



Water policy hits the rural poor

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MORE THAN A year ago the South African White Paper on national water policy was gazetted. It clearly expressed the commitment of the new South African government to address past inequalities in the access to water, but it also recognised that South Africa is a semi-arid country with limited and scarce water resources which need to be properly managed to ensure sustainability. Hence, the White Paper put a strong emphasis on water resource conservation and demand management, (i.e. how efficient and effective is each competing sector in its use of water, as the main tool to manage water resources).

In this new policy environment, the issue of information needs arises as one of the critical elements of the new approach. Proper and efficient management of water resources requires a better understanding of how each sector uses water. However, past inequalities in the access to water are also reflected in the amount of information available about each sector's water demand and usage. Current knowledge is flawed in its focus on formal water users, namely: irrigated agriculture, forestry, industry, mining, recreation and ecotourism. At domestic level, available information reflects the general assumption that water in the domestic sector is principally required to meet human basic need. Hence, there is an important gap regarding the existing and potential demand for informal economic water use in former homeland areas.

Traditionally in rural areas, water sources are used for a combination of 'consumptive' (basic needs) and 'productive' purposes. The former refers to water used for human consumption (drinking, cooking, personal hygiene) The latter emphasises the fact that people in rural areas engage in all sorts of "low-level economic activities" that are highly dependent on the availability of secure and reliable water supplies. Vegetable gardens, cattle farming activities, traditional beer making, hair salons and brick making businesses, are some examples of the income generating uses for water in rural South Africa.

In this context, filling the information gap becomes crucial for the rural poor. As 'domestic and municipal users', previously disadvantaged communities will have to "compete" with the other key sectors in their quest to gain access to water over and above the *basic needs* level of supply. If the allocation mechanism brought about by the White Paper is to be based on a 'fair competition' between the different sectors, a better understanding is needed of the economic uses of water in rural areas, the water demand and payment patterns generated, and the role that water plays in supporting rural livelihoods. This is the way to

ensure that decisions about water allocation, catchment management and other planning instruments are based on an assessment of the real demand for water in the rural domestic sector.

However important and urgent, filling the information gap regarding water resource use and demand at domestic level can also be an expensive and sensitive task. First, the aforementioned 'low level economic activities fall within the realm of the so called 'informal economy"'. Due to their very nature, informal sector activities are not registered and accounted for. Very little recorded information is available about them and obtaining the required data is a costly exercise. Second, historical, socio-economic and cultural factors may compromise the ability and/or willingness of rural people to engage in such an exercise.

An insight into the problem from Bushbuckridge

Located in the Mpumalanga lowveld, part of the former homelands of Gazankulu and Lebowa, and within the Sabie-Sand catchment, the Bushbuckridge region experiences severe water problems. This is due to a combination of socio-economic, historical and natural factors (source constraints), which result in poor infrastructure and management of water resources.

There is a high demand for water, epitomized in the strong competition between different users (mainly irrigated commercial agriculture, afforestation, game reserves and domestic sectors), posing a serious threat to the environment and the sustainability of the resource base. There is also a possibility of prejudice to a neighbouring state, Mozambique, through unregulated water usage.

Although the situation regarding access to domestic water in the area has improved during last two years, reliable access to safe water of a sufficient quantity continues to be one of the major problems for many people living in Busbuckridge, particularly in rural settlements. Borehole and bulk supply are the main sources of water for most villages in the area. However, there are many differences in supply between areas, between villages within the same area, and between households within the same village regarding quality, quantity, reliability and distance to the source. Albeit yard connections or more frequently, communal stand pipes are the standard level of service, in some areas people still have to use water from rivers, unprotected springs, or wells dug in the riverbeds for human consumption.

Table 1

In this context, and after identifying information needs regarding the usage of water at community level both for consumptive and productive activities, the Association for Water and Rural Development (AWARD)- a Busbuckridge based rural development NGO- engaged in a participatory research process. The aim was to inform catchment management plans, and water allocations to the rural communities in the area. The paper highlights preliminary findings and lessons learnt from this research..

Approach and methodology

Twelve case studies were conducted in villages in the region using participatory techniques. Six pairs of villages were selected throughout the region so that each pair would comprise of villages with different situations regarding access to water, but comparable in all other socioeconomic and physical attributes. The intention was to compare the results within the pair and later, to combine the results from the set of pairs to generalize the conclusions to the entire region. Also, in order to cross check the consistency of the results obtained, 'before and after' comparisons were conducted in some villages following improvements in their water supply.

