TOWARDS A JUST SOUTH AFRICA

The Political Economy of Natural Resource Wealth

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Foreword by Minister Ronnie Kasrils

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FOREWORD

by Mr Ronnie Kasrils,
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The essays contained in this publication bring us face-to-face with one of the great paradoxes and challenges of our times. For the better part of two centuries the human society has pursued an industrialisation development strategy that seeks to raise living standards through knowledge creation and technological innovation and thereby free us from the burdens of onerous forms of work. And, without question, technological change, production efficiencies and institutional development have raised the quality of life and material well being of a considerable segment of world society.

Yet, despite extraordinary advances in production and information technologies, we are obliged for many reasons to give increasing attention to some of the fundamental requisites of industrialisation and human survival, namely protecting and managing our natural resource wealth. Two overarching reasons demand that we address the basic environmental issues that underpin our societies. First, our insistence on ignoring the environmental costs of industrialisation over the past centuries has frayed the ecological fabric of our planet so frightfully that productive activities have been disrupted and people displaced to escape deteriorating environmental conditions. Second, political arrangements on national and international levels have often disregarded the importance of distributing wealth equitably so that a staggering portion of humanity lives at the very edge of survival, shrouded in poverty and deprived of viable alternatives and options. Denied access to opportunity and productive assets, over one billion rural poor rely directly on meagre natural resource assets, including land, water, forests and fishing grounds that frequently cannot absorb the demands placed on them.

South Africa has not and cannot escape the consequences of these neglects. As a water scarce country with a highly polluting, energy-intense economy, we face demands to adopt new measures to internalise environmental costs, eliminate profiteering and establish a new rationality for using and distributing natural resource wealth. Moreover, we face the

challenge of providing new social and economic opportunities for millions of South Africans, particularly poor women and rural families, who have been denied access and opportunity over the past decades.

The World Summit on Sustainable Development, held in Johannesburg in 2002, made clear the links between poverty eradication and the drive towards sustainable development. This is a significant challenge facing us in South Africa. At present the unemployment rate in rural areas lies at 34% using an official definition and rises to 52% using an expanded definition. 7 million rural people are still without access to safe, clean water, and 54% still rely on wood for cooking. 41% of households live in traditional dwellings while only 18% have access to basic hygienic living facilities. And over 57% of rural households rely on pensions, grants and remittances as the main source of income. The conditions for millions of people living in rural and peri-urban South Africa require substantive improvement.

As in the past, South Africa's future is intimately bound up with our natural resources. Decisions about the way we use our natural resource wealth, be it gold and diamonds, coal and liquid fuels, wildlife and parks, and land and water, will determine both the sustainability and stability of the society we leave to our progeny. As with few other countries in the world, the South African Bill of Rights is unequivocal in guaranteeing every citizen the right to "an environment that is not harmful to their health and well being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that - (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

Yet, despite the immutable character of those rights, our economy faces very real financial constraints that oblige policy makers and the public to make difficult decisions among competing priorities. Let me highlight a number of such issues that this book brings into focus. Should we be focussing investments on moving away from energy-intensive, highly polluting industries to a more efficient, cleaner economy or should we give

higher priority to using scarce financial resources to extend the electrical grid to poor families and communities? How can Government resources best be used to accelerate redistribution of productive lands to the rural poor? How should the Government and local water users establish fees to cover the real costs of water while ensuring that access to potable water becomes a reality for millions of rural and urban poor? Answers to these and many parallel questions will determine which groups will prosper and have new opportunities and which groups will experience a relative denial of benefits in the future.

In addition to these difficult choices, we must also address international economic pressures that often compete with the urgency of taking care of our internal priorities. As this publication points out, our economy is having to adjust to new economic pressures originating in the global market system that encourage policy makers, among other steps, to privatise State-owned enterprises, restructure labour markets and reform trade policy. These pressures further complicate the variables that must be considered as policy makers chart the future course of our economy. For instance, should priority be given to increasing the competitiveness of commercial farmers in global markets or to raising the efficiency and technical level of small and medium farmers? Should we continue to use more cheaply obtained high sulphur coal and thereby allow our industries to remain competitive on international markets or should we give higher priority to fulfilling obligations of the Kyoto Protocol on climate change? Should we encourage foreign investors to increase their presence in water and energy markets and encourage foreign investment in South African commercial agriculture? And to what degree should the State continue to hold an economic share in these and other sectors of our economy?

This publication provides an extraordinary service to both policy makers and the general public because it highlights the many difficult trade-offs and transitions that our economy must go through in coming years. For example, the essays on energy, water and land bring into focus the considerable gains that have been made since 1994 in fulfilling the mandate of the South Africa Bill of Rights. They also point out many shortcomings to date and thereafter set forth recommendations and policy

changes that should be pursued to further advance compliance with that mandate.

Finally, this publication should help the reader recognise that we are in a period of fundamental change as regards use of and access to our diverse natural resource wealth. There will be, in future, far less opportunity for uncontrolled exploitation of natural resources as there will be far fewer opportunities for users and producers to draw down natural resources without paying a fair price for their use. These are signs of a society moving to a sustainable development path. These are signs of a society that is willing to explain the real costs to society of using water, energy and land and that is committed to ensuring that users pay for their use while protecting the interests and needs of the poor. These are also signs of a society that recognises the injustices of the past and recognises that differential burdens must be placed on different segments of our society so that our recent experience in democracy and social stability can be enjoyed for generations to come.

I close by extending my gratitude to the contributing authors for helping to place the complexities and urgency of questions associated with natural resource wealth into the centre of public debate. I look forward to continuing to play an active role in encouraging that debate in coming years.

by Mr. Ronnie Kasrils,
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Introduction

BY DAVID REED
MARTIN DE WIT

The formal South African economy has its roots in the discovery and exploitation of gold and diamonds at the end of the 19th century. The reliance on raw minerals and a focus on self-sufficiency in agricultural production have always been distinguishing features of the economy. Although the economy has progressively become more diversified towards manufacturing and services, even today, raw materials remain central to the national economy, as reflected, for instance, in the fact that they still account for almost 35% of all export revenues. Yet, despite their centrality to the pre-1994 economy, debate about access to and management of our bountiful wealth in natural resources was frequently subsumed under the broader strategic policies regarding the maintenance of apartheid. Central features of that regime included an access and regulatory system designed to benefit the privileged few, the relegation of South Africa's rural poor to the least productive natural and environmental assets, and a total disregard for the nation's environmental sustainability.

Natural resource sectors are being taken more seriously by policy makers for the simple reason that access to natural resource wealth will fundamentally shape the contours of South African society in the decades to come.

This situation has started to change significantly in recent years. As evidenced by a number of recent policy changes in the area of natural resource management, natural resource sectors are being taken more seriously for the simple reason that access to and use of natural resource wealth will fundamentally shape the contours of South African society in the decades to come. Because of their importance, and notably their centrality to promoting social equity, it is not surprising that changes —sometimes bold and pioneering, other times cautious and uncertain— are transforming the old natural resource management regime. In the space of a few years, natural resource sectors find themselves at the centre of decision-making processes where political, economic, environmental and social ends meet, if not collide.

As these changes are taking hold, the complex dynamic between the economic and political realms of South African society has become very evident. As political arrangements in the post-apartheid period have taken shape, economic structures and systems have tried to adapt to the new rules of the game. Yet, at times, the new rules of the game are not always very clear as business, labour and government

compete to use the evolving institutional arrangements and economic relations to protect their needs and interests. Indeed, such change is not unique or novel to South Africa, particularly in the current global context in which economies around the world are being transformed by neoliberal policies. What is singularly important about the changes taking place in South Africa is how public debate and a fairly open policy-making process are driving the creation of a new natural resource management system at national and local levels. This is unique in many ways because such debate and consensus-building about the role of natural resource wealth have seldom accompanied the structural changes currently being implemented in countries around the globe.

Changes—sometimes bold and pioneering, other times cautious and uncertain—are transforming the old natural resource management regime because of their economic importance and centrality to promoting social equity.

In this regard, let us consider the following. There are three basic dimensions, or factors, that determine how natural resources are to be used in building and sustaining a given society. Firstly, societal objectives establish, implicitly or explicitly, the national development priorities to which natural resource wealth must invariably contribute. Secondly, basic principles, or what economist Tinbergen calls the boundary conditions, establish the terms and conditions under which natural resource wealth should be used in contributing to national development. Third, policy instruments are designed to ensure that natural resource wealth contributes, as determined by society, to societal wellbeing.

In the space of a few years, natural resource sectors find themselves at the centre of decision-making processes where political, economic, environmental and social ends meet,if not collide.

First, as regards establishing **societal objectives**, the government has become increasingly clear regarding the ways in which natural resource wealth must contribute to reconstructing South African society. The overall policy framework was established by the Constitution of the Republic of South Africa, then further articulated by the Reconstruction and Development Programme (RDP) and the Growth, Employment and Redistribution (GEAR) strategy that established the macroeconomic programme deemed necessary to promote a growing and stable economy. Over subsequent years, specific sectoral policies have been developed that identify how the economy and accompanying institutional arrangements, including those pertaining to natural resource sectors such as energy, water, and land, should be used to deliver an improved quality of life for those previously excluded from the benefits of the apartheid-era political

and economic systems.

Secondly, decisions and policies regarding boundary conditions or specific **principles** governing use of natural resource wealth are still in various stages of maturation. In many areas, both principles and institutional arrangements are poorly defined and largely untested. With reason, we can say that this process of clarification and maturation creates a context of uncertainty for many natural resource users. For example, what institutions will be put in place to achieve the principles of equity and the polluter pays principle simultaneously? Will the institutions responsible for ensuring compliance with established principles be empowered to see that policies are actually implemented? Will these principles come at a dangerously high cost to the economy? Who will benefit and who will pay at the end of the day? Finding answers to these questions might take years.

The question of creating and applying effective **instruments** is the area where greatest uncertainty abounds. For example, at the time of writing, the National Treasury is researching ways of using environmental taxes and other market-based approaches to guide natural resource management, specifically on energy, liquid fuels, waste and water. Little is known about the impact of such measures on prices and income in the South African setting. Questions can be raised as to the effectiveness of direct regulation in our country as well. It is well known that government lacks the ability at this stage to monitor and evaluate its natural resource policies. For these reasons, this field of perfecting the best mix of instruments will remain one of active experimentation and learning for years to come.

This publication hopes to make a modest contribution to understanding the evolution of the policy-making process and current directions as regards natural resource wealth with particular focus on water, energy and land. Following a brief historical reference to the development of natural resource policies in South Africa, this work examines the evolution of principles and instruments as regards energy, water and land tenure in the post-apartheid period. Conclusions, for reasons signalled above, have to be viewed as tentative, given the rapidly evolving nature of policies and institutional arrangements covering these

Seldom has such debate and consensus building accompanied structural changes currently being implemented in countries around the globe.

three resources. That said, the assessment of developments regarding energy, water and land tenure begins to provide important lessons by which we can begin to respond to the following questions: Are current policies increasing equal access and opportunities for all resource users? Are the evolving arrangements creating a more just system that reduces opportunity for corruption, violence, exploitation and dishonesty? What role can markets play in supporting fulfilment of societal objectives and in what areas is government intervention required to correct market failures? Are the policies and institutional arrangements placing our society on a path towards more sustainable development, given our natural resource endowment?

As we highlight in the final chapter of this publication, one should not underestimate the value of these experiences and the lessons derived for other countries, both developing and developed, as they struggle to find a proper balance among growth, equity and sustainability in the context of neoliberal economic policy. The global economy is changing at a staggering pace and few countries currently undergoing structural change have taken adequate steps to ensure that their natural resource base will continue to provide the environmental resources and services required by expanding populations in coming decades. The South African experience, driven by the imperative of promoting social equity at the same time that economic reforms are taking hold, provides a unique opportunity to understand the undeniable benefits of using public dialogue and transparent policy-making to determine how natural resource wealth should contribute to national wellbeing.

In closing, we should mention that a considerable amount of initial work on two natural resource sectors covered in this publication, namely energy and water, was carried out under the auspices of the Development Bank of Southern Africa (DBSA), acting on behalf of some 45 national organisations and associations. DBSA's activities were part of multi-national research and policy project implemented by WWF's Macroeconomics Program Office (MPO) that included parallel work in Tanzania, Zambia and Zimbabwe. Copies of DBSA's technical studies can be obtained directly through DBSA. Copies of the WWF publication, *Economic Change, Governance and Natural Resource Wealth: The political economy of change in Southern Africa* (2001) can be obtained through Earthscan.

This publication hopes to contribute to understanding the evolution of the policy—making process and current directions as regards natural resource wealth with particular focus on water, energy and land.

By building on the work embodied in these publications, we hope to extend the public discussion in South Africa about the role of natural resource wealth in constructing a more equitable social order. We also hope that this publication will help bring into focus the decisions and trade-offs that the public and policy-makers alike must weigh as the nation responds to the difficult choices that lie ahead of us as we attempt to work towards an efficient, equitable and sustainable society.

Historical Overview of Institutional and Political Arrangements

BY DAVID REED

INTRODUCTION

The Natives Land Act of 1913 established the terms by which Africans and Europeans were to be geographically segregated in the Union of South Africa. That act obliged the African population of approximately 4 million people, representing roughly two-thirds of the country's inhabitants, to scratch out a living in the native reserves that covered only 7% of the country's landmass (Worden 2000).

The issue of redistribution of natural resource wealth will be central in determining the fortunes of social groups and the prospects for maintaining social stability in coming years.

The Land Act held consequences that went far beyond the establishment of the native reserves, or homelands as they were later called. The act, by rendering impossible the economic and social reproduction of native tribes, obliged the black majority to seek survival as wage labourers in the mines, on white commercial farms, and, later, in urban centres. In essence, that measure created the juridical and institutional foundations by which the coerced, racially defined labour pool of South Africa was created and which, in subsequent decades, would become the economic and political foundations of the apartheid regime. That act also codified the distribution of the country's other natural resource wealth along racial lines, thus reinforcing white control over the water, forests, minerals, and energy sources and leaving the Africans with only those limited and soon depleted resources found within the reserves.

The ascent to political power of the African National Congress (ANC) in 1994 marked the democratisation of political arrangements in South Africa. Since that time, the ANC has become the political axis around which the broader societal and economic changes unfolding in South Africa are organised. Unquestionably, significant inroads have been made in addressing some of the structurally embedded inequities of the apartheid era, including the repeal of the Land Act of 1913. The ANC's Reconstruction and Development Programme (RDP) provided a full articulation of the longer-term societal reforms intended to address the injustices of apartheid. Many of the goals articulated under the RDP, however, were diluted two years later with the introduction of GEAR, the country's macroeconomic strategy that tried to respond to less than favourable external conditions

while also taking into account the limited domestic resources available for investment and social programmes. Moreover, GEAR tried to reflect competing political interests shaping the development of South African society. Specifically, that ANC policy seems to be based on accepting the maintenance of white economic domination in exchange for social stability of the black masses while also encouraging the ascendance of a black economic elite. In this context of competing interests, the issue of redistribution of wealth, particularly of natural resource wealth and the benefits derived therefrom, will be central in determining the fortunes of these different social groups as well as the prospects for maintaining social stability in coming years.

Conflicts of interests continued for decades among sectors of the white economic elite as they sought ways of manipulating the mass of African workers to best serve their particular economic needs.

NATURAL RESOURCE WEALTH UNDER APARTHEID

The Foundations of Inequality

Three events during the first decade and a half of the 20th century established the political and economic structures by which inequalities were structurally embedded in gaining access to and use of the country's natural resources. The first event was the Anglo-Boer War and the subsequent signing of the Peace of Vereeniging in 1902, by which Britain established its military and economic dominance throughout the South African territory. Following the war, instigated in large part by Alfred Milner, British High Commissioner of the Cape Colony, the British moved quickly to reform the ossified Boer government and sclerotic agricultural economy. From that point forth, the Randlords, or the gold and diamond-mining magnates, succeeded in obtaining government support to build infrastructure, reshape customs, reform agricultural

Expansion of the reserve areas grew not from any humanitarian concern but rather from the needs of maintaining a coerced, exploited labour supply for the mines and industrial centres.

services, and modernise municipal government. Those reforms created economic and political conditions under which gold and diamond mining became the foundation of the country's economy for the remainder of the century. They also reinforced the pre-eminence of those extractive industries as the principle mechanisms by which the South Africa economy was integrated into world markets (Cammack 1990; Beinart 1994; Pakenham 1991).

While the Anglo-Boer War succeeded in forging an enlarged South African state and consolidating territorial integrity, it did not create a nation. The political foundations of nationhood were not cemented until 1910 with the passage of the Union of South Africa Act. This act established the political terms under which two Afrikaner republics, Orange Free State and Transvaal, would join the British Empire and federate with the British colonies, Cape and Natal (Pakenham 1991). This second event, the formation of the Union of South Africa, was a negotiated political union in which Boer and Brit united to protect their common economic interests in a land where they were greatly outnumbered by Africans. Despite the creation of a unified parliamentary system, conflicts between the British and Afrikaner politicians and communities ran deep, exploding frequently over language, culture, economic priorities, and relations with the African and Coloured populations. Over the course of the next 50 years, tensions and competition between those two white communities led to the steady rise of Afrikaner nationalism in the South African society. And while the ascent of the National Party to power in 1948 marked the consolidation of Afrikaner political dominance, the institutional and policy foundations of the society-wide system of racial segregation were firmly established by that juncture in South African history.

The third event during this 15-year period was the passing of the Natives Land Act in 1913 that delimited the geographic boundaries in which

Africans could own or lease land. Although the Land Act focused on the land market by prohibiting the lease or purchase by Africans of any land outside the Native reserves, the act was, in its essence, an instrument designed to alter the labour market to support white enterprise. The question yet to be answered was, which sector or sectors of white entrepreneurs were to be the main beneficiaries of a segregated and coerced labour pool, the farming or the mining sector? Farmers, for example, sought to use the act to ensure more African labour for white commercial farms where profits were steadily squeezed by the lack of cheap labour. Hence, during the ensuing thirty years, they succeeded in using the act to accelerate the substitution of wage labour for all forms of tenant farming on white commercial farms, thus further displacing Africans from the fertile lands that they cultivated as sharecroppers and tenants.

