

The Role of Tariffs in Household Water Provision

proceedings from EMG water and climate change seminar 4

19 May 2009, Josephine Mill, Cape Town

Welcome and Introductions

The seminar was opened with welcome and introductions from Jessica Wilson, EMG. Everybody then introduced themselves, saying what had brought them to this seminar (see annotated participants list at end).

Context

Jessica gave a background and context for the seminar series in general, and this discussion in particular. Water is in dire straits: service backlogs continue, levels of service are in fact dropping, it is *extremely* hard to move up the water ladder – people are reaching the level of basic services at the most, but are not able to move beyond that. Poverty (not being able to afford services) is a means of being excluded, there are massive service protests, and massive tensions between communities and government (elected officials and bureaucrats). There is chronic under-investment in infrastructure – wastewater treatment plants, for example, are in a terrible state of disrepair and overloaded. Money is not going towards their improvement. South Africa is a dry country, with ever growing demand. There are still people in positions of power whose response to this situation is an attitude of “why don't we just build more dams?”. So, water is in crisis. And within this reality, we HAVE to get water to people.

Why climate change? It will add stress to water delivery. Projections are that rainfall variability is going to increase, rain has a multiplier affect on runoff (if less rain falls, runoff will decrease proportionally more), evaporation from land and dams will increase, and ultimately the cost of water provision is going to rise. Which is why, in this series, we have looked at Free Basic Water, tariffs etc., to begin to try to grapple with what climate change means for water access, even though some people feel that climate change is an unhelpful dimension to add to this already complex situation. We believe it is critical to look at how water is financed and to make sure that enough money is set aside for it.

So, in this seminar, we are going to look at what tariffs can do and can't do, and whether they are an appropriate method of water demand management in the context of climate change. We will also look briefly at electricity tariffs and see how easy or relevant it is to share ideas across these two. Lack of affordability is cited as a reason for resistance and protest to water supply and sanitation – we want to unpack this and understand if tariffs are an underlying cause, or if there are other reasons for people's unhappiness. We would like to encourage you to think laterally and creatively, to bring new ideas and to try to look at these questions from other angles.

The background reading gives some context to this: look at Cape Town's proposed tariffs for 2009/10 – the 30% below-demand-curve, takes high end users up to R175/kl; the Porto Alegre piece is an example of participatory budgeting; Anna Taylor's honours thesis analyses the response of Cape Town households to water restrictions, including tariff changes. Julie's thesis looks from the other side, at how households in Eastwood are experiencing service delivery. To quote from her abstract,

“poor households experienced the government’s policy of free basic services as containment and punishment for being poor”. So these are not just questions of affordability, finance and getting the price right, but also questions of HOW it is done – who decides and how it is implemented.

Presentation by Paul Berkowitz, Centre for Applied Legal Studies (CALs)

Paul is working at CALs, developing a budgeting monitoring tool for civil society. The focus of his research is to compare residential tariffs in 6 different municipalities. The budgeting monitoring tool is not just looking at prices and graphs, it is also looking at what municipalities responsibilities are with regards to civil society, etc.

Tariffs have three jobs:

- 1) Financial sustainability, through cross subsidisation
- 2) Equitable access – through rising block tariff structures
- 3) Environmental sustainability, through demand management.

It seems that, often, municipalities don't know what they are doing – and this is the Metros! The Metros have the advantage of having many wealthy people to cross subsidise for poorer people, as well as often having more human skill and capital with which to analyse tariffs.

Municipalities have to buy water from the bulk water suppliers. In the short term, municipalities have to worry about maintaining pipes, pumps etc. In the long term they have to worry about replacing bulk infrastructure. There is a worry that they have got the short term covered, but are not thinking properly about the long term costs.

How rising block tariffs work – there is always a 'break even' point, beyond which a profit is made, which should cross-subsidise the lower blocks.

Elasticity and inelasticity of demand: Goods with inelastic demand, e.g. cigarettes, petrol, water – goods with few or no substitutes. If the price is increased, revenue will increase, (because consumers will continue to buy no matter the price), if price is decreased, revenue will decrease (because the quantity people buy is not very dependent on the price). Goods with an elastic demand – if the price is increased, revenue is decreased because people buy less, and vice versa.

