

**OPENING ADDRESS BY MR RONNIE KASRILS, MP, MINISTER OF  
WATER AFFAIRS AND FORESTRY OF THE GAUTENG STATE OF THE  
ENVIRONMENT WORKSHOP ON 5 JUNE 2001 IN JOHANNESBURG**

In 1992 the United National Conference on Environment and Development, more commonly known as the Rio Earth Summit, was held to try to develop a common strategy for combating the increasing rate of degradation of the environment throughout the world. The result was a remarkable document, Agenda 21, which has continued to shape the approach to the environment since then.

Next year, Johannesburg will host the World Summit on Sustainable Development, a conference that will not only put South Africa more firmly on the map as a world class destination for tourists and conferences alike, but will also take the debate around environment and development further into the future.

South Africans have many things that they can be proud of. Having been the cradle of humankind is one of them - and I am delighted that the Sterkfontein Caves area has been declared a World Heritage Site. Having been nominated to host the 2002 World Summit on Sustainable Development is another one of them. But more importantly, between the Earth Summit of '92 and the World Summit next year, we won our own battle for democracy. Arising out of that victory is our Constitution, and our Bill of Rights – far reaching documents even by the standards of long-standing democracies.

That Bill of Rights guarantees several rights that are important to the discussions to be held over the next two days, including:

The right to an environment that is not harmful to health or well-being;  
and

the right of access to sufficient food and water.

There are other important rights guaranteed in our Constitution, but these two are the most fundamental to the question of management of our environment.

It is worth noting that the clause on the environment allows for socially and economically justifiable development to take place. The great challenge that we face is how to balance our need for development with the protection of our environment.

There is no doubt that we require further development in this country. In Gauteng, the richest province in the country, there are families who go to bed hungry. In Gauteng, there are children trying to study at night by candlelight, women fetching water from standpipes and streams. In Gauteng there are young people with matric, with diplomas, who are battling to find jobs.

There can be no argument that we need to create jobs, that we need to enhance the infrastructure that serves our people, and the poor in particular. At the same time, we also face the challenge of maintaining and upgrading the infrastructure that we currently have in place.

The wealth of this province has, to a large extent, been built on gold. Whilst the gold mining industry provides an income to thousands of families, as well as substantial earnings in foreign exchange, mining per se is one of the biggest impactors on the natural environment, and on water quality in particular.

The Witwatersrand gold bearing reefs, discovered more than a hundred years ago, extends north from Heidelberg, through Nigel to Springs. It then continues to the west through the middle of Johannesburg on to

Randfontein. These gold bearing reefs then continue at much deeper levels to the South of Randfontein to Westonaria, Carltonville, Potchestroom and Klerksdorp. Different mining companies mined different sections of these reefs. In some cases “barrier pillars” between mining companies were mined connecting the mines to each other. Further, because the reefs are in layers above each other these connections have been made at numerous levels.

This lead to the creation of four hydrologically separate underground water compartments (basins) along the Witwatersrand reefs known as East Rand, Central, Western and Far Western Basins. These basins are not large underground dams of water, but are geohydrologically defined areas which are modelled as separate water bodies. Their impacts on adjacent bodies of water are often both unclear and contentious.

All the active gold mines in the major mining basins are, to a greater or lesser extent, pumping out water in order to remain operational. Most of these mines discharge highly saline underground mine water to an already salinated Vaal River system. This process poses a significant risk to the sustained fitness for use of South Africa’s most strategic water resource, the Vaal River system. The implementation of a proactive environmental management programme is of utmost importance in order to ensure sustainable development.

Grootvlei Mine in the East Rand basin poses a particular problem which the Department of Water Affairs and Forestry and the Gauteng Department of Environment have been jointly trying to address. Some time ago, on instruction from Cabinet, a temporary permit was issued authorising Grootvlei to discharge semi-treated underground mine water to the Blesbok Spruit on condition that they construct a desalination pilot plant and submit their results to my Department for consideration. A permit was issued to Grootvlei with conditions requiring a phasing in of desalination plants. Up to

this point, Grootvlei has not complied with these permit conditions, and we are now in a process of taking the necessary legal and political measures to enforce compliance. Grootvlei is a marginal mine, and might not have the resources to put up the required desalination plants, and if it is stopped from pumping underground water, Grootvlei will close resulting in job losses, ore resource sterilisation and uncertain environmental consequences.

The underground mine water dilemma facing the East Rand Basin is not unique. The Western and Far Western basins also have similar problems of underground mine water interconnectedness and pumping. If gold mining ceases, water levels in the basins will rise and eventually decant at the lowest geographical points into the Vaal River system.

