

Transparency and civil society

The Moçambican water sector is characterised by a lack of reliable data on critical issues like coverage and sustainability. Sector financial issues are only now opening up. There remains no clear system to analyse, debate and review sector strategies, plans or finances.

In general, the sector is not particularly transparent. Information on sector activities can be hard to acquire, communication in the sector can be erratic and inconsistent, and government staff morale is at times extremely low. Capacity gaps exist at all levels of government.

Likewise, civil society involvement in the water sector is generally limited. There are few local organisations involved in the water sector with real influence. International NGOs are generally not trusted by the national government and thus are not influential.

Conclusion

The water sector in Moçambique is seriously hampered by its lack of good data on access rates including the functioning of existing water supply systems. However performance is further constrained by poor policies on technology and by failure to properly implement the good policy adopted on community participation. Many of these failings are exacerbated by over-centralisation of resources which means that Districts have neither the staff nor the funds to drive implementation properly. This has resulted in poor development of the potential of the local private sector. Project failures have also been seen with larger, centrally-managed projects although management of the urban sector is improving. Dealing with this raft of problems requires the emerging coordination forum of Government and donors – the *Grupo de Agua e Saneamento* (GAS) – to move beyond its initial introductory sessions and drive forward an action-based agenda.

Further information

This document is one in a series from WaterAid Country Programmes assessing national water sector issues in support of both national and international advocacy work in 2005. The full set of documents is available at www.wateraid.org/boilingpoint. Further information on this document can be obtained from David Redhouse at davidredhouse@wateraid.org and on the international advocacy work from Belinda Calaguas at belindacalaguas@wateraid.org



WaterAid – water for life
The international NGO dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world's poorest people

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UK charity registration number 288701
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References

- ¹ These debt reductions were conditional on submissions by the Government of a strategic plan to reduce poverty and economic growth, the PARPA (Action Plan for the Reduction of Absolute Poverty). The PARPA was approved by the Council of Ministers in April 2000
- ² PARPA op cit
- ³ From UN Population Division. 2004 Revision Population Database at esa.un.org/unpp accessed in May 2005
- ⁴ WaterAid calculations from data given in *Moçambique National Report* (Pan-African Implementation and Partnership Conference on Water, Government of Moçambique 2004). That report lists total water sector requirements of \$1.7 billion for the water and sanitation goals in the 12 years 2004-2015 and details presently available finance of \$226m for the five years 2004-2008 of which \$10m is for water resources management
- ⁵ Based on figures from The Government of Moçambique. See details on page 3
- ⁶ Figure for 2003 from *Mozambique at a Glance* from www.worldbank.org/cgi-bin accessed on 8 April 2005
- ⁷ UNDP, Second Country Cooperation Framework for Moçambique (2002-2006), page 7
- ⁸ Data from 1990 are generally not obtainable as the country was in the throes of civil war. WHO/UNICEF provide a figure for rural sanitation coverage in 1990 while the 1990 water figure used in this chart has been calculated simply from the 2015 MDG target of 70%. Government targets are documented in the *Moçambique National Report*, Pan-African Implementation and Partnership Conference on Water, Addis Ababa, 2004
- ⁹ Data taken from DNA document entitled “Princípio de Procura (PP)” and circulated in Niassa in August 2002 as part of DNA’s programme to promote the National Water Policy at Provincial level
- ¹⁰ DNA Global Assessment 2000
- ¹¹ DNA Global Assessment 2000
- ¹² N. Breslin. “Thoughts from the Field – Rethinking Ways to Assess Demand and Capacity to Pay: The Case of Small Piped Systems in Niassa Province, Moçambique”, 9 April 2000
- ¹³ *Small-scale private sector Participation in Niassa, Moçambique* (WaterAid and Tearfund 2003)

Moçambique

Where the water sector struggles to implement projects and programmes which are sustainable



WaterAid – calls to action

- Government and donors need to improve the reliability of data on access and coverage for effective planning and financing of the water sector
- Government policy on decentralisation in the water sector needs to be fully implemented to align resources and staff with the responsibilities of District Administrations
- Communities must be allowed to choose from a selection of reasonable technologies and have access to spares if water sector investments are to deliver sustained benefits

www.wateraid.org

May 2005

Introduction

Moçambique has a land area of 799,380km², with a coastline stretching 2470km and land borders of 4330km. Moçambique is blessed with three deep-sea ports (Nacala in the north, Beira in the centre and Maputo in the south) which serve both the country and the region.

