

# **Valuing Water beyond “Just Price It”**

## **Costs and Benefits of Water for Basic Human and Environmental Needs**

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### **1. Introduction: Prices and Values**

This paper offers reflections on particular debates in South Africa concerning the value and price of water, but I believe the matters are of much more general relevance. The mood of “anti-globalization” protest means that we have a perhaps unique opportunity to build upon an increasingly common, international critique of states, water companies, the World Bank and some aid agencies—as well as some quasi-NGOs who promote the orthodox line.

We are in a position not only to demand an end to policies and practices that devalue water as a natural, spiritual and social life force. We may also be well-placed at this conference to further the demand for water rights—both human and ecological—as a *relatively universal project*. To do that, we need to transcend the drive towards the pricing of water as an economic good. That may well mean using “the price mechanism” to redistribute from those large users—mainly mega-corporations in agriculture, forestry, mining and industry, as well as extremely high-volume domestic consumers—who abuse water, while at the same time abolishing the price mechanism as the gatekeeper of access to at least the basic supply required to maintain our bodies, societies and environments. It is a complicated balance, between administrative control of water and taxation, and between punitive pricing to deter water abuse versus lifeline tariffs for everyone’s subsistence water needs.

Defining and maintaining that balance is one of the challenges that a conference of this sort can help to meet. Like the January 2001 Porto Alegre conference devoted to beginning a search for an alternative

strategy to “neoliberal” (market-based) development, the implicit mandate of “Water for People and Nature” is to further a universalist eco-social “rights discourse” so that our movement establishes a detailed, well-debated, rigorous response to water neoliberalism, to complement the vibrancy of anti-corporate activism on various water fronts.

Still, our local conditions in Johannesburg (from where I write) appear uniquely grim, as South Africa slides to the cutting edge of water scarcity, ecological abuse, water-related public health catastrophes, dangerous mega-hydraulic schemes, and new market-based “solutions” to extreme social problems—such as lack of access to water—whose effect is to amplify centuries of racial, gender and class oppression.

To a large extent, I argue, these problems are growing worse because of a *commodification* process that is more generally associated with the World Bank’s “Washington Consensus” approach to socio-economic and environment developments. Thus the *decommodification* of water for domestic use, as a universal human right via “lifeline” (free, low-quantity) supply, has become one of the most crucial struggles in contemporary South Africa. Some of the problems I have listed are local, and relate to durable factors of water system misuse and social inequality inherited by the first democratic government from apartheid in 1994. But three other urgent issues are being exacerbated by a more universal tenet of orthodox water pricing, in which “short-run marginal costs” (sometimes termed “operating and maintenance costs”) form the basis for consumer tariffs. These costs typically follow a downward sloping curve (where axes are price and quantity): the more that a consumer uses, the less expensive it is per unit of water, to supply her/him.

At some point, of course, excessive consumption requires construction of water supply enhancements, which typically raise costs dramatically. But in the meantime, orthodox economists tend to insist that to “get the prices right,” water tariffs should correlate to the short-run marginal cost. And because such economists—especially those based in Washington, DC, at 18th and H Streets, NW—have been forcefully and successfully advising the South African government, that is where water pricing controversies have degenerated into three full-fledged crises: the onset of an unprecedented cholera epidemic; worsening society/nature relationships in relation to construction of Africa’s largest dam project (to quench Johannesburg’s thirst); and growing recourse to the privatisation of major urban water systems. The three crises have also generated resistance, in the form of impressive social struggles which parallel those underway in many parts of the world.

A central cause of these problems is the South African government’s acceptance of water commodification as the basis for reform of apartheid-era bulk and retail water distribution. The context is an extremely unequal social division of power, wealth, income and access to water, and a long history of official disregard for the environmental costs of social and economic activity. Likewise, however, there is a long history of social struggle over water, including courageous community boycotts of rent and service charges that helped bring down municipal apartheid during the late 1980s and early 1990s. (That period of “people’s power” and “ungovernability” has been recast by present-day neoliberal critics of township protest, who claim it was an era which bred a “culture of non-payment” which continues today, based on an allegedly

corrosive “culture of entitlement.” By way of rebuttal, activists point out that the South African *Constitution* guarantees water as a human right, and its realisation will only come through the citizenry’s revived culture of entitlement.)

No matter the history, both cause and context are reflected in two post-apartheid government policies which explicitly address the theme of this conference session: water pricing and valuation. To guide us through the longer term policy problems associated with the three crises, I will review the South African government’s main water pricing mandates, laws and policies. Since the two key policies—a 1997 Municipal Infrastructure Investment Framework and a 1998 Economic Water Pricing Policy—were both highly influenced (even drafted by) the World Bank, I will also look, in passing, at contradictions between what the Bank has been arguing at differing points and in different contexts. And I will also consider some of the more recent revisions of policy relating to household tariffs, including the promise of a “Free Basic Water Policy” made by the ruling African National Congress (ANC) last year.

To provide an introductory sense of the life-and-death character of this debate, I discuss the ways in which water pricing relates to the three immediate crises noted above: namely halting the spread of cholera (Section 2.1); the debate over how to price for large dams (Section 2.2); and water privatisation (Section 2.3). The role of the World Bank’s advice in these crises is shocking, and worthy of highlighting. The Bank’s ideology and practical power together provide universal grounds for considering trends in water pricing issues, and for considering a more universal strategy for resistance (Section 2.4).

Next, to set the stage for an alternative, I’ll consider the background mandate in the South African *Constitution* and the African National Congress’ successful 1994 campaign platform, the *Reconstruction and Development Programme* (RDP), as well as ambivalence in subsequent policies and laws (Section 3.1). Then I document the need for national redistribution to make water affordable and argue that water subsidies should take the form of a universal entitlement (Section 3.2). There arises the challenge of showing the public good characteristics of water, especially incorporating direct economic multipliers and indirect social and ecological benefits of increased water supply (Section 3.3). I also review some of the early indications of a partial victory in these respects, namely the promise of the ANC to provide 6,000 litres to each household each month as a free basic lifeline supply (Section 3.4).

These factors allow a holistic sense of the importance of water access, and of how to achieve it as a universal project in each particular national setting: perhaps, taking the form of a lifeline supply provided to all, plus a progressive block tariff system enacted nationally so as to ensure conservation, efficient use and the human right to water. Necessarily, this will entail the rejection of orthodox retail water pricing models, and the adoption of a rights-based policy that transcends even those now under consideration by progressive practitioners in one of the world’s leading young democracies (Section 4).

## **2. The Price of Water: Water as a Commodity**

## 2.1 Pricing as cholera catalyst

One of the most destructive preventable diseases known to humankind, cholera, continues to spread in South Africa. More than 100,000 people had become sick over the course of ten months beginning in August 2000, and approximately 220 lost their lives, mostly in KwaZulu-Natal province. Several hundred South Africans still catch the disease each week, due to lack of clean water and sanitation.

The most proximate cause of South Africa's 2000-01 cholera epidemic, as well as ongoing death and disease resulting from inadequate water access, is Pretoria's neoliberal policy: specifically, decisions to cut off supplies to those who are unable to afford them, and to refuse subsidisation sufficient to allow installation of taps and sanitation in all low-income households.

The broader macroeconomic environment is also crucial. South Africa adopted a neoliberal "homegrown" austerity plan in 1996: the misnamed *Growth, Employment and Redistribution* strategy, which has in reality generated average per-capita economic decline, mass unemployment and polarisation. The plan, which featured a dramatic decline in the ratio of South Africa's budget deficit to GDP, was concocted by a team of 15 economists, including two from the World Bank, using an econometric model drawn in part from the World Bank's. Indeed, the Bank had an important role in two main decisions at the centre of the cholera crisis: to promote water cut-offs and to discourage installation of sufficient taps and toilets to low-income South Africans.

The cholera epidemic erupted near Richard's Bay, north of Durban. A cost-recovery strategy was introduced in Ngwelezane, Empangeni. But the R51 (US\$7) connection fee was unaffordable for thousands of people. The Mhlathuze Water Board cut off their water supply (using a "pre-paid meter" self-disconnection strategy), saving a few tens of thousands of rands—but costing the provincial health authorities and the sick people tens of millions of rands. As Ingrid Salgado of the *Sunday Times* (1 October 2000) reported:

This week, a startling picture emerged of the sequence of events that led up to the outbreak around Ngwelezane. Authorities discovered that some areas were still receiving free water in terms of a 17-year initiative of the former KwaZulu government to deal with the 1983/4 drought.

"It was eventually noticed, and it was decided to switch off the supply," said the chief executive of the Uthungulu Regional Council, B B Biyela. "The people were given sufficient warning and the supply was cut off at the beginning of August."

The first cases indicating cholera were noticed in Matshana and Nqutshini in the second week of August. The first case confirmed was on August 19. At this point, health officials asked the Mhlathuze Water Board to reconnect the free water supplied by the former homeland government to the Nqutshini area.

It is not terribly difficult to trace the pressure on district governments and water authorities to cut water supplies to those who cannot afford them. Pretoria's main water and infrastructure policy-makers were informed by Bank reconnaissance missions during the early 1990s. One key strategist (Piers Cross) had left the Bank to lead an NGO, Mvula Trust, which began substandard water delivery prior to the 1994 democratic election (Cross then went back to work at the Bank).

The delivery philosophy in Mvula Trust and similar NGOs which contracted to government and donors to do the water installation work, was to limit supplies to 25 liters per person each day *maximum*, in non-hygienic communal taps which often spread more disease than it abated. Impoverished communities were to be charge full cost-recovery for maintenance and operations, with no ongoing subsidy provided.

Then in November 1994, seven months after the election, Bank staff led by deputy resident representative Junaid Ahmed drafted the main sections of the *Municipal Infrastructure Investment Framework*, and a final draft was issued by the World Bank in March 1995 under the auspices of the Reconstruction and Development Ministry in the Office of President Mandela. The framework provided merely for communal water taps and for pit latrines where households earned less than R800 (US\$100) per month income.