The *inelastic* nature of the demand for water results in a conflict for municipalities: if they limit the amount of water available, their revenue will go down. A best case scenario for a tariff is one which increases demand management and also increases revenue – i.e. rich consumers would use less, pay more, municipalities save money and water. But this would be a 'magical' tariff structure, and does not yet exist! To develop appropriate tariffs for demand management, municipalities would need information on the percentage of households falling into each consumption band. They don't have this.

Empirical research shows that both rich and poor water consumers have inelastic demand (the rich are relatively more elastic, but still have an elasticity of below 1. Elasticity is measured as the % change in demand divided by the % change in price).

The point is raised that, during drought, some people did find substitutes for municipal water, borehole water, rainwater tanks etc. But, it is only the rich that can access these substitutes, and these kinds of adjustments take time and money.

Presentation of different municipal tariff structures –(see tariffs.ppt).

Some municipalities provide universal access to FBW – everyone gets it, there is no means test and the burden falls on the municipality. Others provide FBW only to those classified as ‘indigent’ – here the burden falls on poor households to register which is often a difficult and degrading process; and it is estimated that only a quarter of qualifying households are actually on the register.

Some key differences between municipalities:

- The City of Cape Town is closest to the ideal structure, and is the most pro-poor – it provides the highest effective FBW, and at the top block it is the second most expensive.
- In Nelson Mandela and Ekurhuleni, the poor pay relatively more than the rich.
- In Nelson Mandela, the top block is relatively cheap – are they meeting the triple mandates?
- Tshwane has 7 tariff blocks – what is the usefulness of this? It is better to have a few, well researched blocks.
- Ekurhuleni gives 9 kl free per month, but no independent occupants are allowed.
- Ekurhuleni also has a falling tariff structure after 15kl, which is strange.
- City of Joburg has a reduction of costs for sanitation after 50kl – this is probably either to do with economies of scale, or (more likely) because sanitation is deemed a percentage of water use up to a certain volume, beyond that it is assumed the extra water doesn't enter the treatment stream
- City of Joburg has 6kl FBW for everyone, and an extra 4kl for those on the indigence register

Questions from plenary:

- *Is it a difficult thing to calculate a tariff structure that works?*

Hopefully this tool will be useful for municipalities.

- *Are there any municipalities that cut off if you exceed a particular upper limit?*

No, but the law says that in an emergency, e.g. drought, they can cut water off, but the priority is to provide FBW first. They have to cut off at the high end first.

Response by Megan Euston-Brown, Sustainable Energy Africa (SEA), on electricity tariffs

Municipalities buy electricity from ESKOM – similarly to how talk-time is bought, various bundles etc. – this buying can be well managed, so that municipalities can actually make money. NERSA regulates this process. Electricity is sold differently to industry and to residential consumers; at present industry gets a preferential rate, which is a contentious issue.

In terms of residential electricity: in Cape Town, 50kwh is given for free to everyone using less than 400kwh (this is the legal free basic electricity amount). There are 2 tariff blocks, but it does not work like a rising step block tariff. Consumption under 600kwh is one rate, over 600kwh is a different rate, cheaper per unit but with an additional levy so that it works out slightly more expensive.

In Tshwane, electricity is free to all on the indigence register – this comes with all of

the normal problems of indigence registers. However, they have doubled the amount of free basic electricity to 100kWh, which has reduced substantially the 'non-technical losses' – i.e. with more free electricity, there is less illegal connection to the grid.

In Ekurhuleni, there is a steeper tariff curve and double the amount of free basic electricity (100kWh) is given to everyone with a 20 amp connection – this misses a lot of people, and is quite problematic.

More so than with water, electricity provides income to municipalities. NERSA regulates this, and doesn't allow for huge profits to be made. There will be massive increases in the cost of electricity with the new billed energy programme. A budgetary monitoring tool like this one that CALS is developing, for the electricity sector, would be very timeous.