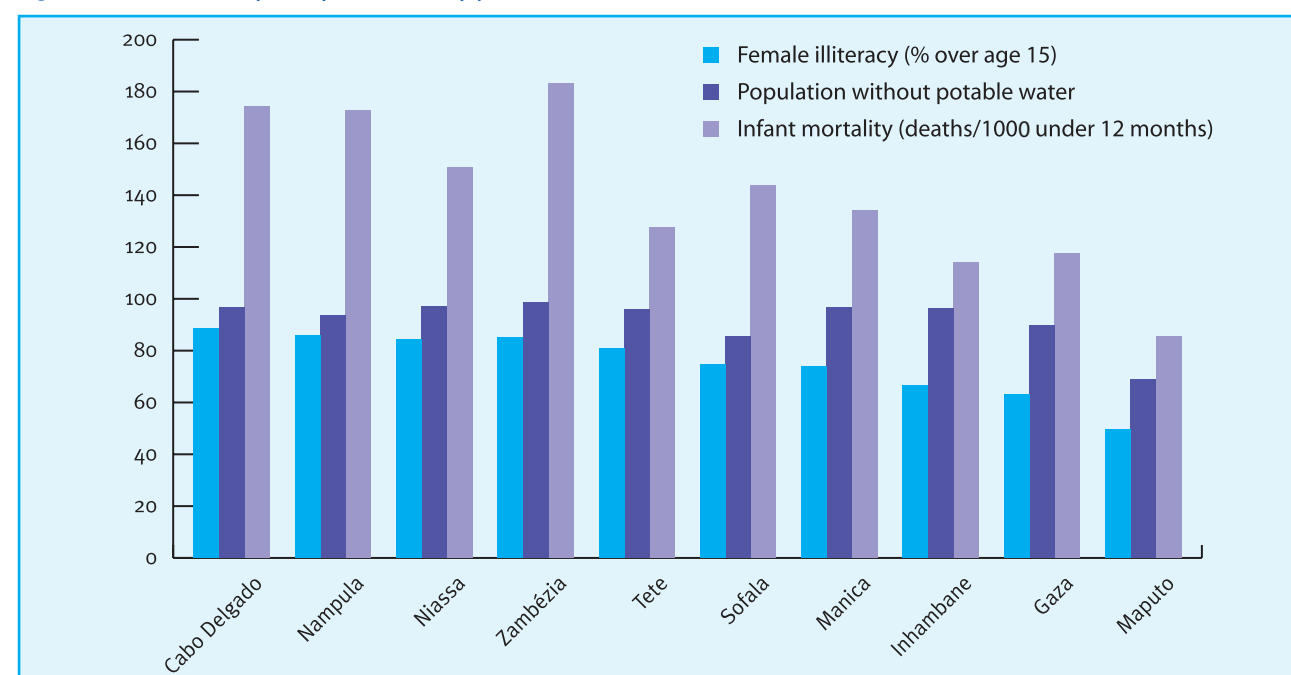
Moçambique was the third country to achieve E-HIPC (Enhanced Highly Indebted Poor Countries) status. Its external debt has subsequently been reduced from US\$2.7 billion to \$800 million, although this is still one-third of Moçambique's GDP.¹ This reduction of debt could nevertheless have a dramatic impact on development in the future, as finance that would have been used to repay external debts can now be re-invested into Moçambique. The challenge is to ensure this money is effectively utilised for long-term, sustainable development interventions.

Moçambique is in many senses a success story. After over 30 years of war, the country has been characterized by peace and relative economic stability for the past decade. GDP growth rates are high in the country – averaging 8% over the past few years. International institutions claim that the successful growth of Moçambique has come about as a result of greater liberalisation, increased privatisation of poorly run state institutions, and greater stability in the country.