To justify such low standards, the Bank insisted that incomes were so low that people could not afford to flush. To make this argument, the option of cross-subsidising water from central government to local authorities was explicitly ignored, even though it was part of the African National Congress 1994 electoral campaign.

Moreover, the environmental and public health costs of pit latrines were not factored in by the Bank, nor were benefits ("positive externalities") that would flow from higher water standards: e.g., gender equity, economic spin-offs from higher infrastructure standards (microenterprises, higher productivity, etc.), and geographical desegregation. (These are discussed in more detail below.)

Pressure then emerged on municipalities to cut off water supplies to those who could not afford to pay full operating and maintenance costs. Beginning in 1997, mass water cut-offs reflected the combination of declining subsidy funds on the one hand, and fast-rising costs of water supply on the other. The problem was especially acute in the Johannesburg area, in large part thanks to dramatic water cost increases caused by a huge dam promoted by the World Bank.

## **2.2 Paying for mega-dams**

In January 1998, extremely expensive water began rushing down from Lesotho to the Vaal River, which supplies the area surrounding Johannesburg with water. The route included a 45 km tunnel that originates in the Katse Dam, far up in the Maluti Mountains. The World Bank taskmanager for the Lesotho Highlands Water Project, John Roome, had already drawn up plans for a second dam, Mohale (US\$1.5 billion), which together with Katse (US\$2.5 billion) was estimated to cost Johannesburg consumers five times more per

cubic metre of water delivered (R1.50, or slightly less than US\$0.20) than the existing supply.

Katse had been controversial because of the Bank's explicit violation, in 1986, of anti-apartheid financial sanctions (through a special fund to allow Pretoria access to hard-currency financing was established in London). The Bank worked closely with apartheid foreign minister Pik Botha and the military junta that Pretoria had helped install in Maseru, ignoring calls by the ANC to boycott the apartheid regime. As a result of the undemocratic character of what has become Africa's largest water project, the Bank upset the fragile ecology of the Lesotho highlands, initially failed to do any environmental impact assessment, ignored downstream "instream flow requirements" for the 100,000 people who live alongside the Senqu/Orange River, ran up huge cost overruns for lining the transfer tunnel with cement, ignored glaring problems in managing displacement of thousands of Basotho peasants, let labour relations deteriorate to the point that several workers were killed during a 1996 protest, and failed to anticipate destructive earthquake tremors from the impacting of the dam water.

But most importantly from the standpoint of water costing, Roome's Bank colleagues had overestimated the physical demand for Lesotho water by an extraordinary 40%. When the water flowed to Johannesburg in 1998, it had to be redirected because the river system was already full. As often happens, the Bank and its dam-building allies had overstated the need for large infrastructure so as to justify the project. In order to lend Pretoria more than 5% of Katse's cost at a time of quite strict anti-apartheid financial sanctions, the Bank also officially pretended that Lesotho (not South Africa) was the borrower—but in one report let slip that the project's main "political risk" was default by the apartheid regime.

Bank officials even defended the corrupt manager of the Lesotho Highlands Development Authority, Masupha Sole, in a threatening letter to the Maseru government in December 1994. Sole was facing dismissal, but the Bank's protection allowed him to continue extracting at least US\$2 million in funds from a dozen multinational corporations building Katse over the period 1988-98. Sole's Swiss bank account records—which show deposits at the time when major subcontracts were awarded—are probably just the tip of the iceberg; a Lesotho judge remarked that corruption appeared endemic in the dam project. A court case is presently underway that the Bank originally claimed would not lead to the debarring of the corrupt companies (including ABB), but there appears to be some confusion on this point.

Roome's role in making water expensive was not limited to pushing a dam, Mohale, that experts employed by Rand Water (the parastatal purchaser of most Lesotho water) estimated would not be needed for another 17 years. Roome also aggressively provided other advice that the Bank's 1999 *Country Assistance Strategy* explicitly bragged was "instrumental in facilitating a radical revision in South Africa's approach to bulk water management." In October 1995, Roome suggested to then-Minister of Water Affairs Kader Asmal several policy changes, relating to both bulk and retail water provision. Asmal should be "very careful" about letting small black farmers have new access to irrigation, Roome insisted. And he must implement a "credible threat of cutting service" to non-paying consumers.

Asmal's own neoliberal bureaucrats had already adopted a water cut-off policy in December 1994,

in a white paper coauthored by current water director-general Mike Muller. The policy redefined the term “lifeline” tariff so as to require full payment of operating and maintenance costs (i.e., no ongoing subsidy). This doomed hundreds of rural water supply schemes, many of which soon ceased to operate. Indeed, when questioned about the cholera disaster in January 2001, Muller finally admitted to SA Broadcasting Corporation’s “Newsmaker” show, “Perhaps we were being a little too market-oriented.”

However, even after this extreme understatement, reports continued of municipal water cutoffs due to consumer inability to pay, with officials in Pretoria standing idly by. The prize-winning Western Cape municipality of Hermanus, once famous for water access and conservation, began evictions and attachments of poor people’s homes to offset their water arrears in February. The next month, Johannesburg officials began cutting water services due to electricity account arrears, in a move experts say is constitutionally suspect. The impact of Bank-think on bureaucrats proved extremely durable.

The Bank, too, remained obstinately committed to neoliberal water economics. In March 2000, the *Sourcebook on Community Driven Development in the Africa Region--Community Action Programs*, which cites Roome as a contributor, again addressed the problem of affordability. According to the *Sourcebook*, “work is still needed with political leaders in some national governments to move away from the concept of free water for all.” This sentence appeared one month after South African water minister Ronnie Kasrils (who replaced Asmal in 1999) had first announced his intention to provide free water. In addition, the *Sourcebook* continued, African governments should follow the neoliberal approach to water financing:

Promote increased capital cost recovery from users. An upfront cash contribution based on their willingness-to-pay is required from users to demonstrate demand and develop community capacity to administer funds and tariffs. Ensure 100% recovery of operation and maintenance costs.

When major South African delivery NGOs like Mvula Trust and the Independent Development Trust tried 100% cost recovery during the mid-1990s, they discovered that it led to systematic project breakdown. Pretoria’s own community water projects only achieved around 1% cost-recovery, and many taps which Asmal had unveiled during the ANC’s first term in office ran dry. By all accounts, the pressure to recover 100% of operating and maintenance costs comes in large part from the push to commercialise, corporatise and privatise South Africa’s retail water.

### **2.3 The costs of privatisation**

Ironically, just as the cholera epidemic began, Muller wrote in *Business Day* newspaper (10 August 2000) to endorse the Mozambique government’s private-sector water regulation: “We could learn from their recent experience, which saw them dismiss the managers of newly privatised water services in Maputo for allegedly

contributing to a cholera outbreak by failing to maintain services during the recent floods.” Tellingly, Muller did not dismiss Biyala (or resign, himself) once it became clear—e.g. during a World Health Organisation investigation last September—that his department’s failure to maintain water services was contributing to the continuing spread of cholera in South Africa.

Nor did Muller mention that the decision to privatise Maputo’s water was forced upon national authorities as part of the Bank’s blackmail strategy known as the Highly Indebted Poor Countries (HIPC) initiative. That strategy reached its nadir in a letter from Bank president James Wolfensohn to Mozambican president Joaquim Chissano in March 1998, celebrating “sharp” increases in water tariffs and calling for even higher prices prior to privatisation. Simultaneously, a similar dynamic was underway in South Africa. As Muller explained, “a decision was taken in 1997 that the use of the private sector for water service provision should be regulated within a structured framework, designed to ensure that all South Africans have access to water services.”

But here emerges the key contradiction: lower tariffs for poor people would disincentivise private sector involvement. Roome had, in October 1995, criticised the *Reconstruction and Development Programme* promise of supplying a lifeline supply of water needed by poor people, to be paid for by more expensive prices for large-volume users. Such a “rising block tariff” was inadvisable, Roome told Asmal, because privatisation contracts “would be much harder to establish” if poor consumers had the expectation of getting something for nothing. (This was a correct, if inhuman, line of reasoning.)

A recent study commissioned by the Johannesburg regional catchment management agency, Rand Water, confirms that since South Africa’s liberation in 1994, most of the cities surveyed have been flattening the block tariffs, by charging relatively higher rates for the lower-consumption blocks, and relatively lower rates to the hedonistic users. Water ministers have done nothing to prevent such a reverse-Robin-Hood pricing strategy, until Kasrils’ announcement of a free lifeline block in February 2000.

In the meantime, in May 1997, the World Bank’s private-sector investment subsidiary, the International Finance Corporation (IFC), announced it would take a US\$25 million stake in the Standard Bank “South Africa Infrastructure Fund.” That fund anticipated gaining a return on investment of more than 30% (in US dollar denomination—but higher in local currency) in nearly all of its projects. Notably, the IFC made no explicit effort to invest in a manner that assured infrastructure access on a lifeline basis. While the IFC was looking for privatisation investments, the World Bank risked charges of conflict-of-interest, by continuing to promote privatisation as public policy. In one city, Port Elizabeth, a Bank staffperson parachuted in for a week in 1996, building a water pricing model that included only one institutional option: privatising the city’s water works. Various claims about likely efficiency enhancements were made, some of which—such as the feasible reduction of staff from 6.5 to 3.5 per 1,000 water consumers, and a 1.2% interest rate advantage on capital-related borrowing for a private firm in contrast to the municipality—were based on highly dubious assumptions.

