

WHITE PAPER ON A NATIONAL WATER POLICY FOR SOUTH AFRICA

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Preamble: Water in our lives

Everyone has the right to have access to sufficient water.

(Bill of Rights, Constitution of South Africa, Section 27 (1) (b))

The dictionary describes water as colourless, tasteless and odourless - its most important property being its ability to dissolve other substances. We in South Africa do not see water that way. For us water is a basic human right, water is the origin of all things - the giver of life. The poet Mazisi Kunene has said: From water is born all peoples of the earth.

There is water within us, let there be water with us. Water never rests. When flowing above, it causes rain and dew. When flowing below it forms streams and rivers. If a way is made for it, it flows along that path. And we want to make that path. We want the water of this country to flow out into a network - reaching every individual - saying: here is this water, for you. Take it; cherish it as affirming your human dignity; nourish your humanity. With water we will wash away the past, we will from now on ever be bounded by the blessing of water.

Water has many forms and many voices. Unhonoured, keeping its seasons and rages, its rhythms and trickles, water is there in the nursery bedroom; water is there in the apricot tree shading the backyard, water is in the smell of grapes on an autumn plate, water is there in the small white intimacy of washing underwear. Water - gathered and stored since the beginning of time in layers of granite and rock, in the embrace of dams, the ribbons of rivers - will one day, unheralded, modestly, easily, simply flow out to every South African who turns a tap. That is my dream.

Antjie Krog

INTRODUCTION :

A new South Africa and a new Water Law

Water is a powerful symbol throughout the world, carrying with it ideas of baptism and new life, cleansing and healing, and the promise of growth and prosperity. In contrast, in a region of growing demands on a limited resource, the increasing scarcity of water could result in devastating conflicts and catastrophes.

South Africa's water law comes out of a history of conquest and expansion. The colonial law-makers tried to use the rules of the well-watered colonising countries of Europe in the dry and variable climate of Southern Africa. They harnessed the law, and the water, in the interests of a dominant class and group which had privileged access to land and economic power.

It is for this reason that the new Government has been confronted with a situation in which not only have the majority of South Africa's people been excluded from the land but they have been denied either direct access to water for productive use or access to the benefits from the use of the nation's water.

The victory of our democracy now demands that national water use policy and the water law be reviewed. Our Constitution demands this review, on the basis of fairness and equity, values which are enshrined as cornerstones of our new society. But there are other pressing reasons too.

The development of our society, our growing population, and the legitimate demands of the disadvantaged majority for access to that most crucial natural resource - water - have placed new demands on what is, although renewable, a limited resource that can easily become polluted or over-used. There is only so much water that falls on our land every year. Unless we wish to begin to remove the salt from our vast resources of sea water (a very expensive process that requires enormous amounts of energy) we have to live within our means.

The way that we use our water at the moment is far from ideal: we are not getting the social, economic or environmental benefits from our water use that we could, or should be getting, indeed, that we need to get.

The ability of the human mind to find solutions to problems is unending. We have learned how to borrow water from one year and pay it back in the next using our dams as the banks of the water economy. But just as there is a limit to the amount of money that Government can borrow to finance its programmes, there is a limit to the number of dams that we can afford to build, a limit to the number of rivers that we can afford to dam, a limit to the amount of water to be dammed. And, as with even the smallest household budget, we cannot afford to borrow (either money or water) if we cannot repay what we have borrowed.

It is time for us to extend our ingenuity in another direction. Water conservation programmes may be far better investments than financing new dams, new tunnels and pumping stations, new weirs and pipelines. Conservation programmes may both increase water supply (by, for instance, controlling land use practices) and manage demand (for instance, through the application of appropriate tariffs).

The use to which we, as a society, put our water will come under increasing scrutiny and intensifying management as we move into the 21st century. We will have to stretch our understanding, and apply our wisdom ever more creatively if our aspirations for the growth and development of our society are not to be constrained as a result of limited water resources.

This is a significant challenge for a country where rain falls unevenly in space and time; where the areas of highest rainfall are far from the industrial and urban heartland and from areas of rural poverty; where crippling droughts or devastating floods repeatedly wreak their vengeance on our land and our people; and where available water resources are inequitably distributed and sometimes inappropriately used.

South Africa has shown the world that peace can be created out of conflict. This new water policy for South Africa is yet another demonstration of this unique ability. The new water policy embodies our national values of reconciliation, reconstruction and development so that water is shared on an equitable basis, so that the needs of those without access to water in their daily lives are met, so that the productive use of water in our economy is encouraged, and so that the environment which provides us with water and which sustains our life and economy is protected.

I wish to thank all those who have put their time and energy into this important work.

Prof. Kader Asmal, MP
Minister of Water Affairs and Forestry
April 1997

SUMMARY OF POLICY APPROACHES

Context

South Africa's water law applied the rules of the well-watered colonising countries of Europe to the arid and variable climate of South Africa. Water was mostly used by a dominant group which had privileged access to land and economic power. The victory of democracy demands that national policy on water use and the water law be reviewed.

The review must reflect the requirements of fairness and equity, values which are cornerstones of South Africa's new Constitution. It must also reflect the limits to the water resources available to us as a nation.

There is a limit to the development of new dams and water transfers that we can afford or sustain. Our present use of water is often wasteful and inefficient and we do not get the benefits we should from the investments in our water. Water conservation may be a better investment than new dams. We will have to adopt such new approaches to water management if our aspirations for growth and development of our society in the 21st century are not to be held back as a result of limited water resources.

The law is the basis for our joint action as a society and must underpin our public efforts to manage water resources. This document serves to outline the policy which, it is proposed, will direct the management of water in South Africa in the future and will guide both the drafters in translating our intent into effective legislation and the managers in creating practical programmes of action.

Process of policy

development

This White Paper is the product of two years of hard work and wide consultation. The first outcome was the production of the Fundamental Principles and Objectives for a New Water

Law in South Africa which were approved by the Cabinet in November 1996. These Principles have in turn guided an intensive programme of work involving the Minister and other political leaders, officials from the Department of Water Affairs and Forestry and other Government Departments, organised user groups and South Africans from all walks of life and from all provinces in a process of consultation, research and synthesis.

At the same time, building on the foundations laid by the 1994 White Paper on Water Supply and Sanitation, and in close consultation with organised local government, a new Water Services Bill, regulating water supply and sanitation services, has been drafted. This will ensure that, as we address the large questions of water resource management, the needs of all South Africans for access to these basic services will not be forgotten.

The policy development process has been assisted by the support and involvement of officials and experts from other countries and from international organisations.

The White Paper is a very summarised product of this process. It does however outline the direction to be given to the development of water law and water management systems which will take us into the next century.

Key proposals

Some of the key proposals which will guide water management in South Africa in the future are that:

¥ The status of the nation's water resources as an indivisible national asset will be confirmed and formalised.

¥ National Government will act as the custodian of the nation's water resources and its powers in this regard will be exercised as a public trust.

¥ All water in the water cycle whether on land, underground or in surface channels, falling on, flowing through or infiltrating between such systems, will be treated as part of the common resource and to the extent required to meet the broad objectives of water resource management, will be subject to common approaches.

¥ Only that water required to meet basic human needs and maintain environmental sustainability will be guaranteed as a right. This will be known as the Reserve.

¥ In shared river basins, Government will be empowered to give priority over other uses to ensure that the legitimate requirements of neighbouring countries can be met.

¥ All other water uses will be recognised only if they are beneficial in the public interest.

¥ These other water uses will be subject to a system of allocation that promotes use which is optimal for the achievement of equitable and sustainable economic and social development.

¥ The new system of allocation will take into consideration the investments made by the user in infrastructure for water use.

¥ The new system of allocation will be implemented in a phased manner, beginning in water management areas which are already under stress. This system of allocation will use water pricing, limited term allocations and other administrative mechanisms to bring supply and demand into balance in a manner which is beneficial in the public interest.

¥ The riparian system of allocation, in which the right to use water is tied to the ownership of land along rivers, will effectively be abolished. Transitional arrangements will, over time, ensure an orderly, efficient and gradual shift in water use allocations as and when necessary.

¥ Water use allocations will no longer be permanent, but will be given for a reasonable period, and provision will be made to enable the transfer or trade of these rights between users, with Ministerial consent.

¥ To promote the efficient use of water, the policy will be to charge users for the full financial costs of providing access to water, including infrastructure development and catchment management activities. This will be done on an equitable basis and according to the realistic reasonable programme which has already been begun.

¥ All water use, wherever in the water cycle it occurs, will be subject to a catchment management charge which will cover actual costs incurred.

¥ All water use, wherever in the water cycle it occurs, will be subject to a resource conservation charge where there are competing beneficial uses or where such use significantly affects other users.

¥ The use of rivers and other water resources to dispose of wastes will also be made subject to a catchment management charge which will cover actual costs, and a resource conservation charge where there are competing beneficial uses for such use and/or such use significantly affects other users.

¥ To promote equitable access to water for disadvantaged groups for productive purposes such as agriculture, some or all of these charges may be waived for a determined period where this is necessary for them to be able to begin to use the resource.

¥ To promote equitable access to water for basic human needs, provision will also be made for some or all of these charges to be waived.

¥ All major water user sectors must develop a water use, conservation and protection policy, and regulations will be introduced to ensure compliance with the policy in key areas.

¥ In the long-term, since water does not recognise political boundaries whether national or international, its management will be carried out in regional or catchment water management areas (which will coincide either with natural river catchments, groups of catchments, sub-catchments or areas with linked supply systems with common socio-economic interests) recognising that conflicting interests will intensify the need for national management and supervision and that the policy of subsidiarity does not interfere with the need for a national and international perspective on water use.

¥ Provision will be made for the phased establishment of catchment management agencies, subject to national authority, to undertake water resource management in these water management areas.

¥ Provision may be made to allow for the functions of the development and operation of the national water infrastructure which links regional catchments and systems, to be transferred to a public utility established for that purpose.

Some of these proposals will pose a challenge to large water users although no particular group is particularly targeted. The White Paper makes it clear that the objective of the new policy is not just to promote equity in access to and benefit from the nation's water resources for all South Africans, but to make sure that the needs and challenges of South Africa in the 21st century can be addressed.

Farming, including dry-land agriculture and forestry plantations, is an important part of the economy and sustains millions of people in the rural areas; it is also however the sector which accounts for around half the nation's water use. The mining industry, as it brings out the mineral riches of the earth, unfortunately also releases many harmful products that can threaten our water. Both these sectors will have to re-evaluate their use of and impact on our water resources, and will have to pay a price for water that reflects the real economic cost, including the indirect costs to society and the environment for their water use.

Other sectors, particularly the rest of industry, will also come under pressure to clean up their activities. Local governments (and the domestic users they serve) will have to look at the way they use and often waste water. Even promoters of the needs of the environment will have to justify the degree of environmental protection they seek.

Way forward

As has been made clear in the Principles which guided the law review, the most important objective is to promote the well-being of all South Africans, present and future. The measures proposed are necessary if we are to survive as a nation in the 21st century.

The new national water law will recognise the need for a period of adjustment and transition which in some cases will last for many years. While goals will be set, there will also be provision for interim arrangements.

The way the new approach is put in place will be sensitive to the particular problems faced by each sector. Farmers will be helped to adjust; mines and manufacturing industry will be encouraged to promote their own programmes to meet the standards which will be set, monitored and enforced by Government. Conservation programmes are being started to enable local government and domestic users to meet their obligations.

The objective in relation to our neighbours is the same as it is within South Africa's borders, to ensure that we adjust to the pressures and demands of the future through co-operation, not conflict, in harmony with the needs of our common developmental goals and the protection of our environment.

These activities and approaches are essential if we are to achieve the national goal of making sure that there will always be some water, for all who need it, contributing towards growing prosperity and equity in our land.

This goal is captured in the slogan of the Department of Water Affairs and Forestry whose staff have committed themselves to ensuring: "Some, For All, For ever", which sums up the goals of:

- ¥ access to a limited resource (some)
- ¥ on an equitable basis (for all)
- ¥ in a sustainable manner, now and in the future (for ever).

SECTION A:

1. SETTING THE CONTEXT

1.1. SCOPE AND PURPOSE

The objective of this White Paper is to set out the policy of the Government for the management of both quality and quantity of our scarce water resources.

This policy is one step in the process of reviewing the 1956 Water Act and the current practices and institutional arrangements for water management in the country. Both this White Paper and the review of the water law reflect the urgent need for change in this field, and the high priority given to appropriate water management by the national Government.

The purpose of this White Paper is to:

- ¥ provide some historical background regarding access to and the management of water in South Africa;
- ¥ explain the current development context in which South Africa finds itself;
- ¥ explain the environmental and climatic conditions which affect the availability of water in South Africa;
- ¥ put forward certain policy positions, based on the Fundamental Principles (see Appendix 1) adopted by the Cabinet in November 1996;
- ¥ outline the proposed institutional framework for water management functions;

¥ outline the steps which will follow the publication of this White Paper in order to translate the policy into law and action.

The most important step once the White Paper has been accepted will be to draft a National Water Bill based on the policy positions outlined in these pages. Interested parties will be involved in this process to make sure that the goals of the policy are achieved, and the legislation that is created is practical, efficient and effective.

The law is the basis of our collective action as a society and must underpin our public efforts to manage water resources. The policy outlined in this document will direct the management of water in South Africa in the future; it will guide the drafters who must translate the policy into effective and practical legislation; and it will guide those South Africans who must translate our intent into workable programmes of action.

This document will be available in English, Afrikaans, seSotho, Zulu and Xhosa. A summarised version will be made available in all official languages.

1.2 STRUCTURE

This document is divided into two sections. The first sets the context within which the White Paper is being produced, and outlines the issues to which it is responding. It covers the social, political, economic and development context in South Africa, as well as relevant international developments around water policy and management approaches.

The second section deals specifically with the new national policy for water resource management in South Africa. It sets out the broad policy vision, addressing specific aspects of water management as well as indicating the institutional arrangements that will be necessary to implement the policy. Finally, the way forward for the development of new legislation and implementation of the new policy is outlined.

A definition of terms used in this White Paper is provided at the end of the document (Appendix 2) to assist those who might not be familiar with some of the technical terms used in the water sector.

1.3. THE PROCESS

This White Paper is the result of two years of hard work and wide consultation, beginning with the distribution, in May 1995 of the booklet *You and Your Water Rights* for public comment. A Water Law Review Panel then produced a set of principles for a new water law, taking into account the comments from the public. These principles were further refined and released on 17 April 1996 as the basis for further public consultation.

Consultative meetings were held in all nine provinces, organised in such a manner that the voices of the rural poor and the disadvantaged would be heard.

Other interest groups such as agriculture, industry, mines, municipal users and environmental groups were encouraged to arrange their own meetings to discuss the principles. They also

took part in the consultative meetings and in bilateral meetings with the Minister and Department. Other national government departments and both provincial and local spheres of government have also been consulted.

The consultations ended in a Water Law Review National Consultative Conference in East London in October 1996 which discussed practical approaches to implementation as well as the principles that will guide the drafting of the law. The final Fundamental Principles and Objectives for a New Water Law for South Africa (referred to from here on as the Principles) were approved by Cabinet in November 1996.