Yet Moçambique's impressive economic achievements are fragile and uneven – rural areas in particular have not felt the benefits. Moçambique still ranks very low on the UN's Human Development Index (170 out of 174 countries in 2002), with a human development index of only 0.341. The Government's Action Plan for the Reduction of Absolute Poverty 2001-2005 (PARPA) argues that 70% of the population still lives below the poverty line (US\$0.40/day).²

Figure 1 highlights some basic indicators of well-being in Moçambique by province, as outlined in the PARPA.

Figure 1: Correlation of poverty indicators by province



Fact box

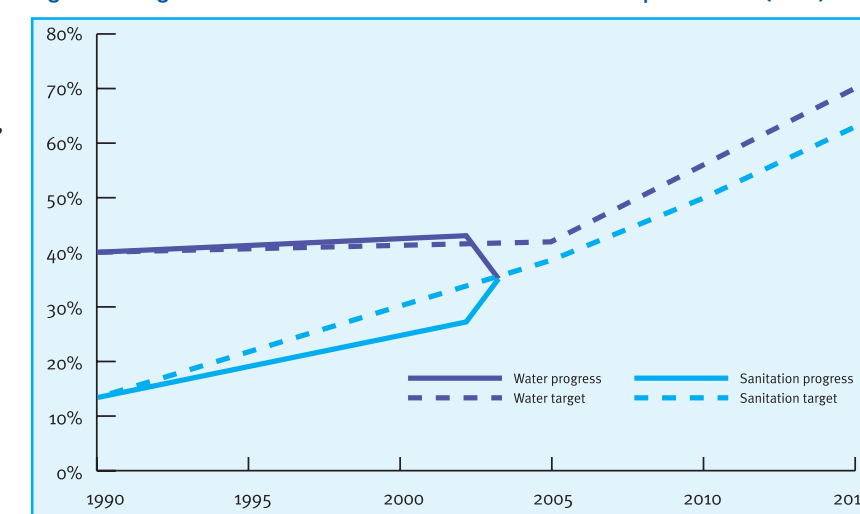
Population in 2000 total (rural/urban) ³	18 million (12m/6m)
Population projection for 2015	24.4 million
Present access to safe water (rural/urban)	34%/32%
Present access to basic sanitation (rural/urban)	27%/53%
Mortality rate of children under five	158/1000
Life expectancy	42.5 years
Prevalence of HIV in adults	12.2%
Annual numbers requiring access to reach rural sanitation MDG	317,000
– increase required (on performance since 1990)	105%
Current available annual water financing ⁴	\$18 million
Water/sanitation sector annual finance need for MDGs ⁵	\$143m
Water sector annual finance gap to reach MDGs	\$125 million
Debt service as percentage of exports ⁶	8%

The UNDP's Second Country Cooperation Framework comments⁷ that HIV/AIDS is an increasing problem in Moçambique:

"The HIV/AIDS epidemic in particular is emerging as a major development threat, affecting approximately 16% of the adult population. Apart from its negative economic impact, it is estimated that HIV/AIDS will, if unchecked, lower the current life expectancy from 42.5 to 35.9 years by 2010, according to the 1999 National Human Development Report. The United Nations Development Assistance Framework identifies HIV/AIDS as the key priority of the UN Development group of agencies in the period 2002-2006..."

The ability of the health sector to test for HIV/AIDS in Moçambique is weak, fragmented and scattered, meaning few are actually sure how big a problem it is. Efforts are being made to address this, but a clearer picture will not emerge until the infrastructure is in place to test, treat and counsel people

Figure 2: Progress on water and sanitation Millennium Development Goal (MDG) targets⁸



living with HIV/AIDS. International donors and NGOs are beginning to focus on this problem, but efforts to date have been uncoordinated and outside government systems.