In each village, a detailed list with all the activities that required the use of water was elaborated by the community members. Discussions were held about the nature of each activity, the quantity and quality of water required and its source. Particular emphasis was placed on the identification of economic activities that required the use of water. Hence, in-depth interviews were conducted with the individuals involved in those activities in order to find the amount of water used and the income generated from it. Using this information, returns per litre of water were calculated for each activity in order to compare these with

the returns to water pertaining to other major users in the area, i.e. irrigation, forestry, and conservation.

Although the methodology relied mainly on community meetings and group discussions, a random sample of households was selected in each village and a semi-structured interview was conducted with members of each household. This was considered the best method to obtain a good estimate of the average daily amount of water use for consumptive activities (basic needs), and to measure the extent of the involvement of households in water related economic activities, and the amount of water used for these. Also, it help to understand issues related to perceptions around payment for services, and actual experience of payment.

The research methodology benefited from the fact that AWARD has been in the area a long time, supporting people's efforts to access reliable and secure water supplies. However, water is a very sensitive issue in Busbuckridge. Power and conflict over control of scarce water resources arose within and amongst communities. Given the sensitivity and complexity around the research issues, people have incentives to avoid participating and/or to give the wrong information. This problem was identified by both facilitators and community members as an important constraint to the results obtained.

For instance, in villages with very unequal access to water between sections, and also in villages with relatively good supply of water, the incentive was to underestimate the amount of water used. Community members expressed their fear that the research was only an attempt to introduce water metres and charge high prices per litre of water use, and also to collect taxes from the businesses in the village. On the contrary, in villages with chronic shortage of water, there were high expectations from the interaction

Table 2

with AWARD, and a tendency to overestimate the amount of water needed for each activity was observed. Also, some people were reluctant to take part in research that would not solve their problems with water immediately.

Preliminary findings

On average, basic needs were met within the first 25 litres per capita per day in all twelve villages. However, this result needs to be used with caution because the highest average level of service in the study villages was yard connections, with very few people having home connections. Households with showerheads and flush toilets reported a much higher usage of water for basic human consumption than their neighbours. Due to the absence of proper metering systems, consumption figures for these households were difficult to obtain. Nevertheless, relative measurements indicated that on average two or three times more water is used for basic needs in fully serviced households.

The research results indicate that there is a high value for water up to 40 litres beyond the basic consumption level, with most economic activities happening in this interval. Table 1 summarises the daily per capita usage of water for economic activities in five pairs of villages. Villages in italics have a relative worse water supply than their pair.

The daily per capita amount of water used for productive activities is more than double in villages with better access to water supplies. As shown in the table, water for the

irrigation of fruit trees and vegetable gardens, and water for livestock consumption explain most of the difference. For growing vegetables gardens and keeping livestock, the access to enough water but mainly the reliability of supply were reported as the main criteria to engage in the activity.

Vegetable gardens were mainly seen in households with yard connections and regular supply, and were watered using hose pipes or sprinkle irrigation. However, vegetable gardens were also evident in areas with easy access to rivers, springs or cattle dams, and in this case, irrigation was done by buckets. Recycling of water, known as “grey water”, was very common practice, and was used mainly to water fruit trees, small lawns or flower beds around the household. In the case of fruit trees the ability to supply extra water largely determined the possibility of producing excedents for the local markets.

Other water related activities comprised of hairdressing, iceblock making, and traditional beer brewing. Even though the average per capita water usage for these activities is nearly negligible, this water is of utmost importance because it provides a livelihood for many poor households in the area. This point was mainly stressed by women who largely control the income from these activities (Unemployment estimates for the area are between 40% and 80%, and 50% of adult males engage in migratory labour. Therefore, there is a large number of female headed households).

Table 3

Moreover, low level economic activities use very little water compared to the 'formal' users of water in the area, i.e. irrigated agriculture and forestry. However, the returns per litre of water from some of these activities are notably higher than those pertaining to other sectors. Hence, from a pure financial perspective, it is very efficient to allocate water to productive activities in the domestic sector. In order to provide a comparative picture of the relative efficiency of the different sectors in their use of water, Table 2 shows the returns per kilolitre of water, pertaining to some water use businesses in Busbuckridge, and also returns to water pertaining to some sectors in the Northern and centre areas of Busbuckridge (Pollard, Perez de Mendiguren, et al. (1998).