Eleven technical task teams were then appointed to translate the Principles into practical proposals which informed the policy positions of this White Paper. In addition, guided by Principles 25-28, a Water Services policy document and draft Bill have been produced.

A National Water Bill will be drafted on the basis of this White Paper, to be tabled in Parliament during the course of 1997.

1.4. ACKNOWLEDGEMENTS

Many individuals and organisations have made important contributions to this policy document and to the water law review process, and many key contributors have made their services available at no cost.

Substantial contributions have been made by external donors, notably the Finnish Government which made a five million Rand grant to the process, but also British, American and other donors. Local contribution of expertise received from the Land and Agriculture Policy Centre and local contribution received from the Water Research Commission have supplemented budgetary funds.

2. THE NEW SOUTH AFRICAN CONTEXT

2.1. THE CONSTITUTION AND WATER

The Constitution, which expresses the desires of the people of South Africa who created it, is now the highest law of the land, and all law, including water law, must follow the spirit and letter of the Constitution and should give force to the moral, social and political values that the Constitution promotes.

The first of the Principles confirms this by stating that South Africa's new water law shall be "subject to and consistent with the Constitution in all matters" and "will actively promote the values enshrined in the Bill of Rights".

The need for the review of South African water law and for a fundamental change in our approach to water management is underpinned by the Constitution, both in relation to the creation of a more just and equitable society and, in relation to the broad need for more

appropriate and sustainable use of our scarce natural resources, driven by the duty to achieve the right of access to sufficient water.

2.1.1. Preamble to the Constitution

The Preamble to the Constitution expresses an acknowledgment by the people of South Africa of “the injustices of our past” and a collective commitment to heal the divisions of the past. It commits us to establishing “a society based on democratic values, social justice and fundamental human rights” through, among other things, “improv(ing) the quality of life of all citizens and free(ing) the potential of each person”.

2.1.2. The Bill of Rights

The idea of social justice is taken further in Chapter Two of the Constitution which contains the Bill of Rights, the heart and soul of the Constitution, the “cornerstone” of our democracy. The Bill of Rights lays out the rights of all people in our country and affirms the democratic values of “human dignity, equality and freedom”, as well as “non-racialism and non-sexism”.

The Bill of Rights is binding on our law and the courts, all government departments and organisations, the Government, and all South Africans, not only in terms of the rights, privileges and benefits that it gives, but also in terms of the duty and responsibility to implement and protect Constitutional rights and values.

2.1.3. Limitations clause

The rights set out in the Bill of Rights are not absolute. They may be limited by law if the limitation is reasonable and justifiable in an open and democratic society based on human dignity, equality and fairness. Their implementation must be coloured by the values expressed in the Constitution, and in accordance with the strict requirements of Section 36 of the Constitution, which provides a mechanism for the limitation of the fundamental rights and freedoms guaranteed in the Bill of Rights.

2.1.4. The Right to Equality

One of the rights which is important for the development of new water policy states that every person is not only equal before the law but also has the right to equal protection and benefit of the law. The Constitution, defines equality to include “the full and equal enjoyment of all rights and freedoms”, while also stating that in order to promote the achievement of equality, “legislative and other measures designed to protect or advance persons, or categories of persons, disadvantaged by unfair discrimination” may be taken.

Apartheid was an inefficient racial spoils system under which the distribution of water-use was racially biased, and access to water and the benefits from its use a privilege of those with access to land and political and economic power. In the context of the reform of the water law, the right to equality requires equitable access by all South Africans to, and benefit from

the nation's water resources, and an end to discrimination with regard to access to water on the basis of race, class or gender.

2.1.5. The Rights to Dignity and Life

Water gives and sustains life. The failure of the apartheid government to ensure the provision of sanitation and water for basic human needs such as washing, cooking and drinking, for growing crops, and for economic development impacted significantly on both the right to dignity and the right to life amongst the black majority. The Constitution provides that every person has a right to life and guarantees the "inherent dignity" of all persons and the "right to have their dignity respected and protected" and places a duty on the state to make sure that this right is respected, amongst other things, through access to water.

2.1.6. Environmental Rights

The Bill of Rights also gives all South Africans the right to an environment that is "not harmful to their health or well-being", as well as the right to have the environment protected for the benefit of present and future generations. It is, therefore, the duty of the Government to make sure that water pollution is prevented, that there is sufficient water to maintain the ecological integrity of our water resources, and that water conservation and sustainable, "justifiable economic and social development" are promoted.

This section of the Constitution moves us away from the old approach that pitted environmental goals against economic and development ones, and requires, instead, that they be integrated.

2.1.7. Property Rights

While describing the rights of our people to a just and fair society, the Bill of Rights also establishes the framework within which regulation and allocation of water can take place. Although the Constitution guarantees certain protections in respect of property, there are different ways in which a person's property rights can be interfered with by the state. The Constitution draws a distinction between deprivation and expropriation. Generally speaking expropriation means the complete removal of an established property right and will require compensation. Deprivations, however, which merely limit the extent of use of property, (for example, zoning requirements under a town planning scheme limit the uses to which we may put the piece of land on which we live) do not require compensation.

The property clause also makes specific provision for corrective action. It states that no provision of the property rights clause may stop the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination.

Clearly, not every common law entitlement amounts to a constitutionally protected property right. The new Act will treat existing water uses in the manner described in Section 5.1.3 which considers the specific implications of these provisions. This is consistent with the

position in many other countries where it is recognised that Government may generally impose regulations that impact upon property rights without such intervention being considered to be an expropriation.

2.1.8. The Right of Access to Sufficient Water

The property rights question cannot be understood without looking at the important provision of the Constitution which guarantees every person the right to access to “sufficient water and food”, and to “health care services”. This promises every child the right to, among other things, basic nutrition and health care services. Access to sufficient affordable clean water for hygiene purposes should be seen as part of the primary health care services.

Government is instructed to “take reasonable legislative and other measures within its available resources to achieve the progressive realisation” of these rights. The reform of the water law must, therefore, put in place arrangements to ensure, amongst other things, that all South Africans gain access to sufficient water to meet basic domestic needs. This will reinforce the measures proposed in terms of the Water Services Bill to regulate the water supply and sanitation services provided by local authorities.

The reallocation of existing water uses - to improve the optimum and equitable use of water - is, therefore, constitutionally valid. This is also in line with international developments which have increased the role of the state as the public trustee of natural resources (see Section 5.1.2).

2.1.9. Co-operative Government

The management of water is, constitutionally, a national function, and the role of public trustee of our water resources is, ultimately, a duty imposed on national Government. But since this White Paper also addresses matters such as the environment and pollution control, which are concurrent national and provincial functions, the national Government will address these matters in the spirit of co-operative governance.

Chapter 3 of the Constitution describes Government in South Africa as consisting of National, Provincial and Municipal spheres which are not only distinctive but also interdependent and interrelated. It provides that all spheres of Government and all organs of State must co-operate with each other in mutual trust and good faith by co-ordinating their actions and legislation with each other. Co-operative governance and integration are not only policy matters - they are constitutionally mandated.

It is also the duty of the national and provincial governments to make sure that municipalities are effectively performing their functions, including the provision of water supply and sanitation services, and to assist them to achieve this goal.

2.2 WATER AND SOUTH AFRICA'S DEVELOPMENT VISION

2.2.1 Water and Development

Of all natural resources, water permeates perhaps most deeply into all aspects of our life. It is as essential as the air we breathe for our very survival; its presence determines the nature of the natural environment in which we live; the majority of our economic activities depend upon it. The achievement of South Africa's development vision will thus only be possible if water resources are managed in a way which is sensitive to and supportive of the many demands which we place upon them.

The use of water to provide domestic services to meet basic needs is a high political priority. Water is used both for domestic consumption and (where waterborne sewerage is installed) to transport human wastes from the home. Public sector infrastructure investment in service provision can boost the economy and generate jobs as well as meet peoples' needs.

However, water contributes in many other ways to national development. In most of the country, the availability of water determines whether agriculture is viable. The land reform programme must therefore be harmonised with programmes to ensure equitable access to water if the land is to be made productive. Forestry development is an important generator of jobs and income in rural areas and provides the raw material for an important industry in which South Africa is an international leader. But because trees are thirsty consumers of water, the water needs of forestry have to be balanced with those of other users.

Of the many other water demands, mining, manufacturing and power generation together use about a quarter as much water as is consumed by irrigated agriculture. Yet, the value they add and the jobs they create per kilolitre of water far outstrips those of agriculture or forestry. This does not mean that manufacturing industry is more important - agriculture plays a vital role in supporting rural communities. It does however suggest that it would not be in the interest of national prosperity to unnecessarily constrain industry's access to water.

Most water uses also impact on the environment, and the cost of this must be accounted for in assessing the economic benefits of alternative water uses and developments. To sustain the established uses of water, the natural resource base must be suitably protected. However, within a safeguarded natural environment, the water available to support tourism and recreation also has great potential for job creation.

2.2.2 A scarce and sensitive resource

South Africa is an arid country with rainfall less than the world average very unevenly distributed across the country. With just over 1200 kl of available freshwater for each person each year at the present population of around 42 million, we are on the threshold of the internationally-used definition of "water stress". Within a few years, population growth will take us below this level. South Africa already has less water per person than countries widely considered to be much drier, such as Namibia and Botswana.

Another measure of water availability is the amount of water resources already being used. In South Africa we use more than half the total water that we can afford to use, while “arid” Namibia and Botswana use only 5 - 10% of their available water.

Many of our largest and fastest growing water users are, for historical reasons, found at the beginning of small erratic streams rather than at the end of large, reliable rivers. As a result, the waste from human and economic activity is concentrated where it has the most severe impact. The regions where water is still relatively plentiful are often those where the nature of the land or other factors limit broader socio-economic development (such as the Tugela and Umzimvubu basins). Another limitation is the fact that many of South Africa’s major river systems, such as the Orange, Limpopo, and Komati, are shared with neighbouring countries.

There are unconventional sources of water, such as desalination, which may relieve water stress, but require large amounts of energy and are extremely expensive, although in some small projects they have already been found to be the best solution. These show that in the long run it will be financial not water resources, that impose the final constraint on our development.

Water resources cannot be managed in isolation from other natural resources. Water availability is governed by the water cycle, in which rain falls from clouds, flows over the land or sinks through the ground, where it may be stored as groundwater in underground aquifers, and finally flows through rivers, lakes and dams towards the sea. Evaporation from surface waters and the transpiration of plants and trees feeds the clouds and the cycle continues.

The use of land thus has a major impact on water resources. Similarly air pollution can gravely affect water quality. The way we use or abuse our rivers has an effect on estuaries and the ocean around our coast. Within the water resource itself, there are complex interactions between water and the sediments, banks, animals, plants and microbes (see Section 6.3) in rivers, dams and wetlands which must be taken into account in water management. Finally human activities are beginning to have a noticeable impact on our climate which could affect the amount and distribution of rainfall and rates of evaporation, all of which must be taken into account in our water resource policy.

The complexity of all these interactions calls for a complex and integrated approach to water management.

2.2.3 The Social and Economic Context

Water policy must be appropriate to the social and economic context in which it is implemented. South Africa has amongst the worst social indicators of comparable middle-income countries. In terms of income distribution we are one of the most unequal countries in the world. At least 32% of our people are unemployed.

As a result of apartheid, deprivation and poverty have strong racial characteristics. Africans have twice the unemployment of coloureds, three times that of Indians and ten times that of

whites. Africans also comprise nearly 95% of South Africa's poor. Poverty is concentrated in rural areas where nearly 75% of South Africa's poor live.

It affects mostly women and children, particularly those living in female headed households. 45% of South Africa's poor are children below the age of 16.

The scale of deprivation is clearly visible in the lack of water services, with between 12 and 14 million people without access to safe water and over 20 million without adequate sanitation. This impacts most heavily on women and children in rural and peri-urban areas. African women in these areas have no choice but to walk long distances to collect water, a heavy burden which impacts directly on their health. The time spent doing this could be better spent working, studying, growing food or taking part in other activities. There is a similar impact on children. Thousands of children die annually, of avoidable diseases related to poor sanitation and the lack of clean water.

Inequality in access to jobs, services and economic resources as well as other pathways from poverty, such as education, skills training and health care continue to make it difficult for people to escape from poverty. This complex of problems represents a major challenge for Government's economic as well as its social policy.

At current rates of growth, job creation will not even keep pace with the increase in the working population. Nor can the funds available to Government cover more than 15% of what is required to achieve even modest improvements in living standards.

2.2.4 Water, Reconstruction and Development

The Reconstruction and Development Programme, the core of South Africa's development vision, emphasises that growth and development are not opposing goals but essential pillars of a common strategy. It states that without an improvement in the quality of life of the majority of South Africans, the political conditions for growth will not exist and that without growth, the economic conditions for an improved quality of life cannot be created.

Within this framework, the key programmes of the RDP are:

- ¥ meeting basic needs
- ¥ developing human resources
- ¥ building the economy, and
- ¥ democratising the state and society.

The RDP is not about houses, services and education only. It is first and foremost about jobs and opportunities. It is intended to tackle the real crisis in South Africa that finds so many of the working age population without jobs and without the basic skills they need to become employed. It addresses the fact that the most needy people live in the areas with least opportunity.

The vision of the South Africa which we wish to leave to our children is of a country where people have opportunities; opportunities to develop their skills and opportunities to use them

productively to work and earn an income with which they can at least meet their basic needs. It is a vision of a country where, because there are these opportunities, people can live at peace with one another, in dignity and security; where, because of our wise management, the environment in which we live, work and relax is healthy and pleasant and can be kept so.

This vision captures the aspirations of the majority of South Africans and forms the basis of the policy of the present Government. Its key principles have been restated in the Growth, Employment and Redistribution (GEAR) macroeconomic strategy. It thus remains an important guide to action.

The GEAR aims to boost economic growth by lowering protective barriers in a number of industrial sectors, promoting small and medium size industry and greater integration with SADC countries as well as internationally competitive manufacturing industry. It emphasises that the South African economy cannot grow merely through exploitation of crude natural resources, an approach which applies as much to water as to the more traditional area of minerals.

To address the needs of the rural poor, GEAR focuses on land reform and associated agricultural development and on the provision of infrastructure, notably water. Investment in public infrastructure is an important focus, both to generate jobs and improve the quality of life and also to improve the productivity of the economy. Key success factors in this area include the organisation of service provision in a manner which recovers their costs and facilitates the use of capital from the private sector.

2.2.5 The Development Vision for Water

Given these multiple and sometimes competing uses of water, the RDP highlighted the need for integrated management which would ensure access to water for the growing sectors of the economy and not unnecessarily constrain economic development but equally, not damage the natural resource from which the water was derived. It emphasised the importance of ensuring that our neighbours have access to their legitimate share of the resource. The law must thus address the management of water for, and the sharing of water between, all these uses before it addresses the individual uses themselves.