Another important way in which electricity is different to water is that there is much more space for alternative sources of energy. At the poor end of the spectrum, most people use a variety of sources of energy – do we want to make it affordable for the poor to swap completely over to electricity, for health reasons etc.? At the rich end of the spectrum, people spend a lot of money on generators etc. when electricity supply is limited. There are also people who want to use renewable sources and install solar water heaters and / or electricity generating options such as photovoltaics or windmills. SWHs make sense, but it would be more efficient to capture this willingness to pay for alternative electricity, and use it to pay for large scale renewable electricity generation.

Response by Thabang Ngcozela, Environmental Monitoring Group, on participatory budgeting (Based on a reading about participatory budgeting in Porto Alegre)

It is interesting to note that in Porto Alegre it was the city initiating the process – this kind of thing would be very difficult to do without the *political will*. Also crucially important was the presence of *social groups on the ground* who were able to respond to the opportunity presented to be involved in the participatory budgeting. This process was not just about the infrastructure, it was about *real* engagement and involvement of citizens with municipalities. There was the necessary social cohesion to work with municipalities.

A participatory budgeting process must centre around people's own priorities. In South Africa, even though there is a lot of talk about 'bottom up' development, and it is called a developmental state, we do not really see this, and in truth it is mostly top down. But in Porto Alegre, it is clear that it came strongly from the bottom up, prioritising health, water, sanitation etc., with the constant attempt to bring to government's attention the life of vulnerable communities. There was a definite tension between the technocrats/politicians and citizens. They had different understandings of what needed to happen, how it should happen etc. – but this tension did not derail the process. These tensions are necessary and inevitable, but they need to be worked with and overcome for real participation. This was an example of direct democracy – people could really hold their governments and authorities accountable. *Monitoring and evaluation* did happen in terms of budget and priorities. Through this participatory budgeting process, people developed confidence in their governments, unlike here, where we are always fighting with the authorities.

When people are toyi-toying against service delivery, they are not saying they do not

want to pay, they are saying they want to be involved in determining *how much* they pay and what they pay for.

Questions and comments from plenary

There are a lot of provisions for public participation in budgeting. For example, in the Municipal Infrastructure Grant, it is specified that communities have to be involved in budgeting. This never happens. We need to pursue this kind of thing.

When residents got the pink (final demand) letters a few years ago, they went to ask the city about them, and were told that all the Councillors had voted for the pink letter – the community was very confused and stressed about the pink letters – where's the participation in that?

There is a huge disjuncture between law and reality in terms of consultation. People looking in from the outside would say “Porto Alegre is old hat, South Africa's where it is all happening”. But, our laws, our acts, are wonderful on paper, but mean nothing, and can't mean anything in a country with a completely contradictory macro-economic system. In a system of neo-liberalism, citizens are seen as customers. The priority for bureaucrats is to be financially self-sufficient, to get as much money as possible from citizens, and then to cut them off. And this is coupled with a mass de-politicisation of citizens since 1994. If we want to really be inspired, we should look to what is happening in Venezuela.

Another part of this reality is that here we are, politicising ourselves, educating ourselves, understanding the limits and constraints faced by individuals working in a bureaucracy – things can be done!

What is the range of costs of bulk water? Most raw water charges range between around 10c and R1.50 per kilolitre for domestic and industrial users (irrigation and forestry pay less), with the lowest being 3c and the most expensive just under R6. The price depends on the area, whether the water has to be pumped over mountains etc. Since 2002, a water resource management charge is also payable. This varies from catchment to catchment and in part is related to the scarcity of water available. For domestic and industrial users the range is 50c (Thukela) to R3.60 (Berg) per kilolitre.

Participants generated questions, wrote them on cards, and during the tea break, they were arranged according to themes. In plenary, the three general groups of questions were discussed:

1) Water Resources – is there enough?!

- Are we not moving from a world of rights, expectations and entitlements to one of obligations, commitments and nurturing of resources and environment?
- Can the city be trusted with the water supply? Who can we trust?
- When should we respond to climate change and why? Is it a threat to the Western Cape and how are we going to create awareness when there is this much stress around?
- Why encourage massive water consumption if we have water challenges?
- Is water really a scarce resource – or is there enough for all?
- A tap in every house? We just don't have enough water!...or do we?