With ideological support from the World Bank and tens of millions of rands in grants from US AID

and the Britain's Department for International Development to establish business plans, a few water privatisation pilot projects took off. Some dated to the apartheid era—in the Eastern Cape three white-run towns signed long contracts with Suez just prior to democracy (Suez never bothered to upgrade capital, leaving many low-income black residents with the hated “bucket system” of sanitation). Saur got a contract in the Dolphin Coast municipality, which it subsequently reneged upon when revenues did not meet its projects. Biwater won the hotly-contested contract in Nelspruit, over union and community opposition. And in the country's largest city, Johannesburg, Suez joined a consortium in a contract that the municipal workers union vows it will have cancelled (partly because Suez was linked to the Lesotho dam corruption). Many of the standard problems associated with water privatisation—“cherry-picking” (refusal to provide services to low-income areas), poor quality services, unfair labour practices, corruption—are already emerging in these early cases. The South African government claims it will develop regulatory capacity, but the record thus far is not encouraging.

## **2.4 The font of orthodox water pricing**

In all these respects, then, the South African situation reflects aspects of water pricing, valuation and profiteering that are increasingly common across the world. In order to begin to move from the particular to the general, it is important to identify a key player in the crises outlined above, and to establish modes of growing resistance and solidarity.

The World Bank has repeatedly intervened to exacerbate South Africa's multiple water disasters. During the late 1990s, the Bank and various allies aimed:

- to build large dams no matter the need, the political circumstances, or the corruption;
  - to privatise South Africa's water;
  - to change water tariffs by lowering the price to the rich and raising it for low-volume consumers;
  - to deny low-income people access on grounds they cannot pay for full operating and maintenance;
- and
- to maintain extremely low standards of infrastructure (communal taps and pit latrines) even in dense urban areas.

In lieu of having a lending relationship with Pretoria, the Bank's role has been to act, in its own words, as a “Knowledge Bank.” But the *raison d'être* of the Bank is extending credit. In February this year, the dubious argument that foreign financing is needed for African water supplies was floated at a Kampala workshop convened by the Bank and the Water Utilities Partnership. That workshop made explicit the Bank's double agenda, namely to increase loan funding for water systems (at a time Africa's overall borrowing and spending capacity remains very low), and to commodify water through “Public-Private Partnerships” (PPPs), including

outright privatisation. According to the Kampala Statement, “In view of the limited budgetary resources in most African countries, external financing should be available to cover the operational deficit resulting from the lag between improved service and increased revenue during the initial years of PPP.”

Thus, in alliance with multinational water capital, one of the most powerful motor forces behind the pricing and commodification of water—in South Africa, Africa, and so many places inbetween—is the World Bank. In the conclusion, two strategies are raised to combat this problem of putting price over value: administrative controls on the Bank, and defunding. But arguments on behalf of water’s social and ecological valuation must also be made.

### **3. The Value of Water: Water as a Right**

#### **3.1 South African mandates, policies and laws**

To begin a discussion of values—and implicitly, of socio-environmental *justice*—it is useful to recall the South African *Constitution’s* overall approach to ensure provision of water as a human right:

everyone has the right to an environment that is not harmful to their health or well-being...  
everyone has the right to have access to healthcare services, including reproductive health care; sufficient food and water; and social security... (sections 24.a, 27.1)

However, the same *Constitution* also provided a caveat, by allowing socio-economic rights to be addressed through “reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources *while promoting justifiable economic and social development*” (section 24.b, emphasis added), and went further to downplay the rights commitment in conceding that “No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property” (section 25.1). The latter clause was later used by opposition politicians and white commercial farmers opposed to the South African government’s downgrading of Riparian rights to water associated with land occupation, which they correctly interpreted as violating their property rights.

So while at least one Constitutional Court case (Irene Grootboom v the state, September 2000) has been fought—and won—on grounds that an impoverished community’s socio-economic rights (mainly to shelter, but also to municipal services) were violated, the crucial questions associated with policy balance have not yet really been asked in the Court. Those questions will necessarily raise the issues of how *much* water is “reasonable,” how *quickly* it must be provided, and even how *financing* of water might take place to ensure socio-economic and environmental sustainability.

For a guide to the parameters, the ANC's *Reconstruction and Development Programme (RDP)* committed that household water access as a human right was "the fundamental principle of our water resources policy" (section 2.6.3). But in its first translation from campaign rhetoric, in the 1994 *Water Supply and Sanitation Policy White Paper*, this right was merely to be "considered" in future policy (p.35) in part because of a relatively conservative bureaucratic-driven drafting exercise (influenced mainly by a handful of neoliberal managers and special advisors). However, ministerial prerogative (and the importance of a rights discourse for nation-building) eventually won the day, with then-minister Kader Asmal promoting water rights in the 1996 *Constitution's* Bill of Rights in the wake of a strong NGO-based campaign. Asmal mandated his legal drafters to record in the 1997 *Water Services Act* that,

The main objects of this Act are to provide for... the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being... Everyone has a right of access to basic water supply and basic sanitation. Every water services institution must take reasonable measures to realise these rights. Every water services authority must, in its water services development plan, provide for measures to realise these rights (pp.6,7).

The 1998 *National Water Act (NWA)* operationalised the right of *access* (but not necessarily actual consumption) in a National Water Reserve, superseding existing Riparian rights to water (i.e., based on land-related water sources such as boreholes or river access): "The basic human needs reserve provides for the essential needs of individuals served by the water resource in question and includes water for drinking, for food preparation and for personal hygiene" (p.15). But while that law and the *National Environmental Management Act* of 1998 spoke eloquently of environmental justice, it was without any intention of carrying forward the necessary radical transformation of economy, society and environment.

To illustrate, an aside on the ownership debate is useful here. In general, the NWA promotes sufficiency and sustainability (undefined) in the public interest and the facilitation of social and economic development, taking into consideration intergenerational equity and the meeting of basic human needs as fundamental provisions. Yet the extent to which the NWA legislates the protection, use, development, conservation, management and control of water resources, in relation to the country's vast unmet human needs, is nevertheless questionable. For although Riparianism—the doctrine developed in the South African Common Law, English law and apartheid law—is abolished in the NWA (hence providing an opportunity for dramatic assertions of social and environmental justice), the NWA gives protections to "existing lawful water uses" (section 32), i.e., "during a period of two years immediately before the date of commencement of this Act; or which has been declared an existing lawful water use..."

It is only through the compulsory licensing process (sections 43-48) that existing lawful water uses are ultimately challenged. But this is constrained by residual (and sacrosanct) property relations under the

Riparian system. The point was to avoid challenge to the NWA on grounds of the *Constitution's* protection of private property. But as a result, payment of compensation can be claimed where “severe prejudice to the economic viability of an undertaking” has resulted in “financial loss suffered in consequence” of a lesser water use being authorised or a substantial reduction in water use imposed through the NWA's compulsory licensing process (section 22.6). Tellingly, the government's water budget does not contain provision for major compensations. In short, the likelihood of government embarking upon a real challenge to residual Riparian rights is slim, especially considering the bureaucratic languor which characterises the water department's official culture.

But how to define the quantity, proximity and cost of clean water as an “essential need”? The *RDP* goal was a short-term supply of 20-30 litres per capita per day (lcd) within 200 metres, and 50-60 lcd in the medium-term (sections 2.6.6,2.6.7). (The 50-60 lcd goal was already a concession to existing standards; the SA Bureau of Standards had insisted that municipal water pipes hold sufficient supply to service consumers with 75 litres per capita per day.) Instead, as noted above, post-apartheid water policy codified the short-term supply goals as the (only measurable) objective, and hence 25 litres per capita became the *maximum* amount that most water supply schemes catered for, as noted below. Emergency short-term measures consistent with the *RDP* promise (e.g., sending government water tanker trucks to rural areas or squatter camps) were not implemented, with private vendors taking over in many areas (pricing water several times higher than white residents nearby paid). Moreover, instead of receiving a water tap within the house or yard, government's policy was that “The maximum distance which a person should have to cart water to their dwelling is 200m” (p.15).

How to pay for what were disappointingly modest amounts of water (given that each toilet flush typically uses 12 litres) was also a matter of divergence between the *RDP* mandate and official policy. The *RDP* (section 2.6.10) mandated cross-subsidies—whereby big users would pay more for progressively larger consumption—and “a lifeline tariff to ensure that all South Africans are able to afford water services sufficient for health and hygiene requirements” (albeit with confused wording as to urban/rural payment expectations, in relation to running costs of water systems). The definition adopted in the *Water Supply and Sanitation Policy White Paper* and the 1996 *National Sanitation Policy White Paper* was that the lifeline charge (for 25 litres) must be high enough to pay for operating and maintenance (i.e., “marginal”) costs, on grounds that “It is... not equitable for any community to expect not to have to pay for the recurring costs of their services” (p.23).

However, when the national water reserve was defined in the 1997 *White Paper on a National Water Policy for South Africa*, the word “free” was associated with the need for national redistribution in order to support local lifeline services: “This [reserve] will be provided free of charge in support of the current policy of Government which is to encourage the adoption of lifeline tariffs for water services to ensure that all South Africans can achieve access to basic services” (p.4). The compromise understanding was that whereas central government would cross-subsidise supply of raw (“first tier”) water to catchment boards and municipalities, the distributional, purification and other costs would be built into even the lifeline tariff. The

1997 *Water Services Act* gave the water minister, “with the concurrence of the Minister of Finance,” the power to “prescribe norms and standards in respect of tariffs for water services... taking into account, among other factors, the socio-economic and physical attributes of each area... [and] social equity” (p.10). But notwithstanding enormous controversy and even violent riots associated with local tariff-setting, ministers Asmal and Kasrils have subsequently balked at any intervention.

Indeed, water boards and municipalities had a relatively ineffectual system for setting tariffs. For whereas marginal costs were calculated and then imposed with quite a high degree of precision, the social and environmental *benefits* associated with water and sanitation services were never properly calculated, nor were even estimated allowances made within the pricing mechanism to encourage consumption so as to invoke such benefits, as would ordinarily occur under socio-ecological modernisation principles of maximising total social welfare. The *Municipal Infrastructure Investment Framework*, for example, entailed merely “an economic modelling exercise to estimate services backlogs, assess the capital costs that are involved in removing these backlogs, and calculate the recurrent costs of operating and maintaining the services” (p.3).