Water management and water law in South Africa is thus at a crossroads not just because there is a new Government with new values and new objectives but because a new reality has to be addressed. While resources were plentiful, the task was simply to harness them. Dams, pumping stations and pipelines were built to store floodwater for use in periods of drought and to redistribute it to supply the activities and areas where it was most needed which, according to the policies of the time, was in white South Africa.

This historic focus of water management has to change. Since much of the accessible resource has been developed (and there is less and less untapped floodwater reliable enough to be worth storing) the task is increasingly to manage within the constraints that are given us by nature. This transition requires new legal instruments. Thus the riparian principle which

previously guided water allocation was an effective instrument for the apartheid state to encourage and assist white landowners to use water to develop their land and an agriculturally based economy. Government's policy is now to promote the growth of industry and to increase jobs in areas such as tourism as well as to ensure greater equity in society.

The water management system and the law which underpins it must now be adapted to reflect these priorities, and to meet the needs of consumers who are more productive in their use of water. This should be done in a way which remains supportive of the agricultural economy upon which many South Africans will continue to depend for many years in the future. Above all, it should be done in a way which is supportive of the imperatives of the Constitution, which promotes equity and opportunity for all South Africans, protects their reasonable rights and upon whom it places reasonable demands.

In the years and decades to come, the same amount of water will have to be shared between a growing number of users and the demands of their developing society. The manner in which this is done will determine the success of South Africa as a society. The realities of water are shared by all. The dire warnings of the past which suggested that within 30 years, the shortage of water would paralyse South Africa's development were wrong.

The challenge of water management in the 21st century is to ensure that the society develops in a way that can function successfully within the constraints of its resource base. It is to treat the development, use and protection of our water as a common endeavour in the interests of all, in the spirit of a new patriotism rather than as a series of conflicts between different groups. It is in this spirit that the new water law will be written.

3. THE INTERNATIONAL CONTEXT

3.1. TRENDS IN INTERNATIONAL WATER POLICY

With the ending of apartheid, South Africa's water law review has not had to be conducted in isolation from the rest of the world as in the past. The problems confronted here are not unique, although of the 149 countries for which data is available, South Africa is presently the 26th most stressed in terms of water availability per person. Some commentators have speculated that the growing pressure on water resources will see water as a major cause of international conflicts in the next century and in the Middle East, North Africa and South Asia, tensions have already arisen.

As a result, not only is there a large amount of international thought, policy and practice which can be recast to meet the specific conditions of South Africa but South Africa's own efforts to address water policy in a structured and principled way have attracted great interest. This is not least because our success in achieving peaceful resolution to our other problems provides a valuable foundation from which to act in the area of water policy.

Landmark international events which have influenced the direction of water management include the UN Conference on the Human Environment (Stockholm, 1972); the International Drinking Water Supply and Sanitation Decade launch (Mar del Plata, 1977); the World

Conference on Water and the Environment (Dublin, 1992); the UNCED Earth Summit - Agenda 21 (Rio de Janeiro, 1992); the Drinking Water and Environmental Sanitation Conference on the Implementation of Agenda 21 (Noordwijk, Meeting of Ministers, 1994); the Global Water Partnership meeting (Stockholm, 1996); and the First World Water Forum of the World Water Council (Marrakesh, 1997).

These meetings began with a clear focus on meeting the needs for services of the unserved. They highlighted the fact that people had to be kept at the centre of the concern for sustainable development and that water management and development should be conducted on a participatory basis with decision making occurring at the lowest appropriate level. Attention has increasingly turned to the need to protect and sustain the water resources on which everyone depends. Particular emphasis has been given to the sustainable management of water as a limited natural resource. There is also growing recognition that greater emphasis must be placed on the management of demand for water as an economic good to make sure that water use is as efficient as possible, both in terms of the quantities of water used and the impacts on water quality .

The law review process has reflected other international developments, such as the understanding that the support of policy development, institutional reform, and capacity building are as important as capital development projects, and that in order to increase the prospects for water and food security, special emphasis should be given to conflict prevention and resolution. In a series of international meetings, South African representatives have urged other countries to use water and water policy as a focus for healing and co-operation rather than as a source of conflict and tension.

3.2. INTERNATIONAL OBLIGATIONS AND AGREEMENTS

The other important international context is that of South Africa and the neighbours with whom we share river basins and water resources (see Section 6.9). Here we take into account international custom and practice (such as the Helsinki Rules) and are also assisting to develop regional co-operation through a variety of Southern African Development Community (SADC) initiatives, including the SADC Protocol on Shared Water Course Systems.

For the first time, South Africa is playing an active part in the development by the International Law Commission of new rules to regulate the use of non-navigable rivers under the auspices of the General Assembly of the United Nations. South Africa is also signatory to several international protocols which are important for water management policy, such as the Ramsar Convention on the Protection of Wetlands, the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), and the Convention to Combat Desertification.

SECTION B: NEW NATIONAL WATER POLICY

4. WATER RESOURCE MANAGEMENT IN SOUTH AFRICA - PRINCIPLES AND THE POLICY VISION

4.1. THE OBJECTIVES OF WATER POLICY IN SOUTH AFRICA

Water is an indivisible national resource, but it has limited value in and of itself. We value water for the many ways in which it serves our needs and it is this, as indicated in the Principles, which guides our water policy. Specifically, Principle 7 states that:

“The objective of managing the quantity, quality and reliability of the nation’s water resources is to achieve optimum, long-term, environmentally sustainable social and economic benefit for society from their use”.

4.1.1. Equity and Water

This objective cannot be seen in a vacuum. Deep inequalities are a legacy which must be directly addressed during South Africa’s transition to democracy and in the new society that we are building. It is not surprising that the need for equity and fair procedures is found throughout the Principles (Principles 12, 13, 14, and 25). The principle of equity is central to the water law reform process, and special attention has been given to addressing the needs of those who were historically denied access to water or to the economic benefits of water.

Equity implies a concept of fairness which allows for different practices in the management of water in response to different social, economic, and environmental needs. It is important to identify the policies, institutions and practices that will support the principle of equity and equitable access. It is not, however, immediately obvious what we mean by equity in the context of water policy. There are, in fact, three aspects to the question of equity which should be looked at.

4.1.2. Equity in access to water services

The loudest cry in South Africa is still for safe, clean and accessible drinking water and sanitation services. Access to water at its source is, in fact, only a small element of access to water services; for these, infrastructure, technical and management skills, and adequate funds are usually the critical elements.

The most important contribution to achieving equitable access to water services is the provision of funds and the regulation and direction of the institutions whose task it is to provide the services. Access can be improved by changing the rules about access to water resources, but this will not in itself meet the needs and desires of people for whom piped water is still a dream.

4.1.3. Equity in access to water resources

What of equitable, direct access to water, for the productive purposes of irrigating crops and watering cattle? South African history is a long story of removals, expropriation, theft and occupation which has deprived people of their land. The development of water law which linked access to water with ownership of land produced a distribution of access to water which is at least as unequal as access to land. Indeed, because it was well-watered land which

was most prized, access to water for use in agriculture is even more skewed than access to land.

Even water for irrigated agriculture, which accounts for nearly half of all water use in South Africa, is not widely distributed. Fewer than half of the 60 000 commercial farmers in South Africa have irrigation as the major component of their business. It is not practical nor possible to divide up South Africa's water resources so that each person has access to the same amount of water.

4.1.4. Equity in access to benefits from water resource use

It would also not be desirable simply to divide South Africa's water among a few million farmers. Water is the lifeblood of the economy. If all the nation's water were to be used on the land, the wheels of industry would stop, the power stations would die, the lights of and life in the cities would go out.

What is of concern to most South Africans, and thus to the Government that they elected, is that the way in which water is allocated and used should bring maximum benefit to them, whether directly or indirectly. This must become the focus for water policy.

4.2. OPTIMUM RESOURCE USE AND PROTECTION

The Constitution places a duty on the national Government, in co-operation with the other spheres of government, to make sure that our limited water resources are used to improve the quality of life of all South Africans. These ideas are expressed in Principle 7, which describes the objectives for Government in its management of water as "to achieve optimum, long term, environmentally sustainable social and economic benefit for society from their use".

The important concepts to be explored are "optimum", "environmentally sustainable" and "social and economic benefit".

4.2.1 "Optimum" and "Social and economic benefit"

In plain language, the "beneficial use" of water is understood to mean the use of water for a productive purpose, such as farming or industry. This was enough to evaluate water use when there was less competition for water. However, since use of water has increased, there are often a number of different and competing users who could all claim to be using the water productively in some sense.

In legal terms, the best use in these circumstances is called use which is "beneficial in the public interest" or, more plainly, the "optimum" or best possible use (and, based on the Principles, this term is used in general discussion throughout the document). The challenge is to set up a framework which ensures that our scarce water is not just used productively but "optimally".

The usefulness of this idea is clearer when social and economic benefits are considered together. Individually, "economic" and "social" benefits are reasonably easy to define. If two competing uses are judged on an economic basis, the more profitable use is selected. If judged

on a social basis, the use that contributes more to a desired social need (such as reduction in unemployment, better health or more attractive recreational use) will be selected.

When social and economic values are combined the problem becomes more difficult. For example, if, as a result of a water management decision, one region of the country benefits at the expense of the other, but the economy of the country as a whole expands, how is this measured from the point of view of the region that is now worse off?

In our modern world, with its many activities and interests, each with different goals, there are often a number of different, apparently “best solutions” to problems or decisions. The idea of “optimum” use weighs up different social, economic and environmental objectives and the practicality of their achievement in order to enable authorities to make the best decisions on water use.

The idea balances equity within and between generations (for example, in assessing optimum use, it must be recognised that short term economic benefits may be outweighed by long term social or environmental costs). It also recognises that benefits may flow indirectly as well as directly, and that some users may benefit from co-operation with others.

4.2.2 “Environmentally sustainable”

Natural water systems can experience severe floods and droughts and yet recover and return to their original state. This “bounce-back” capacity, or resilience, also allows them to recover from human use as well. If water resources are over-used - if too much water is taken out, too much pollution put in, or if too great structural change is made such as bulldozing of banks - they may no longer be able to recover. In this way their capacity to meet human demands can be reduced or even lost.

If the use of water resources remains within their capacity to recover, that level of use can probably be sustained in the long term. It is not necessary for a water resource to be left untouched to remain functional. The intention of “environmentally sustainable water use” is to balance water use with the protection of the resource in such a way that the resources are not degraded beyond recovery.

The sustainable use of water resources means that, even where the immediate demands for development are very high, society must find different development approaches which make sure that the use of water resources does not destroy their ability to recover. This approach is in keeping with Section 24 of the Constitution which states that any development and use of our natural resources (including water resources) must be environmentally sustainable. How this can be achieved and how the desirable level of use of any particular water body can be determined is discussed in Section 6.3.

The process of balancing social and economic benefits as well as of determining environmental objectives should involve those affected, or their representatives, in weighing up the options on an informed basis. This should take place within the guidelines of national policy and within a

national framework. The public trust role requires that Government establishes the system which achieves this result.

5. WATER RESOURCE POLICY

5.1. THE LEGAL STATUS OF WATER

5.1.1. Background

The existing South African legal understanding of water use is based on two important ideas:

- ¥ a link between the right to use water and the ownership of land adjacent to that water (the riparian principle), and
- ¥ a separation between private and public water.

In Roman law (on which South African law is based) rivers were seen as being resources which belonged to the nation as a whole and were available for common use by all citizens, but which were controlled by the state in the public interest. These principles fitted in well with African customary law which saw water as a common good used in the interest of the community.

The Roman-Dutch law's distinction between private and public water was just an administrative convenience appropriate to that time. Private water, drawn from small streams or wells, gave too little water to have any potential for communal benefit, and since water could only be taken from wells by hand, the definition of underground water as private can easily be understood.

The system of riparian rights (as found in the existing Water Act (54 of 1956)) was largely developed by the courts through a combination of Roman- Dutch, English and American law. This resulted in the idea of a river from which all adjacent landowners could take their share. In addition, however, because of the uncertainty and extremes of water levels in South African rivers the ideas of "normal" flow (which would be divided between the landowners), and "surplus" flow (where, in flood times, riparian owners could take as much "surplus" as they were able to use beneficially) were introduced.

For many years, water users (urban and industrial) who did not have access to water as a result of land ownership could only get access to water through a Water Court application (with the limitation that they meet their needs without affecting the allocations of riparian owners), or by buying land with access to water. These problems were addressed in some measure by the Water Act 54 of 1956, which provided for the establishment of Government Water Control Areas in which, in certain circumstances, the Minister could override riparian allocations.

Further state intervention was allowed for in the creation of legal controls on the amount of water that could be stored or taken from a water resource, on afforestation, and on the

construction of farm dams. This was the result of a greater capacity among farmers to intercept and store water in dams, which could impact badly on water users further downstream.

In spite of these limited reforms, access to water remained heavily skewed in favour of a privileged minority of private land owners. As South Africa enters the 21st century, with the need to balance growing demands on a variable resource, the Government will continue the legal trend which began in 1956 (for very different reasons) to strengthen the role of Government as the guardian of the public interest (Principle 12).

5.1.2. Public trust

The recognition of Government's role as custodian of the "public trust" in managing, protecting and determining the proper use of South Africa's scarce water resources (Principles 12 and 13) is a central part of the new approach to water management. As such it will be the foundation of the new water law.

The main idea of the public trust is that the national Government has a duty to regulate water use for the benefit of all South Africans, in a way which takes into account the public nature of water resources and the need to make sure that there is fair access to these resources. The central part of this is to make sure that these scarce resources are beneficially used in the public interest.

Traditionally, the public trust has protected the public's reasonable access to water, including for example, the right of the public to gain access to rivers for recreational use such as canoe portage. While South African courts have historically taken a very narrow view of these public rights, renewed commitment by Government to its public trust obligation means that South African law will return to its source and adopt a broad purposeful understanding of the public's rights.

The national Government is committed to carry out its public trust obligations in a way which:

- ¥ guarantees access to sufficient water for basic domestic needs;
- ¥ makes sure that the requirements of the environment are met;
- ¥ takes into account the interconnected nature of the water cycle - a process on which the sustainability and renewability of the resource depends;
- ¥ makes provision for the transfer of water between catchments;
- ¥ respects South Africa's obligations to its neighbours; and
- ¥ fulfills its commitment as custodian of the nation's water.

The public trust therefore addresses the responsibilities of national Government in managing and protecting water resources and regulating the use of water. It will be a central concept of the new Water Act.

The idea of the public trust is not a new one to South African law. It is based in Roman law from which South African property law descends, where it was generally used to determine rights in rivers, the sea and the seashore.

The public trust is also an internationally accepted concept. In the United States, for example, the courts have overturned private water rights in order to protect inland water resources, such as lakes, on the grounds that water remains subject to the public trust. This confirms the development of the Roman law principle of the public trust, that the public trust is not just about the state's power to use public property for public purposes, but also about the state's duty to protect the people's common heritage of rivers, streams, lakes, marshlands, tidelands and the sea-shore.