Discussion:

Water resources are the basis for discussions on water services – if there is no water, there is no service to provide. The thing we know for sure about climate change is that the world is warming and this will mean higher evaporation, so water will become scarcer. Can't we just see how much water there is and ration it amongst all the users?

Rationing water is not so simple because water availability is not a constant – it varies from year to year and season to season. There are also ways of augmenting supply, e.g. groundwater and desalination, but these have costs involved. So it is not just a question of absolute resource scarcity, but also financial scarcity (and also the inevitable social/environmental impacts associated with mining even more water). Furthermore, we should focus on how much is lost through leaks, and re-think the ways we use tap water – at present we treat water to potable level and then swim in it or flush it down the toilet!

Perhaps we should use prepaid water metres progressively – above a certain limit, there is NO WATER; we just have to figure out how to decide what that limit is. More thought needs to be put into defining upper limits. Are there any problems with setting upper limits? At what point should rationing kick in with scarce resources? If we talk about rationing, why only pick on water? We should look at all scarce resources – what about land? (Exactly! said some participants; not necessarily, said others). Which led us on to a discussion on a progressive tariff structure... (ultimately there was no agreement on whether market or non-market mechanisms would be best to allocate water... most people felt a mixture could work).

2) What would a good tariff structure look like? How can the tensions between cost recovery and demand management be reconciled?

- Is there any attempt to change the approach of tariff design from supply driven (cost related) to demand driven (willingness to pay) in any of the municipalities?
- Can we charge the high end users more – e.g. R200/kl – what would be the consequences?
- If we have grey water systems, what about a feed-in tariff?
- How can tariffs make everyone reduce their consumption?
- What mindset are we bringing to setting water tariffs? Is there a danger we will repeat the energy debacle?
- How effective are tariffs in mixed residential use or hostels with only one meter?
- Is it right that different municipalities can set their own tariffs or should there only be one tariff structure?

Discussion:

There is a deep problem with the way in which we speak about indigence so freely, when it is such a terrible thing. You can't get a further move away from universality of supply than indigence registers! Basically, there are too many poor people in South Africa, so you have to be the poorest of the poorest, and have to prove that you are the poorest of the poorest. This is very divisive amongst poor people. Because of the stigma of the concept, apart from the bureaucracy, only the *most* desperate will

register. This is outlined further in Julie Smith's PhD. The background politics – i.e. the RDP adopted in 1994 and then ditched in 1996 'because we couldn't afford it' – shows that the political priority of water is very low.

In terms of equitability issues and climate justice, shouldn't we think about a swimming pool tax, which could go towards infrastructure? In particular it could fund the extension of services to poor people. With regards to using the tax system: that still involves using the market, which is what has got us into this mess. It implies that if you have money, you can have whatever you want. (The alternative is some form of rationing as discussed above).

The economic paradigm is problematic, e.g. poor municipalities rely on national government for handouts; we need to look at who controls natural resources and for what end. There is no reason why we can't pay for water services from the national fiscus; the cost of overcoming the backlog in water and sanitation would be covered by the cost of the Gautrain.

The following observations were made about existing tariff structures:

- there is no rationale or consistency between the municipalities
- rural issues need to be raised – what are they supposed to do in areas where there is no cross subsidisation?
- a concave (rather than convex) curve is preferable as it allows for cross-subsidies, affordability and water conservation from the high volume users
- Cape Town has the most progressive tariff curve, but it has a history of drought and the City is worried that it is losing revenue at the top end
- we get closer to the real solution through of necessity – e.g. drought, Eskom – can we use this somehow?
- to cut consumption, we need more than just tariffs (education, restrictions, etc.)
- charge VERY HIGH for high end users – way more than R175/kl (in CT 30% scenario); if we charged bottle water prices, we would be looking at an order of A THOUSAND RAND per kilolitre (R5 for 500ml = R10 for 1l = R1000 for 1kl)
- more transparent bills allow for greater involvement and participation

3) Social equity and engagement issues.