Payment for water was another of the main issues that arose in the work with the communities. Although water is generally not paid for through a formal system (there are very few functioning formal institutional arrangements regarding payments for water), this needs to be qualified to some extent since water is frequently paid for and is a very expensive commodity for many households in Bushbuckridge. Water vending is a common business, and people owning private transport often hire their vehicle to fetch water in neighbouring villages (or sections) when the water runs out, when there are functions in the village (funerals, weddings), or for regular activities such as beer-brewing or brick-making. In some villages, people buy from vendors on a daily basis, even for basic consumption, and there are also cases where the only yielding borehole in the village is privately owned, forcing villagers to purchase water from the borehole owner.

In projects sponsored in the area by organizations such as Mvula Trust and AWARD, households contribute monthly towards the O&M of the system in place. In most villages with water supplies below RDP minimum standards (25 l/c/d within 200 metres), people buy water on a regular basis. Some people hire trucks to fetch water for them on a regular basis or for special events. Others hire children or adults to queue for them or push their wheel-barrow. Prices vary widely and depend on factors such as kinship, availability of transport in the villages and barter agreements. In some villages people reported buying water on a daily basis and for both consumptive and productive activities, paying prices as high as R0.30 to R0.50 per 20 or 25 l bucket.

These prices are comparatively higher than prices paid by urban consumers in neighbouring towns. Data from USAID report (1998) indicates that in the neighbouring town of Hazyview, monthly service charges are R30 plus significant usage tariffs of R1.40 per m³ under normal conditions and upwards of R1.62 per m³ under water restrictions. In the townships of the area such as Dwarsloop and Mkhuhlu, monthly service rates amount to R7.00 for residences and R10.75 for business. Block-rate usage tariffs are R0.20 per m³ for the initial 50 m³, plus R0.30 per m³ thereafter. Table 3 provide a comparison of prices paid per m³ in different locations.

Lessons and conclusions

There are many activities undertaken by people in rural areas that, amongst other things, depend on the availability and security of access to water, even if only small quantities. Obtaining information about demand and usage for these activities, however crucial, can be a complicated and sensitive task. Nevertheless, given the appropriate tools and approach, the results obtained provide useful recommendations for both policy formulation and management of scarce resources on a sustainable basis from an ecological and also socioeconomic perspective.

Some of the lessons from this research are the following:

- There is a need to separate consumptive (basic needs) and productive activities when looking at domestic water demand and supply. From a water demand management perspective, benefits and returns from allocating water to domestic users need to be considered. Leaving aside the obvious, but difficult to calculate, benefits of allocating water for basic needs, the research shows how there is a high value generated from the productive activities undertaken with domestic water. Returns per litre of water used are comparable and, in many cases, much higher than those obtained from formal users. Therefore from a financial efficiency point of view, it makes sense to allocate water to those uses. Also, the benefits to the economy as a whole of sustaining these kind of activities can be assessed. In poor rural areas with high formal unemployment, these social benefits are also likely to be very high.
- From a water supply perspective, projects need to be design to cater for both types of activities. User requirements need to be carefully assessed and their implications for design taken into account. The sustainability of the system will largely depend on this issue being properly resolved from the outset. Evidence from the research shows that when these issues are not considered, successful projects become unsustainable due to unsatisfied demands. Therefore, feasibility studies for water projects need to incorporate an assessment of consumptive demand for water in the domestic sector.
- Although situations differ from place to place, there is evidence that rural poor people pay for water and they pay a price much higher than other users. In many villages of the research area, a new water project would bring down the monthly water bill for most households if a proper payment system is installed with tariffs that reflect the socioeconomic circumstances of the area. The implications for sustainability of the project, and for the cost recovery issues are also clear. However, there is a note of caution regarding the question of payments for water. They are a necessary condition for sustainability of water systems, however, this alone is not sufficient. Experience from AWARD shows that unless a secure source is guaranteed, payment systems and hence, water systems will collapse.

In summary, given the new South African water policy environment, supporting rural people's effort to gain access to secure and sustainable water supplies also means supporting their information needs. A better understanding of patterns of demand and usage of water at domestic level, for both productive and consumptive purposes, is the way to ensure that formerly disadvantaged people and their livelihoods become visible, and are taken in to account when it comes to allocation of scarce water resources.

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