


 Land Use and Water Resources Research

The WORKING FOR WATER Programme

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Abstract

This paper describes the South African Working for Water (WfW) alien clearing programme. The approach taken is to outline the nature and size of the problem of invasive alien plants in South Africa as well as some of the impacts and costs incurred as a result of alien plant invasions. The paper then focuses on the strategies that are currently in place to deal with the problem. The value and extent of partnerships in the WfW programme are highlighted and lastly, gaps in the programme framework are shown as well as possible means of overcoming the programme's currently most pressing shortcomings.

Introduction

In South Africa, invading alien plants have become established in over 10 million hectares of land. There are 161 introduced species which are invasive in this country, although many more will become weeds in time. Some of the main problem species are the Monterey pine from the USA, gums, wattles and hakea from Australia, and lantana and *Chromolaena* from South America.

Research and modelling, using South African alien plant data, has shown how some catchments that are lightly infested will become densely infested over 20 to 40 years. These invasions come at considerable cost to our economy and our environment. Currently, the cost of controlling invasive plants in South Africa is estimated at R 600 million a year over 20 years. Moreover, the cost of clearing increases 40-fold as the catchment becomes densely infested and calculations show that the eventual cost of no management far outweighs the costs of early control. The sooner plants are cleared, the more cost-effective clearing operations will be.

Impacts of alien plants in South Africa

Our Minister of Water Affairs and Forestry, Minister Ronnie Kasrils, pointed out that Invasive Alien plants use 7% of SA's mean annual runoff (MAR). (Bear in mind that this 7% represents a loss which includes areas that already suffer water scarcity.) Put differently, it means that the invasive plants are using the equivalent of over 200 litres

per person per day. When you consider that the basic minimum daily water allowance is calculated at 25 litres per person, the water loss to alien plants is a significant amount of water which could be put to better use.

We absolutely cannot permit the invasion of alien plants to use up valuable water resources when in many areas there is not enough safe water to cover basic human needs or for the ecological reserve (the amount of water required to protect and maintain river ecology). Apart from basic human and ecological needs, water availability is also of particular importance in South Africa since water is a limiting resource for the development of industry and agriculture.

Invasive alien plants therefore compromise the security of water availability:

- In the dry areas of the Northern Cape Province, the deep tap roots of invasive *Prosopis* trees extend down to 20 m below the surface and consume water from underground sources. (The roots of one tree were found to be 53 m deep!) The lowered water table results in increased water stress for communities who are dependent on groundwater from bore holes.
- Wetlands are a vital source of water. They act as sponges, soaking up water during wet times and releasing it slowly during drier periods. When invasive plants invade these useful water storehouses, a multitude of negative impacts follow.

- Natural vegetation is much more efficient at retaining excess water for a slower, controlled release. Invasive alien plants growing on slopes in a mountain catchment area facilitate devastating high speed runoff during flood conditions.
- When stands of invasive alien plants burn, the resulting fire is much hotter than a fire in the natural vegetation. Hot fires alter the physical nature of the soil (such as increased water repellency), resulting in increased erosion. South Africa cannot afford to lose any more of its vital topsoil. Each year million of tons are washed away into the sea. More often than not, it ends up in our dams, causing siltation and lowering the effectiveness of expensive capital infrastructure.
- Invasive alien plants severely compromise our country's biodiversity. The loss of indigenous trees and shrubs when alien plants become established is destroying the economic benefits from tourism and the sustainable harvest of plants such as wild flowers and thatch and the use of natural medicinal plants and herbs. More than half of the 3500 plant species on the Red Data List, are threatened directly by invading alien plants.
- The loss of potentially productive agricultural land to invasive alien plants is appalling. Species like the invasive Queen of the Night Cactus is rendering large areas of land unsuitable for grazing.
- Much of the wetter eastern parts SA are covered with commercial forest plantations. Although many of the species used are potentially invasive, where the plantations are suitably located and well managed, the impacts are minimised and the economic benefits justify the water consumed.

Working for Water strategies to deal with the problem

In 1995 the Working for Water (WfW) Programme was started with funding from the National Reconstruction and Development Programme (RDP) fund.

The WfW programme is focusing on four main areas to support strategies for dealing with the invasive alien problem:

- National jobs development programme
- Biological control
- Education and communication programme
- Legislative framework

National jobs development programme

The primary focus of the WfW programme is on labour-intensive clearing activities through a mass based job development programme. The programme currently employs 23 000 people and has a strong gender focus, with 58% of the workforce being women who are the single head of their household. In addition, there is a strong focus on creating opportunities for historically marginalised groups such as youths and the disabled.

Workers are employed through an Emerging Contractor Development Programme. Contractor models are based on the development of individual entrepreneurs and collectives

through co-operatives/savings groups. The system of contracting work out to competing contractor groups creates an enabling environment for the development of small, medium and micro-enterprises. The provision of jobs and the development of people within these jobs comprise the bulk of the work of the programme, consuming just over 92% of the budget.

The key challenges are to ensure that an enabling learning environment is created. In order to achieve this objective, the WfW programme maintains the following initiatives as part of the programme:

- An emerging contractor development programme
- Vocational training development programme
- Key interventions around HIV/AIDS, sex and family planning health aspects.

Biological control

The WfW programme recognises that its main focus is on creating development options through training and short-term contractor opportunities, but it also deals with the alien invasive plants using biological control methods as part of the long-term solution. The current investment level is less than 5% of the total programme budget. For certain species it would be the most cost-effective way to deal with the invasions as a longer-term strategy of control.