At present most mines refrain from implementing desalination technology due to associated cost implications and, therefore, the treatment of underground mine water is in general mainly restricted to pH correction; suspended solids and heavy metal removal.

It is of utmost importance that proactive measures are taken by both Government as well as the mines. Lack of planning and action may lead to environmental catastrophe and a legal nightmare.

The Interdepartmental Committee for State Assistance to the Mining Industry recently appointed a task team to develop terms of reference for a study into the long term sustainable management of mine water in the East Rand Basin. This process will also give the lead in dealing with broader mining pollution issues in the Vaal River system in general.

Some of the existing gold mines in this area have already formed a joint venture to investigate the possibility of setting up water treatment plants to treat the underground mine water to potable standards to sell.

It is, however, essential that the mines carry the cost of mine water management while they are still operational, as is required by the polluter pays principle of environmental management.

However, mining pollution is not the only problem that we have to contend with in Gauteng with regards to water quality.

It is an unacceptable fact that rivers in Gauteng are polluted with raw sewage and coliform bacteria. This is mainly a consequence of the inadequate management of urban sanitation systems aggravated by the appalling state of sanitation in low-income informal settlements. While these problems are being addressed by my Department to some extent, we cannot escape the crucial constitutional role of local government in this regard.

Accurate figures for sewer spillages are not available, yet it is estimated that in a single day after heavy rain as many as 2000 manholes can spill in the area under the jurisdiction of the Greater Johannesburg Metropolitan City (GJMC) alone. What I do have, however, is a litany of incidents that have been reported to my Department. Some of these incidents result from floods, some from less excusable problems such as poor maintenance and lack of repairs. Sewer blockages that give rise to sewerage running down the streets are worse than unacceptable.

The Department is taking steps to address the problem. In all cases reported to the Department, officials of the Department have investigated the problems and requested the concerned local authorities to take the required remedial measures. The measures taken and implemented were however not all successful. It is thus obvious that with the numerous reports of sewer problems in the country and the attempts by officials of the Department to cope with the problem calls for a renewed strategy to be

implemented. This situation has become progressively worse over the past year or two, and inter-governmental co-operation is now urgently required to address a potentially explosive situation.

The proper protection of our environment is dependent on us successfully implementing co-operative governance as defined in our Constitution. The three spheres of governance are separate, but not independent. Each sphere has its defined Constitutional functions, but both the reality and the Constitutional imperative is that we must work as a team. It is in the spirit of that co-operative governance that I am here today, to take forward the working partnership between my Department and the Gauteng Department of Agriculture, Conservation, Environment and Land. It is in that spirit that I stress that we must work together to ensure that local government has the capacity and the will to address these issues.

In the same spirit, we must work together to ensure that there is efficient use of water throughout the country, and in Gauteng in particular. It is an accident of history and the discovery of gold that sited Johannesburg and the surrounding conurbation's where they are. Most major urban areas in the world are situated near water. Gauteng, the industrial heartland of South Africa, survives on water pumped across watersheds through the considerable ingenuity of our engineers – world leaders in the art of inter-basin transfers.

At the moment, most of the dams in the country are full. Some which have not been full for years are spilling over. But the current high water levels in the dams supplying Gauteng do not alter the need for heightened water use efficiency. Our available water resources are defined by the average long-term yield from dams. It is physically, environmentally and economically impossible to store all the water from 100 or 50-year floods. The excess water from the floods such as the floods we experienced last year will be lost to human use. The water stored in our dams must be managed to take

us through the dry periods without excessive water shortages, or preferably without any shortages at all.

My Department is currently busy with the construction of phase 1B of the Lesotho Highlands Water Project at a total cost of between 4 and 6 billion Rands. A further phase of Lesotho or other augmentation options such as the Thukela scheme in KwaZulu-Natal will cost anywhere between 6 and 9 billion Rands.

There are further costs for the infrastructure and running costs associated with treating and delivering water. It is estimated that in Gauteng the cost of additional infrastructure for the waste water systems will be more than 15 billion Rands over the next twenty years.

This money has to come from somewhere, and much of it will have to come from the pockets of water users themselves. Considering these costs we need to ask whether we can really afford to build such schemes prematurely.

