

CURRENT CHALLENGES FACING INTEGRATED WATER RESOURCE MANAGEMENT IN THE WESTERN CAPE REGION OF SOUTH AFRICA

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ABSTRACT

Integrated Water Resource Management

IWRM is a process that promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (Global Water Partnership, 2000).

IWRM is simultaneously a philosophy, a process, and an implementation strategy to achieve equitable access to, and sustainable use of, water resources by all stakeholders at catchment, regional, national, and international levels, while maintaining the characteristics and integrity of water resources at the catchment scale within agreed limits.

IWRM explicitly challenges conventional water development and management systems. It starts with the recognition that traditional top-down, supply led, technically based and sectoral approaches to water management are imposing unsustainably high economic, social and ecological costs on human societies and on the natural environment. Business as usual is neither environmentally sustainable, nor is it sustainable in financial and social terms. As a process of change which seeks to shift water development and management systems from their currently unsustainable forms, IWRM has no fixed beginnings and will probably never end.

The global economy and society are dynamic and the natural environment is also subject to change, IWRM systems will, therefore, need to be responsive to change and be capable of adapting to new economic, social and environmental conditions and to changing human values. (Global Water Partnership, 2000).

South Africa, 10 years into democracy

South Africa's new democracy resulted in a new Constitution that ensures the rights of all the people of South Africa to have access to water and to have an environment that is protected for the benefit of present and future generations. (The Constitution of the Republic of South Africa, 1996, Act 108 of 1996).

IWRM is a tool that can promote the principles of the Constitution in that it is a linkage between the natural water systems (quantity and quality), and the social and economic development that is so necessary in any developing country.

The Challenges facing the Western Cape.

Water Resources of the Western Cape

The Western Cape's annual rainfall is substantially lower than the South African average of 452 mm/year. The Province's high evaporation rates almost always exceed rainfall, meaning that little water finds its way into the region's rivers, dams and wetlands. Rainfall is also highly seasonal and erratic, resulting in unpredictable periods of drought. Furthermore, droughts may become more frequent as a result of climate change. These challenges, along with the high influx of people from other Provinces into the Western Cape, put increasing pressure on the Province's already stressed water resources.

There are four major river systems within the W. Cape namely the Berg, Breede, Gouritz and Olifants/Doring Rivers. The Breede is the only one that has a surplus based on existing infrastructure. This surplus is small and is mainly in privately owned dams.

The Purification and Disposal of Wastewater in W Cape

Failing sewerage systems are creating major health hazards and damaging river ecosystems throughout the Western Cape. This is the sad reality for many areas in the Western Cape where the necessary funding is not being allocated to deal with the disposal and treatment of sewage.

On the one hand, sewerage in the Western Cape is not seen as a priority from a national perspective, as there are other Provinces seen to be more needy, while on the other hand municipalities often don't see the need to spend significant amounts of their budgets on sewerage possibly as a result of the lack of concern expressed by the local politicians as well as National Government.

According to the Constitution, municipalities have executive authority over removal, management and disposal of waste, whereas Provinces have the exclusive legislative competence to establish, monitor, support and capacitate municipalities in this respect. At present the City of Cape Town and the Local Municipalities in the Province have direct responsibility for sewage treatment and management in their respective areas.

Waste Water Treatment Works (WWTWs) are managed by municipalities. The Department of Water Affairs and Forestry is responsible for the issuing of permits for these works and for monitoring the compliance of their permits. Although there are many WWTWs in the Province in need of upgrading, most municipalities have chosen to focus their spending on other infrastructure which is

politically more acceptable to many people who don't understand the linkages between sanitation and health.

Solid Waste Management in the W Cape

The Western Cape generates about 8 800 000m³ of solid waste per year (excluding mining waste) making it the Province with the second highest average waste production in the country (Stats SA 2002). The City of Cape Town generates 5000 to 6000 tons of solid waste per day (2003/04). A total of 1 446 450 tons of waste were received at landfill sites in the Western Cape during 2001. The Solid Waste Disposal Sites are rapidly being filled and the amount of air space available is becoming a very concerning issue. Environmental concerns are also slowing down the Environmental Impact Assessment process required to obtain permission for new waste disposal sites.

Population in W Cape

The Western Cape Province had the second highest population growth rate, 14,3%, in the country between 1996 and 2001, The Province with the highest percentage is Gauteng with 20,3%. There are approximately 4 500 000 people in the W Cape (2001 population census)

More than 50% of South Africans already live and work in rapidly growing urban areas. The percentage of South Africa's population resident in urban areas has increased from 47% in 1980 to approximately 90% in 2004.

90% of the Western Cape's population is urbanised. Most South African towns consist of a historically white core, containing the economic centre and most social services, surrounded by a number of disparate, racially discrete, dormitory areas or locations often of considerable size. This raises particular problems in any program of reconstruction. The new urban areas are very densely populated with informal housing which makes the provision of services very difficult.

Provincial Strategic Development Framework and its influence on IWRM

The W Cape Provincial Government has recently launched their PSDF. This set of documents will help to create the balance between the social needs of the communities, the economic realities of a fast growth rate and an environment which is sensitive to development. These documents pull together all the concerns and scientific knowledge in all spheres of development and their effects on the environment.

This is the beginning of a new era of planning within the W Cape and the PSDF will greatly contribute to the objectives of Integrated Water Resource Management within the region. It will also contribute to ensuring the Constitutional rights of all South Africans living in the W Cape.