To make sure that the values of our democracy and our Constitution are given force in South Africa's new water law, the idea of water as a public good will be redeveloped into a doctrine of public trust which is uniquely South African and is designed to fit South Africa's specific circumstances.

In its role of guardian of our Nation's water resources national Government will keep the right to influence the country's economic and social development - for the benefit of present and future generations - through the responsibility for determining the proper use of the nation's water resources.

In allocating water in the public interest, national Government must consider the planning and development of water resources in a manner which ensures the efficient, equitable and sustainable use of the resources. The public trust doctrine will, therefore, need to be sufficiently flexible to adjust to the ever-changing nature of our water resources and the evolving socio-economic demands placed on them. It is for this reason that the policy is that water allocations should be time limited.

The public trust doctrine, the new system of the Reserve and the allocation of water use licences will form an integrated system in the new water law (see Section 6.2).

In allocating water resources in the public interest, the Government cannot be bound by past decisions which may be inappropriate in the light of current knowledge or inconsistent with current needs. This is particularly so in South Africa where the apartheid past has resulted in inefficient and inequitable water use which violates the Government's public trust duty to ensure that water is used beneficially in the public interest. The national Government will have the power, in its capacity as public trustee, to reconsider previous allocation decisions.

The Constitution provides national Government with the sole responsibility for the management of water resources, although responsibility for certain water use sectors (such as agricultural and municipal use) and certain conservation and pollution control functions are concurrent provincial competencies. The concept of public trust is binding on all spheres of Government.

5.1.3. Water and Property Rights

The governance of water use has always, in a constitutional sense, been subject to the notion that the Government retains the right to regulate the country's economy and the nation's future, by reserving to itself the responsibility of determining the proper use of the country's natural resources.

Water use allocations claimed under the Water Act of 1956 and the common law codified in that Act may be recognised in the new law to the extent that these are allocations recognised as being beneficially used in the public interest. Existing uses are inherently limited by our present common law system to the amount of water beneficially used in the public interest. Claims, allocations and uses which are not beneficial in the public interest, have no basis in the common law, nor will they be recognised under the new law.

The new water law shall provide for the regulation in the public interest of all existing claims and future allocations. To the extent that future allocations, redressing the results of past racial discrimination, result in the reduction of existing valid allocations, these reallocations will be protected by the Constitutional provisions for corrective action which specifically recognise the right of the Government to establish such legislative programmes.

5.2. PRIORITIES - THE BASIC NEEDS AND ENVIRONMENTAL RESERVE AND INTERNATIONAL OBLIGATIONS

5.2.1. Basic Needs

One of the overriding priorities of the Government is the need to make sure that “all people have access to sufficient water”. Part of the public trust function of the Government will be to make sure that, as principle 8 states, “the water required to ensure that all people have access to sufficient water shall be reserved”.

There is as yet no definition of “sufficient water”. The present RDP provision of 25 litres per person per day is explicitly stated as a short term target. The approach taken in the Water Services Bill is to allow for the progressive increase in the standards of basic service to be assured by local government. On this basis, it will be relatively simple to estimate the amount required for the Reserve for basic human needs using census figures, local information and technical criteria that allow for different methods of abstraction and distribution of water. The need for reliability in this supply of water must be taken into account in the calculations and provision be made for population change and improvements in basic services over time.

5.2.2 Environmental requirements

After providing for the basic needs of citizens, the only other water that is provided as a right, is the Environmental Reserve - to protect the ecosystems that underpin our water resources, now and into the future (Principle 9). It is the duty of national Government, as part of its public trust function, to assess the needs of the Environmental Reserve and to make sure that this amount of water, of an appropriate quality, is set aside.

A system is needed to work out the Environmental Reserve. There are a range of methods, some developed specifically in and for South African conditions that can be used to determine the quantity and quality of water needed, and the level of habitat protection that is needed (see Section 6.3). While the aim of protecting water resources is clear, the definition and selection of an acceptable level of protection may change over time.

The allocation of water for these two purposes is clearly distinguished from other allocations by their definition as “The Reserve” (Principle 10).

Mechanisms and powers needed to ensure water for these purposes must be identified and provided. In many catchments all available water has already been allocated without taking these requirements fully into account. No claim for existing water-use rights that limits the water required for basic needs will be recognised. Where the needs of the Environmental Reserve cannot be met because of existing developments, provision must be made for active intervention to protect the water resources.

5.2.3. International Obligations

A third allocation is also treated differently in the Principles, so that water allocations for downstream countries can be respected (Principle 11). South Africa will take account of all international legal obligations and agreements about water in shared river basins in a just and equitable manner. The whole shared catchment will be the basis for decision making, particularly where more than two countries are involved. Where necessary, the national Government will have the right to allocate water to downstream countries in preference to local water allocations. The approach in this regard will reflect South Africa’s general commitment to promote equitable and effective co-operation with its neighbours (see Section 6.9.1).

6. WATER RESOURCE MANAGEMENT POLICY

6.1 WATER RESOURCE MANAGEMENT ACTIVITIES

The objectives and the legal framework within which they are to be pursued, as described in the previous section, must direct the activities of water management. To do this, there must first be an understanding of what water management entails.

Historically, the major management activity has been the development of systems to store and transport water. The construction and operation of great dams, tunnels and pipelines, the local construction of systems of weirs, pump stations and irrigation canals, has symbolised what for many was the business of water management. As activities which use water have become more varied, and as the use of water has become more intense, the nature of the water management business has changed.

Today, there is as much concern to minimise the impact of other activities on water resources as there is to develop new water sources, for there is no benefit to gaining access to more water if its quality is so poor that it cannot be used. Greater attention is also being given to the efficient use of water since, with so much demand, there is little incentive to transport water long distances to one set of users if that means depriving others. There remains a concern with the administration, monitoring and enforcement of water use allocations.

To achieve the new goals, systematic monitoring and evaluation of information have become critical. With this, the tools used for achieving efficient water use and protection of the

resource are no longer simple engineering methods. The application of law, economics, natural resource management approaches and the science of organisations, reinforced with the skills of communication are increasingly important.

The activities which together comprise water management have thus expanded greatly. But the scope within which they are practised has also changed and expanded beyond the rivers and lakes. This calls for a fundamental reassessment of the whole activity.

This section addresses the specific activities which together comprise water management and outlines the new policy which will guide them in the future. Section 7 addresses the organisational approaches that will be required to implement these new policy approaches.

6.2. WATER USE AUTHORISATIONS

6.2.1. Background

The legal framework within which water allocation will be made has been outlined above. The approach to the implementation of this framework will have to take account of the specific circumstances in different areas of the country.

In many areas, most of the readily available and reliable water resources are already being used under the old riparian system. This places limits on the new uses to which water can be put and constraints on other potential users. The new approach will have to enable and encourage a move towards a more optimum use of the Nation's limited water and ensure greater flexibility of allocation in the future.

The process itself will be guided by considerations of public interest including corrective action, existing infrastructural investment (where sustainable), the dependence of the rural economy on water allocations and the recognition of the indirect social and environmental costs that result from the use of water. These considerations will make sure that the introduction of the new system of water allocation does not inflict avoidable or unnecessary damage on regional economies or on particular groups such as farmers and farm workers.

The way in which the new approach is introduced will be central to the success of future water management and the new arrangements must therefore be put in place in an orderly, efficient manner. These new arrangements will have to focus first on the areas where competing demands on the resource are greatest, requiring a phased introduction. The manner in which they are introduced must not cause uncertainty and thereby hamper economic activity. Transitional provisions will therefore have to be included to ensure that, at all stages in the process, water users are clear about what they can and cannot do.

The system will have to be administratively feasible and able to deal with the estimated:

¥ 40 000 permits, allocations, or scheduling provisions in terms of the existing Water Act;

¥ 800 water court orders covering water use on perhaps 30 000 properties;

¥ five million boreholes, ten percent of which are for irrigation or provide over 150 kl of water daily.

6.2.2. Allocation Licensing Policy

Under the new system, existing water users will have to apply for registration of their water use within a set time period. These applications will be examined and, where justified and possible, converted into a licence under the new law. (Once this period is over, all applications will be treated as new applications).

After providing for the Reserve and international obligations, the basis for granting a licence to use water available in the area will be to achieve beneficial use in the public interest which will include consideration of the need for programmes of corrective action. Any allocation of water for transfers to other basins will be subject to conditions which ensure that reasonable needs in the donor catchment are met.

Between the application for registration and the granting of a licence (if any) there will be a transitional period during which existing use of water which was legal under the Water Act 54 of 1956 will be allowed to continue. If no application is made for the registration of an existing water-use, it will be assumed that that use has been abandoned and the water will be considered to be available for allocation.

Licences to use water will be granted for a period of time appropriate to the particular use. Long term crops or industrial uses that involve substantial infrastructure investments with long time horizons will be given longer term licences. To facilitate the process of allocation and review, licenses will be granted on a five year cycle with a maximum length of forty years.

Holders of licences will be able to apply for a licence renewal during the period that the licence is valid. New applications will be considered at the same time as applications for renewal. Where new applications compete with existing uses, the criteria which will guide the granting of renewals or new allocations will include the Reserve, equity and the optimum use of water.

The proposed system could function on a purely administrative basis but water pricing could also be used to assist in the allocation process. The system would also be compatible with provisions for creating a market in water use allocations should that become desirable in the future (See Section 6.5.3).

Licensed users (including those who have applied for licences for existing uses) will have both privileges of use and responsibilities and will be subject to various charges, including a catchment management charge which will assist in funding the allocation system (see Section 6.5.2).

6.2.3. Allocation Licensing Procedures

Applications for registration will be assessed in a sequence of priority areas. Areas under water stress, in which competition between users, damage to the environment or prejudice to neighbouring states is noted will generally be considered first.

In an area designated for licensing, consideration will be given to the requirements of the Reserve, international obligations, long term planning requirements for inter-basin transfers as well as existing uses. In this process, Principle 20, which takes account of investment in existing infrastructure, will guide decisions and will inform the period for which an initial allocation will be licensed.

Before any allocation of available surface or groundwater can be made, the resources will have to be assessed. In some areas, there is already enough information, in others, preliminary estimates based on limited information will have to be used. In these cases, provision may be made for future adjustments when further information has been collected.

In general, allocations should be specific in terms of the location of water use, the volume of water to be used, the time at which it is to be abstracted, its quality and reliability. Since it may not always be possible to specify direct measures of volume, duration and quality of water to be used, indirect methods of allocation such as the authorisation of areas and/or methods of cultivation, size of storage dams, and pump capacity may be used as well as general standards of quality for a particular area.

There may be circumstances in which users are unwilling or unable to pay for their water use. Unless eligible for a specific programme of corrective action (see Section 6.5.3) these users will not be registered under the new allocation system and will be regarded as occasional. Water use under these conditions may be terminated or allocated without prior notice to any other user or potential user who applies. In those areas in which the supply of water is still greater than the demand, water users will be given the opportunity to register, which will oblige them to pay the catchment management charge, but which would also secure their use of that water for the time period of the license.

In areas which are not initially subject to registration, existing uses in terms of the Water Act and other law will not immediately be affected but will be deemed to be use authorised in terms of the new system and will continue until such time as the area is designated for allocation.

Appropriate mechanisms will be created to make sure that there is procedural fairness in all allocation decisions and the development of appropriate dispute resolution mechanisms will make sure that the new system meets all the requirements of administrative justice (see Section 7.2.7).

6.2.4. Application to Groundwater and Indirect Land Uses

All allocation procedures will apply to groundwater which is, particularly in the more arid provinces such as Northern Cape and North West Province, a critically important resource. However, since groundwater is also a relatively poorly understood source of water whose

management is a complex matter, special provisions may be necessary (See Section 6.6.3). The general approach will initially be to refrain from making formal allocations except where there is clear evidence that groundwater abstraction is impacting negatively on other water users and on the environment.

Similarly, in terms of the policy, provision will be made to licence land uses which substantially impact on the availability of water in an area. This is already being done for forestry and consideration will be made to the extension of the approach to other land uses where it can be shown that these significantly impact upon other water users. The existing afforestation permit system will be integrated into the new allocation system and existing permits will be honoured.

6.3. PROTECTION OF WATER RESOURCES

6.3.1 Background

We rely on water resources not only to give us water for domestic purposes, agriculture or industry but also to provide certain “silent services”. These include the removal and purification of wastes, the commercial and subsistence supply of food and plants, the retention and storage of water and the transport of floods as well as opportunities for recreation and ecotourism and the conservation of biodiversity through the maintenance of habitats.

All of these services are benefits of water resource utilisation. If water resources are over-utilised for short term benefit, or if water resources are degraded due to the impacts of waste discharges and land use, they can lose their ability to sustain utilisation in the long term. Hence it is essential to protect water resources in order to ensure their sustainable utilisation.

The Constitution entitles South Africans to expect that their environment, including their water resources, will be protected from unsustainable use and harmful impacts. The establishment of the Environmental Reserve is an important step in this direction since, under previous legislation, there was only limited provision to reserve a quantity of water for environmental protection purposes. The challenge now is to translate the concept of the Reserve into practical policy and to make provision to ensure that the environmental objectives of water resource management are attained.

6.3.2. Resource Quality and Protection

The water and water-related services which people use are not dependent only on the physical and chemical characteristics of the water itself, but on the healthy functioning of whole ecosystems, such as rivers, lakes, dams, wetlands, estuaries or the coastal marine environment. The term “resource quality” is used to include the health of all of the parts of a water resource which together make up an “ecosystem”, including plant and animal communities and their habitats. It is the healthy functioning of the whole ecosystem which gives a water resource its ability to recover from droughts, floods and the impacts of human use. Therefore the most effective approach is to use receiving water quality objectives as the basis for water environmental quality management.

In setting the Environmental Reserve, we must therefore seek to identify and provide for all the factors needed for a water resource to function: the quality, quantity and reliability of water; the physical and vegetation aspects of habitat in the water and on the banks; and the numbers and kinds of plant and animal communities - and their interactions - that allow resources to function.

For effective resource protection, two separate sets of measures are required. The first are resource-directed measures which set clear objectives for the desired level of protection for each resource. The second are source-directed controls which aim to control what is done to the water resources so that the resource protection objectives are achieved. These include source reduction measures which aim to reduce or eliminate the production of potential pollutants which could harm our water resources.

6.3.3. Resource Protection

A national resource protection classification system will be introduced. Through a process of consensus-seeking among water users and other stakeholders, the level of protection for a resource will be decided by setting objectives for each aspect of the Reserve (water quality, quantity and assurance, habitat structure, and living organisms). The objectives for each aspect of the Reserve will show what degree of change or impact is considered acceptable, and unlikely to damage a water resource beyond repair.

Resources will be grouped into a number of protection classes, with each class representing a certain level of protection. Where a high level of protection is required, the objectives will be strict, demanding a low risk of damage and the use of great caution. In other cases, the need for short to medium term use may be more pressing and the need for protection lower. Some resources may already need action to restore them to a healthy state, and, in future, no resources should be allowed to become irreversibly degraded.