Small white farmers, unable to draw on the extended family for labour as Africans could, sought to use the act to eliminate the small African producers whose family farming system proved highly efficient and competitive. For mining companies and later the industrialists, the act represented a mechanism for guaranteeing a steady supply of coerced labour for growing a number of mining, transport, and construction activities on the Rand and along the coast. For the mining and industrial sectors, the act was to serve as a means by which Africans could draw their subsistence from the land and thereby allow the mining companies to pay a sub-economic wage to the tens of thousands of African workers. The act was, in essence, a means of providing a minimum of productive land that would allow for expansion of a hyper-exploitive migrant labour system.

Conflicts of interests continued for decades between these sectors of the white economic elite as they sought ways of manipulating the mass of African workers to best serve their particular economic needs.

By the time the National Party took power in 1948, the new masters of apartheid wasted little time in deepening the control over rural populations and their access to land and natural resources.

Diversification of the Economy

In the context of the racially defined labour market and the white-dominated resource ownership structure, the Union Parliament passed no fewer than 87 acts between 1910 and 1935 to strengthen white commercial farming. Drawing on revenues derived from the mining sector, the

government provided innumerable subsidies through technical assistance, research and extension services, marketing and export credits, and afforestation programmes, ensuring that the capital-intensive white commercial farm would become the primary productive regime in the agricultural sector (Mbogwa *et al.* 1996). One of the central facets of direct subsidisation of white farmers was the construction of an extensive system of irrigation that allowed expansion of white commercial farming in the water scarce country.

The Depression of the 1930s had profound effects on the agricultural sector of the South African economy, particularly in forcing many small white farmers to foreclosure. "Between 1936 and 1951, the largest single source of newly urbanised African people was the white rural sector" (Mbongwa *et al.* 1996). As the new influx of *bywoners,* white tenant farmers, into urban areas prompted relief measures for this new class of white poor, white politicians could not ignore the deepening crisis conditions in the reserves. Ecological degradation, demographic concentration, and growing poverty within the 'scheduled areas' obliged the South African government to expand the designated reserves to 13.7% of the territory through the Native Trust and Land Act of 1936 (Mbongwa

et al. 1996). However, expansion of the reserve areas grew not from any humanitarian concern but rather from the needs of maintaining a coerced, exploited labour supply for the mines and industrial centres. The degraded conditions in these areas, coupled with the unwillingness of the government to invest in improving living and economic conditions therein, left the government little option but to expand the geographic boundaries of the reserves.

Despite the fact that the total share of the African population living in native reserves had dropped to 40% by the time the National Party took over power in 1948, the new masters of apartheid wasted little time in deepening the control over rural populations and their access to land and natural resources. By acts of 1951 (Native Authorities Act), 1959 (Promotion of Bantu Self-Government Act), and 1971 (Bantu Homelands Citizenship Act) the National Party created artificial, ethnically defined Bantustans or homelands to which each African was assigned according to his or her alleged ethnic origin. Those laws not only accentuated divisions among Africans, thereby discouraging political protest, but also gave white authorities the power to send any unwanted individual or unnecessary labourer in urban or mining centres back to the homeland of origin. Through these and numerous parallel measures, the National Party cemented a political alliance between the white corporate structure and working class whites that endured from 1948 to 1994. The privileges and benefits accruing to the white minority were derived, of course, from the maintenance of the coerced labour of the black majority.

During the 1950s, the country followed an import substitution industrialization policy similar to that of other countries in that it sought to expand production of consumer durables and intermediate products.

At the end of the Depression, South Africa was poised to undergo a sustained economic expansion based on a twin strategy of import substitution industrialisation (ISI) and expansion of mineral exports, notably gold. Through this strategy, South African politicians sought to respond to demands for improved living standards from the white population while establishing a stable position in the international economy that would allow for economic diversification and expansion. During the 1950s, the country followed an ISI policy similar to that of other countries in that it sought to expand production of consumer durables and intermediate products. Key to this strategy was the fixed international price

of gold that minimised the fluctuations of South Africa's export earnings. This factor distinguished South Africa's international situation during the post-war era from that of most other primary-commodity exporters. In those countries, growth was repeatedly destabilised by export earnings fluctuations that occurred in response to the business cycle in the industrialised countries. South Africa's stable export earnings were crucial in maintaining long-run growth. As long as the price of gold remained fixed on international markets, South Africa was not penalised for failing to develop a manufacturing sector that was not internationally competitive.

During the 1930s and 40s, the status of the white working class developed along lines very similar to those characterising working classes of the Western economies. An increased proportion of the working class moved into skilled and supervisory positions in the production process, resulting in a steady rise in real wages and the mass consumerism of locally produced durables. Structures of collective bargaining, a social welfare system and very favourable subsidy and consumer credit arrangements all underpinned the social peace within the white community. In this fashion, whites captured the lion's share of the overall productivity gains of the economy. The African working class did obtain some portion of these gains, despite their subordinate position in the labour market, restricted mobility, and denial of legal collective-bargaining power. Strict control at the point of production was complemented by equally severe limits in the consumption sphere. For example, urban Africans, including those from the middle classes, were strictly excluded from the mass consumption 'norms' that applied to whites and, at a later stage, to the Indian and coloured groups. Consumption levels in the urban townships were not significantly different from rural standards.

South Africa's strategy of establishing a stable place in the global economy in the 1960s and 70s through mineral exports, the second phase of its import substitution industrialization, collapsed.

Structural Constraints

As the first phase of the ISI strategy ended, the apartheid government recognised the need to diversify the economy into production of intermediate industrial goods, that is, goods that could be used in production processes as contrasted to final or consumer goods. To this end, the government invested heavily in the energy sector during the late

1960s, for example, expanding the role of Eskom, the enormous parastatal energy corporation, to ensure the provision of cheap energy to the mining and manufacturing sectors. During this period, an industrial-mining-energy complex took form that relied on cheap energy derived preponderantly from ample coal reserves in South African territory. As the new phase of ISI was being implemented, the second pillar of the country's economic strategy, i.e. establishing a stable place in the global economy through mineral exports, collapsed. When the United States abandoned the convertibility of the dollar to gold in 1973, South Africa's major export, gold, began to fluctuate freely on international markets, creating a rising trade deficit and declining foreign exchange reserves. A 12% devaluation of the Rand soon followed. That event soon triggered inflationary pressures, which in turn contributed directly to the outbreak of labour unrest and wage strikes in the mines and industrial centres. Despite wage increases for miners and skilled workers, labour and social unrest persisted, culminating in the outbreak of protests of unparalleled scope in Soweto in 1976. South Africa's economic difficulties deepened with the second oil shock of 1979, followed by United States' monetarist policies that fuelled a global recession in the early 1980s. Shortly thereafter, the price of gold collapsed, deepening the country's balance of payments problems and creating macroeconomic instability that persisted from 1981 to 1986.

The economic contraction and mounting political crisis signalled that the problems facing the economy were not temporary. Macroeconomic strategy had become increasingly geared to repaying foreign debt. The ISI strategy, which had shifted to relatively capital intensive industries including automobiles, chemicals, and steel, had faltered and showed few signs of renewed growth. White commercial farming, becoming increasingly capital intensive, required mounting subsidies to survive. International sanctions against the apartheid regime cut ever more deeply into international market opportunities and denied the mining and industrial sectors much needed capital. Sweeping reforms were needed to reshape the growth model.

Moreover, each period of economic difficulty fuelled further political unrest. Africans, increasingly urbanised during previous decades,

The economic contraction and mounting political crisis of the mid-1980s signalled that the problems facing the economy were not temporary.

As international sanctions against the apartheid regime cut ever more deeply into international market opportunities and denied investors of new capital, sweeping reforms were needed to reshape the country's growth model.

had moved in growing numbers into skilled and semi-skilled jobs. Efforts to constrain wages during economic contractions simply sparked greater militancy in the growing labour movement as Africans responded with demands for wage hikes. Moreover, international economic incentives associated with integration of the world economy exerted additional pressures on the South African economy. For example, while other countries responded to the call to liberalise trade regimes by expanding into global markets, South Africa was straightjacketed by international sanctions. While other countries gained access to international capital, foreign investors dared not break international sanctions imposed on South Africa and other foreign corporations withdrew existing investments from the country.

During the mid- to late 1970s, the National Party, whose power was still derived from a cross-class alliance among whites, adopted increasingly repressive measures as it struggled to contain popular unrest in townships. In response to the alleged "total onslaught" of external communist agitators, the apartheid regime mounted its "total strategy" of political repression (Worden 2000). The economic elites, however, recognised that liberalisation of the economy was necessary to rekindle growth and accepted that, to ensure a steady growth path, some political reforms were required to calm public unrest. Initially, that effort to liberalise parts of the economy consisted of removing price controls and deregulating the labour supply, opening skilled employment to a larger number of blacks, and

removing constraints on urban blacks' ability to own housing and businesses. Political liberalisation included expanding representation and political systems within 'black areas' and extending to 'coloureds' limited political representation in national political institutions. That approach failed largely because the economic and political elite tried to maintain tight control over the liberalisation process and because they underestimated the resolve of the international community in maintaining economic sanctions until the apartheid regime was dismantled.

A second effort to liberalise the economy occurred in the early to mid-1980s. This effort reflected a shift in the economic balance within the corporate elite as Afrikaners increased their presence in dominant industries to acquire relative parity with the English-speaking corporate elite. This consolidation and relative harmonisation of interests in the white economic elite led to changes in the policies of the National Party, which thereafter was more inclined to abandon its cross-class alliance with the poor whites in order to promote new economic policies designed to pull the country out of stagnation. The first priority of that new economic policy was to intensify growth in the manufacturing sector by expanding domestic consumer markets through inclusion of a broader segment of the African population. Expectations that a major policy shift would be announced in the early 1980s were quashed when the State President P.W. Botha, in his famous 'Rubicon address', rejected any political compromise that might lead to majority rule or that might indicate capitulation to international sanctions. International response was immediate: major industrial countries, excepting Great Britain, expanded sanctions to tighten the economic noose around the apartheid regime.

Apartheid's military apparatus protected the regime from ultimate overthrow during the latter half of the 1980s as political turmoil broke out on many fronts across the country. The inability of the white elite to establish links with the emergent black civil society, which comprised rapidly expanding and diversified labour, community, and professional groups, diminished the opportunities for a "democratised" façade for apartheid. Moreover, the growing ties and interdependencies between the black organisations and those of the liberal white civil society created deeper schisms within the ruling National Party.

During the late 1970s, the National Party, whose power was still derived from a cross-class alliance among whites, adopted increasingly repressive measures as it struggled to contain popular unrest in townships.

Harmonization of interests in the white economic elite led the National Party to abandon its cross-class alliance with the poor whites in order to promote economic policies designed to pull the country out of stagnation.

STRUCTURAL REFORMS

Ultimately, a negotiated transition to majority rule was inevitable as the country faced prospects of protracted economic decline and continued political upheaval. The terms of the settlement became clear: in exchange for the ANC's accession to political power, the black majority would accept the white-dominated corporate structure, albeit with assurances of redistribution of opportunities for the black majority. The elements of that negotiated transition, which have been respected in large measure through the beginning of the new millennium, include:

- A policy of national reconciliation based on the redressing of historical injustices of apartheid and recognition of white support, albeit long overdue, for the shift to democracy.

- Provision of basic services, delivery of household and social infrastructure, and creation of employment opportunities for the poor black majority.

- Support for the emergence of key black constituencies, notably for black middle class and urban workers through affirmative action, black economic empowerment, and a new labour regime.

- Recognition that national economic policy is shaped invariably by new forces of the global economy and the economic reforms must facilitate the economy's transition to harmonisation with those external conditions.

- Acceptance of regional responsibilities by which RSA must reward neighbours for the support to end apartheid and must play an economic leadership role in promoting regional development.

Reconstruction and Development Programme (RDP) and GEAR

While political transformation has resulted in significant expansion of participatory political mechanisms and increased public accountability, implementation of structural reforms has proved a far more challenging task. When the ANC adopted the Reconstruction and Development Programme (RDP) in 1994 as the programmatic foundation for building the new South Africa, it implicitly accepted a set of economic policy options that placed addressing the structural inequities embedded in the economy at the forefront of its priorities. To provide housing and social services, to facilitate land redistribution and extend water and energy to the rural populations, to name but a few of its many objectives, the RDP ascribed an activist role to the state (RDP 1994).

Ultimately, a negotiated transition to majority rule was inevitable as the country faced prospects of protracted economic decline and continued political upheaval.

The RDP's policy perspectives quickly came under intense scrutiny and, thereafter, increased pressure from within the ANC and the corporate elite as the very real constraints besetting the economy rose to the fore in 1996. Declining growth rates over the past 30 years, heightened inflationary pressures, dwindling foreign reserves, non-competitive industrial sector, and fiscal imbalances, not to mention the accumulation priorities of the dominant sectors of the economy, obliged the new government to articulate a macroeconomic policy that would not further aggravate current macroeconomic imbalances. Released in 1996 by the Department of Finance, the new strategy, *Growth, Employment and Redistribution: A Macroeconomic Strategy* (GEAR), sought to maintain a more realistic balance between requirements of stimulating economic growth and "redistribution of income and opportunities in favour of the poor" (GEAR 1996). This comprehensive economic reform programme was to be financed strictly using domestic resources without drawing on the resources and conditionalities of the Bretton Woods institutions.

In response to the high expectations generated by the RDP, GEAR sought to find a more realistic balance between the requirements of stimulating economic growth and "redistribution of income and opportunities in favour of the poor."

While the macroeconomic policy has succeeded in correcting some of the country's principal economic imbalances, other areas have not fared well. Most impressive improvements have been registered in the decline of fiscal deficits from 10% to 4% of GDP in 1997/8 and controlling inflation, down to 7% in 1998. Foreign reserves have also increased. In

contrast, however, employment figures have continued to steadily worsen with unemployment at 38% (4.5 million people), and only 30% of the poor working adults holding steady jobs. According to the World Bank, the situation is deteriorating further as reflected in a 5% increase in unemployment between 1995 and 1997. Moreover, "…unemployment is long term (60 percent have never held a job, 67 percent have been looking for more than a year), affects blacks and women most (unemployment among blacks is about 38%, and among women is 47 percent), is most prevalent among the unskilled and young (50 percent are below 30 years old), and higher in rural areas" (World Bank 1999).

In the face of frequent adverse external and internal economic conditions, many of the ambitious goals of the RDP faced being scaled down. One such area was the redistribution of land to the African population in rural areas. Whereas the RDP promised that 30% of arable farmland would be redistributed in 5 years, a 1996 revision of that objective downscaled that figure to 6%. By 2000, as little as 1% of land held by white commercial farmers had been transferred. Yet, on other fronts, particularly in the area of energy distribution and water reforms, considerable progress has been made as the following chapters explain in detail.

The summaries on water, energy and land resources that follow offer a penetrating look into the complexities of promoting social equity, a central part of which involves natural resource wealth, at the same time that the country faces considerable obstacles in fomenting sustained economic growth and job creation.

Energy Policies and Practices

BY JOHANN BASSON

POLICY OBJECTIVES

When the new democratic government took office, initially the Reconstruction and Development Programme (RDP) and later the Growth, Employment and Redistribution (GEAR) strategy became the change drivers for most of the subsequent policy development and change. In the energy sector, these changes were initially comprehensively addressed in the White Paper on Energy Policy that was officially released after an exhaustive and inclusive development and advocacy process in December 1998.

The White Paper lists the following five policy objectives that formed the foundation for the later changes to the energy policy:

- Increasing **access** to affordable energy services, especially for disadvantaged households, small farms and community services.
- Improving energy **governance**, including regulation and sound co-ordination between government departments, bodies and levels of government.
- Stimulating **economic development**, also by means of increased competition in the energy sector, cost reflectivity of tariffs and energy prices. Where subsidisation is required, this should be for sound reasons and be transparent.
- Managing energy-related **environmental and health impacts**, including access to basic energy services for poor households, the inclusion of quantifiable externalities in energy prices, targets for energy-related emissions and creating a balance between using fossil fuels and the maintenance of acceptable environmental requirements.
- Securing the supply of energy through **diversity** by means of increased regional trade and primary energy carriers.

In addition to these policy objectives, the general governmental policies of the restructuring of state assets and the economic empowerment of historically disadvantaged South Africans were very powerful policy change drivers.

Ownership and control of the energy sector

It is clear that a large part of the energy sector is owned and controlled by elements of the public sector (Eskom, local electricity departments, Petronet, CEF, PetroSA, a part of the new gas network). In addition, limited competition exists and extensive regulation is applied.

SECTOR	COMPONENT	OWNERSHIP & CONTROL	REGULATION	COMPETITION
Electricity	Generation (mainly Eskom)	Public	National Electricity Regulator (NER)	None
	Transmission (Eskom)	Public	NER	None
	Distribution (Eskom and more than 300 local authorities)	Public	NER	None
Nuclear energy	Generation (Eskom)	Public	NER and National Nuclear Regulator (safety)	None
Liquid fuels	Oil and gas exploration	Soekor (public) and licensed private companies	Petroleum Agency of SA	Bids for licensing rights, negotiated conditions
	Crude oil purchasing and storage	Private (oil companies) and Central Energy Fund (CEF) (small part of total)	Ministerial policy	Oil companies free to choose their supplier and negotiate prices
	Refining	Private	Minister regulates the selling price of petrol, including the margins of each part of the process	None
	Synthetic liquid fuels	Sasol and PetroSA (re Mossgas)	Minister regulates the selling price of petrol, including the margins of each part of the process	None
	Transport (Petronet pipelines, rail (Spoornet) and private tankers)	Mainly public	None	None, other than private road tankers
	Retailing	Private sector	Collaborative by means of a quota system	Location and service
Natural gas	Transmission	Private (Sasol) and public (iGas via CEF)	National Gas Regulator (not yet in operation)	Not in the first ten years of operation
Coal	Mining and distribution	Private	None (other than safety and rehabilitation)	Private market
Renewable energy	Manufacturing, import, installation, maintenance	Private	NER for electrification contracts, grid electricity supply	Private market

OWNERSHIP AND CONTROL

The aspect of ownership and control of the energy sector is summarised in the table to your left. The term "public" refers to the public sector and "private" to the private sector:

CHANGES IN ENERGY POLICY

In response to the policy objectives, the following major changes have occurred or are in the process of being implemented:

Electricity

Initially the RDP and later the GEAR strategy became the change drivers for most of the subsequent policy development and change.