Key events

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| 1975 Moçambican Independence from Portugal, undermined by the start of a civil war that lasted into the 1990s | 2001 Publication of the Government's Poverty Reduction Strategy known as <i>PARPA – Action Plan for the Reduction of Absolute Poverty 2001-2005</i> |
| 1992 Peace Accord between FRELIMO and RENAMO ends civil war | 2001 Publication of the Government's Implementation Manual for rural water supply |
| 1995 Moçambique publishes the National Water Policy that changes the approach to water supply and sanitation from a supply-driven to a demand-driven model | 2005 Manuals for sanitation, water supply technologies and social development forthcoming |

Water sector characteristics

Statistics for the water sector are generally considered to be unreliable as capacity to monitor water supply and sanitation projects is limited (Figure 2). The National Directorate of Water (DNA) indicates that:

- Urban water supply coverage is 32% whereas the UNICEF/WHO Joint Monitoring Programme states it is 76%
- Rural water supply coverage is 34% whereas the UNICEF/WHO Joint Monitoring Programme states it is 42%
- The Department of Rural Water suggested that 12,500 water points exist in the country, of which 4500 (35%) are broken⁹ whereas a more recent report suggests that there are 13,200 water points of which 4000 (30%) are non-operational
- 75% of the rural population do not have access to adequate sanitation¹⁰
- 60% of the urban and peri-urban population do not have access to adequate sanitation¹¹

Some of these variations reflect different agencies using different definitions of coverage.

Similar anomalies occur in recent studies of coverage rates at district levels. In Sanga (Niassa Province), the Government calculated that coverage was over 70%, but a recent detailed mapping exercise showed that coverage was actually 21%. Similar results are emerging from Namarroi and Namarcurra (Zambézia Province), with government estimates above 30% while real coverage in both districts is closer to 18%. Although not published yet, results from African Development Bank-financed work in Nampula Province show similar trends.

Government and donors need to improve the reliability of data on access and coverage for effective planning and financing of the water sector.

The health impacts resulting from a lack of safe water supply and sanitation facilities are clear in Moçambique, and are cause for greater urgency in the sector:

- Diarrhoea is prevalent in 20% of under five year-olds
- Under five mortality rate is high at (158/1000) and 13% of these deaths are attributed to diarrhoeal diseases

Cholera outbreaks are increasing throughout the country. The response to date has been to chlorinate water points but the root cause of the problem is the lack of adequate sanitation and the high number of water system failures which force people back to unprotected sources. Sanitation policy remains vague and undefined with competing views and strategies on key issues like subsidies, while the particular challenges facing rural small towns remain outside the reach of much funding.

Finance

Needs

Government estimates of sector requirements are highlighted in the Moçambique National Report developed for the Pan-African Implementation and Partnership Conference on Water in Addis Ababa (2004). For rural water supply, it is estimated that an additional 9400 water points will need to be constructed and 70 small piped systems built to achieve MDG targets. The total cost is estimated at US\$215million, of which the Government of Moçambique claims it has secured US\$71 million. The shortfall is therefore estimated at US\$144 million.

Government estimates for urban water supply suggest that a total of US\$980 million is required to achieve MDG targets, with US\$114.6 million secured and a gap of US\$865.4 million.

Sanitation lags far behind with an estimated requirement of US\$520 million needed and only US\$30 million secured, leaving a shortfall of US\$490 million.

The total government-estimated water finance gap is therefore \$1.5 billion or \$125m for each of the 12 years in the 2004-2015 period.

WaterAid has not made its own separate estimates of the financing requirements of the entire water sector but its work in one rural district (see Box 1) suggests that there is considerable scope to make better use of existing resources.

Performance

Setting the rural sanitation coverage data from this report alongside those for 1990 from the WHO/UNICEF Joint Monitoring Programme, it is clear (Table 1) that the sector needs to improve its performance by more than 100% to reach the rural sanitation MDG.

While accurate information on finance is difficult to obtain, there is growing concern that the resources which are available to the sector are not being spent. The Ministry of Finance has recently released initial figures on official government expenditure in the water supply and sanitation sector. The figures suggest that national government spent less than 30% of its total infrastructure investment budget in 2004, while Provinces spent only 55% of their infrastructure budgets. Sector leaders claim that this reported underspend is not an anomaly, but has happened for at least the past three years.

