

International and indigenous NGOs have seldom worked with Government as a partner. Donors have often viewed implementation by NGOs as an alternative to implementation by government in times of poor governance, or in remote areas beyond its reach. There are, however, some very good illustrations of how international NGOs and Government can collaborate as illustrated by the WAMMA project in Tanzania (Box 6).

Box 6. NGOs working with government: WAMMA, Tanzania

The WAMMA project, first implemented in the Dodoma region of Tanzania in 1993 and later replicated in the Tabora region and parts of Arusha further to the north, shows how a well resourced NGO can collaborate with Government rather than compete with it.

Each WAMMA team consists of a member of staff from each of the three participating departments: Water, Health and Community Development. The teams have been trained in participatory evaluation and extension techniques, as trainers of trainers, and in communication skills. The following points shaped the collaboration between WaterAid and the Government:

The Tanzanian national water policy created an enabling environment for WAMMA, to the extent that there were government field workers available for WaterAid to work with.

The WAMMA project structure was designed to fit into the decentralised Government framework, facilitating communication and reducing the possibility of conflict.

NGOs often feel under pressure from donors to achieve results quickly, over-stretching the capacity of the Government partner. WaterAid resisted this pressure. It took several years to develop a satisfactory relationship with government *and* improve the facilitation skills of government extension workers.

WaterAid's own staffing was crucial for success, made up of team players committed to devolving power, authority and key responsibilities to government.

WaterAid involved Government as managers relatively late in the project. Achieving a balance between too little involvement (risking lack of support) and too much interference (risking changing project objectives to suit government priorities) proved difficult.

(WaterAid, 1996)

An associated but different lesson emerged from WaterAid's work in Oju & Obi, Nigeria, where it developed the capacity of and worked with the local Water and Sanitation Unit. The UNICEF/WES Nigeria programme ended up implementing water projects in the same area, effectively establishing competing government structures for implementation. This caused some confusion. The main reason why this situation occurred was the delay in getting final approval from DFID to start the WaterAid project. Meanwhile, UNICEF stepped up its operations in the area (WELL, 1999, 2).

4.2.3 Funding delays and bureaucracy

Delays in securing approval and in transferring funds from a donor can make things very difficult for an NGO responsible for the implementation of a project. Both Oxfam and Concern in Tanzania found DFID procedures very difficult to work with (Howard Humphries, 1998).

A particular concern voiced was the amount of detail needed to complete a Project Concept Note, which involved spending a great deal of time with the community in the field. Apart from being expensive, this inevitably raised the community's expectations of imminent action.

Once a project is underway, a significant delay in transferring funds can seriously undermine the progress achieved with the community and the credibility of the implementing organisation. The very nature of a demand responsive approach requires a more responsive funding system. The situation is made even more difficult for an NGO if members of the community have already made a cash contribution (Howard Humphries, 1998).

4.2.4 Final support and co-ordination

In Nigeria, WaterAid staff members, although experienced, still needed professional advice and support. The assistance required concerned every aspect of the project and its management and was not confined to the technical aspects.

The small project team, working in a relatively isolated area in Nigeria, was also faced with non-project related demands from the community, including, for example, improved curative health care. This particular request was passed on to the Petroleum Trust Fund, which was in a position to do something about it (DFID, 1997).

The situation reinforces the need for good communications, effective co-ordination with other 'players' not just those in the sector, and a supporting system that can quickly access and deliver the type of advice needed, with a budget to do this.

4.2.5 Summary: working with NGOs

- In general, NGOs need to develop a more proactive dissemination strategy to ensure that their experiences are more widely known. It is important to recognise the difficulty of obtaining information when allocating time and resources to sector scoping studies.
- The NGO sector has significant capacity to facilitate community participation and to train other facilitators.
- There are some notable examples of NGOs collaborating effectively with government as partners.
- Delays in approving projects and transferring funds by donors can cause significant difficulties for NGOs, especially in the context of demand responsive projects. There is a case for donors to work with NGOs to simplify operational procedures.

4.3 Working with the private sector

There is little information in the documentation reviewed that concerns the involvement of the private sector. This reflects the fact that, until recently, the private sector was hardly involved at all. Despite the generally limited possibilities for private sector involvement associated with rural water supply and sanitation, there are opportunities. Private sector in this context mainly relates to drilling companies, organisations providing advisory services and training, small entrepreneurs, handpump manufacturers, spares production and sales and local mechanics.