Government thus simply set the capital investment associated with various options against estimated available fiscal resources (with potential Public Private Partnership capital-investment augmentation through proposed privatisation and commercialisation of municipal functions). In the process, government correlated the amounts of services to be provided—whether a house/yard tap or communal tap; whether a flush toilet or pit latrine—to households’ ability to pay. For example, households with less than R800 (US\$100) per month would get merely communal taps and pit latrines (although after protest, yard taps were later mandated). And government established prepaid metering systems or assured recourse to services cut-offs so as to diminish the incentive of consumers not to pay for what they received.

One basis to justify the counterintuitive definition of “lifeline” as “marginal cost,” was the inadequacy of the government water budget. The 1994 *Water Supply and Sanitation Policy White Paper* unsuccessfully argued for at least a 2.24% allocation of the budget (p.20), but consistently faced real funding cuts, resulting in allocations of less than 1%. However, even with more money for capital investment, would more water necessarily have been delivered, given the chosen micro-development policies favouring small pipes and cost-recovery?

Serious questions were raised in 1999 about the sustainability of such water projects, particularly in rural areas, with estimates of 50-90% of taps running dry. Setting aside particular issues relating to local conditions and local communities, two problems typically arose across South Africa. First, physical sustainability of water projects depended upon their technical appropriateness, in hydrological and engineering terms. Many rural water schemes constructed by government, private contractors and NGOs were too small (in engineering terms) to sustain demand as it rose beyond 25 lcd, and as many rural people illegally attached their own yard or household piping into systems designed generally for only communal standpipes.

Second, as noted above, was the problem of affordability. Proponents of marginal-cost pricing argue

that this kind of costing is the only means of assuring financial sustainability in view of consistent pressure on the fiscus. But the very fact that so many people were unable (or unwilling) to pay for their water supplies, both in rural and urban municipal areas, suggests that this assumption is flawed. There were some in government who conceded the need for a larger operating/maintenance subsidy, in both urban and rural settings. Municipal policy-makers planned in to augment a central to local Inter-Governmental Grant which had been allowed to decline, in real terms, by 85% from 1991-99. However, the new means-tested subsidy—often termed an “Indigence Grant”—had all manner of problems in practice, derailing anticipations that R30 per household per month would be available to subsidise water consumption by low-income people. With ongoing fiscal pressure to bring the national budget deficit down to 3% of GDP, the strategy of trying to win revenues from the central state—rather than provide lifeline services through a cross-subsidy from big to small users *within* the water sector (the *RDP* strategy)—would prove fruitless for most poor South Africans. In contrast, Asmal opened the possibility of a “ring-fenced” (intrasectoral) subsidy through the 1998 water-pricing policy, but both limited the reserve to a meagre 25 lrd, and regularly failed to follow through (even where water emergencies such as mass cut-offs arose) with catchment-area and municipal tariff advice and regulation (notwithstanding legislation that made such central-local tariff-setting possible).

A final point on South Africa’s alleged “right to water” concerns institutional arrangements. The NWA’s administration is ultimately delegated (although the NWA makes it clear that this does not mean devolution) to the level of an anticipated 13 “water management areas” such as catchments or regions. Administrative discretion is fundamental to the management of these areas. To replace apartheid-era irrigation boards in rural areas, which represented pockets of white agrarian power, the NWA provides for “water user associations,” i.e., representative “co-operative associations of individual water users who wish to undertake water related activities for their mutual benefit” (Chapter 8). Yet given the existing power and distributional imbalances as well as South Africa’s failed land redistribution programme, the NWA is remarkably silent on ensuring the desired transformation.

Do South Africans have an operative right to water? Not so far, given the variety of obstacles outlined above. In particular, notwithstanding lip service in the Economic Water Pricing Policy, most municipal-level water pricing decisions gave virtually no consideration for social and ecological *values*, for the need to mitigate public health hazards, for potential economic spin-offs from municipal services, for the importance of relatively high standard service levels to geographical desegregation, or for the gender equalisation potential of better municipal services.

It is thus up to social movements to more effectively demand water, rather than relying upon a top-down human rights perspective enforced by conservative courts which have permitted cut-offs of water even when this has demonstrably led to water-related deaths. The movements that have mobilised on the issue of water as a right—especially the South African Municipal Workers Union and Rural Development Services Network—have thus advanced two main arguments to justify water as a right: demanding greater redistribution in a manner that makes the right to water *universal*, not means-tested; and invoking the common

sense understanding of water as a “public good,” whose characteristics when supplied beyond the limits of the market enhance public health, improve gender power relations, enhance ecological processes and generate economic activity. These three positions are considered next.

### **3.2 National redistribution and universal entitlement**

Given South Africa’s enormous backlog in water-related infrastructure—for both basic consumption and small-farm irrigation—it is vital to redistribute water resources at the national scale. These resources are presently mainly directed to (white) commercial farmers (approximately 50%), with the distribution of water within households skewed heavily to (mainly white) suburban residents (10%) who use approximately two-thirds of their water for gardens and swimming pools.

This corresponds to resource maldistribution more generally. Because of apartheid and the extremely skewed legacy of economic development, South Africa competes with Brazil for the dishonour of being the most unequal large country in the world. The wealthiest 2.4 million South Africans account for over 40 per cent of all consumption, while the poorest 21 million account for under 10 per cent; the ratios for consumption of basic necessities such as water are even more skewed. The poorest 20 per cent of the population earns only 3 per cent of the national income, while the income share of the top 20 per cent of the population exceeds 60 per cent. There is limited or non-existent access to infrastructure, education, primary health care and socio-economic opportunities for the majority of people (especially rural women).

The post-apartheid government used orthodox cost-recovery techniques to sell water to low-income households, cutting off people who couldn’t pay the bills and allowing a large proportion of community water taps to break down when the recurrent costs were impossible to raise. Thus access to water only improved at the margins in the post-apartheid era.

The argument for much greater sources of subsidy has emerged in two different contexts: first, in a few metropolitan municipalities, there are sufficient resources available to redistribute from large users to the many who require little more than the proposed 50 lcd free lifeline; but second, in most municipalities (especially in poorer areas associated with “homelands,” which include the vast bulk of low-income rural South Africans), a central-local subsidy mechanism will be required.

However, the need for national subsidies leads to the objection that central government’s commitment to deficit reduction will always make it impossible to acquire the direct funds from the National Treasury required for a universal lifeline water supply. As a result, it would be preferable—i.e., politically more sustainable—to finance the lifeline through the water sector’s own potential national surplus (i.e., cross-subsidies) rather than through the general fiscus. (Such “ring-fencing” is also practiced in the electricity sector, where a national tariff is slowly being adopted that allows for internal cross-subsidies.)

In short, redistribution is optimal to carry out at national level, in order to counteract tendencies to

uneven regional development and urban biases, and in order to price water in a manner that takes into account the (national-level and catchment-level) dilemmas surrounding ecological values. The latter include a nominal “reserve” in the new national water accounting framework, along with a reserve for human consumption. But failure to tackle the major water consumers with an environmental (or human redistributive) tax, belies the government’s lip service to valuing water above and beyond the market. And the Economic Water Pricing Policy’s orientation to trading in water rights then in turn commodifies water so as to allow the rich to continue ecologically-unsustainable water-wasting practices.

Indeed, the major flaw in the Economic Water Pricing Policy is its recommendation that water redistribution for human needs be achieved through revising local level—not national—tariff structures, which will be extremely difficult given the fiscal crisis faced by most municipalities. The policy could easily be changed, if sufficient political pressure is mobilised, so as to achieve financial cross-subsidisation from the large-scale commercial farms, forestry plantations and mines which consume the vast bulk of corporate water, to the municipalities that have insufficient resources locally. The former will eventually be charged for their water consumption, as the Economic Water Pricing Policy gradually replaces their Riparian rights. Legal amendments would probably be required to speed up and intensify the redistribution process, which in turn require greater political will.

That will can only be mustered, it would seem, if water is provided as an entitlement, not a charity via the current Indigence Grant policy. By way of background, it is well-understood that low-income people do not necessarily benefit if subsidies are made available for infrastructural services consumption. Even the World Bank’s *World Development Report 1994: Infrastructure for Development* takes the position that a universal entitlement can be more efficient than existing systems:

Subsidized provision of infrastructure is often proposed as a means of redistributing resources from higher-income households to the poor. Yet its effectiveness depends on whether subsidies actually reach the poor, on the administrative costs associated with such targeting, and on the scope for allocating budgetary resources to this purpose without sacrificing other socially beneficial public expenditures. Price subsidies to infrastructure almost always benefit the nonpoor disproportionately...

There are, however, ways in which infrastructure subsidies can be structured to improve their effectiveness in reaching the poor. For example, for water, increasing-block tariffs can be used—charging a particularly low “lifeline” rate for the first part of consumption (for example, 25 to 50 litres per person per day) and higher rates for additional “blocks” of water. This block tariff links price to volume, and it is more efficient at reaching the poor than a general subsidy because it limits subsidized consumption. Increasing-block tariffs also encourage water conservation and efficient use by increasing charges at higher use. These tariffs are most effective when access is universal. When the poor lack access, as is

frequently the case, they do not receive the lifeline rate and typically end up paying much higher prices for infrastructure services or their substitutes (pp.80-81).

As noted above, there is a political mandate in the *RDP* for precisely this approach. A block-tariff and lifeline subsidy system would ensure that the basic minimum supply of infrastructural services could be consumed at no charge by all residents, with progressive increases in prices based on increasing consumption levels. To reiterate, the rationale for a block tariff that applies at national level is partly the long history of resource consumption at inordinately low prices by South Africa's large industrial and agricultural corporations, and extravagant domestic use. By generating a surplus through slightly higher marginal costs for corporations, free lifeline tariffs can easily be designed for the first block of household consumption (as well as for irrigation supplies to emerging black farmers).