Table 1: Rural sanitation performance requirements to meet MDG

Population with adequate sanitation (millions)			New access (people/year)		Increase required in new access
1990	2003	2015	1990-2003	2004-2015	
1.5	3.5	7.3	155,000	317,000	105%

Examples of under spending are considerable in Moçambique. In the late 1990s, the World Bank financed an initial pilot programme to test the Government's National Water Policy in Inhambane Province. The programme has not generated lessons to inform other sector work despite this being planned as a key output of the programme. The programme is about to conclude after numerous extensions, but it is clear that the overall budget was not used, that only three of the planned 13 small town water supply rehabilitations were completed, that a spare parts strategy was never started – that a monitoring and evaluation system was neither designed nor implemented and that few of the overall programme goals will actually be met. The one area that did surpass the initial project goals was rural water supplies, although the sustainability of these systems is uncertain.

A US\$21 million programme financed by the African Development Bank in Niassa and Nampula Provinces is facing similar problems, with extremely low disbursements and no infrastructure constructed to date despite the programme being operational for a number of years.

Importantly, water supply and sanitation are included in the Government's national Poverty Reduction Strategy Paper (PARPA) but they generally get lost in the maze of other priorities. Sector performance is therefore hampered by poor data, spending shortfalls and a lack of genuine national prioritisation of water supply and sanitation.

Sector coordination

Efforts have been made to enhance sector coordination, but actual coordination at Provincial and District level remains elusive. The Sector Wide Approach (SWAP) has been promoted vigorously by the Dutch Government in the past but questions are now being asked about the impact and effectiveness of previous SWAPs. Some donors are increasingly diversifying their funding portfolios away from the SWAP to a combination of budget support and direct programme work that is managed or supported by the private sector or NGOs in the provinces.

The *Grupo de Água e Saneamento* (GAS) has been operational for the past two years. GAS is a technical sub-group to the larger donor coordination body which serves as a forum for government and major sector donors to discuss and evaluate sector progress. Additional initiatives have been taken recently in the HIV/AIDS sector (Box 2). GAS includes representatives from DNA, major sector donors like the Swiss Development Corporation (SDC), CIDA – Canada, JICA (Japan), the Water and Sanitation Programme (WSP – World Bank) and UNICEF, along with international NGOs like Care, Helvetas, and WaterAid, as well as a major private sector firm (Cowater) working in Inhambane. Recently, WaterAid has financed the participation of a local NGO (ESTAMOS) and representatives from Provincial Government in Niassa.

Box 1: WaterAid estimations of need – Sanga District

WaterAid and its partners in Niassa Province have conducted a detailed baseline survey of all existing water points in Sanga District with the aims of clarifying coverage rates and developing an effective tool for long-term planning, monitoring and evaluation.

Estimating the cost of the MDGs in Sanga however requires not only detailed knowledge of the state of existing waterpoints but also assumptions about population growth/size and about how many people live close enough to be able to access each water point. Different combinations of these assumptions result in a variety of scenarios for the work required to reach the MDGs.

Table 1 sets out three of these scenarios involving a mix of rehabilitation and new project work. The costings of these different workloads crucially assume that the cost of each water point will be comparable with costs incurred by WaterAid rather than the considerably higher costs incurred by other donors.

Overall two conclusions were made 1) the key to reaching the MDGs was the sustainability of the water points and 2) that the finance requirements in this one District were manageable if water point costs were reduced to the levels associated with projects financed by WaterAid.