The new National Electricity Regulator (NER) was appointed in 1995 with a much broader mandate than its predecessor, and with sufficient resources to play a meaningful role in the change process. The NER mainly regulates the monopoly electricity sector by means of licenses to generate and distribute electricity as well as the tariffs that are used. The policy of cost reflectivity led to extensive changes in tariff design, tariff level and the ring fencing of businesses in collecting and submitting data to the NER. Full cost reflectivity, other than as warranted for specific purposes, will be achieved in time. In response to the requirements of the NER, all distributors now apply a common tariff philosophy and cross subsidisation is only at present allowed for low-income households and agriculture. Eskom indicates in their latest pricing plan that an increase of 51% for low-income households and 88% for agriculture would be required to achieve cost reflectivity.

As part of the policy objectives of increased competition and supply energy carrier diversification, the NER is in a position to license private and non-Eskom generation plants, including renewable energy facilities. A small number of independent power producers, mainly facilities owned by local governments, have been licensed.

The NER has in addition published a draft "Integrated Electricity Outlook for South Africa" for comment. The base document was developed by Eskom and analyses the need for electricity to the year 2025

and the least-cost approaches to satisfy the demand. This analysis is based on existing technologies for which costs are available and does not address environmental costs and their implications for decision-making.

As part of the policies of stimulating economic development by increasing organisational efficiency, the restructuring of both the distribution and generation components of the electricity sector have been accepted in principle. Cabinet has approved that the distribution sector be rationalised into six regional distributors and that a distribution holding company be created to oversee/manage the transition from the current dispensation. The benefit of restructuring has been calculated at R5 billion over a ten-year period. Strong opposition against these activities was received from specific stakeholders, mainly the trade unions involved, as they fear job losses and reduced political influence.

A large part of the energy sector is owned and controlled by elements of the public sector.

The Eskom Conversion Act (No 13 of 2001) was promulgated in August 2001 and converts Eskom to a public company with its share capital incorporated in terms of the Companies Act; provision is made for the paying of tax and dividends to shareholders—at present the state. It includes a shareholders compact that addresses its developmental role and the promotion of universal access to and provision of affordable electricity, taking into account cost, sustainability and competitiveness. The first Board of Directors for this company was appointed in July 2002. This vehicle will be used for the following restructuring actions:

As part of the policy objective of increased competition and supply energy carrier diversification, the NER is in a position to license private and non-Eskom generation plants, including renewable energy facilities.

- The creation of competition in generation: The Eskom generation group has been divided into three clusters with ring-fenced accounting systems. These clusters compete internally with one another in the form of a power pool where generation is scheduled on a daily basis by means of price bids on the

previous day. In time, independent power producers will bid and sell their power into the national power pool.

- The privatisation of a part of the generation sector by the sale of some of the power stations to the private sector, with an economic empowerment requirement for previously disadvantaged South Africans.

- The rolling out of the transmission system as an entity that is independent from generation and distribution.

- The merging of all the present electricity distributors in a specific region with the Eskom distribution component and the formation of six Regional Electricity Distributors (REDs). Initially all of the present actions will be housed in the Eskom Holding Company where the REDs will be created. Once fully operational, they will be rolled out in the form of independent companies, owned and controlled by the constituent local authorities and Eskom. An EDI Restructuring Bill is being developed that will provide the framework through which relevant staff, assets, liabilities, rights and obligations will be transferred to the REDs. It is planned that the first RED will be rolled out towards the end of 2003. This process has also met with strong opposition from some local governments, and a case before the Constitutional Court is a distinct possibility as one local government (possibly as a test case for most local governments) is contending that electricity distribution is a function of local government.

Nuclear Energy

During the previous decade, it was decided to discontinue the nuclear enrichment and fuel production programme for economic reasons. Dismantling and decontamination of these plants are nearly complete. The research and development of a medium-scale (100 MW) modular pebble bed nuclear reactor that is inherently safe is in process. Initial investigations have identified that a large international market for this type of technology exists, especially in developing countries where these modular units can be installed close to load centres. An environment impact assessment and a feasibility study are in process. If all the required approvals are obtained a full-scale demonstration is planned near Cape Town, on the site of the present Koeberg nuclear power station. During the past six years, Eskom and three other international shareholders have spent R778 million on this development.

The merging of all the present electricity distributors in a specific region with the Eskom distribution component and six Regional Electricity Distributors (REDs) will be created.

Liquid Fuels

It is generally accepted that the current method of regulating the liquid fuel sector does not sufficiently address the new policy objectives. The White Paper, amongst others, addresses deregulation, the continued availability of liquid fuel products in all parts of the country, the preservation of formal sector employment and retailing activities for small and medium businesses, the prohibition of self-service and of vertical integration, black economic empowerment and the restructuring of the State's involvement in the sector. A draft Bill was circulated in 2001 that would write these activities, excluding deregulation, into law. It also creates a regulator in the Department of Minerals and Energy, specifies product qualities and addresses the role of this sector in rural and regional development. This Bill will enter the Parliamentary process in the near future.

The sector has accepted and signed a formal charter with government as to a black economic empowerment objective of 25% of the equity of the total sector. At the end of 2001, 14% of the sector was owned by previously disadvantaged South Africans. It has been stated a number of times that deregulation cannot take place until this objective has been

During the previous decade, it was decided to discontinue the nuclear enrichment and fuel production programme for economic reasons. Dismantling and decontamination of these plants are nearly complete.

achieved and that 2010 is taken as a target date.

Government controls the price margins of the different parts of the production and marketing chain of mainly petrol, and therefore in effect the retail price. It also uses this process as an efficient tax collection mechanism. This policy is criticised from time to time and a number of task groups have been appointed to investigate those elements that need to be adjusted. Control of the price of paraffin, liquid petroleum gas and even diesel is being discussed.

The public part of this sector has been restructured in terms of the policy objectives as well as the policy of the restructuring of state assets. Soekor, the state crude oil and gas production company, that is mainly producing oil and gas off the east coast, has been merged with Mossgas, the state refiner of offshore gas into liquid fuels. The new company has been given the name of PetroSA that is now an integrated exploration, production and refining company. A new board of directors were appointed. The company will pay dividends to the state. Government has indicated that the company will have to obtain the funding that it requires on the open market. The intention is to increase the reserves of oil for which the company has the production rights to 100 million barrels by 2014.

The exploration licensing and regulatory arm of Soekor has been made an independent government agency, entitled the Petroleum Agency of South Africa. The Agency also has the mandate to actively market exploration licenses, provided specific empowerment objectives are met. A number of licenses have been issued, each with specific negotiated requirements and agreed outputs.

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Natural Gas

South Africa at present has no natural gas infrastructure, other than the conversion of offshore gas into liquid fuels by PetroSA, previously Mossgas. An agreement was reached during the last year to construct a natural gas pipeline from the Pande and Temane gas fields in Mozambique to South Africa. A new gas company, iGas, was created to take care of the government's concerns. Another company, ROMPCO, with shareholding by Sasol, iGas and the Government of Mozambique will construct the pipeline. Although this gas is mainly intended for use by industry, an investigation is in process to establish to what extent it is possible to tap gas for use by rural communities that live close to the pipeline. The purpose is to support and develop micro- and small businesses.

To ensure the orderly development of this new sector a national Gas Act (No 48 of 2001) was promulgated early in 2002. The act provides a national regulatory framework and the appointment of a national regulator. The Act specifically addresses the issue of competition, but states that a moratorium of up to ten years had been given to Sasol in terms of exclusive rights and an agreed pricing structure.

Coal is the cornerstone of the South African energy sector as it supplies about 74% of primary energy and 91% of electricity. Because of the low cost and large resources it is not expected that this situation will change quickly.

Coal

Coal is the cornerstone of the South African energy sector as it supplies about 74% of primary energy and 91% of electricity. Because of the low cost and large resources it is not expected that this situation will change quickly, although it is clear that the environmental implications may in due time have an important impact on this situation. No specific policy changes have occurred in this sector in the recent past.

Renewable energy

Taking into account the extensive availability of solar radiation, the low usage of renewable energy is surprising. The government has recently released a draft White Paper on renewable energy that indicates that the objective is to increase the use of renewable energy from the present 9% of the total (mainly firewood that is used in a way that is not being renewed) to 14% in ten years. A variety of policy instruments may be used to make this possible. These are mainly the creation of a renewable energy fund as well as a number of financial and fiscal measures to support the development of renewable energy and energy efficiency.

A number of small- and medium-scale renewable energy demonstration projects are in process or close to being commissioned. They include solar cooking, solar water pumping, passive dwellings (environmentally sound housing), mini-grid hydro-electricity, wind energy and a planned action programme for solar water heating as supported by the Global Environmental Facility (GEF). The results of these projects will be used in the further development of the policy and will guide decision-making on the expanded use of renewable energy.

Household Energy

Understandably, the largest changes have occurred in this sector. This is also the sector where the policy changes were mainly driven by the equity consideration. The following topics form part of this section:

- **Electrification**: One of the success stories of the electricity sector is the electrification programme that started in the early 1990s and was initially handled as part of the RDP. Up to 2001, Eskom financed these activities with internal funds, in effect via a non-transparent levy on the tariff to all users. More than 3 million houses have since been provided with an electricity connection, mostly by means of a prepayment billing system. The average capital expenditure was about R1200 million per annum. The national level of electrification is about 70%, where the urban ratio is 80% and the rural ratio 50%. The backlog

recently was 3.65 million dwellings, most of them in rural areas in the Eastern Cape, KwaZulu-Natal and Mpumalanga. In 2001/2,336,858 connections were made, compared to the 300,000 planned. During 2002/3, a further 300,000 households, 970 schools and 10 clinics will be electrified. A new process of electrification planning and implementation was introduced in 2001. A National Electrification Programme Management Unit was created in the DME that oversees the national electrification planning process that is at present subcontracted to Eskom. Implementation is handled by local distributors in terms of their annual electrification agreement with the DME. The funding for this programme is now obtained from the fiscus as part of the national budget. An amount of R950 million per annum has been allocated for the next three years. The intention of this process is to ensure that national priorities will determine the allocation and amount of funds.

One of the success stories of the electricity sector is the electrification programme that started in the early 90s and was initially handled as part of the RDP.

■ **Off-grid electrification**: Because of the high cost of electrifying those rural areas with a low housing density and far from the high-voltage grid, it was accepted around 1996 that grid connections to each and every house would be totally uneconomical. Small solar photovoltaic systems, described as solar home systems, can be used for "essential" electricity at a cost roughly similar to the normal grid connection. This supplies the low power needs of lighting, radios and TV. A total of 2000 Solar Home Systems (based on a 50W peak photovoltaic system) were installed in 1999 and a further 4000 in 2000 in the form of a number of pilot projects. This programme is fully integrated with the grid connection programme and uses the same planning system, approach and budget. The regional electricity distributor is responsible for the electrification of permission areas. A number of concessions at the national level were given to specialist contractors for this work. The NER regulates these activities. This programme includes cost-effective supply of conventional forms of energy (paraffin and liquid petroleum

Integrated rural energy centres will be created in all parts of the country if the initial seven pilots that will be opened this year prove to be a success.

gas) and their appliances for the thermal energy needs of the household. It also includes the education of users as to how these systems and different forms of energy should be used.

- ***Integrated energy centres***: These centres will be created in all parts of the country if the initial seven pilots that will be opened this year prove to be a success. A number of private sector concerns, mainly in the petroleum sector, are supporting these pilots. The intention is to provide a one-stop service regarding access to affordable and reliable energy carriers for rural and peri-urban communities. In addition, advice will be given to users and suitable and safe appliances will be sold at reasonable prices. They are also intended to provide an economic push for community development by linking energy sector development with economic development.
- ***Paraffin***: Problems are experienced with the use of paraffin, mainly related to health and safety. These include fires, burns, child-poisoning and indoor air pollution. In order to reduce the cost of paraffin it has been zero rated for value added tax in 2001, and a task group is currently investigating ways and means of ensuring that paraffin is sold at the lowest possible price.
- ***Thermal energy***: There is a need for safe, convenient and affordable forms of thermal energy, even where electricity has been provided. At present coal, firewood and paraffin are mainly used for this purpose. Liquid petroleum gas (LPG) is a better choice as it solves most of the concerns. The main constraint is the lack of distribution channels in rural areas. Where off-grid electricity is provided this infrastructure is provided as part of this programme.

- **Poverty tariff**: Government announced a poverty electricity tariff in 2001. The intention is to provide the first 50 kilowatt-hours of electricity per month free of charge to poor users and to obtain the funds for this purpose from the fiscus. Unfortunately, this type of tariff is difficult to implement by means of the prepayment metering system that supplies most of the low-

consumption consumers. There are a number of alternatives, and to determine the most appropriate method, pilot projects are in place with the intention of arriving at conclusions later this year. The development and approval of a policy and the introduction of the poverty tariff will follow these pilots on a national basis in 2003.

- ***Energy efficiency:*** No real progress has been made with the support of energy efficiency activities in households, especially in low-income households. Many plans exist and some education has taken place, but not much has been achieved other than a successful compact fluorescent lighting (CFL) replacement programme. The largest electricity load peak in houses is the one caused by space heating in cold winter periods in houses with poor thermal performance, mainly the millions without ceilings. No policy for improving this situation exists although many discussions have taken place and an interdepartmental task team on Environmentally Sound Low-Cost Housing was created. A number of demonstration projects have taken place but the results have as yet not been converted into a part of the housing policy.
- ***Health and safety:*** A number of activities are taking place that will in the near future improve the health and safety conditions in especially poor households to a large extent. These include the low-smoke coal programme, the supply of liquid petroleum gas (LPG) and appliances at low cost, safe paraffin appliances and education programmes on the safe use of electricity and other fuels.

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Energy Planning

The DME initiated the development of an Integrated (National) Energy Plan (IEP) in 1999. It has been stated that the first IEP would be released during 2002. In her Budget Vote Speech in May 2002, the Minister indicated that the IEP is a planning tool that is needed to make critical choices and to develop long-range plans about all the energy sources. She stated that:

"*…our IEP projections show that South Africa does not have the luxury of writing off any of our energy sources. For many more years we will be heavily dependent on coal, nuclear and hydrocarbons. All have controversy, both environmental and safety. The use of gas and renewables will increase and both are good environmentally but they have real limitations. We are poised to push renewables much higher. Renewables currently cannot replace or compete with either coal or nuclear. For coal we intend to encourage even greater investments by industry in clean coal technologies. Intensive coal users and producers will in future contribute towards renewable energy investments*".

IMPLICATIONS OF POLICY CHANGES

Extensive progress had been made in many areas. Both market driven (electricity pricing and restructuring) and poverty alleviation (grid and off-grid electrification, poverty tariff, zero rating of paraffin) policies has been introduced or improved.

When all these changes are reviewed, it is clear that extensive progress had been made in many areas. Both market driven (electricity pricing and restructuring) and poverty alleviation (grid and off-grid electrification, poverty tariff, zero rating of paraffin) policies have been introduced or improved. The low level of electricity consumption (average 95 kWh per house per month) and the slow increase over time (2.5% per annum) in low-income houses is a constraint to achieving a number of objectives in the electrification programme, where the cost of the larger household appliances is a problem. Research is in process to develop low-cost appliances but no results will be available for at least a year.

Limited progress was made with energy efficiency, especially in households. The installation of ceilings in both existing and new dwellings will especially improve thermal comfort, reduce energy use and cost and reduce local smoke pollution. In terms of broader energy efficiency activities, it was recently announced that a four-year capacity building project has been started. Danced, the Danish environmental and development agency, funds it. This project also includes renewable energy.

Slow progress is being made in the areas of restructuring, the creation of competition and the involvement of the private sector in the electricity sector. These activities are complex as they are large in the total context, and bring new philosophies to the fore (competition, privatisation) that are ideologically not acceptable for certain stakeholders. More time, discussion and lobbying are required to address these complex issues and taking these

activities one at a time to illustrate that what is being done is correct and that the concerns and fears are unfounded.

Limited progress had been made with the diversification of supply sources. This is mainly because a surplus of production capacity exists at present, especially in electricity. The future natural gas system, of which the groundwork had been laid, will diversify the supply base. The same will happen when hydro-electricity is imported in larger volumes from SADC countries via the Southern African Power Pool when local supplies will become constrained in the second half of this decade.

The recently published draft Integrated Electricity Outlook indicates that the thinking is along the lines of the least internal cost for the electricity sector. The results indicate the recommissioning of mothballed coal plants and thereafter the construction of large coal based power stations. This analysis was based on known technologies for which costs exist and excludes externality costs. An extensive debate on this topic is expected in the near future when a number of workshops will take place.

Energy research and development in the public sector, other than that supported by Eskom, has all but disappeared. Limited capacity therefore exists to address known needs and change direction by this means. In addition, the capacity of government and the availability of dedicated programmes and/or institutions are limited. This is especially the case with some of the "new" issues such as renewable energy, energy efficiency, integrated energy planning and the interaction between the use and production of energy and the physical environment. It is understood that the Minister of Science and Technology has recently announced increased spending on research and development (R&D), including in the field of energy. Unless this activity is adequately corrected, it will certainly hamper the development of Africa-wide energy initiatives, particularly access of energy for the poor.

Social equity is being addressed but is constrained by the factors of a lack of funds (or rather the fact that the available funds are required for higher priority activities), lack of implementation capacity in the "new" areas and the awaiting of results from pilot projects before large-scale implementation can take place.