At the same time efforts to introduce source control will be strengthened, through permits and standards, and through changes in technologies and land-use, with the final aim of getting as close as possible to a situation in which there is no discharge of pollutants into our water.

While the approach proposed emphasises the involvement of water users and other stakeholders in establishing the resource protection objectives, the public trust places the responsibility on Government to make sure that environmental interests are represented and that the resource is effectively protected.

As with the new allocation system, the classification system will have to be phased in over a reasonable time and may begin with pilot projects in selected rivers and important catchments. These may be selected to coincide with those chosen to start the new allocation system.

6.3.4. Source Directed Controls and their Enforcement

Almost every activity which takes place on land affects our water resources in some way. To control these impacts on the resource, planning must be based on water catchment rather than

political borders. Actions that cause or contribute to decreasing resource quality can only be controlled if water- and land-users change their behaviour. They will therefore be encouraged to choose and develop technologies that meet the standards set by Government and to develop appropriate codes of practice.

Procedures for consultation in this regard will be put in place to allow Government to protect human and environmental health in relation to water quality and quantity.

Since serious impacts such as hazardous waste spills (see Section 6.7) may be beyond the capacity of local or provincial government, the system of co-operative governance must allow the national Department to provide assistance so that local and provincial authorities are able to deal effectively with emergency situations. The Minister will establish procedures in order to encourage and coordinate the response to serious incidents that threaten the nation's water resources.

Offenders must be prosecuted speedily, avoiding the delays which occur under the existing system. Consideration will be given to the possibility of giving the national Department, which manages the resource protection function, the power to carry out its own prosecution of people or organisations who break the water law. Penalties for serious offences will reflect the extent and nature of the damage, and must include provision for the recovery of the costs of repairing the damage.

On a wider scale, the Government agency responsible for water resource protection must be able to influence or prevent land use planning decisions which could lead to unacceptable impacts on water resources. Consideration will also be given to the control of other activities which can have serious impacts on water resources but over which water managers currently have no direct control, such as radioactive pollution, and the disposal and importation of hazardous wastes.

Protection of water resources will be enforced through a system of source-directed measures, including the registration of sources of impact, standards for waste discharges, best management practices, permits and impact assessments. The use of directives and fines, and the ability to suspend or revoke permits and licences, are effective options for dealing quickly and effectively with cases of pollution. The use of regulatory measures to control damage to resources other than pollution, such as habitat destruction, will be introduced where appropriate.

To encourage a reduction in pollution, a system of economic incentives will be put in place, in which charges will be introduced for the discharge of waste into water bodies (see Section 6.5). This will encourage the development of low-waste and non-waste technologies (Principle 16). Funds raised in this way should be used for resource quality management and protection activities.

6.4. WATER UTILISATION AND CONSERVATION

6.4.1. Background

The historic function of the Department of Water Affairs and Forestry, and its predecessor, the Department of Irrigation was to meet the needs of those water users which the Government wanted to assist. Attention was focused primarily on the development of water sources, and, more recently, on the maintenance of water quality to meet the requirements of water users.

The task of water managers in the future will be more complex since it will no longer be possible simply to meet the demands of users or to ignore the demands of any particular group. Water management will focus instead on promoting the optimum use of water. As pressure on the resource grows, this will require that we give as much attention to limiting water use as to supplying it. Often we will be able to make water available for new users without harming the interests of existing users as is demonstrated by the Working for Water campaign which generates jobs and social development while removing water-hungry invasive plants and trees.

New approaches to water management will be needed. These will have to focus on the way in which water is used (efficiency, effectiveness and demand management) in each user sector rather than simply on predicting, planning and supplying its water needs. It will also require a systematic approach to resource conservation, linked to the resource protection policy described in Section 6.3.

This focus on individual sectors requires a framework for intervention which, without trespassing on the underlying autonomy of the user sector, guides its water related activities towards an optimum and sustainable path and promotes a spirit of resource conservation.

The key sectors include:

¥ agriculture, (both irrigated and rain-fed agriculture as well as forestry) which is currently the largest user of water although it does not demand as high a reliability as other sectors;

¥ industry, (including manufacturing, mining and power generation) users whose total consumption is not so great but whose requirements for quality and reliability as well as whose impact on quality through land use and waste discharges impose considerable pressures on the resource;

¥ domestic and municipal users, whose water use and impact on water quality is growing rapidly due to the expansion of services and the improvement of service standards;

¥ recreational and ecotourism uses, which are growing and have high quality standards to protect human health and sometimes require large allocations as well as controls to protect habitat in the case of ecotourism development.

For programmes of intervention aimed at promoting optimal use within these user sectors to be effective, there are certain requirements.

Information: Unless there is a good understanding of water use in the sector it will be difficult to design appropriate programmes to promote better utilisation.

Institutional framework: Unless users are organised in a manner which permits the implementation of a programme, simply publishing regulations or guidelines is unlikely to be effective.

Appropriate tools: These must include methods for improving water use, incentives to encourage change and the penalties to punish any failure to change. Training and research are also essential to support new methods.

6.4.2. Promoting Conservation and Better Utilisation

Many of these concerns are dealt with in Section 7 but there are some basic issues which need to be highlighted.

The first is the importance of achieving the right balance between promotion and enforcement by, for example, developing subsidy and incentive systems rather than focusing on penalties such as legal action for permit contraventions and the denial of permits. The exact combination of incentives and penalties may be situation-specific. Flexibility to address different situations is a key requirement for successful management. However, the limits of self-regulation should be recognised. Water is too valuable a commodity for its management to be handed over to its users and there remains a vital role for external monitoring and enforcement.

The second is the need to decide how to promote better water utilisation. Promotion through research, pilot projects, education and general communication activities will work best within a supportive framework which includes regulatory incentives and penalties.

A third, related, issue is that of providing information on a comparative basis about how different users are behaving and what they are achieving can be very effective in identifying problem areas and encouraging action.

A final and important overall consideration is the structuring of management programmes for the individual user sectors. The promotion of conservation and better use is an important function in its own right and the organisation of the national Department, its agencies and the user sectors themselves should reflect this.

A policy framework has already been introduced for water supply and sanitation services. In the draft Water Services Bill, the supportive elements needed to encourage conservation and efficient use have been combined in a framework which makes it possible to penalise a failure to use water efficiently. Frameworks are also under development for irrigation farming and forestry.

The Water Research Commission has supported a great deal of work to improve water use in, and particularly the quality of waste water from, manufacturing industry, but much remains to

be done. A formal framework for promoting water efficiency in industry still needs to be developed. Similarly, the framework for water use in mining requires further development and specific attention.

Work must still be done to provide a framework for the use of water for recreational and ecotourism purposes. This must focus not only on the technical mechanisms for defining and achieving specific goals in a catchment area but also on how to align broad resource protection goals with specific recreational and ecotourism uses.

Tools and methodologies

The development of appropriate tools and methodologies (such as demand management, water use audits, fitting of water-efficient domestic fittings, pre-payment metering, the promotion of best available industrial technology in industry, strategic environmental assessments, and environmental impact assessments) will be vital to the success of water conservation.

The collection and analysis of data and the circulation of information will also be very important. The aim should be for all users to know how well (or badly) they are performing in comparison with their neighbours and other users, and to measure this against the environmental objectives they have jointly set for the resource which supplies them (see Section 6.3).

Finally, to improve water use and promote conservation, communication and educational activities are very important. The National Water Conservation Campaign has already been established for this purpose and its research and pilot project activities need to be further strengthened and integrated into the work of the Department.

6.4.3. Conservation and Utilisation Policy

A formal policy will be developed for water conservation and use in each of the main user sectors, such as agriculture, industry and mining. These will include regulations for water conservation in each use sector to ensure their long-term water security.

Specific institutional arrangements will be made to promote more efficient water use. The conservation and water demand management function of the national Department will be strengthened and greater priority will be given to this area. In addition, the National Water Advisory Council will be requested to establish sub-committees to study sectoral water use and to make proposals for its improvement.

6.5. WATER PRICING POLICY

6.5.1. Background

The policies for water resource protection, conservation and allocation have all identified that there is a possible role for economic measures such as water charges to support the policies proposed. It has also been noted that the historic financial arrangements for water resource

development in South Africa have not been adequate. An estimated twenty billion Rands worth of water resource infrastructure has been built by the State, for the benefit of users many of whom do not even pay the operational management costs incurred, let alone any contribution to capital. In addition, the new Government has also inherited a number of grossly under-used water schemes paid for by the public.

At the same time, current budgetary constraints mean that a number of sound water resource projects cannot be implemented despite the fact that some are clearly financially viable while many others are economically and socially justifiable.

What is at issue is the way water is valued as an economic resource, the costs incurred to make the resource available to users and the methods used to cover those costs. In pursuit of the objectives of water management, it is widely agreed that the setting of the appropriate price for a natural resource such as water can be an effective mechanism to achieve its efficient and productive use.

This issue is separate from the financing arrangements for the water purification and distribution services provided by Water Boards and Local Authorities. These services are affected only insofar as their costs include a component to cover the cost of the resource they use. Policy with respect to water services has been established in the Water Supply and Sanitation White Paper and the draft Water Services Bill. The financing and operational costs incurred by Irrigation Boards in the distribution of water to farmers are also being dealt with separately .

The Cabinet decided in February 1996 that the price paid for water by major users should progressively be raised to meet the full financial costs of making it available and to reflect its value to society. At present however, the Water Act only allows for the charging of tariffs for water supplied from Government Water Schemes, which account for only about a third of the water used in South Africa. One priority of the new legislation will therefore be to ensure that all water use is covered by the new policy.

6.5.2. Future Trends

South Africa is not the only country re-examining the approach to the price of water and its role in water management. Under the pressure of development and population growth, many countries have begun to experiment with approaches that can sustain their water use into the future. South Africa's particular circumstances, however, demand that the issues be reviewed in the context of achieving Principle 7's "optimum, long term, environmentally sustainable, social and economic benefit for society from their use".

Many of the financial constraints faced in water resource development will be removed if the responsibility for paying the costs of such development is accepted by the users.

The costs incurred in making water available at source include some or all of the following elements:

¥ The costs of operation and

maintenance of publicly-provided schemes.

¥ Capital costs, comprising a return on paid-up assets, the repayment of loans and, in some cases, contributions to a fund for new schemes to make sure that they do not cause sudden tariff increases.

¥ Overheads such as the administration and support required to operate such schemes.

¥ An allowance to provide for depreciation, replacement or refurbishment.

¥ Catchment management costs.

¥ Social and environmental costs.

Payment for less direct water uses also needs to be addressed. There are two important examples of water use for which no charge is currently levied but which impose significant costs on other users and on society more generally.

The first is afforestation and other water intensive dryland agriculture which intercept rain in high rainfall areas and reduce river flow for other users. The second is the disposal of waste into rivers or other water bodies to remove wastes and render them acceptable. Water bodies can absorb only a certain quantity of wastes without ill effect. So if one discharger disposes of waste, another will be prevented from using the river for the same purpose. This highlights the fact that “receiving water capacity” is a valuable property in its own right and should perhaps be managed from an economic as well as from an environmental protection perspective (see Section 6.3.4).

A final issue relates to the approach to water as a scarce resource and the need for water conservation and management of demand. Resource economics suggests that one way of achieving these goals is to set a price that reflects this scarcity. This could involve imposing an additional resource conservation charge. Consideration must be given to how this can practically be applied in South Africa.

There are many problems that water pricing will not necessarily solve. It is important to make sure that approaches to water pricing do not hamper, but actively promote, the move towards equity of access and the ability to address the claim for access to water by those South Africans who were historically denied this. It must also be recognised that there may be environmental and social costs of water use and resource development which are not reflected in the water price.

If it is decided to use water pricing as one tool to promote more efficient and equitable water use, the approach used to set the price for water and recover the payment will be as important as the principle of charging a price.

Direct financial costs, including catchment management costs, can easily be calculated. In circumstances where a resource conservation charge is to be levied, an approach is required to set this charge at an appropriate level.

In areas where there is competition for water, charging a price for water will not in itself achieve the objectives of efficient use unless the price is appropriate. Too high a price will discourage water use that might otherwise have brought benefit to society and water will flow, unused for direct human benefit, to the sea. Too low a price will result in overuse in some areas and shortages in others which will deny potential users access to water which they could have used productively.

While the administrative approach to price setting has some limitations in the current South African situation, the trading in water-use allocations as a price setting mechanism also has its limitations and is by no means free from administrative burdens. Even with a limited market, there are many difficulties inherent in creating a system of allocations which can freely be traded, not least the practical difficulty of taking water from one location and making it available in another.

Given these problems, the prices generated by trading in water-use allocations will not necessarily reflect the real value of the resource. Also, if a market system were to be introduced, it would be unacceptable for landowners who received water-use allocation under an unjust system of land acquisition to exploit their historical privilege and to gain windfall profits from its new cash value.

An alternative way to set an appropriate price for water use (or waste discharge) would be by pooling available allocations and selling them by tender or through an auction, managed by the water administration. Water allocations could be offered within a given area and all potential users offered the opportunity to bid for them. However, such an approach also has limitations in a country where wealth is concentrated in the hands of a small, privileged, minority.

The application of a resource conservation charge set by one of these mechanisms would be consistent with the public trust as expressed in Principle 13 which requires Government to “ensure that the development, apportionment, management and use of those resources is carried out using the criteria of public interest, sustainability, equity and efficiency of use in a manner which reflects ... the value of water to society”.

Policy evolution on this issue is still at an early stage and further consideration will be necessary. Since the general introduction of resource conservation charges will not be possible until the allocation system is in place, only pilot scale implementation can be considered at this stage. Resource conservation charges may thus be applied, in specific cases and subject to the Minister’s approval. In the first places where these charges are introduced, the effects of such charges will be carefully monitored, to make sure that they achieve their goals.

Equity

It is important that the introduction of realistic pricing for water does not further penalise disadvantaged communities who were already penalised during the apartheid era. White communities were given a strong economic advantage under apartheid through access to cheap water, while economic development in black communities was restricted by a variety of factors, one of which was lack of access to affordable water. In the interests of equity and

social justice, this aspect will have to be considered in the question of water pricing. The price to be levied for water reserved to meet basic needs must merit particular attention.

6.5.3. Water Pricing Policy

To achieve the objectives of water management identified in Section 4, all significant water resource use will be charged for, regardless of where it occurs, and including the use of water for effluent disposal or the interception of water to the detriment of other users.

Government will move systematically to achieve realistic water pricing within a reasonable time frame.

The only exception will be in respect of the Reserve for basic human needs. This 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. Government budgetary expenditure on the capital costs of water resource development will increasingly be limited to projects that provide basic needs, assure the environmental reserve or assist in meeting South Africa's commitments to its neighbours.

The water prices to be charged by the Government from its own water schemes will be adjusted over a reasonable period to cover the full operation, maintenance costs and financial costs of existing Government Water Schemes including (where applicable) interest and redemption of loans, depreciation of assets and water resource management costs. A resource conservation charge will be introduced as and when appropriate.

Outside of Government Water Schemes, the price of water will reflect water resource management costs as well as an appropriate resource conservation charge.

