

Lessons Learned

Assessing environmental services: A number of publications from academic institutions pointed out the impacts that invasive alien species were having on water flow. The high-level publishing of this research led to programmes for restoring hydrological functioning.

Gaining political profile: Research into invasives and ecosystem functioning led to the mainstreaming of natural resource management programmes that simultaneously invested in employment and rural development so as to capitalize on the priorities of the national government.

Delivering economic and environmental benefits: The direct employment created by the Working for Water programme and other benefits such as invasive plant control, impacts on water security, improvement in the grazing productive of land, mitigation and adaptation to climate change, and disaster risk mitigation, led to its success. Furthermore, regular assessment of the programme facilitated its expansion.

Enhancing social benefits: In addition to the above, the programme included extensive training for both vocational skills and life-skills, such as financial management, which further led its progression.

Improving legislation: The environmental programmes have directly led to the development of key legislation, including the National Environmental Management and Biodiversity Act, with its Invasive Alien Plant regulations, the National Veld and Forest Fires Act, and the Conservation of Agricultural Resources Act.

Building on success: The multiple outcomes of the Working for Water programme led to the development of sub-programmes that maximize the integration of socio-economic and development objectives and large-scale ecosystem conservation and restoration.

The full case study can be found at <http://www.cbd.int/restoration/>



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Leveraging public programmes with socio-economic and development objectives to support conservation and restoration of ecosystems: Lessons Learned from South Africa

The Strategic Plan for Biodiversity 2011-2020 recognises that biodiversity underpins ecosystem functioning and the provision of ecosystem services that are essential for human well-being. The fourth Global Biodiversity Outlook underscores that biodiversity is still being lost and ecosystems degraded at alarming rates. Actions for restoring degraded ecosystems need to be strengthened and scaled up. Some countries have developed public programmes with socio-economic and development objectives that invest in conservation and restoration of large-scale ecosystems. These programmes use labour-intensive approaches for both development needs and environmental goals.

This pamphlet, which is one in a series, outlines the elements of success of the Working for Water programme and its many sub-programmes in South Africa. The aim is to provide information on the potential of public programmes with socio-economic and development objectives to contribute simultaneously to development and environmental goals. This information may be useful to other countries considering implementing similar programmes in their countries, thereby scaling up biodiversity conservation.

Introduction

The arrival of South Africa's first democratic government in 1994 was accompanied by profound political and social changes. Environmental governance under the previous apartheid regime saw the formulation of environmental policies and services that perpetuated social inequality, with much of the resources being used to the advantage of a minority and with little consideration for sustainability. These factors played an important role in the development of many of environmental programmes that addressed issues of historical legacy and changing environmental perceptions.

The peaceful transition to the new government led to amendments in the country's constitution, changes in policy priorities, and diverse legislation and regulation based on best international practices. Among the government's keystone environmental restoration and maintenance programmes since its inception in 1995 is the Work for Water programme, which uses labour-intensive approaches to manage invasive alien species to restore hydrological functioning. Between 1995 and 2011, teams cleared over 2.1 million hectares of land of invasives, which is estimated to have resulted in an additional 48 to 56 million cubic meters of water annually. About 25,000 work opportunities are created per year.



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Environmental Degradation and Poverty

South Africa is a semi-arid and water scarce country. It has an average precipitation of approximately 500 mm per annum, well below the world average (860 mm per year). Only 9% of that rainfall is converted to river runoff. The majority of catchments in South Africa (12 of 19) use more water than is available on an annual basis. For example, in 2004, 98% of South Africa's surface water yield as well as 41% of the annual usable potential of groundwater was fully allocated. The amount of usable water is therefore declining and water resources and supply management is becoming more difficult.

The new Constitution of the Republic of South Africa, adopted in 1996, enshrined environmental rights and justice in the values guiding environmental policy. An approach that takes into account the need to balance social, economic and environmental issues in order to advance sustainable development was adopted.

The Evolution of the Working for Water Programme

By the early 1900s, the negative impacts of invasive alien species was noticeable in South Africa: areas in which pines and gums had been intentionally planted in groves in the 1860's and had rapidly spread in the catchment area had reduced streamflow by 1909. Attempts were made in the 1930's to use active mechanical control of invasive species - most were not successful.