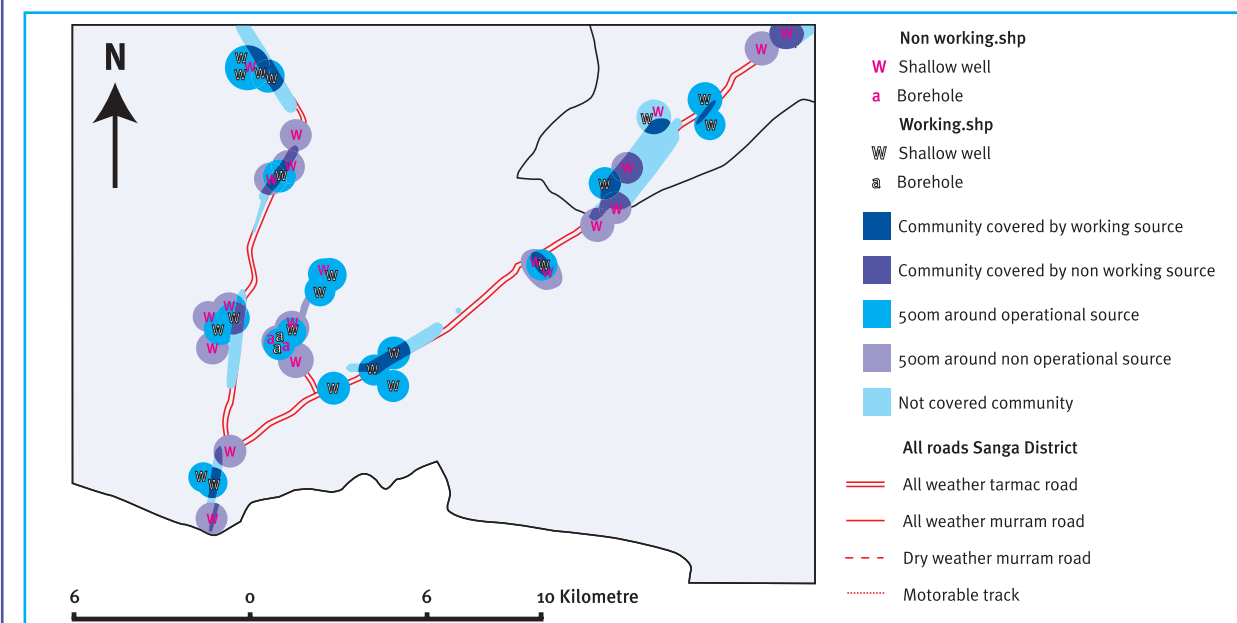


Table 1: Example costs of meeting MDG targets in Sanga District, Niassa Province using different baseline assumptions

Baseline assumptions		Rehabilitations required and cost	New water points with borehole required and cost	Total cost and average cost needed per year
Existing and functioning water points	Number of functioning water points required in 2015 to meet MDG			
65	151	49 rehabilitations US\$68,861	37 new US\$176,383	Total = US\$245,244 US\$20,437/year
43	133	71 rehabilitations US\$99,778	19 new US\$90,575	Total = US\$190,354 US\$15,863/year
43	195	71 rehabilitations US\$99,778	81 new US\$386,136	Total = US\$872,050 US\$72,671/year

The strength of GAS has been its ability to provide a working forum to discuss key sector issues. In the past year efforts have been made to develop and facilitate clarity and progress on rope pumps, sanitation subsidies and spare parts initiatives in the country as well as introductory presentations from most GAS members.

The real challenge is with sector coordination at Provincial level. To illustrate, three main donors operate in Niassa Province (the African Development Bank, Ireland Aid and WaterAid) as well as a host of other international NGOs, local funding agencies and other government departments like Acção Social. Projects financed by all these sector actors vary, with some offering free water supplies to

communities while others follow national policy and insist on capital cost contributions. Some coordinate their activities with the Provincial Government and others do not, meaning that the Provincial Department of Water and Sanitation is not always certain which communities have actually been served. This in turn undermines their ability to plan and supervise sector activities. There is evidence that some organisations import handpumps from other countries which leads to significant spare parts problems in the long-term. Most importantly, the net effect of this is that Niassa is characterised by multiple policies and approaches which leads to considerable confusion at village level. This problem is evident in all Provinces in the country, and inevitably undermines government.

Box 2: Coordination in the HIV/AIDS sector

A joint mission to Moçambique in March 2005 by the World Bank, UNAIDS, and bilateral donors from Norway, Sweden and the UK investigated the strength of Government leadership in tackling HIV/AIDS, and progress with both the 'Three Ones' principle (one National Plan, one National Authority and one monitoring and evaluation system) and donors' harmonisation of their funding. The mission's recommendations included setting a challenging target for getting all donor funding on-budget, making longer-term commitments of untied budget support funds and the identification in 2005 of practical proposals for capacity strengthening alongside rapid progress on other components of fiduciary risk: corruption, poor financial management and the weakness of the justice system.