The price of water will vary according to location and will be calculated on a system, catchment or sub-catchment basis. It will include operating, maintenance and capital costs where appropriate as well as a water resource management levy and a resource conservation charge. The levy may include charges for effluent disposal and significant interception as a result of land uses such as afforestation or agriculture.

Disadvantaged individuals and communities will be supported through specific measures for beneficiaries of land restitution, land reform or other programmes of corrective action. These may include periods during which the full cost of water will not be charged. This would be a form of establishment support in the case of newly established enterprises.

Where the imposition of the full water price discourages the use of available water, provision may be made for some elements of the tariff, including capital and depreciation costs in existing Government water schemes, or the resource conservation charge, to be suspended for a limited period of time.

Provision may be made to allow trading in water-use allocations in limited areas. If introduced, this will be subject to varying degrees of control depending on whether it is within a single user sector or between such sectors and whether it is within or between water management areas.

Particular attention will be paid to evaluating whether equity objectives and fair resource allocations are achieved.

Income from water charges will be divided between operational agencies, water management authorities and national Government in accordance with their contributions and responsibilities.

The present research levy will be maintained and will continue to be administered through the Water Research Act (see Section 7.4).

6.6 DEVELOPMENT OF WATER RESOURCES

6.6.1. Background

In the previous sections, it has been highlighted that South Africa's future water resource needs cannot be met simply by building new water schemes, heavily subsidised by the state, as they were in the past. The impression that this was possible was created, in part, by the fact that many of the Country's previous water projects were built to serve the interests of a minority of water users within what was already a privileged minority of the Country's population. This created an approach to water resource development which would be completely unsustainable if applied to meet the needs and desires of all the people of the country. Already, as noted in the section on water pricing, capital grants to build new schemes are increasingly limited and most users will in future be expected to pay the costs of developing schemes to serve their needs.

A further factor is that many of the more obvious opportunities for resource development have already been used. Dams have been built in the best locations to capture the most obvious water surpluses and water sources which are closest to places where demand is growing have already been tapped. While unconventional sources of water, such as desalination, weather modification, water harvesting, suppression of evaporation, use of icebergs, and importation have been studied, none are yet practical or affordable except on a very small and localised level.

Nevertheless, development of water infrastructure, including the building of more dams, canals and pipelines, pumps and boreholes will still be required. Inter-basin transfer schemes (IBTs) which move water from one part of the country to another have, in particular, served to redistribute water across the country to where it is needed. Current planning predictions suggest that this will have to continue if the economic growth and social development of the country is not to be stunted. This highlights the need to ensure that water resource development is planned in coordination with the broader planning of economic and social development and that delays in water development do not block other activities.

There is thus a need for the existing system for promoting and controlling water development to be reviewed to make sure that development which is in the public interest can continue to occur efficiently and that public safety is maintained. Approaches must be introduced to ensure that development is implemented in a manner which is supportive of and compatible with the new goals of water policy and of development policy more generally. Given growing concern

for the environment and the impact of large projects on local communities, ways must be found to ensure that reasonable concerns about such developments are heard and acted upon.

Finally, water resource development may be undertaken by Government or by private bodies to supply their own needs. There have been complaints in the past that the present system for considering private project proposals is inefficient, with developers having to apply separately for a number of permits for different aspects of the proposed development such as water abstraction, dam construction, dam safety and waste discharges.

6.6.2. New Approaches to Water Development

It is clearly necessary to change the way in which the development of water resources takes place. In doing this, greater emphasis will have to be placed on providing services to the unserved and on corrective programmes to meet the other needs of the majority of South Africans who were historically excluded from the benefits of water development. At the same time, we have to ensure that serious efforts are made to manage the demand for water rather than simply attempting to supply it.

Every development of new water infrastructure, as well as making water available for a specific group of users, also offers an opportunity to promote the broader goals of water management. Thus a project to move water from one river catchment to another should only be implemented if proper planning has been done in the source catchment and sound water use policies are in place in the recipient catchment. Permission to build a private dam should not be given unless it is consistent with water management plans and allocations in its catchment. A request by an industry to take water from a river provides an opportunity to review its waste disposal practices as well as its water requirements. Every time a borehole is drilled and equipped, there is an opportunity to gain new information about groundwater and to consider whether there is a need to establish groundwater control arrangements in the area.

This example highlights the fact that the approach to the development of groundwater has to be specifically addressed. Throughout the world, this resource is poorly understood, and development has, as a result, often resulted in unreliable supply, under- and over-use and damage to the resource. In South Africa, large areas are dependent on groundwater although it accounts for a relatively small proportion, perhaps fifteen percent, of total water use.

It is in the public interest to ensure that the development and use of all surface, ground and unconventional water resources is undertaken in a way that is sensitive to the environment. Environmental protection needs a recognition of responsibility and a degree of independence, which can be achieved through the development of a coherent, internal environmental policy by the Department of Water Affairs and Forestry (DWAF), and through co-operation with the national and provincial Departments of Environment. It is also important that affected communities or people are given the chance to raise their concerns and suggestions about proposed developments. The establishment of Catchment Management Agencies (see Section 7.2.4) will, in the long run, help to make this happen.

It is also in the public interest to make sure that the development of water resources, which is often the key factor in enabling economic development to take place, is carefully planned so as to promote rather than restrict such development. Where water is needed to produce water-intensive products such as food, wood and electric power, it may be a more efficient use of resources to import them, rather than attempt to produce them in a water-stressed area. This use of trade between countries and regions as a measure to achieve best use of water has not been properly studied in Southern Africa. The application of management tools such as pricing (see Section 6.5) will support this approach.

6.6.3. Water Resource Development Policy

In accordance with GEAR, and the policy of payment for water, new Government water resource development projects will, where possible, be funded by a mix of finance from commercial and concessional sources, underpinned by user payments.

Developments (of both surface or groundwater) will have to be compatible with national water policy and the relevant catchment management plan (see Section 7.2.5) whether they are implemented by Government or by private bodies.

Where an application by a private body for a project is consistent with an approved catchment management plan, a “one-stop-shop” approach will be provided so that all necessary permits may be obtained through one application to the Department of Water Affairs and Forestry. (Where authorisations from other Departments are also necessary, efforts will be made to include them in the system.)

Where no catchment management plan has been produced, procedures will be put in place to make sure that development proposals meet the objectives for water management in that catchment.

There will always be a need for an environmental impact evaluation of any water scheme. The development and use of all water resources will be undertaken in accordance with the principles of Integrated Environmental Management (IEM), published by the Department of Environmental Affairs in 1992. These principles require an assessment of the possible impacts of a proposed project, and the design of measures to reduce negative impacts and enhance positive impacts.

Public local enquiries under the guidance of an independent inspector or facilitator may be held for large scale developments. This will ensure that there is objectivity in the evaluation of government’s own projects.

Inter-basin transfers will have to meet special planning requirements and implementation procedures, which must involve agencies from both the donor and recipient catchments. Catchments to which water will be transferred will have to show that the water currently available in that catchment is being optimally used and that reasonable measures to conserve water are in force.

Groundwater

The general framework for development will be flexible enough to provide guidance for the different needs of surface or groundwater development. The following additional provisions will be made for groundwater development:

¥ To facilitate the development and management of this important resource, there will be a requirement to register new wells (to provide technical information for planning as well as for monitoring water use). To ensure compliance with general requirements, and to protect the public, registration of drillers will also be considered. Finally, where groundwater users are in conflict or the environment is threatened, sensitive areas may be declared where notice of intention to drill will be required.

¥ Groundwater use must be carried out in the context of an adequate catchment management plan, based on an understanding of the sustainable yield of the local groundwater sources. In sensitive areas, approval of drilling may thus include operating conditions to protect other users as well as the resource itself.

6.7. PUBLIC SAFETY AND DISASTER PREVENTION

6.7.1. Background

The unpredictable nature of the South African climate results in floods and droughts of varying degrees of severity. These can cause wide-scale suffering and disruption of human activities if they are not provided for in the planning, development and management of water resources (Principles 6 and 21). Disaster management, however, has generally been uncoordinated, and has focused on remedial action after the event rather than on preventative mechanisms. An inter-ministerial committee has recently been established to examine the question of co-ordination, and a Green Paper on disaster management will be produced by the Department of Provincial Affairs and Constitutional Development by the end of 1997.

6.7.2. Discussion

For the purposes of water policy, the hazards that must be addressed are those which arise from extreme natural events and those deriving from human activities, including developments for which permits are given by water management agencies and the development activities of water management agencies themselves.

Extreme events

Water resource management must take into account the risks of floods, droughts, cyclones and other extreme events.

Floods: Flood management requires both proactive and reactive measures including monitoring and warning systems, and managed dam releases. However, extreme flooding events are simply not manageable.

Droughts: Water resource management practices should cope with regular periods of low rainfall. Drought management has traditionally been associated with measures to compensate for the effects of reduced rainfall, particularly through the payment of drought relief to farmers. The risks associated with agricultural activity should be recognised and more appropriate agricultural practices encouraged.

Supply systems for other purposes should be designed to maintain desired levels of service in exceptionally dry years with priority given to the supply of basic human needs. A high assurance of supply must also be given to strategic activities such as power generation. Back-up provisions for interventions such as emergency supply schemes, tankering, etc, for vulnerable domestic consumers will continue to be required for the most extreme cases.

Hazards associated with human activity and development practice

Development patterns and practices can pose threats to public safety, through, for example, the building of a dam upstream of an urban development on a flood plain, or the presence of a tanker filled with hazardous waste on the highway. Provision must be made to avoid these hazards and to reduce exposure and vulnerability to risk.

Developments subject to DWAF permits

Current dam safety legislation is considered to be adequate but certain regulations, such as those controlling the disposal of solid wastes and effluents, are weak and must be improved. The safety of mine tailings (slimes) dams is excluded from the Department's competency and this matter is being reviewed. The control of industrial tailings must also be reviewed.

DWAF Developments

Where DWAF undertakes, or controls, the planning and execution of a development project, public safety must be protected through wise development practices and proper norms and standards informed by existing Dam Safety legislation and tested operational practices. Care must be taken to make sure that there is no confusion between development decisions and regulatory responsibility.

6.7.3. Policy on Safety and Disaster Prevention

As custodian of the Nation's water resources, DWAF will participate in Government initiatives to develop a new approach to disaster management, and will focus more strongly on developing proactive and pre-emptive approaches in the field of water related disaster prevention.

Government will continue to promote effective planning and development control in flood plains and similar situations. Community involvement and local government participation will be emphasised.

Potentially hazardous water resource developments governed by permits from DWAF must be directly controlled by water legislation.

6.8. MONITORING, ASSESSMENT AND AUDITING

6.8.1. Background and discussion

The provisions for monitoring and assessment in the existing Water Act are weak. Ongoing monitoring and assessment of the patterns of resource use, and the response of the resource to use, are critical to our ability to manage and protect those resources on the basis of sound scientific and technical information and understanding. Adequate information is essential for effective resource management and protection.

The following should be undertaken as part of an overall programme of resource monitoring:

¥ Assessment of the status of water resources, and communication of information, in order to support decisions on management, development and allocation of water resources;

¥ Ongoing monitoring, and investigations, where appropriate, of:

- resource use (both water use and discharge quality) in different sectors;
- the status of water resources (surface and groundwater), in terms of water quantity, resource quality and demands on the resources;
- impacts on water resources, including the impacts of waste discharges, land uses, water abstraction and climatic conditions;

¥ Auditing of:

- sectoral resource use patterns and assessment of whether objectives are being reached;
- compliance with registration and permit conditions;
- achievement of objectives for resource protection and management.

The information contained in allocation licence registers and obtained through the development and groundwater permit systems should be organised to contribute to resource development, monitoring and assessment and efficient catchment management.

6.8.2. Policy on Monitoring, Assessment and Auditing

Monitoring and Information Management Functions

¥ Monitoring and assessment programmes will be designed and maintained in consultation with all users, and must be accompanied by clear programmes of action.

¥ Monitoring and information management are functions of national Government, specifically of DWAF whose responsibilities will include:

- national design and co-ordination of monitoring programmes;

- development of technology and methods to support monitoring, assessment and auditing;
- standardisation of approved methods and techniques for monitoring, analysis and assessment;
- regular review of regulations, standards, methodology and accreditation requirements;
- design, establishment and maintenance of national monitoring networks;
- development and maintenance of information management systems.

Delegation: The Minister will be empowered to delegate all or any monitoring and assessment, information management and reporting functions to any other Government department, provincial administration, local authority or competent body, where capacity exists. The national Government will undertake monitoring as necessary, especially where no local capability yet exists. Technical support and guidance will be provided to those organisations, agencies or authorities which participate in national monitoring programmes.

Reporting: DWAF will report to Parliament regularly on the status of the Country's water resources.

Data Accessibility and Ownership: Guided by the constitutional requirement for information availability, and in keeping with any legislation which may be developed on this matter, the Minister will be empowered to require that information regarding water matters which is considered to be in the national interest should be made available to DWAF officers. Procedures will be established to ensure that legitimate confidentiality needs are respected.

All information gathered, and official reports prepared by DWAF, will be available to the public. All information and reports related to auditing of permit conditions, or information submitted by permit holders, will be available and accessible except where confidentiality is required. A charge may be imposed to cover the costs of providing this information.

Funding: To ensure effective monitoring, assessment and auditing, adequate funding, human resources and technical support will be required. In addition to budgetary funds, funds raised through the use of economic measures such as the catchment management charge will be dedicated to the resource protection, management and monitoring functions.

International, Inter-Department and Inter-Agency Liaison: Co-operation and links with international authorities, other Government departments, national, regional, catchment and local authorities will be established, to promote effective monitoring networks and information transfer related to water resources. Where these are part of international treaties, agreements and accords, DWAF will be responsible for ensuring that monitoring and information requirements are met. When more than one agency has interests in collecting particular information or data, there will be joint responsibility and funding for monitoring. In the spirit of co-operative governance, a national inter-departmental committee will be established to co-ordinate monitoring of water resources.

6.9. INTERNATIONAL CO-OPERATION

6.9.1. Background and Discussion

The most important consideration in South Africa's relations with those of its neighbours with which it shares rivers is that there must be respect for each Country's equitable right to water from the shared resource (Principle 11). Because water does not recognise political boundaries, whether national or international, its management will be carried out in catchment areas although care must be taken that the policy of subsidiarity does not interfere with the need for a national and international perspective on water use.

The framework for the management of international shared water resources remains the Helsinki Rules. These state that each country which shares any river (basin state) has the right to a reasonable and equitable share of the water in the basin, and that the greatest benefit should be achieved with the least disadvantage to other states. In many situations however, the individual interpretation of the Helsinki rules by different basin states may lead to conflict. There is, therefore, a need to find ways of co-operation and joint inter-state catchment management. Work on this is currently being promoted for the United Nations by the International Law Commission.

In Southern Africa, the SADC Protocol on Shared Water Course Systems, to which South Africa is a signatory, is an important initiative predating South Africa's membership of SADC. The protocol has to date only been ratified by South Africa, Lesotho, Botswana and Mauritius.