Slow progress is being made with the increased use of renewable

Limited progress had been made with the diversification of energy supply sources. This is mainly because a surplus of production capacity exists at present, especially electricity.

energy. Many good reasons for this situation exist, mainly the low cost of conventional energy resources and the strong and powerful organisations that produce them with attendant gaps in terms of knowledge, skills, institutions, funds and political power for the new forms of energy. The draft White Paper on renewable energy addresses many of these issues, including the creation of a renewable energy fund. It is clear that investment into the new forms of energy at the national level will be required and the only sources of funding will be the present energy sector and international programmes in order to make some form of progress towards sustainability.

The policy of minimising the cost of electricity to support economic development must therefore be debated, as it tends to support a capital and energy intensive form of economic development. If cost minimisation is no longer an objective a more rational debate about external costs, diversification of sources of supply, the need for local R&D and much stronger support for demand side activities is possible.

The implementation of the new policies are supported by means of new or amended legislation (Gas Act, liquid fuels bill), and appropriate regulators (NER, Eskom Holdings, gas regulator, nuclear safety) that are in many cases ensuring that changes to the new policy are implemented. Gaps still exist in legislation for the large restructuring of the electricity sector and sound national energy planning, but most of these activities are in the planning phase. Many demonstrations are at an advanced stage and will hopefully yield the type of results that will ensure that the right policies are developed and implemented. This will reduce the risk of policy failures at high cost as a result of the wrong assumptions or information.

The government is mainly focusing on the two main dimensions of equity regarding the poor and the economic empowerment of historically disadvantaged South Africans. In a way, these two dimensions are in conflict with each other, although both are obviously important. This typical chicken and egg situation therefore leads to the question where the focus should be in the short term and what the rate of development of each should be. A cursory analysis will indicate that the equity dimension should receive more emphasis than the empowerment dimension, but political realities may dictate differently.

Water Policies and Practices

BY HEATHER MACKAY

BACKGROUND: PRESSURES FOR CHANGE IN THE WATER SECTOR

Following the election of the new government in South Africa in 1994, the philosophy, priorities and approach to management of water resources and allocation of water have been subject to significant change. When Kader Asmal was appointed Minister of Water Affairs and Forestry, one of his first actions was to initiate a process of substantial review and reform of national water policy and legislation. The 1997 White Paper on National Water Policy (DWAF 1997) represented a key milestone in the process of reform of the water sector as a whole, and it will have far-reaching effects on social, economic and environmental issues in South Africa as it is implemented over the next 20 years.

In order to understand the potential effects of the new water policy, it is necessary to understand to some degree the primary driving forces behind the development of the 1997 water policy, since it is these forces, added to the dramatic political changes in the country, which shaped the new policy. Nevertheless, it is also necessary to understand that some changes can take a long time, especially changes in people's attitudes towards water, and the way in which they use and value water in their everyday life. New legislation can be a potent mobilising factor for change at the broad societal level, but shifting the underlying attitudes of individual people may take a generation or more. There are some universal principles related to the way in which western society tends to perceive and deal with water, and these principles may well be active, even in the "new" South African society, for some time to come, though national policy and legislation may have changed significantly. The degree to which the principles are active in the present and the future will determine the long-term success of the implementation of South Africa's new water policy. These principles were first described in relation to water law in the western states of the USA (Holub 1998).

The last twenty years have seen a definite shift in emphasis away from development of new water resources, towards management of existing water resources. This has been partly due to the fact that many of

the prime dam sites in the country have already been developed, but is also due to the increasing inability of the state to continue funding the high capital costs of new water infrastructure and water resources developments for government water schemes, as well as their ongoing operation and maintenance costs.

Prior to 1994, the 1956 Water Act had been the most recent legislation governing the water sector. The 1956 Act still focused very much on development of water resources, and like its predecessors, gave much attention to providing and allocating water for development in the agricultural sector. This was related to the historical political power base of the National Party in the commercial agricultural sector, and possibly also to the policy of discouraging migration away from rural areas to urban areas, which required the creation and maintenance of jobs in rural areas. Water rights were tied to land rights, in that a person who owned land over which water flowed had a right to a share of the "normal flow". In the event of uncertainty, this share would usually be determined by the Department of Water Affairs, and disputes were referred to the Water Court.

Even in 1956, the emerging realities were becoming clear to some people, especially the fact that in future the availability of water, at least in some parts of the country, could become a limiting factor for economic development. Although the mining sector had been and would remain a significant user of water, development and diversification of the manufacturing sector was leading to significant new demands for bulk water supply. Decision-makers were beginning to recognise the impacts of pollution arising from new manufacturing industries and from domestic sewage treatment works in urban areas. Hence new provisions were included in the 1956 Water Act, to address particularly the need to treat wastewater to minimum standards in order to address localised but growing pollution problems, and the requirement to return treated wastewater to surface waters instead of irrigating it on land, so that it could be available for re-use downstream.

The Commission of Enquiry into Water Matters (1970) highlighted many of the issues that were becoming evident during the 1950s and 1960s. The Commission of Enquiry played a pivotal role in

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initiating, through the subsequent creation of the Water Research Commission, and research programmes into system-wide water resources management problems and issues, such as eutrophication, inter-basin transfers and reservoir management. This work underpinned much of the development of knowledge related to aquatic ecosystem management, which in turn is reflected in the 1997 water policy and the 1998 National Water Act, but did little to change the general attitudes of people and policy-makers to water or to the environment, other than to emphasise that "something must be done".

During the early 1980s, data began to become available from the national water quality monitoring networks which indicated worrying long-term trends towards degradation of many primary water resources, despite the publication and implementation of the General and Special Effluent Standards in the 1960s. Population growth and migration to urban areas surpassed most expectations, leading to growing demands for water and sanitation and a need to allocate more water for bulk domestic and industrial supply as opposed to irrigation. In addition, during the late 1980s, the results of ecological research and limited monitoring by members of the scientific community were showing the potentially very damaging effects on aquatic ecosystems of over-abstraction and regulation of rivers. The global trend towards recognition and incorporation of environmental concerns into water resource management added pressure for change.

While some of these realities may have been evident in the 1950s and 1960s to officials and professionals in the water sector, they did not achieve a high priority on the national agenda until 1994. This is attested to by the fact that the portfolio of Water Affairs was generally considered an unimportant cabinet post with little attendant power. Though the Department of Water Affairs responded to growing pressure for change with several significant policy shifts during the 1980s (MacKay 2000), review and reform of water legislation were not possible in the prevailing political climate. Implementation of the policy shifts was hampered to a considerable degree by the lack of supporting legislation.

What very few people predicted, even in the 1980s, was the speed and scope of political changes in South Africa between 1990 and

1994. The provision of basic water supply and sanitation to the majority of South Africa's population, who were without these, and the need for equity in the allocation of water and the benefits of water use, were suddenly placed near the top of the political agenda. Finance would have to be found and water would have to be made available, reallocated from existing uses in some cases, to make progress in achieving the goals related to services and equity. It was abundantly clear that the 1956 Water Act was not adequate to promote rapid delivery on these goals, and so in 1994 a National Panel, broadly representative of all interest groups, was appointed to draw up a set of principles on which new water legislation should be based.

After an extensive process of public consultation, the Water Law Principles (DWAF 1996) were approved by Cabinet in 1996. From a political-economic point of view, the most significant principles were:

- principles 3 and 4, which led to the abolition of riparian water rights and private ownership of water;
- principle 7, which establishes "environmentally sustainable social and economic benefit" as a key criterion for water resources management and allocation decisions;
- principle 16, which provides for the use of economic instruments in the management and control of pollution; and
- principle 24, which states that beneficiaries of the water management system should contribute to the cost of its establishment and maintenance.

The 1997 water policy and its primary implementation mechanisms, the National Water Act (Act 36 of 1998) and the Water Services Act (Act 108 of 1997), were drawn up on the basis of the Water Law Principles, while continuing the process of consultation with stakeholders at both national and grassroots levels. The Water Services Act deals with the regulation of water services providers at the municipal level. The National Water Act addresses the development, management and protection of water

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The vision behind the policy and legislation is captured in the remarkably concise slogan adopted at the time by the Department of Water Affairs and Forestry: "Some for all forever."

resources, and the allocation of water from those resources. The following section describes the key features of the water policy and legislation in more detail, with an emphasis on the provisions of the National Water Act.

FEATURES OF NEW WATER POLICY AND LEGISLATION

At the time of publication in 1997 and 1998, respectively, the national water policy and the National Water Act were considered to be very progressive, and have since been used as models for water sector reform in several other countries. The vision behind the policy and legislation is captured in the succinct slogan adopted at the time by the Department of Water Affairs and Forestry: "Some for all forever". The idea behind this slogan is to recognise that water resources in South Africa are finite and limited ("some"); that their benefits should be accessible to all and shared equitably by all ("for all"); that they can be managed as renewable resources provided their environmental sustainability is not compromised ("forever"). These are the values presented in South Africa's National Constitution, translated into a vision for the water sector.

The most significant features of the new policy and legislation, which are likely to have effects on society and on the economy at national and local levels, are:

- the new, broad definition of water use;
- the provisions for equity of access to water and the benefits of water use;
- the provisions for ensuring ecologically sustainable development and use of water resources;
- new institutional structures and mechanisms for devolving decision-making down to the lowest possible level;
- the introduction of new economic instruments and new water pricing provisions.

Definition of Water Use

Whereas previously water use was commonly taken to mean only abstraction of water for offstream purposes, section 21 of the National Water Act now defines 11 different kinds of water uses requiring authorisation. These include storage and abstraction of water; impeding or diverting the flow of water in a watercourse; discharge of waste or heated effluent either directly to a water resource or in a manner which may impact on a water resource (such as disposal on land); alteration of the bed, banks, course or characteristics of a watercourse; removal and disposal of underground water (primarily related to mine dewatering); recreational use of water resources; stream flow reduction activities; and controlled activities (the last being a potential catch-all which allows additional activities to be included in the definition of water use if necessary).

There are two major implications of this new definition of water use:

- the full range of activities which may impact on the availability, reliability, quality and sustainability of water resources can be managed and controlled, where previously the provisions for control of aspects such as diffuse pollution of water resources, destruction of riparian and instream habitat, and protection of wetlands were not adequate, in water, environmental or agricultural sector legislation;

- a much wider range of water uses can be subjected to economic instruments such as charges, tariffs, incentives and penalties, potentially increasing the recovery of the costs of controlling and administering these diverse water uses and of managing water resources generally. One of the more controversial inclusions in the new Water Act was that of stream flow reduction activities as a water use (which presently only

includes commercial forestry, but which will gradually be expanded to cover other activities that significantly intercept or reduce the flow of water to lower-lying parts of a catchment, e.g. dryland sugar cane farming or small farm dams). The result of this has been the requirement for and somewhat reluctant agreement of the forestry industry to pay for the water that is intercepted by commercial plantations, and that would otherwise have been available as runoff for use by downstream water users. The successful inclusion in legislation of this provision relied upon the ability, established through research studies, to quantify the water used by commercial tree species.

Equity

The previous system of private ownership of water, with water rights being dependent upon land ownership, led to great inequities in access to water, whether to meet basic needs or for subsistence or commercial production, since the vast majority of people were not allowed to own land in South Africa. Surface water resources were frequently over-allocated, as landowners took their "normal share" of the flow, leaving downstream users without water; groundwater use often exceeded the sustainable yield of aquifers as pumping of private water was not controlled. Conflicts arose frequently, and as a result, several Government Water Control Areas were declared in various parts of the country, within which the allocation of surface water and the abstraction of groundwater were more strictly controlled by the Department of Water Affairs and Forestry.

Under the 1998 National Water Act, no private ownership of water is possible: there are only rights (for environmental needs and basic human needs), or authorisations to use water. National government is the custodian of the nation's water resources, and has the ultimate authority and responsibility for management of water resources and allocation of water for any of the 11 categories of water uses. The principle of riparian rights no longer holds, and anyone can apply for an authorisation to use water, regardless of whether they own land or not. This new situation is much more practical and suited to a largely semi-arid country such as

South Africa. Riparian rights were a feature of European law, and were more appropriate in a European situation where water is plentiful and surface flow relatively constant throughout the year.

It is also the responsibility of national government to "reserve" or ensure the provision of sufficient water in water resources to enable service providers to meet basic human needs (currently defined as 25 litres) of safe water per person per day within 200 m of the home) for all people in South Africa. Water for basic human needs has the highest allocation priority in the country, and the access to sufficient water for basic human needs is a right that is guaranteed in the Constitution itself. The 1997 water policy states that water for basic human needs will be provided free of charge, although the cost of the infrastructure to actually deliver the water might be charged for. More recently, a policy of providing free basic water to all people has been implemented, since it was found that many people, especially in rural areas, could not afford even the lifeline tariffs charged for basic services.

Authorisations to use water are granted in terms of the 1998 Act. A water use authorisation can be one of three kinds:

- A Schedule I authorisation, which includes amongst others the taking of water from a water resource to which a person has lawful access, for reasonable domestic use, small gardening (not for

commercial purposes), and watering of livestock (not feedlots). Schedule I use will not attract any charges or tariffs.

- A general authorisation, by which a water use is authorised for a group or groups of water users, as long as certain minimum requirements (currently set out in Regulation 1191 of 1999) are met.

- A water use license, for which an individual water user must apply to the relevant licensing authority, currently the Department of Water Affairs and Forestry. The application is evaluated according to the criteria of section 27 of the National Water Act, in terms of which the licensing authority must consider, amongst other things, the need to redress past inequities due to racial and gender discrimination, the impact of the proposed water use on existing lawful water uses, the socio-economic impact of the proposed water use, the investment made or to be made in respect of the proposed water use, as well as the efficient and beneficial use of water in the public interest (also defined as the most desirable combination of social, economic and environmental objectives: DWAF 1997). From section 27, it is clear that water should preferably be allocated for those uses which are of highest social, economic or environmental value, and which promote equity.

Environmental Sustainability

Apart from basic human needs, the only other right to water remaining in law is the water quantity and quality required to protect aquatic ecosystems "…in order to secure ecologically sustainable development and use" of water resources (NWA 1998). This is commonly known as the ecological Reserve, and together with the water reserved for basic human needs, forms the legally recognised "Reserve", which has the highest allocation priority and which may not be allocated for other uses.

Determination of the water requirements of aquatic ecosystems is a relatively new and still-developing science. Initially, techniques for

The ecological Reserve and all it represents lie at the heart of the sustainability debate.

determination were developed in the USA in response to the need to mitigate the downstream environmental impacts on salmon fisheries of large dams and regulation of rivers for industrial or agricultural purposes, such as hydropower generation and irrigation.

In South Africa, some of the first studies to estimate the "Instream Flow Requirements" (IFR) of aquatic ecosystems were carried out in the late 1980s in order to provide information on the water requirements of rivers in the Kruger National Park (Ferrar 1989; Moore et al. 1991). These aquatic ecosystems were at the downstream end of catchments where there was (and still is) a large demand for water for development, but under previous legislation, the Park itself had no rights to water. Over-abstraction upstream had caused some perennial rivers such as the Letaba and Olifants to cease flowing in the dry season, which was a source of major concern for both public and private sector conservation bodies due to the significant environmental impact of such a change in the flow regime. It was hoped that identification of the water requirements of the Park would help to promote negotiations with landowners and water users upstream, to persuade them to voluntarily release sufficient water for downstream ecosystem needs. At the time, this was justified in terms of the perceived "heritage value" of the Park, the responsibility of Park

management under the National Parks Act (Act 57 of 1976) to maintain pristine ecosystems within the Park boundaries (which the 1956 Water Act and its system of riparian water rights clearly could not support), and the significant ecotourism value of the Park to the region and to the country as a whole.

The passing of the Environment Conservation Act (Act 73 of 1989) and the adoption by the Department of Water Affairs and Forestry of the Integrated Environmental Management process (DEA 1992) required that IFR be determined in environmental impact assessments and mitigation studies for all water resources development projects. Method development for IFR determination continued amongst the scientific community, resulting in the Building Block Methodology (King *et al*. 2001), the DRIFT methodology (Brown & King 2000) and the South African Water Quality Guidelines for Aquatic Ecosystems (DWAF 1996).

The protection of aquatic ecosystems is considered to be an essential factor in maintaining the full suite of ecosystem goods and services, to which all people in the country have a right and on which many people depend for subsistence livelihoods.

By the late 1980s the official policy had shifted from not recognising aquatic ecosystems at all, and considering every drop of water that reached the sea to be wasted, to the view that aquatic ecosystems had legitimate water requirements, but were competing users of water, and could be allocated water provided this did not compromise other water users to any great degree and did not constrain economic development. It took several landmark integrated studies, notably the work on floodplain subsistence agriculture on the Pongolo floodplain downstream of the Pongolapoort Dam (Heeg & Breen 1994), to demonstrate that the suite of ecological goods and services provided by aquatic ecosystems goes far beyond just water for offstream use, and that these goods and services could have significant economic and social value which had not previously been considered in planning and allocation decisions. At a policy level, the link between protection of the aquatic environment and sustainability of water resources was finally made in the early 1990s, was first articulated in the South African Water Quality Guidelines (DWAF 1996), and found its way, after much heated debate, into the Water Law Principles of 1996.

The ecological Reserve and all it represents lie at the heart of the sustainability debate. The protection of aquatic ecosystems is considered to be an essential factor in maintaining the full suite of ecosystem goods and services, to which all people in the country have a

right and on which many people depend for subsistence livelihoods. In order to protect aquatic ecosystems, it is necessary to provide sufficient water, at the right time, distributed in the right flow pattern and of adequate quality, to ensure that key ecological processes such as photosynthesis, reproduction, spawning and migration are sustained, and that biotic communities maintain their health and integrity. The National Water Act of 1998 was one of the first pieces of legislation in the world to provide for this water as a right rather than as an allocation (MacKay *et al*. 2002; MacKay & Moloi 2002).