In the last few years, the under-use of the private sector was recognised and action taken to make more use of its potential. Progress has been slow. This section highlights some of the barriers that have prevented or delayed the emergence of the private sector.

4.3.1 Need for an enabling policy

The involvement of the private sector is a relatively new concept for many African governments, whose water supply departments probably inherited a system that included drilling rigs and a centralized purchasing system for spares. Once the advantages of the private sector are agreed, clear policy guidelines on how to implement privatisation and support private sector involvement are needed.

If the private sector were to be involved in actual project implementation, there would be a risk that the overriding need for adopting a participative approach may be under-emphasized or overlooked completely in order to maximise profits. An appropriate regulatory system that includes monitoring and evaluation would be essential in order to ensure that a demand responsive approach was being followed.

In Uganda, moves to improving private sector involvement were linked with the ongoing decentralisation of government. Fundamental changes in the way that things were done were required, new systems have to be developed and staff retrained.

4.3.2 Change of organisational culture

Involvement of the Private Sector has to be accompanied with a change of organisational culture as well as training in competitive tendering and contractual procedures. Checks against misappropriation of funds or materials are also needed.

The RUWASA programme included the development of District Tender Boards (DTBs), which became responsible for contracting locally available goods and services. The system meant that, for example, spare parts for pumps could be procured cheaply and quickly. In practice, there were problems with several DTBs, and more recently for several districts this responsibility had to be returned to central government (Danida, 1999).

4.3.3 Lack of capacity

The capacity of the private sector to take on roles previously implemented by government cannot be developed overnight. In fact, it can take years. In the case of privately owned drilling companies in Uganda this is still a problem that is delaying progress as evidenced in the box below.

Box 7. Limited capacity of the private sector: Uganda

UNICEF/WES employed its own drilling rigs (at least 68 of them) to drill village boreholes, two rigs being allocated to each district on a fixed cost basis. There were few incentives to ensure that the equipment was managed efficiently, whilst there was no scope at all for private contractors to bid for government work.

When RUWASA II needed to expand its drilling operations (initially like UNICEF/WES it used its own equipment), it had to advertise for tenders internationally. There were only two reputable drilling companies with a very limited number of rigs in Uganda in 1997.

(Danida, 1999)

In Uganda, a similar problem exists with the procurement of spare parts and other supplies. In some districts such as Katakwi, the problem seriously compromised the maintenance of rural handpumps (WaterAid, 1999, 1). It was recommended that district depots be closed in order to stimulate the private sector (UNICEF, 1998).

In such circumstances, support may be needed by the private sector in order to develop its capacity, for example, in the form of access to credit, seed loans of stock, financial training and guidance on contract management.

4.3.4 Difficulties of serving rural areas

Whereas capital works are normally contracted (and paid for) by government or an implementing organisation, the payment of maintenance costs is more often than not a community responsibility. The price set for the goods or service has to be affordable.

The unpredictability of breakdowns, poor communications and dispersion of many rural villages means that maintenance and the supply of spares present severe problems to a commercial organisation or individual entrepreneur, problems that inevitably are reflected in the price of the service or goods supplied. If this price cannot be afforded by the community, the business is simply not viable.

Several approaches can be adopted to reduce costs.

- Regular maintenance can be scheduled in advance, rather than reactive maintenance in response to a break down. This system encourages users to make regular savings to a maintenance fund.
- Clustering villages facilitates communication, spares distribution and transportation.
- A handpump mechanic can be given a bicycle once he or she has passed a training course.
- Sales of spares and repairs can be run as an 'add-on' to existing shops and other repair activities, such as bicycle mechanics.
- Fundamentally, in order to present a community with a choice of technical options (i.e. when adopting a demand responsive approach), the maintenance costs of each must be discussed. In other words, arrangements for repairs and spares supply must be established in advance. There is little evidence of this having been done.

4.3.5 Summary: working with the private sector

- Government policy and organisational culture are significant barriers to increased private sector participation.
- The private sector lacks the capacity to provide quality and timely services. This is a long-term problem that could be helped by better access to credit and training in basic business skills and administration.
- In rural areas, there is a problem in establishing a viable market for the supply of spares and repairs at an affordable price. Clustering of villages and developing maintenance schedules could be of assistance.
- Subsequent project preparation should take careful note of local capacity and markets when advocating private sector participation.