If such lifeline tariffs are to be considered an entitlement, there is no reason that they cannot be structured so that all South African individuals receive their first monthly units of water on a subsidised basis, provided that subsequent levels of consumption are priced at increasing rates so as to cover the initial costs. With respect to financing the capital costs of infrastructure, tariff reform can also support the stretching of payment for capital investment, again providing that all users take up the burden (as was traditionally the case under apartheid).

In sum, the solution to the problem of subsidies not reaching the low-income population due to lack of access is universal access to basic services and a lifeline tariff combined with progressive block tariff so as to assure national-level (as well as local-level) redistribution through cross-subsidisation within the sector. In contrast, the approach adopted by the World Bank in South Africa, and adopted by the government in the water policies discussed above, entailed providing an insufficient subsidy to the very poor through a (potentially unsustainable) grant mechanism, applied to relatively low standards of services.

It seems that the rationale advocated above by the Bank—*efficiency* in assuring the subsidy reaches the poor—fell by the wayside during the late 1990s, as the Bank's compulsion to commodify water took on a greater priority ("getting the prices right" so that water tariffs more closely reflected costs of production and distribution). The other main rights-related argument that would offset this compulsion was rarely invoked in the Bank: water should be provided by the state (as a natural monopoly, after all) so as to lower other costs the state experiences when people have insufficient water. Thus the issue of how to invoke the positive "externalities" associated with water as a "public good," has to be carefully considered.

### **3.3 Water as a public good**

Water is not only considered a potential commodity by economists (e.g., at the World Bank). It is also generally recognised as a "merit good" as a result of the positive externalities discussed below. But semantically, it may be more useful to describe the stronger "public good" characteristics of water, which because of the

cholera epidemic have begun to become obvious to even the most obdurate bureaucrat.

Underlying any public good are two theoretical characteristics which require a brief explanation: “nonrival consumption” and “nonexclusion” from consumption. Nonrival consumption means that the consumption of a public good/service by one person need not diminish the quantity consumed by anyone else. A typical example is the national defense, which is “consumed” by all citizens in a quantity which is not affected by the consumption of defence benefits by fellow citizens. Likewise, the benefits of a clean environment and hygienic public water system (reflecting a strong municipal water system and a “lifeline” access to all those who have constitutional rights to water) are enjoyed by all municipal consumers, regardless of how much water is consumed by a particular individual. Similar public good characteristics of state services include social benefits that come from flood control, weather forecasting, pollution abatement and other public health initiatives.

The principle of nonexclusion simply means that it is impossible to prevent other citizens from enjoying the benefits of public goods, regardless of whether they are paid for. Television broadcasting, for example, has benefits that relate to “nonrivalry,” in that once someone has a set they can enjoy broadcasts without regard to whatever fellow citizens are enjoying. But because television entertainment is a luxury good, even a state supplier has rights to exclude people, for instance those who do not pay their license fees or those who simply cannot afford a set of their own. (In turn, this raises another issue, namely “free riders” who consume public goods but do not pay their fair share.)

These aspects of public goods relate very crucially to how to engage in “cost-benefit analysis” of state-provided goods and services such as water. If the state provides sufficient safe drinking water or other goods/services related to public health and hygiene, for example, and if these have a substantial “externality” effect—i.e., the consumption of the goods/services has a positive (or negative) impact upon those who do not consume them (such as pollution)—then government should take a more active role in assuring their production and consumption in the public interest, *even if that means that they must be produced at a loss*. (The difference between a public good and an externality is simply that the latter is an *unintended* consequence of an activity undertaken for a different purpose—the challenge, therefore, is to increasingly recognise the existence of externalities in a more proactive, *intended* manner, especially insofar as they help achieve society’s broader goals, hence reconsidering them as public goods and hence assuring that they are treated as such by the state.)

The most important public-good characteristic of increased domestic water consumption is disease abatement, whose benefits to society can neither be rivaled nor excluded. But a large variety of other externalities, such as the dangers associated with water pollution should, in the classical example, be brought into the marketplace in such a manner as to assure that these costs are adequately accounted for in “polluter-pays” profit-loss calculations. Likewise, in addition to public health benefits, society should consider positive externalities (“multipliers”) associated with water, for which access translates into other social benefits (e.g., gender equalisation, economic, geographical).

Cost-benefit analysis and shadow-pricing techniques (such as the controversial contingency-valuation method) are sometimes invoked by economists to assess “willingness-to-pay” or “willingness-to-accept” certain otherwise non-quantifiable outcomes, including hypothetical scenarios for rural water pricing. The rights of future generations to water can also be factored in. But these should be carefully considered, based on difficulties that emerged in the South African case.

From 1996, public criticism mounted that the low services standards in the early drafts of the Municipal Infrastructure Investment Framework—and government’s failure to provide for recurrent subsidies for water programmes and projects—were incompatible with ANC election promises. In 1997, facing political pressure, government made some modifications to urban infrastructure standards, including water. Still, for urban households with less than R800 income per month (i.e., between a quarter and a third of urban households within a decade), the new policy continued to recommend a Ventilated Improved Pitlatrine (on grounds that poor households would not be able to afford to flush a toilet), as well as communal (not house or yard) standpipes, gravel roads, open storm-water drains, and communal waste dumps (not kerbside removal) under the (in retrospect, optimistic) “low-growth” late 1990s macroeconomic scenario. This was later to be adopted even in Johannesburg, as part of its iGoli 2002 water-commercialisation and privatisation programme.

Part of the rationale for the marginal improvement in service standards and the new recurrent subsidy was the belated recognition that indeed there were some important public health benefits associated with infrastructure and services. But this calculation was notional, and, for example, the ecological harm associated with the still-low standards was not considered seriously. Public health benefits were acknowledged in the enhancement of “bucket system” sanitation to a ventilated pitlatrine, but, inexplicably, not in the improvement from latrine to indoor flush toilet.

It must be acknowledged, of course, that the environmental impact of increased infrastructure and services is complex, for both benefits and costs are associated with higher levels of services and consumption. It is generally accepted that large-scale bulk infrastructure projects (such as major dams or roads through ecologically sensitive areas) are to be avoided. In addition, a solid-waste sanitation system based on dignity, comfort and sanitary disposal is ultimately ideal (as is being developed in Scandinavia). But in the meantime, universal installation of low-flush and dual-flush toilets (as well as low-flow showerheads) could still save water in aggregate, and cut sewage treatment costs, in order for sanitation services to be extended to all households.

How to incorporate the socio-environmental benefits of higher levels of infrastructure was hotly debated. Simply in comparing pit latrines to water-borne sewage, for example, it is evident that if installed properly, the latter is potentially a far more environmentally-friendly approach (particularly in the many areas affected by inopportune geological and topographical conditions). These arguments were not terribly controversial within the technicist discourses of public-good theory, as even the World Bank’s *World Development Report* once confirmed:

Environment-friendly infrastructure services are essential for improving living standards and offering public health protection. With sufficient care, providing the infrastructure necessary for growth and poverty reduction can be consistent with concern for natural resources and the global environment (the “green” agenda). At the same time, well-designed and -managed infrastructure can promote the environmental sustainability of human settlements (the “brown” agenda) (p.20).

But while the final draft of the infrastructure investment policy recognised the environmental issues more explicitly, it often did so by way of denying that low standards would have an adverse impact. This is not an unusual standoff. At one extreme, there will always be some environmental economists who deny the implications of public-good analysis, insisting—as do Boland and Baumann—that “urban water supply is not necessary to life. It is possible to sustain life in the absence of public piped water. It is no more necessary than food, clothing or housing, all of which obey the normal laws of economics.”

In contrast, others take just as radical a socio-environmental *justice* position, considering water to be a non-substitutable “lifeblood” product (essential for washing, cleaning, drinking, cooking) which on ethical grounds cannot be commodified. Proponents of water as an essential good point to the social efficiency of universal access to potable water, and also draw on the fact that water is a natural monopoly (there is no sense in having multiple pipelines), is highly capital intensive, entails large sunk costs, and requires compulsory access to land (which only governments have, along with control of roads along which pipes are laid).

Arriving at an economic costing for the socio-environmental justice position is not easy. Taking the principled position advocated by activists from community organisations, labour and associated NGOs, how would the state pay for a universal free lifeline supply to all South African consumers for the first block of water (50 liters of water per person each day) with steeply-rising prices for subsequent consumption blocks, especially given the need to rapidly expand the water supply grid to all who lack services?

On the one hand, there would be no need for means-testing or a complex administrative apparatus. Recurrent consumption expenses would be paid for entirely from within the water sector. As for capital, approximately 10% more expenditure would be needed, beyond what the Municipal Infrastructure Investment Framework budgeted, to finance the added capital costs (totalling less than R130 billion—US\$16 billion—for water, sanitation, electricity, tarred roads and stormwater drainage—to be invested over 10 years—which was reasonable in relation to mid-1990s GDP of R600 billion and an annual state budget of R200 billion). The social change option was thus radical yet eminently realistic. More than the final policy, it took seriously the environmental and other externalities associated with infrastructure and services.

How, then, to make the case that the benefits of universal water provision outweigh the costs? Here the broadest possible range of direct economic multipliers and indirect social benefits were invoked, in part

because they were not properly conceptualised or costed by government or the World Bank missions offering advice. At stake is the ability of the movement for socio-environmental justice to argue for more water conservation (e.g. fewer big dams), higher water subsidies and greater capital expenditure on rolling out water taps and sanitation systems to all South Africans.

