

## Ecosystem services

### Investigating the role of wetland plants in job creation and entrepreneurship

A Water Research Commission (WRC) study has been completed on the viability of selected indigenous wetland plants in support of entrepreneurship and job creation.

#### Background

Rural communities in South Africa benefit directly from the use of wetland plant resources by as much as 15% to 28% of their livelihood accruals. Women in particular are dependent on a wide range of wild harvested products, from fruits to craft materials, as a source of cash income.

A recent survey determined that for poor women in the rural areas of South Africa income from sales of traditional brooms contribute more than 75% of cash income for one-third of households surveyed.

The WRC has initiated a number of flagship programmes or lighthouses which are multi-disciplinary and meant to concentrate research to address mega issues and make impact on the ground. One of these, currently undergoing a tighter re-focus is called the Green Village Programme (GVP).

This project formed one of the cornerstones of this programme. These mega-projects examine priority water issues across the innovation value chain.

The GVP intends to reduce carbon/ecological footprints by adopting more environmentally-friendly options (green options), in realisation of the centrality and importance of healthy ecosystems.

In addition, the GVP promotes the Sustainable Development Goals in encouraging green and sustainable options, namely by promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation; as

well as protecting, restoring and promoting sustainable use of terrestrial ecosystems.

Thus the GVP is an important mechanism for fostering development towards a green economy. An important part of the GVP is thus to create economic opportunities for marginalised communities by addressing their basic needs, such as generating green jobs without compromising the integrity of the environment and the future generations.

In short, the GVP must add value and transform living standards, creating economically active communities which are integrated into the mainstream economy.

#### Wetland plant with economic potential

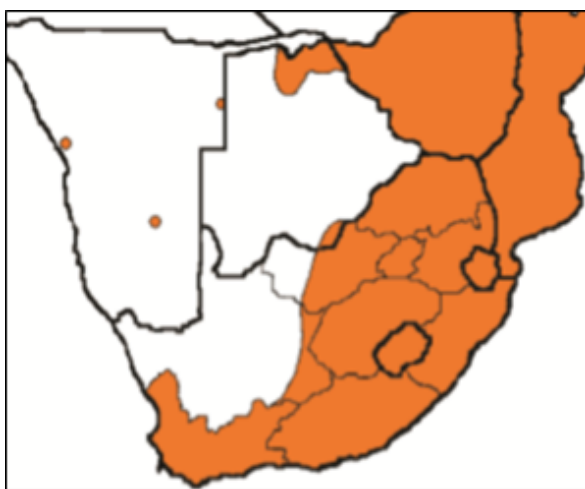
Typha is an indigenous wetland plant that occurs across the country. It acts as a pioneer species in degraded wetlands, which means that fairly dense populations of Typha occurs in various degraded wetland systems across the country.

Typha is therefore an abundant and fast growing plant species, which plays an important role in the rehabilitation of degraded wetlands, especially where nutrient pollution occurs. The Working for Wetlands Programme has identified certain wetlands where this indigenous species has become an environmental problem, due to it out-competing other species.

This business case therefore has the added benefit of generating a revenue stream from a species which is effectively a weed in some wetlands.



*Typha is a widespread wetland plant.*



*Typha is distributed across most of the country.*

## Study approach

This study investigated the potential of manufacturing high-value interior architectural, green building materials using Typha as a raw material, and creating economic opportunities and jobs in poor peri-urban, rural and urban communities of South Africa, and linking these opportunities to established private sector value chains.

The business case was based on extensive literature reviews, expert assessments and desktop investigations. The knowledge gained was then applied to a case study at the Balamhlanga wetland located 20 km east of Jozini Dam.

## Key findings

The analysis included a concept level cash flow analysis and indicates that a feasibility business opportunity is

possible. A capital investment of approximately R3.7 million would be required to establish a sustainable community-based business venture, with a potential annual revenue exceeding R7 million, creating at least 25 full-time jobs, creating additional small business opportunities and with a favourable Internal rate of return (IRR), which exceeds 25%.

The business case demonstrated that small-scale production of high-value Typha panel products would be profitable, largely because of the lower risk associated with low up front capital requirements, the fact that it does not require crop nor planting inputs, and the fact that there is a growing market for high-value interior architecture products by corporate businesses in the retail and business-to-business sectors.

## Conclusions and Recommendations

In order to achieve this business potential, the analysis identified key areas of research, development and marketing activities required to confirm the details of the feasibility of the proposed venture, including:

1. Demonstrable product development and market offtake securement of high value interior architecture products;
2. Typha resource and management planning (including a Typha resource assessment, complimentary wetland plant assessment and legislative assessment);
3. Typha beneficiation (i.e. board manufacturing) technology investigation and development.

It is recommended that these additional research, development and marketing activities are ideally suited of a GVP investigation, supported by complimentary funding streams from other (non-WRC) government sources, such as the Green Fund and others.

It is also recommended that this additional research be executed using a multidisciplinary, multi-funded, pilot study approach. The Balamhlanga wetland is eminently suited and reportedly has a 200 ha Typha population. The pilot site is located in the Jozini Municipality in KwaZulu-Natal.

### Further reading:

To order the report, *Investigation of the viability of selected indigenous wetland plants to support entrepreneurship and job creation in South Africa* (WRC Report No. KV 348/15), contact Publications at Tel: (012) 330-0340; Fax: (012) 331-2565; Email: [orders@wrc.org.za](mailto:orders@wrc.org.za) or Visit: [www.wrc.org.za](http://www.wrc.org.za) to download a free copy.