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## Providing free basic water in South Africa

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## Providing free basic water in South Africa

*Hugh Sussens and Abri Vermeulen, South Africa*

Much publicity, not all of it positive, has been given to the announcement by our President to supply free basic water to our poor. This announcement was precipitated by the realisation that many local authorities, many of whom are newly established, were unable to provide basic water free of charge to those who were unable to pay, something required of them by our Water Services Act. In recognition of the plight of the poor, national government thus undertook to assist local authorities to provide the poor with their constitutional right.

Within South Africa, Durban Metro was an outstanding exception. It was supplying free basic water, not just to the poor, but to all. Prior to the announcement, the Durban approach was tested on a variety of local authorities. This showed that with adequate local government capacity, infrastructure, systems, and the correct application of national government subsidies, appropriate local cross-subsidisation, and cost recovery from higher consumers, it was possible to supply free basic water to the poor. A task team with representatives from many fields was established and the programme commenced in December 2000.

### Challenges

Through a comprehensive consultative process, pertinent issues that would need to be addressed and clarified in a strategy document were identified. These can be broadly categorized under 4 headings.

#### *Local government capacity*

To build capacity and put systems in place requires a huge initiative and support. In many cases it will be necessary to appoint a Water Service Provider or Service Agent. Local authorities will ultimately need to ensure that the subsidies get to the correct beneficiaries, manage water demand and conservation, undertake operation, maintenance and replacement, meter and bill consumers etc. Independent community operated schemes must be brought within local government's ambit and receive a portion of their subsidy. If not carefully managed this could lead to community disempowerment.

#### *Financial*

Each local authority area is unique, there is no single financial solution. What revenue sources are available? What level of cross-subsidisation will be applied and who will cross-subsidise? Where there is local cross-subsidisation, will commerce and industry contribute and if so what broader economic effects could this have? How will the

poor be identified? How will the subsidy be applied in practice? At what level should cross-subsidisation be applied? The cost of infrastructure requirements both on new and existing schemes needs to be addressed.

#### *Technical*

Some means of controlling or measuring the amount of water supplied is required. This will usually have implications for the type of infrastructure provided, particularly in terms of the dispensing technology. Implementing appropriate technology on new schemes is one thing, but existing schemes could require retrofitting. Water losses through vandalism, unauthorised connections or normal leakage could have a radical effect on free basic water's viability. Linkages with sanitation must be considered. Those still without infrastructure to receive free basic water, could be further disadvantaged?

#### *Communication of policy and process*

Unless the announcement of free basic water goes hand-in-hand with a comprehensive communication strategy, there is a real risk that it might be construed as a "free for all, as much as you want, immediately", policy. Local politicians, officials and community members in particular need to be clear as to their rights and obligations. Failing this cost recovery could collapse not only from higher consumers, but also from the poor who must recognize that free basic water cannot be implemented overnight. It is thus essential not to create unrealistic expectations. In addition, consumers should not be allowed to lose awareness of the need for water conservation or to lose the feeling of ownership and accountability.

Following the above issue identification, a literature survey, particularly in other developing countries, of poverty relief options was undertaken and 11 national case studies done. Hereafter a draft strategy document was produced, workshopped widely and refined.

### Strategy and experience

The primary intention of the policy is to ensure that no one is denied access to a basic water supply because they are unable to pay for the service. Underlying this is the recognition that the supply of water at a 'basic' level assists in alleviating poverty, improves community health and frees women from drudgery. However a significant number of South Africans still lack access to an adequate level of water supply and clearly cannot receive free basic water. In this case the continued extension of adequate water supplies to

unserved households must remain at the core of the provision of free basic water.

The 'basic' level of water supply sufficient to promote healthy living is based on the generally accepted minimum level of supply of 25 litres per person per day. This amounts to about 6 000 litres per household per month for a household of eight people. However, local authorities should still have some discretion over this amount. In some areas they may choose to provide more, while in other areas only a smaller amount may be possible. For example, in some areas, it may not be feasible to provide this amount of water. In such cases a 'basic' level could relate to what is possible using the source and technology that best serves the area.

Some local authorities may however be able to provide free basic water to all their consumers. There are strong arguments for this. It is equitable and does not require targeting, (an expensive, ongoing process and an administrative burden). A free to all approach that applies a rising block tariff to higher consumers and increases their higher blocks, can still benefit the poor without the need for targeting. Initially there is however a real danger that, because in most cities middle and upper income households have the majority of private, metered connections, they and not the poor will be in a position to receive free basic water. A deeper concern is that this may simply not be financially viable in areas with limited ability to cross-subsidise.

Local and international experience indicates that it is appropriate that local authorities continue to have primary responsibility for defining poverty thresholds and identifying such households. It is likely that due to cost differences across the country and other local issues, (such as seasonal unemployment), specific local poverty indicators will be more appropriate.