We start with direct economic benefits, since the terrain of debate is usually set by bourgeois economists. Generating employment through water-related infrastructure occurs largely in the field of construction, but there is also potential job creation in system maintenance. Formal sector construction employment includes residential (high and low-income groups), non-residential (commercial, industrial and civic amenities) as well as civil engineering construction (for infrastructure, bulk infrastructure and earth works).

**3.3.1 Jobs.** Employment in infrastructure was often anticipated to be the main engine of job creation in post-apartheid South Africa. The 1997 *White Paper on Public Works* noted that with respect to job-creation, “Some estimates are that 3-3,5 million people could benefit from public works programmes in South Africa today (depending on the state of the economy, the number participating at any one time would probably be 1-2,5 million).”

The assumptions and calculations made in carrying out the first draft of the Municipal Infrastructure Investment Framework are most relevant to water-related infrastructure construction work. On the assumption that intermediate-level standards would prevail on average for South Africa as a whole, for every R1 million spent on infrastructure, 200 person-years could be generated in construction work directly (along with another 30 person-years in indirect employment). The estimated job creation of bulk infrastructure, upgrading and new stands worth R19,2 billion would be 4,426 million jobs per annum.

**3.3.2 Micro businesses.** In addition to jobs created through expanded provision of water-related infrastructure, there will be multipliers in the form of expanded activity by Small, Medium and Micro Enterprises (SMMEs). Infrastructure access often comes initially through home-based activities, so a full supply of services (not limited, for example, to a single yard tap) to residences can also be seen as an investment in Local Economic Development.

Consider, for example, the case of water for small-scale farming enterprises. Most emerging smallholder farmers, particularly from historically-disadvantaged racial and ethnic groups, at present generally work drylands. Since their activities—unlike those of large commercial farmers—do not significantly reduce water run-off, a common argument is that it may not make sense for the national Department of Water Affairs and Forestry to charge intermediate suppliers for water use (this could be achieved by expanding the overall water reserve, as has been done for basic household consumption).

A key reason for developing the capacity for state infrastructural support to small-scale irrigation systems, where this is geographically appropriate, is that small farmers have been particularly vulnerable to drought. The 1992 Consultative Forum on Drought assessed inequities prevailing in the rural areas during the prolonged drought of the early 1990s, when large-scale irrigation schemes continued to use water

inefficiently, while drying up streams and dams that black farmers depended on for subsistence.

Benefits of irrigation infrastructure through increased small farmer self-reliance are obvious. Increased access to water would enable smallholders to increase production and improve food security and household income. However, many previous attempts to provide irrigation to emerging farmers were unsuccessful and the reasons are worth reviewing. For example, subsidies were provided selectively in the former homelands, but were generally failures from financial and institutional standpoints, for reasons attributable in large part to their top-down, unaccountable management by a bureaucratic system which disempowered the black farmers. More than 200 small-scale farmer irrigation schemes were implemented, involving about 37,000 participants, with only around 25% of farmers able to make a profit. About 47,500 hectares were involved, a very small proportion of the total irrigated land of 1,300,000 hectares. Farmers were not allowed to own the land and had no security of tenure, were generally told what to grow and how to do it without adequate training, suffered from improper management of the irrigation scheme and thus unreliable water supplies, but bore all of the financial risk, including excessive debt burdens.

The context is important, for the system of migrant labour deprived many of these smallholdings of the labour needed to run them effectively, and women bore the burden of trying to eke out a living and care for children and a household. Moreover, lack of infrastructure inhibited marketing of produce, and still does in these areas. The subsidies provided during the apartheid era did not result in sustainable access to agricultural markets, though they may have furthered food security and produced a limited number of viable enterprises.

Yet while irrigation has the potential to add enormous value to crop production, there exists little potential in South Africa to introduce new large irrigation schemes given environmental considerations. It therefore makes sense to make optimum use of existing schemes. In order to reform such schemes and make them efficient, the issue of tenure would first have to be resolved, and a new regime of participatory management and decision-making put into place.

The Department of Land Affairs is implementing land reform with such broader objectives in mind. It would not make sense to raise the cost of water to smallholders during this initial stage of reform; a longer phase-in period for economic pricing should be granted emerging farmers than for large commercial farmers. It is also important to model the cost of water that these smallholders could potentially pay, given both a typical and an optimal crop production mix. Much of the data for such an exercise already exists.

Overall, there are very few independent black farmers who consistently market agricultural produce for profit, due to the historical disadvantages mentioned. Thus far the land reform program has been largely limited to small-scale pilot projects. But there are probably in excess of one million rural black farmers who presently rely on rainfall or low-tech irrigation from local streams or boreholes. Women are in the majority in terms of their work on smallholder farms, so not only are there equity considerations based on race and poverty, but also gender.

Improving access to water supply to these farmers is therefore important even if it cannot be sustained

during the short-term on economic grounds. Economic water pricing could only address inequity if the water savings and revenue achieved from large users were available in part to provide a reliable supply to smallholders. A great deal of potential exists to augment income through agriculture by more secure access to water in the rural (and urban) areas.

One type of smallholder irrigation scheme that deserves attention is small and micro-scale vegetable farming through community gardening. An estimated 150,000 people in South Africa participate in such arrangements, growing for surplus production as an income source. Usually, participants are responsible for their own plot, but cooperate to irrigate the garden, employing techniques such as controlled short-furrow irrigation from hand-dug canals or reservoirs, or bucket watering.

A secure source of water of only five litres per person per day may be enough to grow a modest supply of vegetables effectively, and could be included as part of the bulk domestic water supply. Relatively small amounts of reliable water could stimulate other income-generating enterprises, such as ceramics and brick-making, or food preparation and processing. In such cases, and more generally, women tend to be important beneficiaries of infrastructural investments.

**3.3.3 Health benefits.** Aside from direct economic benefits associated with expanded access to water, a variety of indirect benefits of a lifeline supply also emerge, especially in the field of public health and hygiene. Even the World Bank discovered that a more detailed and at the same time broader, more holistic conception of costs and benefits could have a dramatic impact on the economic viability of an infrastructure project. According to the Bank's *World Development Report 1994*,

In the Nepalese capital of Kathmandu, officials assessed the effects of improving the water service using an extension of traditional cost-benefit analysis—the “service level” approach to valuation. This approach recognises that environmental services are valued differently by different users and also attempts to assess indirect effects of water provision.

Kathmandu has 1,1 million inhabitants. Based on estimates using narrowly defined project appraisal techniques, [net] benefits from the city's new US\$150 million water distribution system... [equalled] US\$5.2 million. Using the more detailed service-level approach to project appraisal, however, it was determined that in some cases health benefits from a reduction in coliform contamination of the water approached US\$1,000 per unit serviced. An education program that improved water use led to further reductions in health and transport costs. After these indirect benefits were factored in, the project showed a positive net benefit of about US\$275 million.

The positive net benefits are social in character; they are the Bank's attempt to internalise the externalities. Yet such a holistic perspective on costs and benefits has not yet been applied to infrastructure investment in South Africa, especially by Bank staff. Nevertheless, in debates, the progressive social movements argued

that by applying a more holistic cost-benefit analysis particularly to basic services such as water and sanitation, in turn should justify higher investment levels (and deeper subsidies for recurrent costs).

Of course, it is notoriously difficult to quantify subjective social values such as the price tag of a clean environment or the value of public health (which in turn entails making judgments on the value of human life). One strategy is the Disability Adjusted Life Year (DALY) approach. There are very serious conceptual and moral problems associated with DALY measurements, but they do provide at least one baseline approach for considering the net costs or benefits of infrastructure investments relating to public health.

Applied to the provision of water, for example, abatement of diarrhoea can be enhanced through increased access to water, since the disease is generally transmitted through food-borne processes or directly transmitted via fingers, eating utensils or dirt. Such water-washed transmission can be dramatically curtailed by increasing the quantity, availability and utilisation of water. According to South African public health researchers David Sanders and Pam Groenewald,

Here distance to the water source is of the utmost importance as well as the promotion of positive water-use behaviour. A recent burden of disease study in developing countries, using the DALY to measure burden of disease, ranks diarrhoeal disease as one of the largest causes of disease burden. It is estimated to account for 8.1% of total DALY loss in these areas. Infants and children carry the main burden of inadequate water and sanitation-related disease with more than 80% of the DALY loss due to diarrhoea being the result of infections in children under age 5...

The expected decrease in morbidity rates associated with access to adequate levels of water and sanitation is regarded to be between 22% and 46%. One study shows that a decrease of between 35-50% can be expected, if improved water and sanitation are combined with excreta disposal and hygiene education. Another shows that up to 70% of diarrhoeal disease cases can be attributed to inadequate disposal of child faeces and garbage and poor caretaker hygiene.

The financial benefits to the public health system associated with diarrhoeal disease abatement can be estimated, if only for morbidity (not mortality, which is also highly significant), by considering the cost of treatment. According to Sanders and Groenewald, by assuming only a 22% reduction in diarrhoea morbidity, and a conservative estimate of levels of hospitalisation and direct hospitalisation costs of R2250 per diarrhoea case, "We would estimate that the provision of intermediate/full water and sanitation services to urban and densely populated rural areas is likely to result in a total direct cost saving of approximately R779 million to the health sector [discounted, over a ten-year period]."

The proper application of cost-benefit analysis is necessarily an evolving science, but there is an

enormous incentive for anyone involved in infrastructure research to embark upon such work in part to contemplate the wider, direct and indirect effects of infrastructure provision to low-income people. As in the case of water rehabilitation in Kathmandu, the broader social benefits of improved infrastructure can potentially justify much greater investments, higher services levels and deeper consumption subsidies than might otherwise be considered if only Financial Internal Rate of Return calculations are made.