More successful control programmes were introduced in the 1970s and 1980s, which used mechanical clearing to remove invasive pines, hakeas and wattles from watersheds as well as mapping

of invaded areas. These programmes declined at the end of the decade resulting in reinvasion.

During the early 1990's, a number of studies confirmed that invasives lead to an undesirable reduction in stream flow and water yield, the severity depending on vegetation type and density. The economic value of the water being lost in mountain catchments and riparian zones alone was estimated at between R526 million and R2.6 billion per annum. Failure to manage invasive alien plants would therefore lead to a growing water shortage.

The Working for Water (WfW) programme was initiated in 1995. The idea was to address two immediate challenges with one intervention: the effect of invasive alien plants on the country's scarce water resources and the potential for job creation and economic empowerment through the clearing of these invasive plants, particularly in underdeveloped rural areas. On the social and economic side, the programme's clear focus on rural areas, engagement of women, provision of training, development of entrepreneurial skills, and providing employment secured ongoing funding. The joining of environmental and development objectives allowed the WfW programme to rapidly become one of the government's flagship programmes.

Achievements and Evaluations

Between 1995 and 2011, Working for Water teams cleared over 2.1 million hectares of land, including about 7 per cent of riparian invasives known for excessive water use, which is estimated to have resulted in an additional 48 to 56 million cubic meters of water annually. Since 1995, South Africa has invested R5.6 billion in the programme, with approximately 25,000 work opportunities created per year and over 54,000 in 2012-13 alone. In a 2007 Social Impact study, beneficiaries reported having more confidence and a positive impact on their sense of self.

Since the programme's inception a number of studies were completed indicating the removal of invasives increases stream flows between 9 and 12 m³ per ha per day. Further, they found that environmental objectives were delivered, with an average success rate of 80 – 100% of the target for a specific project and area.

A few broader economic assessments of the programme indicate that while it is viable in the Western Cape and Kwazulu-Natal provinces, it is

not in the Eastern and Southern Cape areas of the country. Furthermore, a number of evaluations have pointed out the following concerns:

- The limited success at generating permanent jobs;
- The tension between poverty alleviation and environmental goals; and
- While training was viewed positively, over 60% of beneficiaries interviewed felt it would not be useful beyond the lifetime of the project.

Environmental Programmes Expanded

The success of the Working for Water programme in South Africa led to an increase in environmental restoration and maintenance programmes. There are currently 14 such programmes that are divided into two categories or departments: (1) Natural Resource Management and (2) Environmental Protection and Infrastructure Programme (Table 1). All programmes operate under the Expanded Public Works Programme to ensure that labour opportunities are targeted at unemployed youth, women and people with disabilities.

Natural Resource Management	Environmental Protection and Infrastructure Programmes
Working for Water	Working on Waste
Working for Ecosystems	Working for the Coast
Working for Forests	Working for Land
Working on Fire	Greening & Open Space Management
Working for Wetlands	People & Parks
Working for Energy*	Wildlife Economy
Eco-Furniture Programme*	Youth Environmental Service

Table 1: The Natural Resource Management and Environmental Protection and Infrastructure Programmes sub-programmes of South Africa

Enabling Factors

- The success of the environmental programmes in South Africa to date can in large part be traced back to the presence of several factors;
- The presence of a unique moment in time where there was willingness to try new approaches;
- The presence of consistent high-level political support and championship of the programmes;
- Reliable funding source;
- Clear coupling of environmental and developmental needs, which are both political priorities;
- The ability to tie the environmental problem to a clear economic impact;
- Collaborative research leading to evidence-based policy;
- Strong inter-departmental coordination; and
- Good communication of the successes.

Inhibiting Constraints

While there have been a host of facilitating factors, there have also been a range of inhibiting constraints to the successful implementation of the sub-programmes. Over time there has been a focused effort to address these issues in order to improve efficiency. These efforts include:

- Simplification and streamlining of the overall national project reporting systems, which impose a significant cost on projects due to their complexity;
- Improved prioritization;
- Enhanced skills training to reduce the need for avoidable follow-ups;
- Private sector partnerships to ensure that they take responsibility for their own land; and
- Improved municipal capacity to tackle some of these issues.