The careful design and delivery of a targeting mechanism is as important as the level of expenditure committed to it. When poverty is widespread and administrative capacity low, broad targeting is desirable. Self-targeting and geographical indicators should be used as filters to reduce the need for individual assessments of who is poor. Since poor local authorities are less able to mobilise additional local revenue to support services, well designed intergovernmental transfers are particularly important. Monitoring is always required so that the subsidies do not benefit the affluent at the expense of the poor.

Targeting is never completely accurate and a balance has to be found between errors of inclusion (of rich) and exclusion (of poor). The more targeted one tries to make a scheme the more likely that deserving households will be excluded from receiving benefits. Income is often used as a single targeting indicator, but is often difficult to measure. Proxies for income such as housing quality, level of education of head of household and others can be used, but it has been found difficult to identify a single variable that correlates well with income level. An alternative approach is the use of geographical criteria which target a particular

area based on the area's characteristics. The main advantage is that location is easy to observe and a cheap indicator to administer. How well location correlates with underlying poverty measures is important.

The economic cost of raising revenue tends to be lowest at the national level and to have lower distorting effects in the economy. These are strong arguments for revenue raising for a countrywide subsidy through the national tax system. At the same time there continues to be a strong reliance in the water sector internationally on local level revenue raising through cross subsidisation between consumers. The reasons for this appear to be administrative ease rather than economic efficiency. It must be emphasised that cost recovery from higher consumers and good practices (eg. a demand responsive approach), remain important.

The supply of free basic water implies a need to either measure or control the amount of water supplied. Certain service level options address this by their nature. An example is standpipes, where experience has shown that consumers who have to carry their water do not consume more than 6 000 litres per household per month. Unlawful connection for irrigation etc, although not specific to free basic water, can be overcome by the appropriate use of technology. For example the regulated yard tank, which uses distributed storage, cannot be bypassed. With adequate communication, people can be sensitised to the need for community policing of resources and be made aware that unauthorised connections could lose them their free basic allocation. Other service levels allow unrestricted consumption and these must be metered and managed by the provider. In addition experience has shown that a range of service levels, the ability to restrict flow, and appropriate design standards are necessary.

The provision of free basic water should be seen as a starting point for communities. Systems should thus, wherever possible be upgradeable. Through health benefits and the removal of drudgery, poverty can be more effectively addressed. Unless people are adequately informed of this, they could lose any sense of responsibility, ownership and self betterment.

Free basic water can be supplied in three ways and these three basic approaches are suggested as the core of any free basic water implementation strategy. Flexibility must remain at local level in the use of these options. It is also likely that a mix of these options will be needed. The approaches are:

- A rising block tariff (with a free basic amount )
- Targeted credits or subsidies
- Service level targeting

## Conclusion

In a nutshell the broad implementation strategy is based on a phased approach, the provision of national guidelines with local flexibility and ongoing management support. An interactive, user-friendly, guideline document and fi-

**Table 1. Water supply service levels and their applicability to free basic water**

<b>Service Description</b>	<b>Application</b>	<b>Suitability for 'free basic water'</b>
<i>Rudimentary systems:</i> Hand pumps, spring protection etc	Rural areas that cannot feasibly be provided with reticulated systems.	With low capital and operating cost and inherent limitations on the amount which people can use this is well suited.
<i>Communal street tap:</i> Tap shared by a number of consumers.	While mainly used in urban areas their widest application has been in rural areas where this has been the most common service level provided under water supply programmes over the last decade.	A low cost option well suited to providing water to poorer consumers. It is seldom that consumers would use more than 6 000l per hhold/month and therefore this service level is well suited to service level targeting.
<i>Prepaid communal street tap</i>	This option has been introduced recently in a number of areas with mixed results.	If up to 6 kl is to be provided free than the need for a pre-paid meter falls away as no payment is to be made.
<i>Low pressure trickle feed yard tank:</i> Tank, typically 250 litres, located in yard with flow control device in tank. Permanently connected to network.	Yard tanks have a major benefit in that they provide a restricted supply at a fixed monthly charge. They also allow for a cost effective reticulation design. No bailiffs required to open manifolds, but the tank can be easily bypassed.	For a 'free basic water' policy yard tanks are an important service level as they provide a relatively high restricted flow service level (less than 6 kl/ month). Typically the tariff for the tank would be set at zero. This fits well with all the poverty relief options.
<i>Low pressure manually operated yard tank:</i> A tank filled from a manifold on a daily basis.	Has the same benefits as the trickle feed tank with the following exception: the daily manifold opening is labour intensive. However, cant bypass tank.	As for the trickle feed tank, there is wide application for this type of service in a 'free basic water' context.
<i>Low pressure regulated yard tank:</i> A tank with a regulator at a node point on the reticulation.	Similar to a yard tank but does not require opening of a manifold. Bypassing of the tank brings no benefit to the consumer and therefore is not a problem.	As for other yard tank options, this is well suited to a 'free basic water' initiative.
<i>Medium pressure manually operated roof tank:</i> Unregulated metered flow to tank on roof directly from reticulation.	Has limited application as a service between normal metered supply and yard tanks. Main benefits relate to saving on reticulation costs. May be a good upgrading option.	No particular benefits: needs metering, billing and credit control systems.
<i>Medium pressure regulated roof tank:</i> A roof tank version of the low pressure regulated yard tank.	This option is also based on having a regulator at the reticulation node. Therefore it allows for restriction of flow without the risk of bypassing.	This is well suited to a 'free basic water initiative'. It allows a relatively high service level with limited flow volume.
<i>Full pressure conventional house connection</i>	The 'yard tap' is also included under this category. This is the highest level of service but it requires an effective metering and billing system to function properly.	Generally has to be integrated with a 'free basic water' initiative. If used with service level targeting it would be assumed that those having it can pay cost reflective tariffs. If the poor have access to this service level a rising block tariff or credit system is required.
<i>Full pressure prepaid house connection:</i>	Pre-paid metering avoids the necessity of reading meters and billing. Non-payment is not an issue but tampering can be a problem.	Most prepaid meter systems provide for rising block tariffs with a zero first block. In this case they are suited to a 'free basic water' initiative.