4.4 Working with government

Many of the lessons in this section come from the UNICEF/WES programme with the Government of Uganda. UNICEF/WES has been the subject of two detailed evaluations by UNICEF in May 1998 and SIDA the following September. Together these provide a detailed insight into the difficulties involved in a national programme being implemented by government staff at a time when many functions were being decentralized. Although being implemented on a much smaller scale, WAMMA in Tanzania provides some interesting comparisons.

4.4.1 Programme aims and targets

The aim of UNICEF/WES consisted of a number of individual targets, some of which were interpreted differently by key stakeholders (Wang, 1998). The net effect was that many staff tended to ignore the detail and prioritize the installation of large numbers of water supplies (WELL, 1998). A similar situation was identified, associated with the UNICEF programme in Nigeria. The national campaign to eradicate guinea worm by installing safe water supplies may have contributed to focussing on numbers rather than sustainability (WELL, 1999, 2).

A key point made in the SIDA evaluation was that UNICEF/WES was attempting to do too much with insufficient resources. Since then, the programme has identified capacity building, sanitation and hygiene promotion as priority areas, leaving the building of infrastructure to the private sector.

4.4.2 Capacity of staff

UNICEF/WES was designed to fit in with the newly established decentralised government structure. Many responsibilities were delegated to District and Sub-District levels. There was insufficient capacity at these levels to undertake the work required of them. In fact, many positions were vacant, because some districts could not raise sufficient revenue to pay staff salaries (WaterAid, 1999). The officials that were in place faced an enormous workload. Many lacked the training, resources and systems to be effective.

The much smaller WAMMA programme in Dodoma provides an example of how a project can dovetail with a decentralised administration in different sectors and at different levels. However in this case, government staff were available and had sufficient resources to participate.

4.4.3 Policies, roles and responsibilities

A key lesson from UNICEF/WES is that policies and individual roles and responsibilities must be agreed by all stakeholders and backed up by clear *Letters of Understanding*, formal guidelines and manuals. This is especially important during an on-going process of decentralisation. If necessary, policy must be bound within a legal framework, to ensure the accountability and protection of institutions and individuals.

Once roles and responsibilities have been agreed, there may be very good reasons for different government departments to work together. Such co-operation was central to each WAMMA team.

4.4.4 Monitoring and evaluation

Lack of UNICEF/WES staff capacity at District level and below had a profound influence on the actual implementation of the programme. With relatively few trained field staff, it was not normally possible to follow a demand responsive approach in anything but name. Neither was it possible to monitor impact and evaluate progress. Without an effective monitoring system and base line data, UNICEF's own estimates on the work done could not be assessed by either external evaluation team (Wang *et al*, 1998).

4.4.5 Field workers

The importance of well-trained, motivated field workers capable of facilitating participative exercises in communities is core to a poverty focused, demand responsive approach. It is often assumed that only NGO staff can fulfil this role, ignoring the fact that in many cases government field staff may well be available and willing to play a part. The WAMMA programme continues to utilise government extension officers in this capacity.

Box 8. WAMMA: Involvement of government extension officers

The name WAMMA comes from the first letters of the three participating Government Departments (Water Supply, Health and Community Development) written in Swahili. Each WAMMA team was responsible for a particular district. The teams planned and reviewed its own work at monthly meetings, one for day to day planning, the other with District Heads of Departments. They also had links with community and District health workers, and educational staff involved in a child-to-child programme. Support was two-way. In addition there was considerable information exchange between the WAMMA teams themselves. A regional WAMMA team working with WaterAid staff provided advice.

Undoubtedly, WAMMA teams benefited from the involvement of staff from different Departments and with different expertise. Being empowered to take decisions within a defined area of responsibility, the teams were highly motivated. Having the resources to carry out their work, not least a vehicle and fuel for it, was also a critical factor. Team members also were paid the government's standard field allowance by WaterAid, for which it was reimbursed. Success is possible, but one has to be prepared and able to pay for it. In overall terms, the WAMMA programme used resources efficiently, compared to many other less successful projects.