In the absence of a generally agreed framework for international relations in shared river basins, South Africa, in common with many other countries, has established bi-lateral commissions which have the power to conduct joint studies and to make recommendations to their governments.

There are also multi-lateral commissions, committees and bodies which have been established to meet specific co-operation requirements. Arrangements such as the Tripartite Technical Committee between Mozambique, Swaziland and South Africa, and the Limpopo Basin Technical Committee which involves all four basin states (South Africa, Botswana, Zimbabwe and Mozambique) have been established to provide for general planning and liaison in common basins. The Lesotho Highlands Development and the Komati Basin Development are two important examples of institutional arrangements which have been specially created to promote specific development projects.

6.9.2. Policy statement

South Africa will actively support the development of a system of International Law to guide the management of shared river systems on an equitable basis. Until such a system exists, South Africa will continue to promote regional and bilateral co-operation in shared river systems and DWAF will be empowered to conduct these relations.

To make sure that Government is able to give effect to agreements in this sphere, the water allocated to enable South Africa to comply with its agreements will be given a special status as a water allocation priority.

7. INSTITUTIONS FOR WATER MANAGEMENT

7.1. BACKGROUND AND DISCUSSION

Until 1994 the considerable technical expertise of the Department of Water Affairs, was directed towards servicing the water needs of the apartheid state, resulting in an inaccessible centralised bureaucracy in which the needs of the people on the ground, particularly the black majority, were not taken into account.

Neither the institutional structure nor the approach of the Department allowed ordinary people to participate in decisions that directly affected their lives. This exclusion was made worse by high levels of illiteracy amongst the majority of the population, which prevented them from gaining access to much of the information held by DWAF.

The institutions with which we work and the framework of rules within which they operate are critical to the achievement of our vision of some water, for all, for ever, particularly in the face of increasing water scarcity. The new institutions we build will have to be developmental in nature, informed by technical and social considerations, structured to promote the values and intent of the Constitution and able to adopt a flexible approach to water management.

One of the ideas that has emerged during the development of South Africa's Constitution is that of co-operative governance. This recognises that, while many governmental functions are undertaken in national, provincial or local spheres, there must be a commitment to co-operation between each sphere. This profoundly affects water resource management.

Water management is a complex function which includes regulatory, support and straightforward operational activities. Any review of water management institutions must look at whether there are any services that could more cost effectively and more efficiently be undertaken outside of the Public Service.

The issue should be considered in the context of the need to review our whole approach to Government and the management of public services. It is necessary to ask how effectively current Government organisations are performing the services with which they are charged and whether different public sector arrangements could be more effective while still achieving the goals of equity, corrective action and social justice.

7.1.1. The role of national Government

Apartheid has left a great lack of management capacity in many areas across the different spheres of government. Thus, to help build the ability of other spheres of government to provide water services and to contribute to water resource management, national Government

must be deliberately developmental in its approach. Active intervention will be required both to carry out water management functions and to build organisations with the capacity needed.

The range and variety of issues which affect or are affected by water management show how important it is to address it in an integrated manner. Quality can only be managed jointly with quantity; economic considerations must be weighed together with social and environmental ones; groundwater has to be managed with surface water, and international water allocations cannot be considered in isolation from the domestic context. Nor can water management easily be separated from other activities. Land use, human settlements, industrial activity and mines all impact upon (and are affected by) the water cycle and our management of it.

Water resource management functions which should be approached in an integrated manner include resource allocation and protection, use and conservation, monitoring, planning, development and operation. The complexity of an integrated approach to water management reinforces the need to assess competing water-uses on the basis of optimum rather than simply beneficial use. It has been concluded that the most appropriate unit in which this can be done is either the catchment, part of a major catchment or a water system in which a number of catchments are linked. Whatever arrangement is introduced, it must be clear that it will remain subject to national authority.

7.1.2. Internal transformation in the Department of Water Affairs and Forestry

Considerable progress has been made in the internal transformation of DWAF, reflected in its restructuring, the implementation of a new employment equity policy, the new activities begun externally and the new approaches to management adopted internally. However, the implementation of the policies identified in this document to achieve the aims of the national Government will require further transformation of the Department as well as the possible development of other bodies at national and regional level to carry out specific water management functions.

One restructuring priority would be to shift away from an engineering and operational focus towards more multi-disciplinary regulatory functions, which would require re-prioritisation of resources within the Department. These new functions could include the promotion of conservation and demand management which will require new skills and capacities. The regulatory capacity of DWAF will need to be substantially improved to enable it to implement and enforce the new policies set out in this document. To achieve this will require both a re-prioritisation of existing resources as well as special programmes of capacity building (see Section 7.3).

Another concern at national level is that current institutional arrangements are not supportive of the need for the further, cost-effective, development and operation of the national water infrastructure, the dams, tunnels, pump-stations and pipelines that link different catchments and parts of the country together. There are several new, potentially viable, large water schemes which if built would meet urgent needs and cover their costs but there are few incentives, and many obstacles for a Government department to work in this way.

Specifically, it is difficult within present arrangements to organise and manage activities as logical business units whose efficiency and effectiveness can be monitored and maintained. It is also not possible for Government departments to borrow money for individual schemes; as a result, where the budgetary provision is not available to cover the full construction costs, potentially viable schemes often cannot be built.

The relative success of regional public utilities - the Water Boards - in providing bulk water services has raised the question of whether the establishment of a national water utility to manage the national infrastructure may not be appropriate. The transfer of the functional component of bulk water resource development and operation to an organisation managed on business principles could be feasible since most of the large catchment development and inter-basin transfer projects already operate on a cost-recovery basis and are financially viable.

An alternative to a new utility or restructuring internal Departmental arrangements would be to establish special organisations for each project. This has already been done, for different reasons, in the case of the Lesotho Highlands water project and the Komati Basin Water Authority. The disadvantage of this approach is that the proliferation of organisations accentuates the demands on scarce management resources.

7.1.3. Management at regional and catchment level

At a regional level, water management is presently carried out by offices of the national department. These offices continue to function as part, and respond to the priorities, of a central office and do not necessarily reflect the intent of Principle 23 which requires the responsibility for the “development, apportionment and management of available water resources” to be delegated to a “catchment or regional level in such a manner as to enable interested parties to participate”

The present generalised lack of technical and managerial expertise means, however, that a mechanical decentralisation or delegation of functions is unlikely to achieve the objectives of more responsive and effective water management. The goals of public policy will only be achieved if such delegation goes hand in hand with systematic capacity building and effective monitoring and support from the national Department. This should include specific attention to make sure that the objectives of equity and corrective action are promoted and that existing differences in economic and social power are not strengthened.

7.2. POLICY STATEMENT ON INSTITUTIONS

7.2.1 Integrated Management

The new management approach and organisational arrangements will be designed to provide for integration across a number of dimensions:

¥ vertically between spheres of authority and levels of organisation in water management, each of which must have clear roles and functions (such as between national and provincial government departments);

¥ horizontally, between authorities and organisations with common interests or competing needs for water resources (such as between different national Government departments);

¥ co-operatively within water use sectors with a joint interest in particular resources and striving for common goals in relation to national prosperity;

¥ coherently, between organisations active in the development, management and use of scarce resources such as water, land, minerals, finance and the environment generally; and

¥ geographically, in a way which reflects the interactions of the water cycle and the web of human life and activity.

7.2.2. Functions of the national department

An institutional framework will be established which reflects the central responsibility of the national Government as custodian of the nation's water resources. The institutional framework will also build capacity at regional level for the execution of certain management and operational functions, and allow for the development and operation of major infrastructure to be carried out in a cost-effective manner.

Apart from the clearly Governmental functions of policy formulation and regulation, certain water resource management functions will continue to be performed by Government at national level, including:

¥ strategic and technical planning, and the maintenance of a national water plan;

¥ joint management of international catchments;

¥ overall management of catchments on a national basis; and

¥ water information services.

7.2.3. Establishment of a national public water utility

At national level, it is also necessary to address the problems identified in section 7.1.2. with respect to the management of the national infrastructure. Provision may be made to allow the functions of managing the national water infrastructure to be transferred to a public water utility established for that purpose. The functions of such a utility could include the planning and development of infrastructure, its operation and financing.

This route will only be followed if a more detailed study shows that it will give clear public benefits. While it must allow for the self-sufficient development and efficient operation of the main national infrastructure, it should not reduce the ability of the State to promote projects of high social priority, nor should it undermine the ability of the Government to formulate policy, monitor and regulate the sector.

7.2.4. Catchment Management Agencies and Committees

A key function of the national Department will be to promote the establishment, and support the functioning of Catchment Management Agencies (CMAs) as and where conditions permit. Such agencies could have a wider or more restricted range of functions delegated to them, depending on the requirements of the specific catchment/s and systems within their jurisdiction, their capacity to undertake the management tasks, and policy decisions on the overall approach.

As an example, control over dams for recreational use and environmental conservation will, where capacity exists, be delegated to regional, catchment or local authorities. The national department will provide guidelines and standards for the management of these activities.

CMAs will be developmental in nature, and serve the interests of equity, corrective action and optimum use of water. Any functions carried out by a CMA would be done within the parameters of national policy and standards. The governance structure of CMAs will balance the requirement to reflect the interests of various stakeholders with the need to ensure the effective management of the catchment area.

Where CMAs are not established, the Department (or a delegate) will carry out the management functions until they can eventually be handed over to such an agency. Where this approach is adopted, a catchment advisory committee will be established to enable water users and those who impact indirectly on water quality or quantity to participate in water management. This will provide a focus for the development of local capacity to undertake an increasing range of water management functions.

Implementation of the proposals for water pricing in Section 6.5 will be necessary to make sure that CMAs are financially viable.

7.2.5. Catchment management plans

The main tool proposed to facilitate management at regional or catchment level is the use of a catchment or system management plan, which would be drafted within a nationally determined framework either by the CMA or in consultation with all role players where a CMA does not exist.

The catchment management plan will contain details of:

- ¥ water allocations,
- ¥ the requirements of the Reserve and international obligations,
- ¥ the main issues affecting water quality and quantity which require intervention,
- ¥ management goals for addressing the critical issues, and
- ¥ potential management strategies and responsibilities for action to achieve these objectives,
- ¥ financial arrangements.

These plans will need to be approved by the national department, and when combined, would constitute the basis of a national water management plan.

7.2.6. Existing operating organisations

Organisations such as water boards and irrigation boards will interact with the CMA primarily as stakeholders within the catchment; however, given the limited water management expertise available, it may be appropriate in some circumstances to delegate certain functions to them.

Existing irrigation boards established with no water supply functions (but mainly with supervision, control and distribution functions in terms of the existing Water Act), could be transformed and incorporated into CMAs.

The future of such organisations will be reviewed on a case by case basis.

7.2.7. Dispute resolution

It is important to identify the policies, institutions and practices that will support the principle of equity and equitable access and will protect the constitutional right to procedural fairness and access to courts or other appropriate forums. Equitable access must also recognise the public's rights to present evidence to the administration, and to obtain written records or reasons for decisions.

In a situation where authorisation to use water is allocated on the basis of competing claims for the same, limited resource, a mechanism for resolving disputes will be necessary.

Section 34 of the Constitution provides that every one has the right to have any dispute that can be resolved by the application of law decided in a fair public hearing before a court, or where appropriate before another independent and impartial tribunal or forum.

Under the 1956 Water Act, only a Water Court can hear and determine a dispute or claim around water allocation issues. The Water Court has however no inherent powers, no criminal jurisdiction and no power to deal with criminal offences nor to review any administrative action. The Water Courts also have a tradition of being inaccessible to members of the public and are located in urban areas, often far from the areas where disputes occur. A large number of the judgments of the Water Courts are unreported and access to precedents set by the Water Court have been the privilege of a minority of specialist lawyers and technicians who have participated in that court's proceedings over the years.

Principle 22 requires that "the institutional framework for water management shall, as far as is possible, be simple, pragmatic and understandable. It shall be self-driven and must minimise the necessity for state intervention. Administrative decisions shall be subject to appeal"

In the light of this principle, the inefficient and inaccessible Water Courts will be reviewed in consultation with the Chief Justice and Judge Presidents of the High Court and the Minister and Department of Justice and replaced with more appropriate legal institutions. A possibility which will be considered is the establishment of a specialised Natural Resources Court to deal with all natural resource and environmental matters.

Administrative decisions of Government officials taken under the new water law will be subject to an appeal to the Minister of Water Affairs and Forestry. The Minister will be given the power to establish a review committee or to refer an administrative appeal to an advisory committee before he or she makes a decision on the appeal.

Should the Minister's decision be considered by either party to be unacceptable on administrative grounds such as unreasonableness or undue bias, the matter may be taken to the High Court for judicial review.

7.3. HUMAN RESOURCE DEVELOPMENT

7.3.1. Background

Perhaps the single most important factor in achieving wise and efficient water resource management is the training and the development of the full potential of the people who will work in this sector. Emphasis must be given to training and skills development for members of disadvantaged groups, with a special focus on women.

Historically, access to education has been racially determined, with the apartheid government spending up to ten times on a white child what they spent on a black child. Universities and Technikons were also racially segregated and funded according to racial criteria. The result has been a severe lack of training, education and skills development in the black community. This lack has been made worse for women who have been informally excluded from the scientific and technical sectors.

Human resource development lies at the heart of the transformation of DWAF. The structure of the Department has been and is being reviewed and to give emphasis to the function, a new Human Resource Development Directorate has been created. Formal employment equity and gender policies have been developed and are being implemented and attention has been focused on the appointment of previously disadvantaged persons. This, accompanied by a restructured bursary programme, a vigorous in-house training programme, and opportunities for existing staff to further their education, is laying the foundation for the development of a team of competent personnel in this field.

7.3.2. Sectoral Capacity Building

Water resource management will only be successful if the personnel are developed not only in DWAF but in all relevant organisations and agencies, at all levels. Thus for Catchment Management Agencies to be successful and to implement sustainable and participatory water management strategies, capacity will have to be built in marginalised and disadvantaged groups as well as at a technical level. Women are an important group, particularly in rural areas, who should be targeted by capacity building programmes.

The Government and all other players must be involved in partnership activities for capacity building at catchment level.

7.3.3 Water and Gender

The development of women in relation to water management is important for a number of reasons. Women are the traditional custodians of natural resources in the rural areas, and they are also the people who suffer most from degradation of water and other natural resources. In the rural areas women spend long hours fetching water for their families, and are the custodians of family health.

Empowering women through access to information on simple water purification procedures, as well as making it possible for them to work through water committees, and ultimately in catchment management agencies, will make sure that women's voices are heard in the quest for safe, available water. Women are also articulate in their defence of the environment and in promoting water conservation activities. It is through education of and communication with women that basic attitudes to water will change.

It is important that women are represented at all levels and in all spheres of water management activities, in political, technical and managerial positions.