financial model were prepared, made available and explained to local authorities at a series of workshops countrywide. Four pilot projects are underway to test these products. A comprehensive communication campaign is also underway. Finally Provincial Support Units have been established to assist local authorities where necessary. The

result? After only 9 months over half of all people in S.A. now receive free basic water, indicating to our detractors that it is indeed possible. The challenge is to sustain this. We believe that through a phased increase in the national subsidy and the continuation of the local government capacity building programme, we can and will succeed.

**Table 2. Three options for free basic water supply**

	<b>Option 1 Rising block tariffs</b>	<b>Option 2 Targeted credits</b>	<b>Option 3 Service level targeting</b>
Description	Rising block tariff applied to residential consumers, with the first block zero. No fixed monthly charge applicable to those using below basic.	Each consumer who is selected for poverty relief gets a credit on their water account which would typically be sufficient to cover the charge for the poverty relief amount.	Service levels which provide a restricted flow below the basic level are provided at no charge. Those with higher service levels pay the normal tariffs, except for poor consumers who historically have high service levels.
Targeting method	No targeting. However, targeted fixed monthly charge may be necessary for holiday areas.	Requires a system for identifying those who require poverty relief.	Targeting takes place through selection of service level by the consumer (or authority in some cases).
Applicability	Unsuited where a high % holiday homes unless supplemented with a targeted fixed monthly charge.	Requires a billing system to be in place for all consumers.	Best suited to less capacitated municipalities.
Advantages	Consistent with current approach to use rising block tariffs. Does not require targeting. Allows 'free basic water to all'.	Suited to situations with fewer larger consumers. Simple to apply from an accounting point of view. Easy to integrate with other services where a 'free basic service' policy is being used.	Suited to municipalities with lower capacity and large proportion of poorer consumers. Typically does not require a metering and billing system for restricted flow service levels.
Disadvantages	Applicable with a relatively high % of larger consumers. Requires effective metering, billing and credit control system.	Requires a system to select those who are to benefit from poverty relief measures. Requires an effective metering, billing and credit control system.	Targeting may be poor if there are a large % of households using restricted flow services. Will only work if metering, billing and credit control system for unrestricted flow is effective.
Residential frequency distribution requirements	Typically requires 30% of residential consumers purchasing more than 20kl/month	Only dependent on frequency distribution if poverty relief is to be partly or wholly funded from water account.	Non relevant unless poverty relief is to be funded from income raised from consumers with metered connections (which is seldom possible).
Impact of non-residential consumption	Typically requires more than 20% of water sales to be to non-residential consumers	Only relevant if poverty relief is to be funded from non-residential consumers.	Generally there is only a small proportion of non-residential consumers and it is not possible to fund poverty relief from income raised from them

**References**

Boland, J., and Whittington, D., 2000: *The Political Economy of Water Tariff Design in Developing Countries: Increasing Block Tariffs versus Uniform Price with Rebate*, in A. Dinar, *The Political Economy of Water Pricing Reforms*, Oxford University Press, 215-237.  
 Department of Water Affairs and Forestry,(DWAf) 1999: *Draft Tariff Regulations for Water Services Tariffs: A Guideline for Local Government*, Pretoria.  
 DWAf, October 2000: *A Study on Affordable Basic Water to the Poor*, Pretoria.  
 DWAf, November 2000: *Water Supply Service Levels: A Guide for Local Authorities*, Pretoria.

DWAf, May 2001, *FREE BASIC WATER: Implementation Strategy*.  
 DWAf, June 2001, *FREE BASIC WATER: Guideline for Local Authorities*.  
 Eberhard, R., 1999: *Supply Pricing of Water in S.A.*, Palmer Development Group, WRC Report No 678/1/99.  
 Parnell, S., Midwinter, A., and Zollner, E., 1998: *Providing Affordable Basic Services: Tariff Modeling and Targeting Subsidies – Towards an Indigence Policy for Local Government*, DCD and DFID, Pretoria.  
 H. Sussens, Department of Water Affairs and Forestry, South Africa  
 A. Vermeulen, as above.