Sustainable management of natural resources such as water also requires tradeoffs to be made between social, economic and environmental imperatives in order to find an appropriate balance. The Water Act of 1998 makes provision for a national classification system for water resources. In terms of this provision, some water resources may be classified as requiring a high level of protection, because of their value to society, and then the Reserve would be correspondingly more conservative, with additional safety factors built in to its determination. In some water resources, it may be necessary to trade off protection of the ecosystem against short-term imperatives for economic or social development, and these resources might be assigned a lower class and a correspondingly lower Reserve. They would still be afforded protection, but without the additional safety factors. The advantages of a national classification system are that it allows strategic decisions to be taken which recognise the true value of water resources, and that the decisions about tradeoffs are consistent and transparent to all, being encapsulated in the class assigned to a particular water resource.

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These factors led to the inclusion in the 1997 water policy and the 1998 Water Act of quite specific provisions for the establishment of new institutional arrangements for water resources development, management and allocation.

New Institutional Arrangements

Until 1994, water resources management and development functions had been carried out by national government (the Department of Water Affairs and Forestry) through a centralised, bureaucratic system. Although the Department retained, and continues to retain, a significant core of technical expertise, this centralised model was inaccessible to the majority of the population, and did not allow ordinary people to participate effectively in water management decisions. It is one of the cornerstones of the Constitution that people should be able to participate in the decision-making process as and when it affects them. Another important idea that is derived from the Constitution is the subsidiary principle, whereby functions that can be more efficiently and effectively carried out by lower levels of government should be delegated to the lowest appropriate level. In addition, experience from around the world is showing that management of natural resources is only likely to contribute to sustainability of those resources if local people are involved in and take ownership of the development of local solutions and options for resource protection, management and allocation. These factors led to the inclusion in the 1997 water policy and in the 1998 Water Act of quite specific provisions for the establishment of new institutional arrangements for water resources development, management and allocation.

Central government responsibility will be maintained for certain functions, including:

- policy formulation and regulation;
- development and maintenance of a national water resource strategy, which sets out the long-term goals and objectives for water management at the national level;
- joint management of international catchments.

In order to ensure that national interests are balanced with local interests, the Minister will retain the responsibility for: specifying the requirements of the Reserve; specifying international water requirements; specifying the water to be set aside to meet possible future contingencies or for strategic uses of national importance, and authorisation of inter-basin water transfers. The allocation of remaining available water to individual water users can be delegated to lower-level authorities or institutions, such as Catchment Management Agencies.

The country has been divided into 19 Water Management Areas (WMAs), which match the boundaries of major catchment areas. Within each WMA, various institutions can be established through which local water users and stakeholders can participate in water resources management. At the WMA level, Catchment Management Agencies (CMAs) can be formed. These will be statutory bodies, to which certain water resources management responsibilities can be delegated by central government as needed, and to the extent that capacity exists at the WMA level. Each CMA has a governing board, the composition of which is specified in the 1998 Water Act, to ensure representivity of all stakeholders and to prevent control of decision-making by powerful vested interests. Functions which are the responsibility of a CMA or which can be delegated to a CMA include:

- the development of a catchment management strategy, which must be consistent with the national water resource strategy;
- management of water resources and co-ordination of water-related activities of water users and other water management institutions in the WMA;
- setting and collection of water use charges; and
- allocation of water within the limits set by national government.

Water User Associations (WUAs) are co-operative associations of individual water users who have a common interest, such as the irrigation boards established under the 1956 Water Act, which must now be transformed into WUAs. New WUAs may be established for any purpose, but all WUAs fall under the authority of the CMA in whose area they operate, and certain technical or administrative functions may be delegated to them if this furthers the efficiency of water resources management and if technical capacity exists in the WUAs. Both WUAs and CMAs are expected to be self-sufficient financially, covering the costs of their operation from water use charges raised in the WMA, although the Department will support CMAs in their initial establishment and capacity-building phases.

The Water Act also makes provisions for the Minister to establish advisory committees, which can provide local input to decision-making as well as local knowledge and expertise. The Minister can establish international water management institutions to implement international agreements in shared river basins. The question of whether a public water utility or several regional water utilities should be formed to take responsibility for the development, operation and maintenance of major water resources infrastructure (such as inter-basin transfers and large schemes) is still being debated. The Water Tribunal is an independent body, established in October 1998, which can hear and adjudicate appeals against administrative decisions made by the Minister, the Department or other water management institutions. Should a person not be satisfied with the Tribunal's decision, they may still appeal to the

High Court, although there is no appeal against certain decisions such as the class, Reserve or resource quality objectives once these have been set by the Minister.

In terms of the 1998 Act, mechanisms have been provided for overseeing and auditing of the new water management institutions. A proposal must be submitted to the Minister from the stakeholders in a WMA, setting out the proposed functions of the CMA and indicating how the CMA's operation will be funded. Once the CMA has been established, prospective members of the governing board are nominated to represent stakeholder groups. The Minister, taking these nominations into account and with input from an advisory committee, appoints the members of the governing board of the CMA, and may appoint additional members as necessary to achieve appropriate representivity, particularly of previously disadvantaged communities and women. The Water Act provides considerable detail on the criteria for appointment of members of the governing board of a CMA. The CMA is responsible for drawing up a Catchment Management Strategy, which must also be submitted for approval, to ensure that it is consistent with the national water resource strategy. In addition, both CMAs and WUAs must prepare a business plan for approval by the Minister, and must submit annual reports. The intention of these provisions is to ensure transparency and accountability at all levels, and to minimise the possibility of powerful interests driving the water development and allocation agenda in any one WMA.

Economic Instruments ans Water Pricing

Under previous legislation, the pricing of water was inconsistent, and generally reflected neither the real cost of managing water resources and supplying water, nor the scarcity value of raw water. While urban users supplied by a water services provider, such as a municipality or water board, paid for the cost of the infrastructure to deliver the water, the raw water itself was generally drawn from a water resource by a bulk water supplier at a relatively low cost, depending on whether the bulk supply was provided from a government water scheme, a private water scheme, or simply from run-of-river abstraction.

The capital costs of government water schemes, supplying mainly agricultural water users but also some urban bulk water suppliers and industrial users, were financed by the state, and even operation and maintenance costs were often not fully recovered from water users. In 1994, government water schemes accounted for about one-third of all water use in South Africa. In the case of private water schemes, such as irrigation dams financed privately by groups of farmers, or reservoirs built and operated by water boards, the capital and operating costs were recovered in full from users of the schemes, but access to such water was limited to those who paid for it. Run-of-river abstraction by large and small users was not charged for. In contrast, the cost of water to rural households was (and remains) often extremely high, in terms of the time required for women to fetch water each day, or the actual price paid to private water vendors in the rural areas where such vendors operated.

In general, water itself attracted little or no charges, although the costs of the water infrastructure were passed on to water users to a greater or lesser degree, depending on whether the service provider was a private agency or the government. The costs of government's activities related to management of raw water sources, such as administration, pollution control and planning, were funded from the central treasury. The value of water to urban consumers and bulk water users in the agricultural and industrial sectors was very low, which was reflected in the price of water, with the result that water use in these sectors was generally wasteful and economically inefficient. For example, one of the problems associated with the previous system was that irrigation agriculture accounted for nearly 60% of total water use in the country, but contributed only a relatively small proportion of the GDP. This might appear to be inefficient use of a valuable resource, but the water so used does have a social value in maintaining jobs in the agricultural sector.

The increasing complexity and cost of managing water resources, especially as demands grew and water became more scarce, and the need to provide the poorest people in the country with safe, affordable water and sanitation, led to the introduction of far-reaching provisions in the 1998 Water Act for both cost-based and value-based pricing of water.

Water Pricing Principles

The principle behind the pricing policy for water (DWAF 1997) is that people should now pay for water at a rate which reflects its value and scarcity, with the exception of the water required to meet basic human needs, which is a right guaranteed by the Constitution. This principle remains controversial, with some people of the opinion that water is "from God" and should not be paid for, although payment for the water delivery infrastructure is seen as fair.

The total charge on water will be made up of three components:

- A charge to cover the costs of managing the raw water resources: This is a financial charge, calculated for each WMA on the basis of the budgeted costs for management, either by the Department of Water Affairs and Forestry or by a CMA to whom management functions have been delegated.
- A charge for development and use of government waterworks, with the aim of recovering capital costs, operation, maintenance and refurbishment costs and a return on assets (the costs of private water schemes are already fully recovered): This is also a financial charge, calculated separately for each water scheme.

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■ A charge to promote equitable and efficient allocation of water: This is an economic charge, determined by the Minister, or through water trading or through a public auction process, to encourage the allocation of water to either redress inequities or for higher-value uses.

Water Pricing in Practice

The 1997 water policy indicated the need for water and water use to be priced at a level that reflects the true value of water to society. In theory, all of the 11 different water uses should attract charges, with the exception of Schedule I uses and water for the Reserve. In practice, somewhat different approaches will be needed for the different categories of water use.

■ A pricing strategy for abstraction and storage of water and stream flow reduction activities was published in 1999, and is now being implemented (Regulation 1353 of 1999).

■ A strategy for the determination and collection of charges for waste discharge is currently under development, and should be published in 2003. The polluter-pays principle will be applied, in order to encourage minimisation of waste and waste discharges to water resources, and to transfer, as far as is possible and practical, the downstream costs of pollution back to the polluter.

■ Pricing strategies for the other water uses in section 21 of the National Water Act will be developed if they are necessary and can be practically applied.

The component charges which make up the overall water price will vary between the four water user sectors, namely: water services authorities (mostly municipal); industry, mining and energy; agriculture and stream flow reduction activities. The industrial, mining and energy sectors will attract charges for all water resource management activities, while the other sectors will not pay for certain activities (for example, the cost of subsidising alien vegetation control will not be factored into the agricultural water price, while the costs of dam safety control and alien vegetation

control will not be factored into the price paid by the stream flow reduction sector). Prices per unit volume of water may also vary between WMAs, depending on the costs of water resources management and the overall volume of water available for allocation after the Reserve and international requirements have been set aside (NWRS 2002). This approach should ensure that the scarcity and value of water is reflected in local prices.

Cost Recovery and Financial Assistance

The policy is for government to gradually withdraw from the financing, development and operation of large water schemes, except where these would have high social values (for example in supporting emerging farmers), where water resources management would be improved by such development, where the water would support social, disaster mitigation or environmental objectives, or for schemes to meet international obligations. New water resources developments should ideally be financially self-sustaining, and should preferably be financed from the private sector. Nevertheless, capital expenditure on major new government water schemes is expected to be approximately R12 billion over the next 25 years (NWRS 2002).

Initially, full cost recovery was seen as a long-term goal of the 1997 water policy, but it has been recognised that this is unlikely to be achievable in a developing country context, except perhaps in certain industrial sectors. Hence, the purpose of the pricing strategy will be to achieve at least partial cost recovery, and to encourage water conservation practices in all sectors of society. A portion of the funding for the establishment and maintenance of the national water management system will always have to come from the central treasury, in addition to specific provisions for financial assistance or the temporary or permanent waiving of charges.

These provisions include the following:

- Where the raw water to meet basic human needs was always intended to be supplied to water services providers free of charge, the inability of many people to pay for the infrastructure and delivery costs even at the basic human needs level led government to announce, in 2001, a policy of providing free basic water, at the level of 6kl per household per month, aimed at the poorest households.
- Water to meet the ecological Reserve does not attract charges, and in theory, government does not have to "buy back" or pay for the water allocated to meet the ecological Reserve (in contrast to the situation in some countries, e.g. Australia). If water is re-allocated for the purposes of meeting the Reserve, this is considered in law to be an appropriation, and no compensation is payable. In the past, the only way to make more water available for re-allocation was for government to buy up farms with their attached water rights.
- All charges for water provided from government water schemes to emerging farmers will be decreasingly subsidised over a five-year period, to allow water users to absorb the price increases gradually.
- Capital cost subsidies will be made available to emerging farmers who are members of WUAs, for the construction of communal water schemes.
- Limited operational subsidies will be made available to WUAs, which take over the operation and maintenance of government water schemes.

Free Basic Water

The implementation of the free basic water policy began in July 2001. Full implementation will be phased in around the country over the next two to three years, since local government capacity to implement the policy varies: in large metropolitan areas it might be possible to implement more quickly than in municipalities with large rural populations. Currently, approximately 26 million people are benefiting from free basic water (57% of the total population). However, the coverage is only 29% within the poor sector of the population (i.e. those earning less than R800 per month). In some areas, the free basic component supplied is as high as 10kl per month; in other areas it is less than 6kl per month, depending on the capacity of the local authority to supply water in a financially sustainable manner (DWAF 2002).

The idea behind the free basic water policy (which is linked to the free basic electricity initiative) is that the very poorest households should be able to get approximately 6kl of water per household per month free of charge. There are several significant challenges associated with this policy. Firstly, many of the poorest households lack access to any formal water services at all, let alone free basic water, so they will not be able to benefit from the policy until water services are extended to them. This explains why free basic water is easier to implement for consumers who are already receiving and paying for a metered supply. It is critical that implementation of the free basic water policy does not lead to a net decrease in revenue at municipal level, particularly in rural areas, and so slow down the extension of basic services to those people who need them most. Secondly, the financial models for providing free basic water while still maintaining financial sustainability at municipality level will need to be carefully designed and tailored for local conditions. Effective targeting mechanisms will be needed which minimise the exclusion of poor people from the benefits of the policy, but which are administratively cost-effective to apply. Thirdly, the free basic water policy must be integrated with any future basic sanitation policy, since if waterborne sanitation is installed this will have an effect on the amount of water used per household.

Presently, the guidelines for implementation (PDG 2001)

recommend three possible approaches to meeting the challenge:

- use of rising block tariffs, whereby users in the higher block pay enough to subsidise the poorest households; this is in effect an internal cross-subsidy at local level;
- targeted credits, using the equitable share grant from national government or internal cross-subsidisation to cover the costs of providing free basic water;
- service level targeting, whereby free basic water could be provided using lower levels of service to minimise costs of delivery (e.g. yard tanks).

In practice, it is expected that each municipality would employ some mix of these three approaches. In the larger metropolitan areas and those with many non-residential water users, rising block tariffs are likely to be the most cost-effective and sustainable way of providing free basic water. Municipalities with large rural populations or few non-residential consumers would probably have to rely on significantly more input from the equitable share grant distributed by national government. Many rural water supply schemes are operated by the Department of Water Affairs and Forestry: these are being transferred to local government, and the subsidies which were received through central treasury allocations to the Department will be transferred to the equitable share grant.

The success of the free basic water policy will rely on the ability of municipalities to efficiently manage and deliver services. Metering, monitoring, leakage control and effective billing and credit control are essentials. However, management capacity is not adequate around the country, and for the smaller, more rural municipalities, the challenges will be significant. In addition, there is some tension between the Department's new policy for bulk raw water pricing and the free basic water policy, since if the cost of bulk raw water increases significantly from current levels, this could make free basic water financially unsustainable for some municipalities (PDG 2001).

CURRENT STATUS OF IMPLEMENTATION

The National Water Act provides for most aspects to be implemented "in a progressive and phased manner", as soon as is practical, since it was realised during drafting that there would be insufficient financial, administrative and technical capacity in the country to implement new legislation and regulations across South Africa in the short term. Implementation will be phased according to a national programme, which has been set out in the first edition of the National Water Resource Strategy (NWRS 2002). From the time of promulgation of the new act in 1998, most routine activities such as operation and maintenance of bulk supply schemes, collection of water-related information, dam safety control and control of water use have continued, although according to new administrative procedures, particularly for allocation and licensing of water use.

National implementation of new regulatory provisions will be on a priority basis. In those areas where there is already a shortage of water compared to the demand, where water quality is already degraded, where there is an urgent need to reallocate water for equity purposes or a need to proactively protect sensitive water resources, the process of transition to the new water management system will be initiated first. In other areas, routine water management activities will continue, largely unchanged, until much later in the implementation programme.

The transition process will involve registration of all existing lawful (and unlawful) water uses, determination of the Reserve and any international obligations, followed by a general call for compulsory licensing, whereby all water users in a designated catchment area (except those served by water services providers, since the water services provider must hold the water use license) will be required to apply for water use licenses under the new act. All applications will be reviewed on the basis of the section 27 considerations (equity, beneficial use, efficiency), and this is when a process of reallocation of water may commence if necessary. Reallocation will proceed gradually, where if a water resource (such as the Olifants River) is already over-allocated once the Reserve has been

determined, all water users will have their allocations decreased by a pro rata amount each year over a period of several years until total water use decreases to a level equivalent to the available, allocable water. Registration of existing water uses is well advanced in most catchment areas around the country, which will allow for at least the financial components of water use charges to be collected in the present financial year. Pilot scale compulsory licensing has already commenced in the Mhlatuze catchment area. Compulsory licensing in the other priority catchments is expected to commence within the first three years after publication of the National Water Resource Strategy in February 2003, and should be completed within 6 to 9 years thereafter. Compulsory licensing in the remaining catchment areas should be completed within a 20-year period.

Establishment of catchment management agencies is considered to be urgent for the Inkomati, Olifants, Breede, Crocodile West & Marico, and Mvoti to Mzimkulu WMAs (NWRS 2002). In several of these, the process of establishment has been ongoing for the last two to three years, and the proposal to establish a CMA in the Inkomati WMA is about to be finalised. The process of establishing a CMA and appointing the governing board is expected to take two to three years in all cases, followed by a five-year period within which the executive structure of the agency will be developed and the necessary technical capacity built, before functions and powers will be delegated to the CMA.

CHALLENGES AND POTENTIAL FOR SUCCESS

The 1997 water policy contains innovative provisions for addressing questions of sustainable water resources management, water scarcity, social equity and economic development, but there are significant challenges associated with implementation of the policy. The potential impacts of the policy in the wider social and economic context, and likely challenges, are discussed in more detail below.