(WaterAid, 1996)

The issue of allowances deserves specific attention. Many donor-funded programmes are associated with the payment of generous field allowances, to the extent that they attract field staff from other organisations and projects. This was reportedly the case with RUWASA I (WELL, 1998) There is a good case for a government to agree fair, affordable and across-the-board guidelines for field allowances, applicable to its own staff as well as those of multinational organisations and NGOs working 'up-country'.

4.4.6 Summary: working with government

- There has to be a common understanding and ownership of the programme aims by all the stakeholders; this should reflect the over-riding importance of sustainability rather than numerical coverage alone.
- Lack of capacity, power and resources within local government is a major barrier which impacts on programme objectives, phasing, budget and time frame.
- Roles and responsibilities of stakeholders need to be clearly set out. Well-defined responsibilities enable programmes to benefit from interdepartmental collaboration.
- Baseline data and effective monitoring and evaluation systems are vital to measure progress and impact. This implies the need for adequately trained and equipped field staff.
- In some cases, Government extension workers in other sectors are underused and with appropriate training can be extremely valuable for water supply and sanitation projects. The WAMMA project in Dodoma, Tanzania, is a good example of this and is now being replicated in other Regions.
- Governments need to agree guidelines for field allowances to prevent extension workers being attracted to the most lucrative donor funded project.

5 Concluding remarks

One of the difficulties in presenting a critique based on reports of earlier programmes and projects is that development fashions change and the work reviewed tends to reflect earlier thinking and practice. Nevertheless, it is useful to present the lessons learned in the context of current international development priorities.

The majority of projects and programmes reviewed were not demand responsive because communities were given neither the authority nor the necessary information to choose the technology and supporting management system for operation and maintenance. Successful adoption of demand responsive approaches requires well-trained facilitators, who have access to the detailed information needed by the community.

Few of the projects reviewed ensured the inclusion of poor and vulnerable groups who exist within particular communities. This issue has rightly become a development priority; nevertheless, there is still a clear need to test and disseminate participatory tools for use in this context.

The impact of several major programmes could not be assessed due to the lack of baseline data and monitoring systems. The more successful projects were well documented, with participatory evaluations proving particularly useful. This reinforces the need for adequately trained facilitators competent in the use of appropriate participatory tools.

Sanitation, health and hygiene promotion received far less priority than water supply and tended to be treated as 'add-ons'. This has been a key omission in terms of health impact. An outstanding issue is the need to combine social marketing approaches with those of demand responsiveness.

The WAMMA project in Tanzania is an excellent example of a partnership between an international NGO and different government departments involving government extension workers, made possible through an enabling policy environment. The programme structure dovetailed with the government structure, facilitating communication and helping to clarify roles and responsibilities in order to reduce the possibility of confusion. This model clearly has a lot of potential.

The private sector lacks the capacity to provide quality and timely services. This is a long-term problem that could be helped by better access to credit and training in basic business skills and administration. In rural areas, there is a problem in establishing a viable market for the supply of spares and repairs at an affordable price. Clustering of villages and developing maintenance schedules could be of assistance, but alternative management arrangements must be worked out for situations where the private sector cannot realistically deliver to services required.

Identifying the lessons learned by donors and NGOs is an objective that needs greater emphasis in future scoping studies. It is also clear that, with some notable exceptions, NGOs active in the sector need to improve the dissemination of their work so that all can benefit from their valuable experience.

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WELL Task 325 Quality Assurance

Table 1 QA Roles

| Role | Name |
|-----------------------------|------|
| Task Manager | APC |
| Principle Author | PD |
| Technical QA | APC |
| Overall Style QA | APC |
| Proof Reading | SJC |
| Final corrections | APC |
| Type setting & final format | RJS |

Table 2 QA log

| Stage | Who | When |
|--|-----|----------------|
| Date latest changes made | APC | 24/2/00 |
| | | |
| Draft by principle author completed by | PD | 31/01/00 |
| Level 1 QA: Technical comments made by | APC | 5/2/00 |
| Outstanding tech queries sorted & incorporated by | PD | 23/2/00 |
| Level 2 QA: Style changes & redrafting completed by | APC | 24/2/00 |
| Level 3 QA: External grammar/spell/format by | SJC | 26/2/00 |
| Final Corrections made by | PD | 29/2/00 |
| Type setting & final format by | JW | 29/2/00 |
| Sign off and dispatch to client by | APC | 1/3/00 |