**3.3.4 Environmental benefits.** To consider, next, environmental costs and benefits of different household sanitation infrastructure, the relative contribution to poor water quality of different sanitation options could be considered along with their measurable contribution to water treatment costs, taking into account the natural purifying processes that occur in water bodies. Correct background information is crucial for such an exercise. We know that increased levels of contaminants in water bodies, especially nutrients, lead to increased water treatment costs—and that this is already a serious problem in South Africa's reservoirs. Different sources of pollutants cause these problems, and their sources include industry, agriculture, sewage treatment effluent, and untreated domestic waste. We also know that informal settlements and the use of pit latrines are repeatedly invoked as sources of diffuse pollution to surface water (from overflows, leaks to surface on steep inclines or inappropriate soil conditions, stormwater runoff) and groundwater (seepage of nutrients). We do not know the exact relationship between pollutants associated with pit latrines and water treatment costs. In poorly-performing soils or in other adverse conditions, quite extreme cases of pollution to groundwater source may be found, as already discussed. Also, there is evidence that water-borne sanitation systems perform better than Ventilated Improved Pit Latrines (VIPs) in controlling nitrogen contamination.

How to calculate the range of environmental costs and benefits? The Palmer Development Group model comparing sanitation options estimates the percentage removal of nitrogen for water-borne systems to be 27%-87%, and for VIPs to range from 19-91%. However, since the general standard set by the Water Act demands that effluent in formal systems contain not more than 10mg/l of nitrogen, we would thus expect high-performing systems, and could assume close to 87% nitrogen removal. In contrast, decentralised VIPs with occasional sludge removal may perform only at the average within the range, i.e., 55% removal. As for phosphates, the special standard and the general standard both strictly limit phosphates in the sewage effluent, so we should also expect high performance here; in contrast, the Palmer Development Group model assumes no special treatment for phosphates, which from a public policy perspective may be considered unacceptable practice. With the addition of sullage to the VIP system, phosphate removal is no better than water-borne systems with no special phosphate treatment, so sewage treatment works with phosphate removal would actually perform much better than VIPs in this respect.

One of the ways to model environmental costs is to estimate financial costs associated with our use of the environment. For example, if fisheries are damaged by pollution, the revenue that could have been attained through the sale of the lost fish could be considered an environmental cost of the pollution. For this exercise, we can assume that the most direct environmental cost of pollution to the water is the cost of the clean-up of contamination.

We can estimate costs for clean-up by using prices for water purification at water treatment plants, whose water sources are surface reservoirs and groundwater reserves that are most vulnerable to pollution from human waste. The water purification costs are only one of a number of environmental costs associated with this pollution. Hence preliminary calculations confirm that if only a 10% reduction in water purification costs were achieved by moving all under-served households to water-borne sanitation instead of providing pit latrines, these savings would outweigh the costs for sewage treatment and greater water demand from the additional households served, by roughly R117 million per annum.

The benefit/cost calculation is the sum of savings from water purification from reservoirs and savings from water purification of groundwater, less the costs of treating additional water for newly-served households and the costs of treating additional sewage through the water-borne system. The calculation is made based on present values for a system that is entirely “before and after” conversion from pit latrines to water-borne sewage.

Basic assumptions about increased demand:

- Total 1995 domestic water demand: 2,830 million m<sup>3</sup>/year (extrapolation from Palmer Group)
  - Total 1995 urban population: 28,95 million (extrapolation from Urban Foundation figures quoted by Palmer Group)
  - 1995 population without adequate water and sanitation: 6,874,000
  - Lifeline (50 l/c/d) increases in demand:
- Increased demand for water due to (low flush) water-borne sewage (assuming 15 l/c/d for this purpose): 38 million m<sup>3</sup>/year
- Increased demand for other, all-purpose water (assuming 35 l/c/d): 88 million m<sup>3</sup>/year
- Total increased demand for water (assuming 50 l/cap/day): 126 million m<sup>3</sup>/year
- Additional, non-lifeline consumption that may be assumed: 62 million m<sup>3</sup>/year
  - Total additional water demand from previously under-served households: 188 million m<sup>3</sup>/year
  - Total water demand after upgrading of infrastructure and service standards: 3 018 million m<sup>3</sup>

Treatment cost:

Note: groundwater resources are assumed to be used in proportion to their capacity to be exploited, not according to current use for domestic purposes; according to the Palmer Development Group, exploitable groundwater represents 15% of all exploitable water supplies in South Africa.

- Surface water, 85% of total supply, at R1/m<sup>3</sup> = R2 565.3 million/year
- Groundwater, 15% of total supply, at R0.45/m<sup>3</sup> = R203.7 million/year
- Total treatment cost: R2 769 million rand/year
- Assuming that 10% savings are achieved by abating pit latrine pollution from newly-served households:

*savings of R276.9 million/year*

- Subtract treatment costs for newly-served households:

Water treatment (at new lower costs): R103.4 million

Sewage treatment: R56 million

(Assuming 1.4 million households at R40/year for treatment costs—Palmer Development Group report assumed R32 for treatment costs in 1991)

*costs of R159,4 million/year*

net benefit:R117,5 million/year

**3.3.5 Gender equity benefits.** In South Africa, as elsewhere in the developing world, women are the primary care-givers and homemakers, and hence the benefits of infrastructure and service delivery are disproportionately felt by women, and likewise the burden of inadequate standards of water infrastructure also fall upon women. There are several aspects to women's utilisation of time that can be enhanced by infrastructure investments and service delivery, relating to time spent in water queues, time spent gathering fuelwood and making fires to ensure water is safe for drinking, and time spent on other tasks that could otherwise be directed elsewhere if proper infrastructure was in place.

To take one example, time savings due to the nearness and availability of an improved water source has been reported to lead to more time for child care, including breastfeeding and better food preparation. Time saved could be used for agricultural or income-generation activities which could result in better family health. In addition, women's savings in energy expenditure from bringing water closer to households results in reduced incidence of low-birth-weight babies born as well as a corresponding reduction in energy intake which could be transferred to children.

Similarly, time savings due to the use of electricity for boiling water and for cooking could be utilised in ways more beneficial to health. The time spent by rural households in South Africa (usually women) collecting wood for fires falls within the range of 5,2 to 18,6 hours per week (average 11,9). In aggregate each year, 1,2 million travel hours could be saved (nearly entirely by women), along with 12 million tons of firewood.

As noted above, various public health and income-generating aspects of water also affect women disproportionately. If the burdens of caring for children who fall sick due to lack of water are reduced through an in-house tap, or if irrigation water is available even for small-scale urban gardening, women will be the prime beneficiaries. It is impossible to quantify the improvement in gender equity as a result of women's access to water, but this must be considered a crucial objective.

**3.3.6 Geographical desegregation benefits.** A large part of the problem of spatial divisions within South Africa can be laid at the door of apartheid residential planning, which left black workers and their families long distances from cities; and the still-existing migrant labour system which left families long distances from their working spouses. Social, political and economic problems caused by apartheid segregation have been recognized for many decades. Post-apartheid municipal planners have struggled—and mainly failed—to break down geographical barriers faced by black (African, Coloured, Indian) people, as well as reduce segregation of people according to income class. Few citizens would deny that South Africa requires a qualitative shift towards the social integration of society, including residential neighbourhoods.

Whereas the race line was the easiest way to understand apartheid-era geographical segregation, during the first seven years of the post-apartheid era the same function has been played by the water and

sewage lines. The Municipal Infrastructure Investment Framework proposed highly-differential access to services in neighbourhoods, depending upon income level. The most extreme form, as noted above, was the determination by World Bank economists and planners that only households with an income of R800 per month would get access to tap water and water-borne sanitation in their houses; people with lower incomes would have to get water from communal taps and would have VIPs as their primary access to sanitation. This means that for households which rise from below R800 to above, there is no means by which they can improve (incrementally) their sanitation conditions, since to do so would require the construction of large-scale “connector infrastructure” which would link a household toilet to a sewage main. Given that this is impossible on an incremental basis, the result is an incentive for upwardly-mobile members of the community to move out, so ensuring that the areas serviced by VIPs are perpetually low-income ghettos.

Why does this sewage-line segregation matter? The challenge here is to show negative economic effects of class segregation, and find ways of documenting positive economic benefits of standardised infrastructure so that cross-class residential developments are feasible in future.

The benefits of community desegregation are indirect yet still meaningful and important, given how labour-related skills and education are passed along within communities. Studies have shown that education gains are higher within an entire community, and costs are lower, in cases where some families—typically from higher income classes—within the immediate area invest in skills. Using a model that deliberately omits possibly significant differences in abilities, tastes, and endowments between people, Benabou sought to prove that neighbourhood effects by themselves, at least partially, shape the labour force, even the existence of unemployed ghettos. The danger Benabou identified is that individuals who invest in high skills benefit more than those pursuing low skills from the presence of high-skill workers in their community, which leads to bidding more for housing in “high-skill communities” and hence to self-segregation. In short, segregation and stratification drive up the total cost of education, and individuals in the resulting “ghettos” tend to drop out of school.

Likewise, segregation prevents full and fair competition in an efficient and transparent labour market, particularly for low-income job-seekers. Information on job opportunities is not available to all, due to uneven access to door-to-door newspapers. Not all suitable candidates are available to employers, due to travel restrictions. Informal networks are less extended and accessible, through, for example, diminished familiarity with employers and employees in the formal labour-market who in a desegregated community would potentially be neighbours. As William Julius Wilson documented in the case of the United States, living in an integrated residential setting increases opportunities to enter the labour market. Jobs will locally be more available than in segregated ghettos and there is greater access to job-related information directly from neighbours or door-to-door newspapers. Residential segregation has also been cited as a source of employment discrimination by employers.

Studies are still lacking in South Africa about these important relationships between residential infrastructure location and competitiveness. But the problem is understood as sufficiently serious that a

December 1999 Cabinet meeting instructed the relevant government department to enhance “the provision of internal services and community services and facilities in order to meet the objective of integrating racially-divided cities and towns.” Aside from high-income black families moving, tentatively, to white suburbs, South Africa is getting more polarised than ever. Inadequate access to water is a key institutional reason.