Water Scarcity, Demand Management and Attitudes Towards Water

All indications are that South Africa will reach the limits of potentially accessible water supplies between 2020 and 2030, after which time the available water per capita will decline as the population continues to increase. The impact of the HIV/AIDS pandemic may delay the need for major water resources developments in certain areas by 10 to 20 years, by slowing down the overall rate of population growth, but over the same time period, climate change is likely to exacerbate water scarcity in most areas of the country (Ashton & Haasbroek 2002). There is an additional problem, which is an artefact of the historical and current use of inappropriate statistical analyses to inform the hydrological basis of water resources management: most water allocation decisions are based on the mean annual runoff. In fact, the statistical distribution of annual flows in a semi-arid country such as South Africa is highly skewed towards the lower flows, so that yield analyses based on the mean annual runoff will always overestimate the amount of water available in a catchment. Median annual runoff, which is almost always less than the mean in this country, is a more accurate indicator of the amount of water generated by rainfall within a catchment.

The prevailing attitude of those people who have access to formal water services, and of many bulk users in industry and agriculture, remains one that sees water as cheap and plentiful, whether water resources are used for abstraction of water or for discharge of waste. The country needs to adopt a culture of water saving through the application of demand management policies. There is, however, an aspect that threatens

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Climate change will probably have a much more profound impact than water policy on the commercial agricultural sector during this period, particularly with respect to dryland agriculture, affecting the balance between rangeland and cropland, with associated impacts on food production and jobs in rural areas.

to some extent the implementation of demand management policies, at least in the domestic sector: South Africa is grappling, more or less successfully, with the challenge of providing basic services to the entire population. Once people's most basic needs for food, water and shelter are met, their quality of life should improve. This improved quality of life, along with more diversity in daily activities as energy is freed up from pursuing basic needs, tends to lead to raised expectations of what constitutes "basic" water supply and sanitation, which in turn may require increased expenditure and more water to meet these expectations (MacKay & Ashton 2002). Hence the problem of overall increasing demand for water is not solely one of increasing population growth, but is compounded by rapidly changing patterns of demand on individual water user and sectoral levels.

The National Water Act provides for regulatory as well as economic instruments to achieve changes in water demand patterns, but there are potential limitations on the effectiveness of both. Government does not have the capacity to generally enforce regulatory measures at the individual water user level, and it is unlikely that municipalities, water services providers and catchment management agencies would ever have such capacity either. Successful water demand management will have to rely on a combination of education and awareness, along with self-regulation on a sectoral basis, encouraged by the use of economic instruments. Education programmes are long-term interventions, which require long-term leadership and commitment from government, and which do not show returns quickly in terms of reduced water demand. Economic instruments can be very effective in promoting water efficiency in the industrial and commercial agricultural sectors, but can only be phased in slowly, to counteract the long-standing effects of artificially low water prices in the past without causing significant negative impacts on the national economy in the short term. Economic instruments are likely to be difficult to apply effectively with regard to domestic consumers, since there is such great economic disparity between different sectors of the South African society (Ashton & Haasbroek 2002), and this situation will not change in the short to medium term. Yet, by 2030 water demand in the domestic sector is expected to grow by more than 200%.

The idea of "virtual water" is emerging as a potentially very important strategy for dealing with water scarcity while still promoting economic development (Allan 2002). Virtual water is the water used to produce a unit of a water-intensive product such as wheat. If wheat can be imported to a water-scarce country, rather than grown locally, then the limited local water resources can be utilised in other sectors to produce higher economic returns. To be successful, however, the virtual water concept requires political and economic stability at a regional level. In theory, the South African water policy supports the application of the virtual water concept. However, in practice the neighbouring SADC countries from whom we might import water-intensive products, such as Zambia, Zimbabwe, Mozambique and Angola, are not yet stable enough to meet our needs with adequate assurance, and will have their own water scarcity problems to address in the coming years as climate change begins to take effect. In addition, the tendency for most post-colonial governments in Africa to insist upon striving for food self-sufficiency is likely to limit the widespread use of virtual water in the SADC region in the medium to long term.

Under pre-1994 governments, much marginal land was opened up for irrigation farming, which was made possible due to the highly subsidised cost of irrigation water from government water schemes.

AGRICULTURE AND THE LAND ISSUE

Commercial Agriculture

In terms of potential reduction in water allocations, increasing input costs and loss of previous rights, the commercial agricultural sector is arguably one of those most significantly affected by the new water policy and legislation. Precisely what the medium- to long-term economic impacts of the water policy will be within this sector is still unclear, since comprehensive economic modelling was not undertaken prior to or during the policy development phase (Rowlston pers. comm.). However, there is considerable potential for water savings and more efficient water use within the sector, especially as regards irrigation, in response to higher water prices and lower water allocations. Savings can be effected not only through use of more efficient technology for application of water on crops (e.g. changing from overhead sprinklers to drip or microjet irrigation, and lining of canals) and implementation of irrigation scheduling practices, but also through changing to more water-efficient crops or crops with a higher cash return. A national strategy for water demand management and water conservation has been prepared, with an associated sectoral strategy for agriculture.

The use of water to irrigate marginal land in the land reform process is questionable, and may in fact contribute to lack of sustainability of some land reform initiatives at the local level.

World grain prices remain artificially low due to domestic agricultural policies in Europe and the USA. The agreements reached at the recent World Summit on Sustainable Development in Johannesburg show little potential for changing this situation. There is a possibility that increased input prices due to increased water costs might affect the viability of irrigated maize and wheat production within South Africa, particularly on marginal land, for both the domestic and export markets. This could have an impact on domestic food security, but the potential impact needs to be quantified to assess whether it would be significant.

One of the arguments against abolishment of riparian rights during the debate around the Water Law Principles of 1996 was the potential negative impact on agricultural land prices if water rights were no longer tied to land. A detailed survey has not been undertaken to identify whether this impact has materialised in the initial stages of water policy

implementation, but indications are that there has been little immediate effect on land prices due to the water policy specifically. During the policy drafting process, discussions were held with major financial institutions. They were comfortable that the maximum period for water use authorisation of forty years was more than sufficient security for lending purposes. In addition, in law a water use license is a license in respect of the land on which the water is used, rather than the individual license applicant (NWA 1998), thus providing additional security.

In general, significant short-term impacts on the agricultural sector as a result of water policy implementation are not expected by the Department of Water Affairs and Forestry (Rowlston pers. comm.), other than enhanced water savings and possibly some decrease in agricultural activity as water use shifts to higher-value sectors such as industry. The policy of government to not support major new irrigation projects means that irrigation water demand nationally is not expected to grow significantly over the next 20 years (Rowlston pers. comm.; NWRS 2002). Climate change will probably have a much more profound impact than water policy on the commercial agricultural sector during this period, particularly with respect to dryland agriculture, affecting the balance between rangeland and cropland, with associated impacts on food production and jobs in rural areas.

Subsistence Agriculture and the Land Reform Process

Currently, basic human needs are defined as 25 litres per person per day or around 6kl per household of 8 people per month. Although this is less than the WHO standard of 50 litres per person per day, it is sufficient water for drinking, cooking and personal hygiene, but might in most cases be insufficient to support irrigation or watering of subsistence crops. Opinions vary about whether water for subsistence agriculture should be included in the basic human needs allocation, and if so, how this could be made financially sustainable. Schedule I (NWA 1998) provides for "reasonable domestic use", which could be considered to include watering of a domestic food garden but which would not be applicable if food were being produced for even small-scale commercial purposes (Schreiner pers.

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South Africa has a history of strong civil society involvement in the movement for social change, but where water is concerned, civil society is not as well organised nor as well informed.

comm.). The issue of the provision and financing of water for subsistence agriculture is likely to be resolved on a case-by-case basis, since no clear policy directives are currently available.

A potential problem area is that of the linkage between water policy and the national land reform process. The linkage at present is relatively loose, with co-operation between the relevant government departments being low-key at best. The present land policy relies on freeing up land for redistribution on a willing-buyer, willing-seller basis. Under pre-1994 governments, much marginal land was opened up for irrigation farming, which was made possible due to the highly subsidised cost of irrigation water from government water schemes. It is this marginal land which is most likely to become available for redistribution first: marginal land requires significant input of fertilisers and other agro-technology to ensure financially viable and sustained yields, which may not be feasible for small farmers who are settled on such land without substantial technical and financial support. The use of water to irrigate marginal land in the land reform process is questionable, and may in fact contribute to lack of sustainability of some land reform initiatives at the local level. In some arid and semi-arid areas, the scarcity of water will make it extremely difficult and expensive to provide some (let alone enough) water to support the land reform process. In such cases, it is arguable whether the water will really generate the intended social and economic benefits in the target communities, or whether these benefits could better be generated by the allocation of water to alternative, higher-value uses.

Governance, Capacity and the Public Trust

The ultimate success of the 1997 water policy is likely to rest not so much on economic and technical issues, but more on the capacity to develop and implement good governance systems. All the necessary tools have been provided in policy and legislation to promote transparency, to ensure that power over the allocation and management of water does not become concentrated in the hands of the political elite, and to ensure that all people of the country have equitable access to water and the benefits that water provides, including improved health and economic development. The

specifications in the National Water Act regarding public consultation on matters of policy and regulation, the provision for a Water Tribunal, and the provisions for the establishment and operation of Catchment Management Agencies are all positive signs of political willingness to implement the policy according to the spirit and intention of both the Water Law Principles and the national Constitution. However, only time will tell how far that willingness extends, since no CMAs are yet in the position where powers and responsibilities could potentially be delegated to them.

Ensuring that government acts in the public trust is the responsibility of civil society, through the formal channels of parliament and through civil society organisations acting in a watchdog role. South Africa has a history of strong civil society involvement in the movement for social change, but where water is concerned, civil society is not as well organised nor as well informed. It will be the task of government to support particularly marginal groups, to ensure that their capacity to interact and participate in water management decision-making is enhanced and that their interests are not prejudiced by those of better-organised, more technically competent consumers, such as the agricultural unions and the industrial sector.

Overall, implementation of the national water policy relies on the vision, understanding and commitment of only a handful of individuals in key positions in the water sector.

Careful attention will need to be paid to financial management and reporting. Presently, CMAs are subject to public financial management procedures, but do not fit easily into the Public Finance Management Act. The status of CMAs must be clarified with the National Treasury, to ascertain how revenue will be collected and disbursed. Until CMAs are established, the Department of Water Affairs and Forestry will collect the revenue from water use charges, and will manage and disburse this revenue through the trading account of the Department. There remains a need to allow for transparent "ring-fencing" of revenues collected via water use charges, so that revenue collected from, say, waste discharge charges, is fed directly back into improving and supporting protection of water resources.

Human resource capacity within government and the CMAs will probably be a critical limiting factor in achieving successful policy implementation. It appears unlikely that policy implementation will be

Freeing up enough water to meet South Africa's needs for the Reserve as well as the needs of users in downstream countries, let alone ecosystems in downstream countries, is likely to involve a long and difficult process of negotiation and planning.

completely successful around the country: what is more likely it that there will be pockets of more or less success, depending on whether a critical mass of technically capable people and resources is available to implement the policy in any single area. At present, the Western Cape appears to have the best potential for success, due to the relative strength of the Western Cape office of the Department of Water Affairs and Forestry, and the strong commitment of the City of Cape Town to sound catchment management and water management practices.

Overall, implementation of the national water policy relies on the vision, understanding and commitment of only a handful of individuals in key positions in the water sector. Capacity building initiatives have not been and do not promise to be successful in addressing this problem in the short to medium term, which makes the policy implementation process very vulnerable.

International Obligations

South Africa has, in the past, signed a number of bilateral and multilateral treaties and accords in relation to river basins that are shared with neighbouring countries. In general, however, South Africa's relative strength has meant that downstream countries have tended to get whatever we left to them after our own internal water demands were met. The National Water Act is unusual in that it specifically mentions the need to meet international obligations, and the policy establishes a hierarchy in which international obligations, in terms of both quantity and quality of water, have a higher allocation priority than local water uses. However, most of our transboundary river systems, such as the Crocodile East, Olifants East, Limpopo, Orange, Pongola/Maputo and Incomati, are heavily utilised already. Freeing up enough water to meet South Africa's needs for the Reserve as well as the needs of users in downstream countries, let alone ecosystems in downstream countries, is likely to involve a long and difficult process of negotiation and planning.

The policy and legislative environments strongly support sustainable, equitable management of water resources in South Africa. However, the willingness to fully implement the provisions of the National Water Act may be reduced, should initial social and economic impacts prove to be negative. There is a need for more quantitative studies of the potential medium- and long-term socio-economic impacts of policy implementation across all related sectors, in order to allow for the water policy to be critically reviewed and refined as implementation proceeds. The same could be said of linked policies in other sectors such as agriculture, environment and local government.

The long term success of the national water policy will depend on strong, sustained and consistent leadership from people who have the breadth of vision and strategic thinking ability to guide the implementation process through the difficult first stages, and through the inevitably uncomfortable workings out of the policy within the water sector and in other related sectors such as agriculture, industry and environment.

Unless the capacity building issue is addressed as a critical national priority in the water sector, chances of long term success in implementation will be very limited.

CONCLUSIONS

The long-term success of the national water policy will depend on strong, sustained and consistent leadership from people who have the breadth of vision and strategic thinking ability to guide the implementation process through the difficult first stages, and through the inevitably uncomfortable workings out of the policy within the water sector and in other related sectors such as agriculture, industry and environment. This is not an issue of transformation in the management levels of the water sector: it is simply that there are far too few people of any colour with the necessary capability, and of the people who remain in the public sector, most are carrying far too much responsibility for their levels of experience and expertise. The quality of decision-making will suffer, even though the decision-making tools themselves, as provided in policy and legislation are more than adequate to the tasks ahead. Unless the capacity building issue is addressed as a critical national priority in the water sector, chances of long-term success in implementation will be very limited. In the short to medium term, working partnerships with private sector organisations such as those in industry, mining and agriculture could help to alleviate the shortage of skills, information, expertise and resources, but this will require radical re-thinking of relationships and ways of doing business between government and the private sector in relation to water. Fully functional CMAs can serve as vehicles for such partnerships, so it is also critical that the CMA establishment process is successful.

Land Policies and Practices

BY EDWARD LAHIFF

INTRODUCTION

Dispossession and forced removal of people under colonialism and apartheid resulted not only in the physical separation of people along racial lines, but also extreme land shortages and insecurity of tenure for much of the South African population. With the transition to democracy, expectations were high that the state would effect a fundamental transformation of property rights that would address the history of dispossession and lay the foundations for the social and economic upliftment of the rural and urban poor. The Constitution of South Africa provided the legal basis for a comprehensive reform of property relations, albeit within a liberal democratic framework that upholds the rights of all property holders.

The Constitution of South Africa provided the legal basis for a comprehensive reform of property relations, albeit within a liberal democratic framework that upholds the rights of all property holders.

Eight years into the transition, however, the underlying problems of landlessness and insecure land rights remain largely unresolved. In line with its neo-liberal macroeconomic policy, the approach of the ANC-led government to land reform has been based on the use of free market mechanisms, tightly controlled public spending and minimal intervention in the economy—the so-called market-based, demand-led approach. To date, this has made little impact on the racially skewed distribution of land in South Africa. Agricultural land outside the former homelands—estimated at 82 million hectares in 2000, and divided into approximately 60,000 farm units—remains overwhelmingly under white ownership. Over 13 million people, the majority of them poverty-stricken, remain crowded into the former homelands, where rights to land are often unclear or contested and the system of land administration is in disarray. On private farms, millions of workers, former workers and their families face continued tenure insecurity and lack of basic facilities, despite the passing of new laws designed to protect them. In the cities and rural towns, informal settlements continue to expand, beset by poverty, crime and a lack of basic services.

A deepening social and economic crisis in the rural areas—fuelled by falling formal sector employment, the ravages of HIV/AIDS and ongoing evictions from farms—is accelerating the movement of people

from 'deep rural' areas to towns and cities throughout the country, while tens of thousands of retrenched urban workers make the journey the other way. The result is a highly diverse pattern of demand for land, for a variety of purposes, a complex pattern of rural-urban interdependency, and numerous 'hot spots' of acute land hunger in both urban and rural areas. While it is not possible to quantify the extent of landlessness or land hunger in the country, the combination of overcrowding, poverty and unemployment in the former homelands, on commercial farms and in the peri-urban townships combine to create enormous social, economic and environmental problems.

Until recently, land reform has not been a high-profile political issue, and has received relatively little public attention from government, opposition political parties, big business, farmers' organisations or trade unions. With the outbreak of farm invasions in Zimbabwe in early 2000, however, considerable media attention was given to the land question in South Africa, and a range of political actors voiced concern about what was perceived as the slow pace of reform (Lahiff & Cousins 2001). Fears of widespread land invasions in South Africa were raised by the Bredell occupation, and by subsequent evictions, in July 2001, as well as growing unrest among homeless people on the Cape Flats. Threatened 'Zimbabwe style' land occupations in rural areas have not materialised, despite the emergence of new civil society groupings such as the Landless Peoples Movement.

In line with its neo-liberal macroeconomic policy, the approach of the ANC-led government to land reform has been based on the use of free market mechanisms, tightly controlled public spending and minimal intervention in the economy—the so-called market-based, demand-led approach.

OUTLINE OF LAND REFORM POLICY

Since 1994, South Africa has embarked on an ambitious programme of land reform, designed to redress the grave racial imbalance in land holding and to secure the land rights of historically disadvantaged people. The *Constitution of the Republic of South Africa* sets out the legal basis for land reform, particularly in the *Bill of Rights*. Section 25, the so-called property clause, allows for expropriation of property for a public purpose or in the public interest, subject to just and equitable compensation. Section 25 (4) states that "…the public interest includes the nation's

commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources". Subsequent sub-sections place a clear responsibility on the state to carry out land and related reforms, and grant specific rights to victims of past discrimination. The framework for land reform policy was set out in the *White Paper on South African Land Policy*, released by the Department of Land Affairs (DLA) in April 1997.

Land reform policy can be divided into three broad headings:

- **restitution**, which provides relief for certain categories of victims of forced dispossession;
- **tenure reform**, intended to secure and extend the tenure rights of the victims of past discriminatory practices; and
- **redistribution**, a system of discretionary grants that assists certain categories of people to acquire land through the market.

