

## Aquaculture

### Development of participatory provincial aquaculture programmes for improved rural food security and livelihoods

## A WRC-funded study into development participatory provincial aquaculture programmes for improved rural food security and livelihoods.

### Background

Although South Africa is a water scarce country, aquaculture represents a potential form of agricultural diversification in a context where approximately 1.3 million rural households are active in different forms of supplementary food production, of which 52% experience hunger and 59% are food insecure.

As aquaculture is not an established agricultural production sector in South Africa, interventions to promote its development need to be informed by its production potential, and expected socio-economic contribution. New knowledge is thus required to contextualise and develop appropriate strategies for aquaculture development which are aligned with South Africa's Agricultural Production Strategy.

This prompted the WRC to fund a project into the participatory development of provincial aquaculture programmes for improving rural food security. The project formed part of a suite of WRC funded aquaculture research projects between 2003 and 2010.

### Baseline study

The WRC-funded baseline study of the contribution of aquaculture to rural livelihoods in South Africa in 2004 revealed that despite having potential, rural aquaculture was almost non-existent. This despite the existence of a number of state-owned hatcheries and rural aquaculture projects that had been supported by Government, due to the skills and resource constraints of the rural poor and the provincial agriculture departments. However, it should focus on promoting aquaculture as a profitable enterprise amongst emerging commercial farmers.

Revitalisation of the state hatcheries was identified as a key intervention to create service centres or hubs to support



*Emerging fish farmer in the Eastern Cape.*

community-public-private partnerships (CPPPs), training, technology transfer, fingerling supply, extension and other services in support of aquaculture development.

### Focus on participatory processes

Participatory action research (PAR) was chosen as an appropriate methodology for the project as it focuses on the effects of the researcher's direct actions of practice within a participatory community with the goal of improving the performance quality of the community or addressing an area of concern.

The target community was provincial agriculture department staff responsible for aquaculture development within the participating provinces. The training of hatchery staff can be deemed a success as their training was linked to hatchery revitalisation.

## Challenge to provide support

The challenge for South Africa is thus how to provide government support for sector development that addresses the needs of aquaculture enterprise development, both large and small-scale. Aquaculture cannot be entirely private sector-driven as the transaction costs of pioneer farmers are too high and there are barriers they cannot overcome, such as access to suitably zoned land and water.

On the other hand, the experience of South Africa's provincial hatcheries shows that Government, without private sector participation, is a poor driver of sector development. Thus the organisational challenge is to create structures whereby Government sets the development policy agenda and offers various forms of support and the private sector drives the actual production and market related aspects of project implementation through vehicles such as PPPs, or special purpose vehicles (e.g. the Western Cape Aquaculture Development Initiative (WCADI)) which are market driven and independent of the bureaucratic constraints of the PDAs.

## Awareness, buy-in and support

The major contribution of the project can be seen as creating awareness and buy-in for supporting aquaculture within the PDAs, and a programme and strategies for provincial aquaculture capacity development. Despite the constraints experienced, the PDAs are committed to aquaculture development and the challenge is to address the sometimes severe organisational constraints within these departments. Linking the PDAs into broader cooperative governance arrangements, whereby they are empowered to deliver the support services within their mandate, will result in them playing a more effective support role.

## National aquaculture strategy implications

Ongoing organisational and technical support should be provided to the PDAs by the Department of Agriculture,

Forestry and Fisheries (DAFF) to build on the foundation laid by this project. The interaction between DAFF and the PDAs needs to be formalised into a programme approach to plan the roll-out of the national aquaculture strategy.

Specific recommendations are:

- Aquaculture development strategies should be market-driven and appropriate state supported special purpose vehicles such as PPPs or provincial aquaculture project promotion agencies should be established to drive public and private sector investment into projects such as aquaculture development zones (ADZs).
- In terms of hatchery revitalisation, it is recommended that suitable NGO, University or economic development agencies facilitate this process in partnership with the PDAs to create viable, market driven service hubs which address the needs of rural farmers.
- The training of provincial PDA staff in aquaculture needs to continue at all levels.
- It is recommended that the Rhodes University initiative to train state vets in aquaculture in partnership with the OIE, and to establish a fish disease research diagnostic centre, be supported.
- The use of the Nile tilapia (classified as an alien invasive under the NEMBA regulations) within areas of its distribution needs to be agreed on and managed between DAFF and the Department of Environmental Affairs.
- Aquaculture is a scarce skill in South Africa, and as such both DAFF and the PDA need to invest in tertiary training, including secondment or provision of bursaries.

In terms of the next step, it is therefore recommended that DAFF convene a process with the PDAs to debate the final report recommendations, and agree on organisational structures, processes and support actions going forward.

### Further reading:

To obtain the report, *Participatory Development of Provincial Aquaculture Programmes for Improved Rural Food Security and Livelihood Alternatives* (Report No: TT 502/11) contact Publications at Tel: (012) 330-0340; ax: (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.