The programme is challenged with the need to develop a working relationship and mutual understanding with the forestry industry. This challenge is made easier by the fact that the programme already has healthy working relationships with science and technology institutions, such as the Plant Protection and Research Institute (PPRI) and the Council for Scientific and Industrial Research (CSIR). These institutes, like any other in the country, are striving to develop capacity in areas of historically disadvantaged communities.

Public education and communication

The third pillar is the Public Education and Communication Programme — it forms an essential component of the programme to ensure that citizens take collective responsibility for the problem of curbing the spread of alien invasive species. It is to be intensified over the next period to promote an integrated approach to dealing with the problem. The challenges of alien invasive plants need to be taken to school children, water users, landowners, local authorities, water and irrigation boards. The programme aims to multiply the resources required to tackle the problem.

Current tools in the kit:

- Landowner contracts — getting the buy-in from landowners to take responsibility to keep cleared land clean using their own resources. Advertising the importance of sustainable land management practices and land care principles are part of the education campaign. This work is undertaken in partnership with the Department of Agriculture and its extension services.
- 20/20 Visions Programme: The programme is working

with the Department of Education to develop water audit programmes in schools, targeting both primary and secondary level students.

- Strategy to reduce the availability of invader plants in nurseries (currently running in the Western Cape). This involves a large-scale education campaign running through nurseries and with the support of the National Botanical Institute (NBI).
- Hack Day is to be pioneered as a national institution on 24 March 2000, as part of the Water Week initiatives. The key focus is on working with local communities, targeting schools and environmental education organisations to clear alien invasive plants. The programme will make the necessary resources available to assist the volunteers to clear land.
- Arbor week initiatives focusing on indigenous vegetation, etc.
- Land Care partnerships

Legislative framework

An enabling legislative framework is of critical importance for strategies towards sustainable development.

Within a 'carrot and stick' analogy, the legal framework would provide the stick to ensure that landowners take responsibility to deal with the problem. The programme is still struggling to get this programme fully operational since the legislative frameworks require cohesive strategies between a number of key departments. Co-operative governance is definitely an area for growth and development.

Government is aware of its responsibility to meet its international obligations in the context of United Nations Convention on Biological Diversity. The envisaged legal framework would also address these challenges.

Partnerships and collaboration

Internationally our partners include:

- All those countries with whom we share alien challenges;
- Those with whom we can jointly solve problems, in particular the United States, Australia, Europe and the SADC countries.

Nationally, our partners include:

- All government departments, but particularly: Environment and Tourism, Health and Welfare, Public Works, Land and Agriculture, Provincial and Local Government, Correctional Services, Trade and Industry, Finance, Education, Labour, Arts and Culture.
- Issue-focused NGOs (environmental, health, skills training, entrepreneurial and welfare)
- Private sector

Provincially and locally our partners are:

- Provincial and local government

- A whole range of provincially and locally based NGOs and CBOs
- Affected communities
- Private sector

The programme collaborates with international partners:

- through effective import and export regulation and control thereof;
- through sharing best practice information, research and expertise — e.g. biological control, hydrological assessments; and
- through promoting awareness of the dangers of alien vegetation and sharing possible solutions within Africa, and particularly with our SADC partners.

The programme collaborates with South African partners through:

- developing a common understanding of sustainable integrated development (What does it mean? How can we achieve it? Who is responsible for what?);
- clarifying our different roles in ensuring greater co-ordination and development synergy (between, for example, departments, local government and NGOs);
- promoting multi-departmental program-based interventions;
- developing joint strategies and cross-sectoral frameworks for implementing development programmes;
- jointly piloting approaches, mechanisms and training support which bring sustainable benefits to communities.

The programme's institutional framework to address integrated development

The WfW programme's institutional framework comprises the following:

- Inter-ministerial Board (Cabinet ministers chaired by the Minister of Water Affairs and Forestry)
- Inter-departmental Steering Committee (Director Generals and Chief Directors)
- Provincial Steering Committees (currently being set up)
- Project Steering Committees of relevant stakeholders at local level (as and when required)

Financial challenges

- WfW is currently financing cross-sectoral development interventions (for example, family planning health support, promotion of secondary industries, provision of crèche facilities, life skills development).
- WfW covers the costs of facilitating and co-ordinating greater integration. However, this form of financial provision will not be sustainable.
- Some progress has been made in securing cross-departmental financial inputs (e.g. Dept. of Welfare), however these are limited and are thus threatening the sustainability of cross-sectoral programmes.

The key challenge is to develop strategies for sustainable financing for those activities necessary for effective

integration and co-ordination. We have seen through practice that co-ordination and integration of developmental interventions is fundamental to sustainable benefits — it is the VALUE ADDED that makes the whole greater than the sum of the separate parts. Line department budgets tend to restrict expenditure to their sectoral objectives, thus it is difficult to secure funds for 'co-ordinating' activities.

The way in which the WfW programme deals with this challenge to ensure effective integration and sustainable benefits is through the creation of partnerships. The programme aims to achieve this through:

- Developing programmatic partnerships with government departments
- Developing partnerships with NGOs
- Developing partnerships between the different spheres of government
- Developing partnerships with donor organisations where funding for co-ordination and integration is more flexible
- Jointly testing pilot co-ordination initiatives
- Jointly establishing programmatic structures
- Jointly learning and sharing the lessons towards integrated and sustainable programmes