Over 13 million people, the majority of them poverty-stricken, remain crowded into the former homelands, where rights to land are often unclear or contested and the system of land administration is in disarray.

The state's land reform programme aims to achieve objectives of both equity (in terms of access to, and ownership of, land) and efficiency (in terms of improved land use and contribution to the rural—and ultimately the national—economy). These objectives, and the preferred means of achieving them, are set out in the 1997 *White Paper* (DLA 1997: 38):

The purpose of the land redistribution programme is to provide the poor with access to land for residential and productive uses, in order to improve their income and quality of life. The programme aims to assist the poor, labour tenants, farm workers, women, as well as emergent farmers. Redistributive land reform will be largely based on willing-buyer willing-seller arrangements. Government will assist in the purchase of land, but will in general not be the buyer or owner.

The following section looks in more detail at the various components of the land reform programme.

IMPLEMENTING LAND REFORM

Restitution: Reclaiming Historical Rights

The legal basis for restitution was created under the *Restitution of Land Rights Act, 1994 (Act 22 of 1994)*, which provided for the restitution of land rights to persons or communities dispossessed under, or for the purposes of furthering the objects of, racially-based discriminatory legislation after 19 June 1913. A Commission on Restitution of Land Rights (CRLR) was established under a Chief Land Claims Commissioner and six Regional Commissioners. A special court, the Land Claims Court, with powers equivalent to those of the High Court, was also established to deal with land claims and other land-related matters. Legally, all restitution claims are against the state, rather than against current landowners. Provision is made for three broad categories of relief for claimants: restoration of the land under claim, granting of alternative land or financial compensation.

The cut-off date for lodgement of restitution claims was 31 December 1998, and the total number of claims lodged is 68,878, including both individual, family and community claims in urban and rural areas. By 31 March 2002, 29,877 claims, representing 56,245 households, had been settled at a total cost of R1.5 billion; a total of 427,337 hectares of land had

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been restored and R938 million paid in financial compensation (CRLR 2002).

Having settled a high proportion of urban claims, mostly by means of cash compensation, the Commission on Restitution of Land Rights is now dealing with the backlog of rural claims, many of them on prime agricultural land. Unlike urban claims, where the actual restoration of land was often not feasible or desired by the claimants, a high proportion of rural claimants are demanding the right to return to their land. This poses major administrative challenges for the Commission, in terms of the purchase of land, resettlement of communities and negotiation of long-term development support. It also raises important political considerations if, as appears increasingly likely, white landowners resist restoration and the commercial agriculture lobby opposes the 'loss' of prime agricultural land. The manner in which such claims are settled—particularly the politically sensitive question of whether to expropriate land in certain circumstances–will have major implications not just for the restitution programme, but also for the whole process of land and agrarian reform in South Africa.

Tenure Reform: Securing Land Rights

Tenure reform is generally taken to mean the protection, or strengthening, of the rights of residents of privately owned farms and state land, together with the reform of the system of communal tenure prevailing in the former homelands. It is the most neglected area of land reform to date, but it has the potential to impact on more people than all other land reform programmes combined.

Almost all the land in the rural areas of the former homelands is still legally owned by the state. These areas are characterised by severe overcrowding and numerous unresolved disputes where rights of one group of land users overlap with those of another. Today the administration of communal land is spread across a range of institutions such as tribal authorities and provincial departments of agriculture, but is in a state of collapse in most areas. There is widespread uncertainty about the validity of documents such as Permission to Occupy (PTO) certificates, the appropriate procedures for transferring land within households and the

legality of leasing or selling rights to use or occupy land. Numerous cases have been reported of development initiatives that are on hold awaiting clarity on ownership of land in the former homelands (Kepe 2001).

Attempts to draft a law for the comprehensive reform of land rights and administration in communal areas were abandoned in mid-1999 in the face of stiff opposition from the traditional leaders. A second attempt began in late 2001, but has yet to be passed into law. The Department of Land Affairs appears eager to effect a one-off mass transfer of land to existing institutions (e.g. tribal authorities or other community groups), with minimal commitment of public resources. Non-governmental voices, however, have warned of the dangers of overlooking countless informal land rights and strengthening the hand of unaccountable local leaders, and have argued for a more gradual approach that would safeguard existing rights and allow for a range of democratic land-holding structures to evolve.

Unlike urban claims, where restoration of land was often not feasible or desired by the claimants, a high proportion of rural claimants are demanding the right to return to their land.

On commercial farms, the Extension of Security of Tenure Act (Act 62 of 1997), or ESTA, has had little success in preventing illegal evictions. In theory, ESTA provides protection from illegal eviction for people who live on rural or peri-urban land with the permission of the owner of that land, regardless of whether they are employed by the landowner or not. While the act makes it more difficult to evict occupiers of farm housing, evictions are still possible, and illegal evictions remain common. ESTA allows farm dwellers to apply for grants for on-farm or off-farm developments (for example, housing), and grants the Minister of Land Affairs powers to expropriate land for such developments, but neither of these measures had been widely used to date. Where grants were provided, it usually involved people moving off farms and into townships rather than granting farm residents agricultural land of their own or secure accommodation on farms where they work.

Almost all land in the rural areas of the former homelands is still legally owned by the state.

One category of farm dwellers, namely labour tenants, has in theory acquired much stronger legal rights. The term labour tenant usually refers to black tenants on white-owned farms, who pay for the use of agricultural land through the provision of labour, as opposed to cash rental. The Land Reform (Labour Tenants) Act, No. 3 of 1996, aims to protect

labour tenants from eviction and gives them the right to acquire ownership of the land that they live on or use. Approximately 20,000 claims have been lodged under the Act, mostly in KwaZulu-Natal and Mpumalanga, of which approximately 5,000 have been settled to date (MALA 2002).

Redistribution: Shifting the Balance of Landholding and Production

With neither tenure reform nor restitution likely to make a substantial contribution to redressing the gross imbalance in landholding in the country, attention has rightly focused on the redistribution programme as the principal means of transferring large areas of land from the privileged minority to the historically oppressed. The legal basis for redistribution is the Provision of Certain Land for Settlement Act, 1993 (Act 126 of 1993), which was amended in 1998 and is now titled the *Provision of Land and Assistance Act, 1993 (Act 126 of 1993)*.

In theory, ESTA provides protection from illegal eviction for people who live on rural or peri-urban land with the permission of the owner of that land, regardless of whether they are employed by the landowner or not.

Redistribution policy has undergone a series of shifts since 1994, but has largely focused on provision of grants to assist suitably qualified applicants to buy land in rural areas, mainly for agricultural purposes but also for residential purposes ('settlement'). Provision of land in urban areas has, to date, largely been pursued by local government under the housing programme, but increasing conflict around land in the large metropolitan areas has persuaded the Department of Land Affairs to work more closely with the Department of Housing, and a new 'Land for Housing' programme is currently in preparation.

The methods chosen by the state to bring about redistribution are largely, although not entirely, based on the operation of the existing land market. Other measures, such as expropriation, are available to the state, but have not been widely used to date. Intended beneficiaries are not generally provided with land by the state. Rather, the state, through grants and other measures, assists people who might otherwise be unable to enter the land market to purchase property of their own—the so-called "willing buyers". This strategy presupposes that the existing land market can deal effectively with what might be expected to be a very substantial transfer of land, and that the intended beneficiaries, even with state assistance, will be able to engage effectively in the market to their ultimate benefit.

Redistribution thus depends largely upon voluntary transactions between willing buyers and willing sellers.

Redistribution to date has largely been achieved through the provision of the Settlement/Land Acquisition Grant (SLAG), a grant of R16,000 supplied to qualifying households with an income of less than R1,500 per month. Since 2001, a new programme, Land Redistribution for Agricultural Development (LRAD), has been introduced with the explicit aim of promoting commercially oriented agriculture. LRAD offers a single, unified grant system, that beneficiaries can access along a sliding scale from R20,000 to R100,000. All beneficiaries must make a contribution, in cash or kind, the size of which will determine the value of the grant for which they qualify. The minimum contribution is R5,000, with which an applicant can obtain a grant worth R20,000. In its approach to land acquisition, LRAD retains the market-based, demand-led approach of previous policies.

The methods chosen by the state to bring about redistribution are largely, although not entirely, based on the operation of the existing land market.

Most redistribution projects have involved groups of applicants pooling their grants to buy formerly white-owned farms for commercial agricultural purposes, although under LRAD there is a move towards smaller, often family-based, groups. Less commonly, groups of farm workers have used the grant to purchase equity shares in existing farming enterprises. Since 2001, state land under the control of national and provincial departments of agriculture has also been made available for purchase. A separate grant, the Grant for the Acquisition of Municipal Commonage, has been made available to municipalities wishing to provide communal land for use by the poor, typically for grazing purposes. By the end of 2001, a total of 834 redistribution projects, in all categories, had been implemented or approved countrywide, involving 96,000 households and 1,006,135 hectares of land (DLA 2001).

In order for land to be acquired on the required scale in areas of high demand, and for the necessary support services to be put in place, it is essential that redistribution is carried out within a system of spatial planning, ideally linked to the Integrated Development Plans of local municipalities.

Limited budgets have certainly limited the impact of redistribution to date, but the inability of the DLA to spend its budgetary allocation in successive years indicates that there are wider problems with the programme. Notably, the method of land acquisition and transfer implied by the 'demand-led' approach means that land must be acquired farm by farm, involving numerous unco-ordinated negotiations between

landowners, buyers and the state. Not only is this time-consuming and complex, it also allows for little or no overall control or co-ordination over the location and sequencing of land transfers. This makes it next to impossible for local government and other support agencies to anticipate future needs and plan accordingly. In order for land to be acquired on the required scale in areas of high demand, and for the necessary support services to be put in place, it is essential that redistribution is carried out within a system of spatial planning, ideally linked to the Integrated Development Plans of local municipalities. Encouraging moves in this direction are already evident in a minority of municipalities, but are likely to be hampered by reliance on the market to provide the necessary land.

Planning for Land Reform: Budgets and Targets

Since its inception, the land reform programme has had a very limited impact in terms of redistribution of land, securing of tenure rights, alleviation of poverty or developing the rural economy.

Since its inception, land reform in South Africa has consistently failed to meet the targets set for the programme by politicians. In large part, this is due to the inadequate budgets provided by government, but shortages of human resources in the relevant state agencies, and overly complex and bureaucratic procedures, have also played their part.

The *Reconstruction and Development Programme* (RDP) of 1994 set a target of redistributing 30% of agricultural land within five years, an objective that never came close to being achieved. Various other targets have been quoted by senior figures over the years, with little or no critical debate or discussion around the question why past targets have not been attained, how new targets will be met or, indeed, how such targets are set in the first place. The official target set by the Minister of Agriculture and Land Affairs under LRAD is again 30% of agricultural land, but the timescale has now trebled to 15 years. This would require an average transfer of 1.69 million hectares per year, at a current price of approximately one billion Rands per year (National Department of Agriculture, 2001).

In reality, the total area of land approved for transfer under the redistribution programme for the entire period 1994 to 2001 was 1,006,135 hectares, just 1.3% of the total commercial agricultural land (DLA, 2001). The most land transferred in any one year was 245,290 hectares, in 2000.

Over the next four years, DLA aims to transfer between 290,004 and 334,762 hectares per annum, still far below the Ministerial target (DLA 2002). The budget for land reform would have to increase approximately three-fold in order to meet the targets set by the political leadership, with corresponding improvements in capacity within DLA. In fact, the land reform component of the DLA budget is set to fall by 12% (in monetary terms) over four years (2001/02 to 2004/05), or 25% in real terms (Mingo 2002). This makes it highly unlikely that there will be any significant improvement in the rate of land redistribution in the foreseeable future.

The land reform success story of the past two years is undoubtedly the improved pace of the restitution programme, in terms of both the number of claims settled and the manner in which outstanding claims are being processed.

CONCLUSION: LAND REFORM NOW AND IN THE FUTURE

Since its inception, the land reform programme has had a very limited impact in terms of redistribution of land, securing of tenure rights, alleviation of poverty or developing the rural economy. While some progress has been made in terms of policy design and implementation strategies, major weaknesses remain in areas such as the slow pace of transfers, acquisition of suitable land in areas of high demand, provision of post-settlement support services and co-operation between government agencies at local, provincial and national levels.

The land reform success story of the past two years is undoubtedly the improved pace of the restitution programme, in terms of both the number of claims settled and the manner in which outstanding claims are being processed. There is also evidence of greater commitment to post-settlement support on the part of Regional Land Claims Commissions and some local government structures. A number of key challenges now face the Commission, of which the greatest is probably financial. Given the large numbers of claims that are approaching settlement, the Commission is likely to exceed its allocated budget for

many years to come. While the shortfall has, to date, been met by emergency reallocations from various sources, the effective processing of the large numbers of claims now approaching settlement will require secure funding on a greatly increased scale.

In contrast to the gains made in restitution, the tenure reform programme has been marked by very slow progress. The chaos around land administration and land rights in the former homelands continues unabated, and government has encountered enormous difficulties in bringing a draft Communal Land Rights Bill even to the point of publication. Major efforts will have to be made to resolve the position of traditional leaders within communal areas and, where necessary, to face down the well-organised lobbying from the chiefs for retention of apartheid-era privileges. Over and above this, the implementation of a comprehensive programme of tenure reform in the communal areas will undoubtedly require a substantial commitment of resources by the state in order to record land rights, resolve disputes, empower communities to both administer and develop their own land, and, where necessary, to provide the additional land that will certainly be required as part of such reform.

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The policies adopted by government have left the structure of the rural economy largely intact and, in the case of liberalisation of agricultural markets and cuts in agricultural support services, have contributed to a climate that is inconducive to emerging, resource-poor farmers.

conditions and livelihood opportunities. This requires an expanded role for district offices of DLA in monitoring conditions on farms and actively intervening with landowners, police and court officials when the rights of occupiers are violated. Beyond the protection of existing rights, however, new ways need to be found to provide development assistance to farm dwellers. Given the high levels of landowner resistance to improving the material condition of farm dwellers, there is a strong case for selective expropriation of land for both residential and productive purposes in farming districts. Again, this will test the limits of market-based land reform and will require both political determination and material support from government.

The particular version of 'demand-led' redistribution pursued by DLA to date has not only failed to meet its political targets, it has also failed to provide land on the necessary scale and in the areas where it is most needed. On the basis of the budgets provided for land reform, and performance to date, it can be safely concluded that the effective aim of the government is a modest transfer of agricultural land—probably no more than 4% in the 15 years from 1994—limited to areas voluntarily released by existing landowners and favouring a small minority of the rural black population, and selected on the basis of their skills, material resources and entrepreneurial attitude. Such an approach is, however, unlikely to meet the needs of the great mass of the rural poor, particularly marginalised groups such as women, youth, the unemployed, the disabled and households affected by HIV/AIDS.

Overall, it may be said that, despite some successes, the South African land reform programme has not to date lived up to its promise to transform land-holding, combat poverty and revitalise the rural economy. The policies adopted by government have left the structure of the rural economy largely intact and, in the case of liberalisation of agricultural markets and cuts in agricultural support services, have contributed to a climate that is not conducive to emerging, resource-poor farmers. If land reform is to meet its wider objectives, new ways will have to be found to transfer land on a substantial scale, and to provide the necessary support services to a much wider class of landowners.

Conclusions and Recommendations

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The **societal objectives** for determining how natural resource wealth is to be used to promote national wellbeing were set with relative clarity in the five years following the 1994 transition of power, and were given further precision thereafter. Such objectives were embedded in the Bill of Rights, translated into the Reconstruction and Development Programme, reflected in GEAR, the nation's macroeconomic strategy, and further clarified in sector-specific acts and policies. Clarity on those societal objectives has allowed policy-makers to shift their attention to determining what **principles** and **instruments** should be established to guide the use of energy, water and land in the construction of a new South Africa.

However, as the three summaries presented above amply illustrate, developing and implementing principles and instruments for these three resources have met with checkered success over the past years. For example, defining principles and instruments for the water sector has been the resource area where the greatest achievements have been registered thus far. The White Paper on National Water Policy (1996) and subsequent Water Law Principles (1996) had been promulgated into law and now form the basis of all policy-making. Development of principles for the use of water, for instance, has reached a level of clarity where primary attention has now shifted to improving specific instruments, notably pricing instruments, and to supporting the creation of appropriate sub-national institutions such as the Water Management Areas and Catchment Management Agencies.

As regards energy, similar clarity has now emerged concerning the principles or boundary conditions that should guide structural change of the energy sector and expansion of energy generation and distribution. Principles for guiding the development of each sub-sector, ranging from electricity and liquid fuels to renewables, have been established and reflect broader objectives of promoting access, improving governance and ensuring environmental quality while promoting growth and diversification. However, more ambitious plans to translate those principles into effective programmes and refine specific instruments have run into problems primarily on the level of resource availability. Given that subsidies from the national budget are required to extend services to the poor, diversify energy sources and

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Of the three resources considered above, it is the land question that poses the most serious challenges to fulfilling the societal objectives agreed upon. It is certain that general principles have been established regarding promoting access and ownership of land; moreover, three specific policy instruments, restitution, redistribution and tenure reform, have been identified to implement societal objectives. As the summary presented above documents, the instruments have fallen far short of delivering the promised outcomes. On one level, the lack of financial resources for implementing the instruments more widely has severely eroded prospects of fulfilling established objectives. Even more fundamental, however, is the political difficulties in pursuing those policies, which may be so high that the government will remain unwilling to promote the agreed-upon instruments. The land issue is testing, and will continue to test, the priorities and commitments of the ANC government with regards to the distribution of this asset on which the wellbeing of millions of rural poor depends.

It is certain that general principles have been established regarding promoting access and ownership of land; moreover, three specific policy instruments, restitution, redistribution and tenure reform, have been identified to implement societal objectives...but those instruments have fallen far short of delivering the desired outcomes.

Below, the authors of the sections on water, energy and land offer specific recommendations that have to be implemented in order to move forward in fulfillment of the societal objectives established during the post-1994 period.