The Mission noted the benefits of having the Prime Minister act as chair of the National AIDS Council. It also identified that too many agencies still worked outside of common funding mechanisms which resulted in ongoing transaction costs for the Government and failures to disburse funds.

Decentralisation

National policy places considerable emphasis on the decentralisation of management and implementation responsibilities from national to provincial and even district levels.

To understand decentralisation in Moçambique, one must begin with an explanation of why government changed its policy from the supply-driven to the demand-driven approach. In the past, project failure in Moçambique was considerable because communities did not believe that water supplies were their responsibility. When a water point failed the community simply abandoned it and returned to traditional sources of water that were often unsafe. "Ownership" was elusive because of counterproductive elements in the previous policy:

- Government (for the most part from Maputo) identified project sites. Communities therefore "awoke" to find social workers facilitating a water project in their village
- Technology choice was limited to Afridev handpumps
- Decision-making (such as the siting of the water points) was often limited to a handful of local leaders
- Regardless of local circumstances, communities were told to form a committee with two men and two women to manage the scheme

The new policy attempts to ensure community ownership by stipulating that communities must:

- Initiate the project. The participating village is not given a project by a donor or government. Instead, the community must seek out a project and so show that they are interested in addressing their water problems
- Decide on technologies, management systems, hygiene programmes and payment schemes for spares and other on-going costs. This localisation of the project design again engenders a sense of ownership, as local residents can say "we designed this and chose that..."

- Contribute money up-front to demonstrate their commitment to this project (though there can be problems with this approach¹³)

The Government's Implementation Manual also calls for the decentralization of responsibilities from Provincial level to District level so that activities can occur closer to the community. This process will take time and capacity needs to be built at district level so that District Administrations can undertake all the tasks ascribed to them including:

- Receiving requests for support from communities and selecting those with which the administration will work
- Supervising project management at local level
- Promoting the emergence of small water sector companies at district level
- Promoting hygiene education and sanitation
- Creating ways for communities to exchange experiences within the district
- Maintaining contact with communities

The longer-term vision of the Implementation Manual is to transfer full responsibility for financial management, contracts and quality control to district level. The intention of the policy is to reduce the time it takes to process community claims and to increase the authority of District Administrators.

The strategy and goals established by national government are sound and the challenge now is to implement these policies at district level. To succeed, finance will have to flow more rapidly and effectively from the centre to the provinces and then to the districts. Capacity gaps at provincial and district levels need to be swiftly addressed as well.

Staffing is a considerable problem in the sector, with gaps existing at national, provincial and district levels. The situation is most dire for District Administrations which are required to manage water supply and sanitation but few of which actually have any dedicated staff assigned to water supply or sanitation.

These financial and human resource limitations largely explain why districts and provinces continue to struggle to meet targets. **Government policy on decentralisation in the water sector needs to be fully implemented to align resources and staff with the responsibilities of District Administrations.**

Equity

Government policy stipulates that 500 people should benefit from each water point. In reality, given settlement patterns in rural Moçambique, few water points service this number of people, particularly in the north of the country. Greater insight is needed into the number of actual users of improved water services if MDG targets are to be realised.

Coverage rates vary nationally, with higher rates more evident in the south dropping the further north one progresses. In general Inhambane Province has received the greatest share of resources from the Government and donors and has for years been seen as the centre of pilot initiatives in the sector. That said, government has tried to ensure an even spread of donor finance throughout the country. Greater efforts are being made to reduce the gap

between the north and south, with financial support from DfID, the African Development Bank, SDC, Ireland Aid (DCI) and JICA, along with additional support from INGOs like Care, Helvetas and WaterAid.

Sustainability

Sustainability remains the biggest weakness in the Moçambican rural water sector. A recent study for JICA as part of a new multi-million dollar project in Zambézia Province highlights the sustainability problems faced in the country. The study suggests that many projects constructed as recently as two years ago are already broken, with only 21% of JICA-financed water points in Mokuba considered to be operating as designed, with similar results in Ile (20%), Alto-Molocue (32%) and Gurue (17%).