### **3.4 Free water?**

All the above rationales played some role—though probably not major—in a policy shift announced by South African president Thabo Mbeki in September 2000: municipalities would provide 6,000 free litres of water per month to “all” households, charging a rising block tariff price to those who consume more so as to cover the lifeline free supply, which in the wording of the promise, would be universal (not means-tested). More important than cost-benefit analysis, undoubtedly, was the combination of other factors: the acutely embarrassing cholera epidemic, Irene Grootboom’s September Constitutional Court case that affirmed socio-economic rights, and Mbeki’s proposition that poverty, not HIV, may be the “cause” of AIDS (an excuse to justify not giving anti-retroviral drugs) and hence that providing water was a way to fight poverty (and by extension, he implied, AIDS). Mbeki was able to foresee, last September, the decline in ANC support in the forthcoming December 2000 municipal election, in which the ruling party’s vote fell from 66 to 59%.

Already in February 2000, water minister Kasrils had indicated his intention to provide a lifeline supply of 25 lcd free. But his bureaucrats made no progress and the seriousness of his promise was revealed by the wave of water cut-offs, including within the main cholera epicentres. The promise was admirable, but came too late for those who have died or suffered debilitating preventable diseases due to neoliberal water policy and practice.

And after all of this, still, bureaucrats cling to the cost-recovery model. A *Draft Free Basic Water Policy* issued by government consultants in March 2001 included this Bank-friendly provision: “the current view of national government is that municipalities should keep tariffs to commercial and industrial consumers as cost reflective as possible (no cross subsidies).”

In an April 2000 “Free Basic Water Update” presentation, an official of Rand Water confirmed that “No change in the tariff structure is expected, except that allowance will be made to adapt the directly supplied retail tariffs to households in line with the free basic water policy.” In other words, only a tiny tick in the existing water pricing system would be allowed. More dramatic cross-subsidisation, a much steeper-rising block tariff, more steps in the block, more transparency regarding consumption by households, and demand-side management are still not on the table.

Low-income people may also get a nasty surprise when finding they are not eligible for the free lifeline water because of arrears. And in some jurisdictions, only people with meters (not those who rely on communal taps) will get the free 6,000 litres per month. That amount is in any case half the 50 lcd demanded

by social movements for families of eight and above. And because the unit of analysis is the household, without reference to the number of family members, the ANC promise is biased to support smaller families, including yuppies or dinkies (double-income, no-kids). Given the devastation of many families' young and middle-aged parents due to the AIDS pandemic, grandmothers are often looking after huge extended families of their childrens' orphans, often on merely a monthly pension of just over R500.

And worst of all, the upsurge of water cutoffs that has occurred in the first half of 2001 means that bureaucrats, including officials of for-profit water companies which run municipal concessions, have no intention of giving all poor people their promised access to free water. Better, reason the officials at the switch, to cut off the low-income household altogether, than to have their pipes flowing with water and an expectation that the municipality will provide it for free, forever.

Such an expectation, John Roome of the World Bank had pointed out correctly in 1995, implies that privatisation contracts "would be much harder to establish," since international water companies would balk at the idea of giving away anything free to anyone, no matter how many public health benefits, contributions to gender equity, easing of ecological damage, reversal of income segregation and positive economic spin-offs are lost in the process. For a water company, none of the public and merit good aspects of free lifeline water contribute to profits, after all.

## **4. Conclusion**

It should be clear that there are a variety of sound social, economic and environmental reasons for pursuing policies oriented to redistribution of water resources, through a lifeline pricing mechanism and progressive block tariff that takes as a starting point water as a human right. But the logic applies equally to individuals' basic needs consumption and to small-scale (lifeline) agricultural consumption, whereby emergent farmers deserve access to their own basic reserve of (untreated) water for irrigation in addition to the basic consumption entitlement.

How can the water decommodification, destratification, degendering and harmonising of society-nature relations be accomplished? The way forward requires not only that government proceed in a more rapid and redistributive manner with water pricing where it would have conservation and taxing benefits (mainly against agro-business, mining firms, Eskom and other large corporations). In addition, were government serious, it would have to find a means of encouraging—requiring—municipalities to follow its lead and adopt tariffs similar in design to that piloted at Hermanus.

Government has more than a stick in this regard (the threat of intervention by the water minister if a "water emergency" is declared because citizens don't have access). In addition, government has the capacity through national water-pricing to ensure that municipalities receive an additional subsidy from the national reserve so as to pay for treatment and distribution of the 50 lcd, and to assist in setting up national, provincial

and local educational programmes that make people aware of their constitutional right to water. In addition, government could easily assist municipalities in structuring tariffs through a national model, entailing a levy on top of what central government charges municipalities and water boards, so as to cross-subsidise other essential municipal services if necessary. Billing procedures should be changed so as to highlight the (free) cost of the first lifeline consumption block and the rising cost of subsequent blocks.

These tasks are not particularly onerous given the alleged national commitment to water as a human right and the fact that government has effectively nationalised water use by dispensing with Riparian rights as the basis for access. The proposals for central government to expand relations with municipalities are not in violation of any constitutional division of powers. Finally, the proposals mooted above conform to South Africa's general social aspirations to reduce poverty and inequality, to foster more balanced economic growth, and to achieve social justice in all spheres of social policy. Access to water for basic consumption and small-scale irrigation is possibly the most essential ingredient in a broader package that can probably do more to improve state-society relations and establish the meaning of citizenship, than any other state policy on the agenda today.

But will the logic of the argument be comprehended, accepted and acted upon? All indications drawing upon the past seven years of national and municipal water management suggests not. This paper began with a review of the way in which neoliberal water pricing created a cholera crisis, where once there was free water. Indeed, this is not merely a problem associated with distant rural ex-bantustan settings. One weekend in March this year, four died of cholera in Johannesburg's Alexandra township, within a couple of kilometers of leafy Sandton, the Third World's richest large suburb. In September 2002, Sandton will be host to the World Summit on Sustainable Development ("Rio+10"). Bureaucrats from the United Nations, aid agencies and World Bank will wander around the faux-Italian Sandton Square, presuming that all is right with South Africa, since environment minister Valli Moosa has already declared water to be one of two central themes of the summit.

But Alexandra residents will still be burdened with paying for the World Bank's latest Lesotho dam, rife with corruption and constructed nearly two decades years too soon, according to many industry experts. Since democracy arrived in 1994, Alexandra water bills have soared in relation to those of Sandton's hedonistic wealthy residents, whose huge English gardens, swimming pools and water-washed cars generate far more waste—and require more long-term dam construction—than the average Alexandra household consumes for cooking, washing and hygiene.

It is a safe bet that by the time of Rio+10, the ruling party's promise of free lifeline water supplies for all, will not have been kept. Moreover, the local water commercialisation scheme included in "Egoli 2002" (Johannesburg's nickname is "City of Gold," or Egoli in the Zulu language) will continue to pollute the water table, because of substandard sanitation installations in informal settlements. Already in February 2001, the E.coli bacteria was found in large quantities near one of Sandton's school boreholes. As a consequence of the commercialisation pressure implicit in "E.coli 2002" (as it has been renamed by critics), water cutoffs

will continue to cause cholera and diarrhoea, in the process exacerbating AIDS, and transferring an awesome burden to women. The World Bank has been an enthusiastic sponsor of Egoli 2002. And as noted, its staff have been active in many other areas of South African water policy.

In short, the South African government cannot be trusted to take the steps necessary to decommodify, destratify, degender and harmonise society-nature relations in the field of water. Activists will continue to protest, offer advice, and soon file constitutional court cases against government. Some small steps towards social progress may well be taken. But a much larger power struggle probably remains, and that entails putting the interests of poor and working-class South Africans ahead of the neoliberal agenda which so pleases Washington.

Here is where the argument comes full circle, in targeting a universal source of water-related misery, ranging from Cochabamba to Accra to Johannesburg to Jakarta to many other sites inbetween. There are, by way of an activist-oriented conclusion, at least two strategies emerging with the objective of punishing the World Bank for its neoliberal approach to water: a) prohibit it from imposing water privatisation and cost-recovery commodification in its programmes; and b) take away its money. The Globalization Challenge Initiative and Essential Action (an affiliated organisation of Ralph Nader's networks) have been central to the former initiative in the US Congress. And thanks to the Center for Economic Justice in Washington and Global Exchange in San Francisco, the World Bank Bonds Boycott campaign (<http://www.worldbankboycott.org>) is gaining momentum in the United States. Organisers have convinced a variety of investors to commit never to buying another Bank bond: major cities (including San Francisco), socially-responsible investment funds (e.g., Calvert), churches (e.g., Unitarians), and trade unions (electrical workers), with numerous university campaigns also emerging. With the Bank dependent upon issuing bonds for 80% of its funding, and with the AAA rating already under threat because of the World Bank Bonds Boycott, this is one of the most exciting pressure points available.

Neoliberalism has found a successful pincer movement over the past two decades, using both nation-states (even new democracies where, like South Africa, the ruling party has enormous prestige as a result of a social struggle supported by the vast masses of oppressed people) and international agencies like the World Bank, to do the bidding of the world's largest corporations and banks. The pincer movement from below must likewise attack both national and international neoliberal transmission belts, whether they be water ministers who "talk left, act right" (as the South African saying goes) or the World Bank staff who quietly advise them to commodify life's most basic necessity. That pincer movement has plenty of room still ahead to stretch, to take in a world of social struggles, and to squeeze sufficiently tightly that one day not far away, we will be able to claim both a world without a World Bank devoted to neoliberalism, and the imposition by national governing of an inhumane, anti-ecological approach to water, upon our communities and our environments.

## **REFERENCES**

(Specific references for the above citations are available from the author: [pbond@wn.apc.org](mailto:pbond@wn.apc.org))