ENERGY

Most of the energy policy changes are well in process, although a few are awaiting the results from pilot projects. The most important policy gaps at this stage are considered to be the following:

- A level playing field for decision-making must be established at the national level by including external costs as shadow costs for all planning and decision-making. If this is not done, decisions on future supply capacity, that will have to be taken in the near future, will favour coal-fired electricity generation. It is recommended that these external costs be implemented immediately for national decision-making purposes. Actual external costing can be implemented progressively over the medium term of say ten years in the form of an environmental tax.

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- Dedicated policies for renewable energy, energy supply diversification and energy efficiency by end users must be developed and implemented, and have to be funded in part by environmental taxes. Failure to do so will result in stagnation of technological developments and hence the continued implementation of existing and "dirty" forms of energy.

- Increased resources and more focused attention from government agencies must be given to integrated energy planning, including for the collection of suitable data and effective communication. Although the management of the health and environmental impacts formed one of the five policy objectives of the White Paper on Energy Policy, no visible progress has been made in this regard. The implications for increased health and environmental costs differentially distributed among the population are clear and disturbing.

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- The poor thermal performance of low-income dwellings and the availability of suitable low-cost appliances must be addressed with urgency. The implications are the continuation of the higher than required expenditure on energy and local air pollution for these low-income households. It is recommended that the policy discussions be accelerated and that an appropriate policy be developed and implemented as soon as possible. This needs to incorporate the actual electricity demand side benefits that need to be established by means of suitable research.

- Greater resources must be directed to providing an integrated supply of appropriate forms of energy, appliances and user education for rural areas. This includes the faster rollout of the solar home system project, the sustainable supply of firewood production and use and the supply of thermal sources of energy and their appliances at low cost.

Dedicated policies for renewable energy, energy supply diversification and energy efficiency by end users must be developed and implemented.

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WATER

The most important issues are:

- The water sector needs to pay attention urgently to the development of capacity: at the operational level, the capacity to further develop and administer the new policy and regulations, and at the strategic level, the capacity to refine and adapt policy as we learn from implementation, or as social, economic and environmental imperatives change over time.

The water sector needs to pay attention urgently to the development of capacity at operational, strategy and policy levels.

- Stronger links need to be made with other sectoral policy processes through better integrated planning at national and provincial levels, in particular with the agriculture, land reform, water services and local government sectors. While the Integrated Development Planning process potentially provides the vehicle through which to achieve this, the capacity to understand and apply the IDP principles correctly is limited.

- Education and awareness programmes, reinforced by appropriate pricing strategies, need to be aggressively pursued to generate an understanding of water scarcity and the value of water. While at school level, there has been significant success with education and awareness, the same cannot be said of society in general.

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- In order to avoid potential conflict and expedite planning and development in shared river basins, equitable trans-boundary agreements should be pursued that encompass shared local development, as well as social and economic objectives.

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- Planning for the impacts of climate change on water availability has not been given sufficient attention at national, provincial and local levels. This needs to be underpinned by reliable scientific information.

- The development and support of management capacity at local

government level will be the key to success and sustainability of water services and the free basic water initiative.

- Public-private partnerships between government and industry, beyond those associated with the delivery of water services, would help to support water resources management functions through provision of capacity and data. Partnership approaches should promote self-regulation on a sectoral basis, to ease the administrative burden on under-resourced regulatory agencies.

As stated above, the South African land reform programme has not lived up to its promise to transform land-holding, combat poverty and revitalise the rural economy. The cautious and conservative approach taken by the South African government since 1994 is unlikely to achieve these objectives within the foreseeable future. Land reform inevitably raises fundamental issues of economic political power, and there is no historical precedent anywhere in the world for a consensual, market-based land reform of the kind being attempted in South Africa. The very limited potential of the current policy raises the question of what might be the consequences of perpetuating the present (or even deteriorating) social and economic conditions in the rural areas.

The South African land reform programme has not lived up to its promise to transform land-holding, combat poverty and revitalise the rural economy.

In order to avoid an escalation of rural conflict, a number of policy changes can be recommended, all within the current constitutional framework. These can be divided into three broad categories—provision of land, agrarian reform and an increase in budgets. It is not suggested that the state must take it upon itself to provide all of these on its own, but there is an unavoidable duty on the state to use its authority and resources to ensure that these objectives are achieved.

Provision of Land

Provision of land on a large scale, within a reasonable timeframe, will require a specific, centrally co-ordinated strategy for land acquisition, that goes beyond the limits of the 'willing-seller, willing-buyer' approach. Innovative ways will have to be found to facilitate the transfer of substantial areas of land in places of highest demand and in parcels that meet the needs of a variety of land users. In addition, much more effective means have to be found to protect people's rights to land that they already occupy, both on commercial farms and in the former homelands.

Large-scale transfers of land will require much greater involvement than hitherto by a range of actors, including provincial and local government, landowners, non-governmental organisations and landless people themselves. It will require a more interventionist approach

by the state, both in the acquisition of land and in the design of viable land-use projects. Such an interventionist approach could involve the state in earmarking land in areas of greatest need, negotiating with local landowners for an orderly transfer of land, with appropriate compensation, and acquiring sequestered properties from the Land Bank and other financial institutions. This does not necessarily require expropriation, but the failure to consider the use of expropriation to further the ends of redistribution ensures the perpetuation of the current piece-meal approach to land acquisition and rules out the co-ordinated approach to development and resettlement that is so urgently needed.

Specific measures will also be required to provide land for particular categories of users. Farm dwellers may require expropriation of existing dwellings and additional agricultural land on the farms on which they reside. Residents of the former homelands will require access to state land within and around the homelands, and to private farms in adjoining areas. Indeed, there is a strong argument for the systematic purchasing of all suitable farms adjoining densely populated areas. In peri-urban areas, there is a strong argument for the expansion of the municipal commonage programme (currently restricted to just a few of the more rural provinces), in order to give township residents access to small garden plots or grazing land on a rental basis. Where necessary, the state must also be prepared to subdivide acquired farms into appropriately sized parcels, something that has not featured in policy to date. Finally, the state should reduce the highly complex processes of beneficiary selection and project planning, and its insistence on commercially oriented agriculture. Land should be made easily available to a wide range of users, including subsistence producers, and not only those able to come up with a 'business plan'.

Agrarian reform

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In order for land reform to result in sustainable livelihoods for the mass of the rural poor, provision of land will have to be supported by a wide-ranging programme of agrarian reform. This should address key areas such as access to inputs, restructuring of produce markets, agricultural extension services and training, provision of transport and ploughing services, provision of credit, development of rural infrastructure and support to farmers organisations and co-operatives. Such a range of reforms cannot be brought about through the free market alone, and will therefore require a greater degree of state intervention, and investment in the economy than has been the case since 1994. Ways must also be found of pressuring the private sector to redirect resources towards previously neglected areas, and to empower farmers organisations and emerging black entrepreneurs to run their own services. Such intervention must include direct support to small farmers—in the form of subsidised credit and ploughing services—and cannot be expected to leave the established structures of the broader agro-economy untouched. This will require a degree of political will, and a reversal of free-market ideology, that is not currently in evidence. Some priority areas can be defined. These should be:

- reversal of the recent cuts in agricultural extension services inside and outside the former homelands;
- support to rural entrepreneurs wishing to provide mechanical services;
- access to irrigation water and infrastructure at below market rates (at least for a limited period);
- wider availability of credit at reduced rates; and
- restructuring of the large, monopolistic agri-businesses in order to meet the needs of small-scale farmers in previously neglected areas.

International experience shows that the small-scale agricultural sector is closely linked to the wider rural economy in terms of combining on-farm and off-farm employment, and in the exchange of goods and services. A successful agrarian reform will therefore require a substantial, national programme of rural development—something that has been entirely lacking in government policy to date.

Increased Budgets

The current annual budget for the Department of Land Affairs is in the order of one billion Rand, and the amount available for land redistribution and tenure reform combined is approximately one-third of this. A trebling of the DLA budget would amount to approximately one percent of the current non-interest annual budget of the South African government. Such an amount could possibly be found within the national budget—say by a diversion of part of the defense budget—and, over a period of perhaps ten years, could make an enormous impact on the acquisition and transfer of land. Such an increase, however, would only make sense if accompanied by the other measures outlined above. Cutting the compensation paid to landowners—from market price to agronomic (productive) value—which would be possible within the current constitutional framework, could substantially reduce the overall cost of redistributing land. Alternative financing strategies, such as a land tax, should also be explored if sufficient finance is not available from general revenues.

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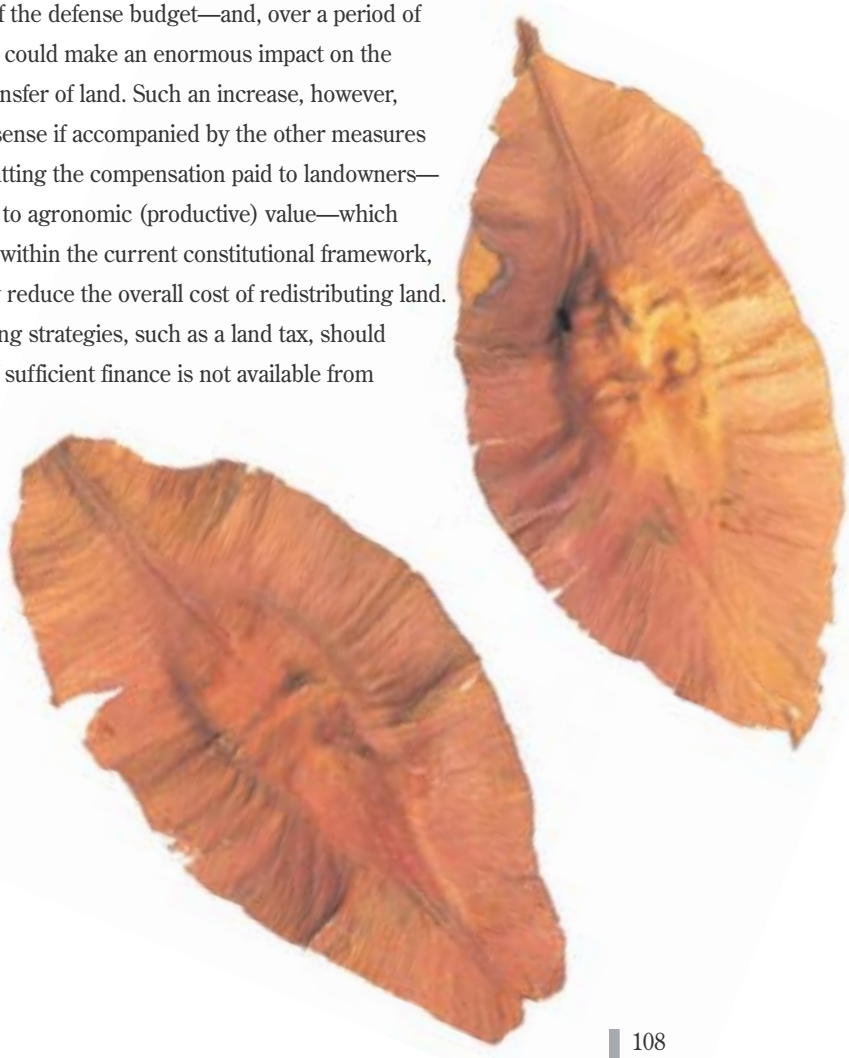

FINAL CONSIDERATIONS

Policy Choices and Trade-offs

The prevailing public consensus has affirmed the criteria of equity, sustainability, and efficiency as those standards by which policies and instrumentalities must be designed in building a new social order. Indeed, the century-long experience of segregation and coercion demonstrates all too clearly the dead-end character of a government, economy, and social order that do not embrace and use those criteria in a dynamic, creative manner.

Despite agreement on and explicit use of those criteria, South African policy-makers have, nonetheless, a range of options from which they can choose as regards ways of strengthening particular social and economic groups in South African society as they implement their policy prescriptions. At this time, the essence of such policy decisions and trade-offs pertain to how the ruling party will try to expand or curtail the influence of major social and economic groups in South Africa, among which are included the white corporate elite, the black majority, and the emergent black economic elite. For example, rekindling growth and increasing internal and international competitiveness is the white corporate elite's primary concern at this time, particularly in light of anaemic growth rates and adverse external economic conditions that have undermined profitability in many economic sectors for an extended period of time. Thus, as long as political and economic reforms contribute to stimulating economic growth, a working partnership among the economic elite, the ANC, and the black majority can prevail and thereby contribute to social stability. Further, to the degree that redistributing resources and providing opportunities to the black majority contribute directly to strengthening internal demand and stimulating production over a sustained period of time, prospects for social peace can be reinforced.

As documented in the above analyses, most of the policy instruments currently being designed for energy and water encourage co-operation among these basic social groups in South African society. The considerable progress being made in designing policies and

instrumentalities for these two resources should be considered to be a reflection of the complementarity of these social groups' interests at this particular time. Extending access of the rural and urban poor to energy grids provides benefits for all sectors of society, despite possible differential pricing regimes and burdens. Moreover, as expansion of the liquid fuels and other energy sub-sectors as required by law could provide economic opportunities for the emergent black economic elite, redistribution of the currently concentrated economic wealth in this sector is not required and hence political opposition remains muted. Provision of water services to the black majority is likewise a proposal that will bring benefits to many groups in South African society, including to corporate interests. The difficult trade-offs in the redistribution of water access currently taking place are primarily a response to unsustainable policies formulated in past decades. Corrections now made clearly benefit the water-scarce country as a whole, despite specific sectoral dislocations and adjustments that must be made. It is the land question that brings into focus the divergence of interests among those three constituencies. White commercial farmers look critically at further efforts to redistribute land to the landless African poor; concomitantly, traditional homelands leaders, seeking to protect apartheid-era privileges, oppose tenure reforms and land redistribution. In favour of accelerated and expanded land redistribution are, of course, the millions of poor Africans, though still weakly organised and largely underrepresented, who are unable to survive on their current land and who cannot find employment in urban areas. Protecting the interests of the rural poor also requires a far more extensive investment programme in infrastructure, credit, technology and extension services that will accompany land redistribution initiatives.

While the emergent black economic elite may have no direct or tangible stake in the agricultural sector, its interests are, nonetheless, bound up with basic policy directions regarding land and agricultural development. The emerging elite's basic interest is tied to the fact that investing scarce financial resources to address the needs of the rural poor signifies reducing the resources available to create opportunities for the

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In virtually all other countries, however, the central role of overarching societal objectives in shaping the outcome of neoliberal policies has largely been left aside.

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black elite in other economic sectors. Strengthening the black economic elite requires considerable investment resources channelled through subsidies and investment opportunities of many kinds and provided over an extended period of time. Hence, decisions taken regarding the future access to land and investment resources in rural areas will have considerable consequences for key constituencies of the ANC and opposition parties for years to come.

The playing out of decisions regarding these natural resource sectors will reveal the longer strategic interests and economic blueprint of the governing party. Are the political leaders of the ANC willing to sacrifice the needs of the rural poor for the interests of pursuing economic designs for themselves and their close allies that do not figure explicitly in the programmes of the RDP? To what degree do those designs reinforce or diminish the dominance of the white corporate sector? And, to what degree do those plans require continued sacrifices for the poor black majority in coming years? From these questions flows the following: how long will the poor black majority be willing to absorb such sacrifices? Answers to all these questions will be years in coming but the deepening of economic difficulties may bring these difficult decisions more sharply into focus in the near future.

Lessons Pertinent to Taming the Neoliberal Model

While this publication has focused on the dynamics internal to South Africa as regards determining how natural resource wealth will contribute to the country's development, the reader should keep in mind that parallel processes are occurring throughout the world as neoliberal economic policies take hold in countries both North and South. In virtually all other countries, however, the central role of overarching societal objectives in shaping the outcome of neoliberal policies has largely been left aside. Instead, what has transpired in most countries is that the basic economic principles of the neoliberal regime—including privatisation, market liberalisation, opening borders to the flow of international capital, and export-led growth—have become the determinants of national economic policy. Consequently, other societal concerns and needs are subordinated to the pursuit of general tenets of what has now become neoliberal economic orthodoxy. Gone from the national dialogue is the basic question of how will trade liberalisation, privatisation and the diminished role of the state contribute to our national development process and our priorities?

Similarly absent is the question of whether expanded trade and privatisation will protect the nation's environmental resources and promote social equity? Instead of posing questions such as these, most governments are required by international financial institutions to demonstrate how far

As other countries restructured in conformity with the tenets of neoliberal economics, the people and government of South Africa can ask and demand responses to the question as to how such policies will contribute to the fulfillment of the societal objectives agreed to by all sectors of the South African society.

they have gone in complying with the implementation of strictures of the neoliberal model as a requisite for accessing capital markets.

Such is the case with neighbouring countries to the north, each highly dependent on natural resource wealth, that have undergone structural reforms over the past decades under the expectation that neoliberal policies would improve national productivity and generate more wealth for national development purposes. While governments of the region have pursued those reform programmes with varying degrees of discipline and commitment during the past 20 years, seldom has the question been posed as to what the unifying societal objectives of embarking on such reforms are. Even less frequently have responses been articulated that were agreed upon throughout society. Instead, complying with standards of fiscal discipline, privatising marketing boards, opening mining and tourism sectors to foreign investors and providing subsidies for export-led commodity production have become answers in and of themselves. Never mind the fact that the new economic discipline has promoted new relations of corruption and collusion between the national political elite and international economic actors, generating few if any benefits for the millions of urban and rural poor.

Without diminishing the staggering social and human costs required to bring about the political transformation of South Africa, an enduring benefit of the years of struggle is the very act of rendering explicit and transparent the societal objectives that will guide the construction of a new South Africa. As other countries are restructured in conformity with the tenets of neoliberal economics, the people and government of South Africa can ask and demand responses to the question as to how such policies will contribute to the fulfillment of the societal objectives agreed to by all sectors of the South African society. There is no doubt that the South African experience can provide invaluable lessons for policy-makers and groups from civil society as they struggle to formulate policies and principles that will promote the best interests of their own nation as the neoliberal model seeks to impose its own objectives and values in countries around the world.

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