Hydrologists recently re-estimated the yield of the Vaal River system and found it to be up to 20% lower than was originally calculated albeit before the heavy rains of the past three years. According to the original demand trends this meant that a further water augmentation scheme such as Lesotho phase 2 or the Tugela scheme would have been needed almost immediately to ensure adequate water resources for Gauteng. The Department together with key role players such as Rand Water then reassessed the future demand scenarios and it was concluded that we could postpone the next scheme by anything between 10 years or more and perhaps even indefinitely. Such a decision however, depends largely on the commitment of water services institutions and all water users to use water efficiently.

Rand Water officials have in the past been quoted as saying as much as 25% of the water supplied in this area is wasted through leaks with no economic value added through such use. Water is wasted through reticulation leaks, through plumbing leaks of individual households and by people leaving taps to run continuously. The legacy of apartheid has also contributed to greater water wastage in the former black townships where adequate maintenance has been ignored. The homes in such urban townships are usually fitted with one toilet and one tap and in many instances are shared by more than 20 people. These homes until recently belonged to the Councils and not the tenants. Maintenance and repairs by the Councils had not taken place for years with the result that in some areas up to 50% of homes have large plumbing leaks.

In addition to water wasted it is estimated that a further amount of approximately 20% to 25% of the total demand in Gauteng is water used inefficiently when compared to best available practices. One example is watering gardens between 11 in the morning and 3 in the afternoon, during which time more than 50% of the water evaporates. You only have to drive from Pretoria to Johannesburg to be able to see this practice yourself by consumers next to the highway.

The need for water use efficiency, however, is not limited to water resource considerations. Reduction of water wastage, particularly the reduction of unaccounted for water, can substantially reduce the costs currently borne by local authorities. This in turn, contributes to the ability of local authorities to provide affordable services to their consumers, and particularly to the poorest of the poor.



Throughout South Africa and in Gauteng there are various reports often quoted in the media regarding very high levels of unaccounted for water and distribution leaks. Not all local authorities in South Africa are yet fully aware on the potential financial gains in reducing the level of unaccounted for water. I am told that a recent project in Johannesburg on active leakage control has determined that the economic benefit of identifying and repairing leaks within one year will be three times the cost of implementation.

I am very pleased that Government policy for a minimum amount of Free Basic Water per household is being adapted, and the Pretoria and Johannesburg Metropolitan Unicitys are to the fore.

It is interesting to note that the potential savings through reducing wasted water can exceed the water required for free basic water which is estimated at less than 15% in Rand Water's area of supply. This is a very important consideration.

I am very encouraged by some of the activities and commitment shown by a number of councils such as Johannesburg and Pretoria in reducing the level of unaccounted for water. The water services industry is looking at you to lead the way in developing new approaches and methodologies to achieve maximum efficiency in distribution management. We would like to encourage you to publish and promote your water efficiency endeavours so that other smaller councils can benefit from your work.

I am however concerned by reports that councils do not want to encourage water efficiency by consumers. There is a perception that the new commercially driven approaches by water departments see water conservation by consumers as a threat to revenue targets. There needs to be a balance, however, between commercial revenue gains, environmental

and regional water resource considerations, and the interests of the consumers in efficient and affordable services. Water Services Authorities are there to serve the public. Increasing water sales may bring short term financial benefits to an institution but the end result may well be an unnecessary increase in the cost of water to the consumer arising from the premature construction of multi-billion water augmentation and effluent treatment plants.

Water Services Authorities need to work together with provincial government, the Catchment Management Agencies and the Department of Water Affairs and Forestry to set regional demand targets to ensure the sustainability and maximum efficiency to society.

In conclusion, ladies and gentlemen, let us remind ourselves that we do not all suffer the impacts of environmental degradation equally. Nor do we all bear the benefits of development equally. The bitter truth is that the poor suffer the worst from environmental degradation - the poor living in informal settlements near heavy industry, the scavengers on landfill sites, the workers in factories, the women collecting contaminated water from rivers - these are the people whose lives are undermined by pollution arising not from their own lifestyles, but primarily from the high consumption life styles of the wealthy minority.

The challenges facing us in the protection of the environment in Gauteng are huge. There are many challenges that I have not begun to touch on, challenges of air pollution, of waste management, of habitat protection and the protection of pre-historical sites. Above all, however, I believe that the challenge that faces us, as government and as our partners in civil society, is to make Gauteng a place where people can live with dignity; a place where people can breathe clean air; a place where the water is more water than waste. The challenge is, above all, to make this a place where the

poorest of the poor share in the benefits of sustainable development and proper environmental management.

This province has, I believe, the will and the resources to lead the way for the rest of the country in the protection of our people and our environment. Together we can make it happen.