- Climate change will reduce the available water – the cost must rise – what about the poor?
- How do we resolve the issues of alternative technologies being perceived as 'lesser'?
- Would participatory budgeting help to resolve the citizen-city standoff in Cape Town?
- A need to consider rural equity
- How are indigent policies defined?
- Will a good tariff structure be enough to address people's anger and unhappiness about service delivery – or is it about something else?
- Municipalities need help – out of this process we should provide practical

suggested ways forward – small dynamic revolutions!

Discussion:

Often people working in municipalities just feel that they do not know what to do next: a practical tool for dealing with tariffs would be very useful. We need practical suggestions for a 'small dynamic revolution' – we need to demand basic information, e.g. where is the money going now, who is using how much water; and to have deep and broad social movements on the ground to set the agenda for municipalities. The ISS did a social audit, and actually wrote about how they managed to demand information – particularly around housing issues.

What about working with a municipality on a dummy budget, getting municipalities to prioritise certain issues? To take this a step further, what about proposing a dummy participatory budget? (Province could play an important role between DEAD:P and finance on something like this).

Active representation on the CMAs to bring these ideas there is also important.

There is important political space after the elections, and some sense of urgency. In the lead up to the provincial elections, there will be more service protests – this is an important political window.

Action points

- 1) All agree that we would like to form a small collective to get government to think more carefully about it's budgets in relation to water and sanitation.
- 2) Jessica will write a short concept note about forming a 'small dynamic revolution', focussing on a process of participatory budgeting in a community/ area/ city. The hope was to work with it in the City of Cape Town as this is where we live and work, but it was also noted that we might encounter resistance.

Closing and evaluation

Thanks do everyone for their participation. The next seminar will be in June or July and look at big water users, and the measures they are taking (or not taking) to reduce their consumption.

Comments on the seminar included: very high and stimulating level of debate and thinking; great to have *practical* way forward driven by passionate debate and deep thought; very enlightening and in-depth discussions; when's the next seminar?!; extremely useful; new thoughts, especially around approach to poverty and participation; fascinating.

Participants

Tony Davenport – from the Josephine Mill, with a personal interest in participating in local water issues.

Peter Johnston – from CSAG, involved in translating the climate models and scenarios into information for the water and agriculture sectors, and interested in water demand management in the context of adapting to climate change in Cape Town.

Liz McDaid – responsible for SAFCEI's climate change programme, at the seminar to learn and to have fun.

Megan Euston-Brown – from SEA, working with municipalities around sustainable development, and interested in today's seminar because of her work with access and availability of electricity.

Stephen Law – Director of EMG interested in trying to understand the impacts of climate change, and whether tariffs can help to manage a scarce resource such as water.

Christa Widiterich – a journalist and freelance consultant from Germany, also working for HBS, interested in the socio-economic impacts of climate change. The Green Party of Germany is particularly interested in the relationship between climate change and the global financial crisis.

Jeff Rudin – from SAMWU, interested in how tariffs relate to the constitutional right to water.

Tony Brutus – from regional DWAF. They sell water to the city, and are responsible for regulating water provision, are aware that they are not living up to this role, and are trying to correct this situation.

Thabang Ngcozela – from EMG, works with communities struggling with water access, interested in what climate change means for them.

Jessica Wilson – from EMG, conceptualised this seminar, and therefore interested in the whole seminar.

Mandy Moussouris – from EMG, interested in how rural farmers are affected.

Dorothy Kobel – a PhD student in the Department of Civil Engineering, looking at the value of non-user benefits to compliment current financing for water in Cape Town and a city in Uganda.

Thabo Lusithi – from EMG, wasn't interested in this seminar, until he read an article which said that climate change could crush Western Cape crops.

Bradley Nethononda – from DEAD:P, working with natural resource user groups, for whom climate change is very relevant.

Khathu Tshihomu – from DEAD:P biodiversity management unit, interested in climate change.

Taryn Pereira – from EMG, interested in how tariffs are experienced by poor households.

Paul Berkowitz – invited speaker from CALS, his interest will be explained through the presentation

Patrick Dowling – from WESSA joined the seminar after the introductions

Juliann Bertone – UCT exchange student joined the seminar after the introductions