Rehabilitation work therefore consumes a large part of the rural water sector budget (and thus denies funding to other communities who need improved services).

These failings are occurring despite the passage of the new National Water Policy in the 1990s and Implementation Manual in 2001. Most in the sector do not implement water projects along the lines laid out in the Implementation Manual.

Technology choice is a critical component of the new policy as it is well recognised that communities must be able to choose from a range of options based on their ability to sustain the water facility over time. Yet decisions on alternatives to the Afridev handpump – which have been allowed in terms of policy since the publication of the National Water Policy in 1995 – have been dragged out for years, despite clear evidence that many communities throughout the country do not have the technical, financial and managerial capacity to sustain the Afridev. Efforts to develop spare parts networks for Afridev handpumps have also consistently stalled. The present dearth of alternative low cost technologies and the absence of spares are the principal reasons why many projects fail within a few years of implementation.

Consequently **communities must be allowed to choose from a selection of reasonable technologies and have access to spares if water sector investments are to deliver sustained benefits.**

By contrast, the urban water sector, under the leadership of FIPAG and CRA, is comparatively well resourced and well managed. Staff salaries are competitive and staff capacity and skills are high. Information is regularly communicated to the public on issues such as tariffs, and FIPAG and CRA have shown an openness to discuss urban sector challenges which is refreshing and progressive. Challenges of course remain and urban coverage is low, but FIPAG and CRA appear well placed to tackle urban issues.

WaterAid's direct experience with CRA and FIPAG has been excellent. Recently, WaterAid supported a direct link of two urban bairros (Urbanização and Aeroporto) to a main water distribution centre. The project was realised in less than five months under the leadership and drive of FIPAG. FIPAG has shown great professionalism and capacity to deliver improved water supplies to these bairros, which for years have suffered from the problems of poor water supplies due to extremely low water pressure. Plans are now being

developed to enhance WaterAid's support to other bairros in Maputo, and these are moving forward with great confidence given the experiences of working with FIPAG and CRA.

Growth of private sector

Private sector involvement in the water sector is growing. Some, such as WaterAid, have consciously tried to facilitate the emergence of local private sector companies that can support water supply and sanitation development in the country. National government is generally more open to private sector involvement in the water sector than NGO involvement. Recent large programme work financed by the lending institutions like the African Development Bank has seen increased foreign private sector involvement in the sector, largely from South Africa and Malawi (particularly drilling companies).

Box 3: Experience of local private sector in Niassa¹³

Moçambique's Economic Rehabilitation programme stated that delivery of water and sanitation services should pass from the state to the private sector. In Niassa however the local private sector was not sufficiently well-developed to be a viable alternative provider. Only 15 small-scale private *empreiteiros* (contractors) existed in Niassa, the largest but least populated of Moçambique's 10 provinces where as many as 550,000 of the 700,000 population lack safe water.

The problems were exacerbated by the absence of any uniform system of contracting. Competitive bidding was not widely followed with the formerly state-owned EPAR (Provincial Construction Company for Rural Water) still continuing to receive work without competing against other companies or submitting a bid. WaterAid therefore recommended a policy of private enterprise development, local government capacity-building and community development and mobilisation. Some of the problems and potential of the local private sector are illustrated in the two individuals' stories below.

Mr Rossario recently set up a private company constructing wells and latrines in Niassa Province which, being well below the national average in access to safe drinking water and sanitation, offers potentially high prospects for business expansion. However, Mr Rossario complains that he cannot profit from this opportunity because he cannot access the finance necessary to expand his business. To meet available loan conditions, he would either have to repay the loan before finishing the job or provide collateral, which he does not have, to get a loan for a longer period.

Mr Sebastião A Chitime is a local contractor working with WaterAid in Lichinga to develop and manufacture rope pumps. He also sources spare parts. The pump is still in the development stage and Mr Chitime is using the profits from the sale of pumps to improve the technology. He employs five local people. In 2005 Mr Chitime will make 100 pumps and ensure that the spare parts are available. The pump uses some locally available materials such as tyres and rope. "From my experience communities readily accept the rope pump" he says. "They can see it is simple."