Article 14 of the Convention on the Elimination of Discrimination Against Women, ratified by South Africa on 15 December 1995, obliges the State to take into account the particular problems faced by rural women and the important roles they play in the economic survival of their families, including the unpaid work that they do. It further places a duty on the State to take appropriate steps to make sure that women participate in and benefit from rural development, including the planning and implementation of development at all levels. The state must also make sure that rural women have equal access to economic opportunities and enjoy adequate living conditions in relation to water supply and sanitation. In short, we support the feminisation of water management.

7.3.4. Human Resource Development Policy

The human resource development programme of DWAF will be adjusted to focus on the new policy priorities, with a particular focus on the development of staff from disadvantaged communities.

DWAF will establish links with tertiary education and other training institutions in order to ensure that training of water managers, both for the Department and more generally, is appropriate to the new direction contained in this policy document.

The programmes of the Water Research Commission to develop technical capacity for water management will continue to be supported.

7.4. RESEARCH

7.4.1. Background

The sustainable management of our water is dependent on maintaining and developing South Africa's internationally recognised capacities in the field of water research, led and supported by the Water Research Commission (WRC). The WRC is funded almost totally by water users through a Water Research levy. The WRC makes sure not only that research is carried out but also that research staff, academic staff and water professionals more generally are properly trained.

Over the last decade, the traditional fields of water research, agriculture and industry, have been extended to include research in the fields of social and financial issues, integrated catchment management, policy development, decision support systems, capacity building (including education and training) and ecosystem structure and function. There has been a trend towards interdisciplinary and participatory research which recognises the need for a link between technology and communities. These approaches need to be extended and accelerated.

7.4.2. Water Research Policy

The existence of the WRC is probably the single most important assurance that necessary research will be carried out and that trained human resources will be available for the water sector. The Water Research Act will therefore be retained as an important part of the family of water legislation. Appropriate directives will make sure that WRC funds are used to further the objectives of the national water policy, especially in social and economic areas.

8. WAY FORWARD

8.1. A NATIONAL WATER BILL

With the adoption of this White Paper, a new process of consultation will begin in support of the development of a new National Water Bill and regulations for implementation of the policy. Participation will include communities, water users, academic institutions, scientific councils, and Government at national, provincial, and local levels.

The National Water Bill will take into account the different physical, social and economic circumstances that exist in different areas of the country. It will provide a flexible framework which enables appropriate arrangements to be introduced which recognise these differences while also taking into account the principle of equality before the law.

In South Africa a number of statutes involving a variety of Government departments impact on the management of water. In drafting the National Water Bill, this will be taken into account to make sure that the new water law works in harness with other legislation or policy.

A separate Water Services Bill, based on Principles 25 - 28, and setting a national framework for provision of water services by local authorities, has been prepared. It will be tabled in Parliament in the first half of 1997. Since water services are a matter of concurrent legislative competence, it will be considered by both the National Assembly and the National Council of Provinces.

8.2. IMPLEMENTATION OF THE NEW LEGISLATION

To bring the new water law into effect will require a major programme of work. The management requirements to implement the new policy directions will be considered in a separate programme of action by the Department.

The policy outlined in this document will require a new structure for the regulation of the Nation's water resources. It will also have significant implications for the allocation of water and the recognition of particular rights and uses. Specific mechanisms will be required for a smooth transition from the present system to the new.

The economic and administrative implications of implementing new water legislation mean that certain elements will be most efficiently implemented through a phased process according to the social, economic and technical circumstances prevailing in each water region/catchment.

This fits in with the proposal that water management areas (largely but not entirely catchment based) be identified as the institutional base for water resource management. This will be followed by an assessment of the management problems in each area which will enable the implementation of the new approaches to be phased in on the basis of objective criteria.

The introduction of allocation and classification systems will be coordinated area by area, with priority areas first.

In the interim period, the management of water resources will continue to be administered by the national Department and different provisions will be phased in at different times.

8.3. CONCLUSION

The new approach to water management outlined in this White Paper is crucial if we are to build the South Africa of the next century, a South Africa based on democratic values, social justice and fundamental human rights, a South Africa in which water is an instrument of social justice, of economic development and of peace. It will enable us to achieve our social and economic goals without unnecessary conflict and in a manner which protects our environment to be enjoyed by future generations.

The Water Services Bill will provide the basis from which to ensure that all South Africans are able to meet their basic needs for water supply and sanitation with dignity and equity. Unless measures are taken to cherish and maintain the scarce water resources on which these services depend, these efforts will come to nothing.

The policy outlined in this White Paper, and the legislation that arises from it, is therefore vital for all South Africans. It will provide the national Government with the tools required to fulfill its role as custodian of our precious and limited water resources and to achieve the national goal of ensuring that there will be some water, for all who need it, for ever.

APPENDIX 1.

FUNDAMENTAL PRINCIPLES AND OBJECTIVES FOR A NEW WATER LAW FOR SOUTH AFRICA

INTRODUCTION

By Professor Kader Asmal, MP,
Minister of Water Affairs and Forestry

Water is a precious resource that belongs to us all. Our new water law must ensure that the way in which water is distributed and used brings maximum benefit to all South Africans.

Access to water has in the past been the privilege of those with access to land and those with access to economic power. In South Africa, more than 12 million citizens lack access to clean water. Every day infants die from diseases bred of the unavailability of clean and potable water. Among the historically privileged population, infant mortality rates are about 20 per 1000 births. In some water-deprived rural areas we lose 370 infants per 1000 births. We cannot allow such a situation to persist - especially in the presence of our Constitution and the Bill of Rights, signed into law in December 1996, and which require that all citizens should be treated equitably.

The Constitution is the supreme law of the land. All law, and this includes our Country's water law, must comply with the Constitution. We must now join together to promote actively the values of our Constitution - amongst others, those values directed at ensuring equity, democracy and fairness.

The Preamble of the Constitution expresses a collective acknowledgment by the people of South Africa of "the injustices of our past". It commits us to establishing "a society based on democratic values, social justice and fundamental human rights" through, among other things, "improv(ing) the quality of life of all citizens and free(ing) the potential of each person". The Preamble also acknowledges our respect for those South Africans "who have worked to build and develop our country".

As I have said on many occasions, South Africa's water law must reflect the principles of the Constitution. Our new water law must also ensure that the values of the Constitution are felt by all South Africans in their daily lives. The Constitution will be the medium with which we will work in order to achieve a number of important goals such as carrying clean and potable water to our Nation's people, promoting economic development and establishing a new approach to the management of this precious resource. In order to achieve these goals, South Africa's water law requires far-reaching change.

All changes to the current water law will take place within the context of fulfilling the rights enshrined in the Bill of Rights of the Constitution. Such rights encompass not only the right to "sufficient water" to meet basic domestic needs. In addition, the Bill of Rights confers upon all citizens a right "to have the environment protected for the benefit of present and future generations". National Government, as the custodian or public trustee of our water resources,

is required to safeguard the integrity of those resources. This will mean not only protecting ecological processes, but also ensuring that allocations to use water are equitably and sustainably distributed. The increasing demands for water and the development of social and economic activities represent a threat to the environment which sustains our water resources. Provision must be made in the legal framework to mediate this conflict and to protect the environment without unnecessarily curbing activities directed at social and economic development.

It is important to ensure that the legal framework governing access to and use of water is supportive of the developmental needs of our nation. In order to achieve the goals that we have set for ourselves in the Water Law Review process it is vital that we ensure the sustainable availability of water for economic development and growth.

For the reasons I have outlined above, the process of Water Law Review which I described in the April 1996 publication of the "Water Law Principles", will result in change to the existing regime of water law. However, this does not mean that those who presently enjoy access to water will be unable to continue to enjoy a reasonable share of water resources. What is intended is that the framework governing access to water resources is responsive to the needs of all South Africans who have a constitutionally enshrined right of access to sufficient water. These are not opposing objectives. There will neither be a surrender to vested interests nor a water grab.

The new water law will be based on a set of principles. These principles were first published for public comment at the beginning of 1996 and have undergone a number of revisions in order to incorporate the great number of comments received in an extensive programme of public consultation. In April 1996 we called again for comments and received a resounding response of valuable inputs which helped us to take the development of the principles even further. A number of formal consultative meetings were held in the nine provinces in 1996. Sectoral interest groups such as agriculture, industry, mining, municipal users, environmental groups and other advocacy groups have been able to present their views formally and later in bilateral meetings held with me.

The consultation process culminated in the National Water Law Review Conference held in East London on 17 and 18 October 1996. At this conference we discussed the Principles and practical approaches to their implementation. This conference also discussed and provided inputs for the finalisation of the Principles that will guide the drafting of our new water law.

The Principles were discussed and approved by our Cabinet and now carry the title Fundamental Principles and Objectives for a new Water Law in South Africa. The 28 Principles approved by our Cabinet are set out in this document. The process will now be taken forward by teams appointed by me to assist in the preparation of a White Paper in respect of which I will once again call for your input and comments.

The voice and support of the majority of South Africans is crucial to the process of delivering a new water law and a new approach to water management which is accessible and easily understood.

FUNDAMENTAL PRINCIPLES AND OBJECTIVES FOR A NEW WATER LAW IN SOUTH AFRICA

LEGAL ASPECTS OF WATER

Principle 1

The water law shall be subject to and consistent with the Constitution in all matters including the determination of the public interest and the rights and obligations of all parties, public and private, with regards to water. While taking cognisance of existing uses, the water law will actively promote the values enshrined in the Bill of Rights.

Principle 2

All water, wherever it occurs in the water cycle, is a resource common to all, the use of which shall be subject to national control. All water shall have a consistent status in law, irrespective of where it occurs.

Principle 3

There shall be no ownership of water but only a right (for environmental and basic human needs) or an authorisation for its use. Any authorisation to use water in terms of the water law shall not be in perpetuity.

Principle 4

The location of the water resource in relation to land shall not in itself confer preferential rights to usage. The riparian principle shall not apply.

THE WATER CYCLE

Principle 5

In a relatively arid country such as South Africa, it is necessary to recognise the unity of the water cycle and the interdependence of its elements, where evaporation, clouds and rainfall are linked to groundwater, rivers, lakes, wetlands and the sea, and where the basic hydrological unit is the catchment.

Principle 6

The variable, uneven and unpredictable distribution of water in the water cycle should be acknowledged.

WATER RESOURCE MANAGEMENT PRIORITIES

Principle 7

The objective of managing the quantity, quality and reliability of the Nation's water resources is to achieve optimum, long term, environmentally sustainable social and economic benefit for society from their use.

Principle 8

The water required to ensure that all people have access to sufficient water shall be reserved.

Principle 9

The quantity, quality and reliability of water required to maintain the ecological functions on which humans depend shall be reserved so that the human use of water does not individually or cumulatively compromise the long term sustainability of aquatic and associated ecosystems.

Principle 10

The water required to meet the basic human needs referred to in Principle 8 and the needs of the environment shall be identified as “The Reserve” and shall enjoy priority of use by right. The use of water for all other purposes shall be subject to authorisation.

Principle 11

International water resources, specifically shared river systems, shall be managed in a manner that optimises the benefits for all parties in a spirit of mutual co-operation. Allocations agreed for downstream countries shall be respected.

WATER RESOURCE MANAGEMENT APPROACHES

Principle 12

The national Government is the custodian of the Nation’s water resources, as an indivisible national asset. Guided by its duty to promote the public trust, the National Government has ultimate responsibility for, and authority over, water resource management, the equitable allocation and usage of water and the transfer of water between catchments and international water matters.

Principle 13

As custodian of the Nation’s water resources, the National Government shall ensure that the development, apportionment, management and use of those resources is carried out using the criteria of public interest, sustainability, equity and efficiency of use in a manner which reflects its public trust obligations and the value of water to society while ensuring that basic domestic needs, the requirements of the environment and international obligations are met.

Principle 14

Water resources shall be developed, apportioned and managed in such a manner as to enable all user sectors to gain equitable access to the desired quantity, quality and reliability of water. Conservation and other measures to manage demand shall be actively promoted as a preferred option to achieve these objectives.

Principle 15

Water quality and quantity are interdependent and shall be managed in an integrated manner, which is consistent with broader environmental management approaches.

Principle 16

Water quality management options shall include the use of economic incentives and penalties to reduce pollution; and the possibility of irretrievable environmental degradation as a result of pollution shall be prevented.

Principle 17

Water resource development and supply activities shall be managed in a manner which is consistent with the broader national approaches to environmental management.

Principle 18

Since many land uses have a significant impact upon the water cycle, the regulation of land use shall, where appropriate, be used as an instrument to manage water resources within the broader integrated framework of land use management.

Principle 19

Any authorisation to use water shall be given in a timely fashion and in a manner which is clear, secure and predictable in respect of the assurance of availability, extent and duration of use. The purpose for which the water may be used shall not arbitrarily be restricted.

Principle 20

The conditions upon which authorisation is granted to use water shall take into consideration the investment made by the user in developing infrastructure to be able to use the water.

Principle 21

The development and management of water resources shall be carried out in a manner which limits to an acceptable minimum the danger to life and property due to natural or manmade disasters.

WATER INSTITUTIONS

Principle 22

The institutional framework for water management shall as far as possible be simple, pragmatic and understandable. It shall be self-driven and minimise the necessity for State intervention. Administrative decisions shall be subject to appeal.

Principle 23

Responsibility for the development, apportionment and management of available water resources shall, where possible and appropriate, be delegated to a catchment or regional level in such a manner as to enable interested parties to participate.

Principle 24

Beneficiaries of the water management system shall contribute to the cost of its establishment and maintenance on an equitable basis.

WATER SERVICES

Principle 25

The right of all citizens to have access to basic water services (the provision of potable water supply and the removal and disposal of human excreta and waste water) necessary to afford them a healthy environment on an equitable and economically and environmentally sustainable basis shall be supported.

Principle 26

Water services shall be regulated in a manner which is consistent with and supportive of the aims and approaches of the broader local government framework.

Principle 27

While the provision of water services is an activity distinct from the development and management of water resources, water services shall be provided in a manner consistent with the goals of water resource management.

Principle 28

Where water services are provided in a monopoly situation, the interests of the individual consumer and the wider public must be protected and the broad goals of public policy promoted.

APPENDIX 2

DEFINITION OF TERMS

aquifer - underground rock or sand formation into which water flows and from which it can be withdrawn.

basin - see catchment; the two words are used inter-changeably.

beneficial use - the use of water for an economically or socially useful purpose.

“beneficial in the public interest” - see optimum.

catchment - the entire land area from which water flows into a river; catchments can be divided into smaller “sub-catchments” which are usually the area which drains a tributary to the main river or a part of the main river.

DWAF - Department of Water Affairs and Forestry.

environmentally sustainable - see Section 4.2.2.

GEAR- Growth, Employment and Redistribution Strategy.

optimum use - use which achieves the most desirable combination of social, economic and environmental objectives. “Beneficial use in the public interest” is another expression of the same idea.

subsidiarity - delegation of authority to the lowest appropriate level.

water cycle - the natural cycle whereby water falls from clouds onto the land as rain, seeps into "aquifers" underground or drains into rivers and eventually flows to the sea where much of the evaporation which takes the water up into the clouds again occurs.

water resource - the water in the natural water cycle from which we draw the water required to meet human needs.