

GAP analysis

Innovation in water science and technology research

Innovation is the creation or adaptation of knowledge, technologies and techniques to solve social, environmental and economic problems. It fundamentally involves the transfer and implementation of knowledge, technologies and techniques.

PROBLEM

In South Africa, the innovation system for water is failing to significantly meet strategic goals.

The system operates in crisis mode, actors across the innovation chain are risk-averse and unco-ordinated, and there is a lack of strong leadership to give impetus to innovation.

Research and development is emphasised to the exclusion of a vital aspect of the innovation system: the linkages between actors within the research system.

RECOMMENDATIONS

- Shift the focus of strategy and funding to strengthen linkages between R&D, industry, and the end-users of knowledge and technology.
- Stimulate major innovation system role players – NRF, TIA, WRC, and DST – to coordinate and align their actions in an innovation systems framework.
- Direct policy towards strengthening the latter parts of the innovation chain ensuring all players understand their roles in driving innovation forward.
- Enable and support strong leadership and risk-taking in water science and technology to maximise innovative potential.
- Consider policy which encourages all government departments to ring-fence R&D demonstration budgets for supporting innovation ready to be demonstrated and adapted for use in South Africa, e.g. a public marketplace match-making sessions between researchers/innovators and implementers which could be co-ordinated by designated national and non-competing organisations.
- Strengthen policy directed towards building human capacity and leadership for innovation, e.g. a reorganization of the research environment within universities; strengthening funding for entrepreneurship; creation of centres of competency with strong industrial design and

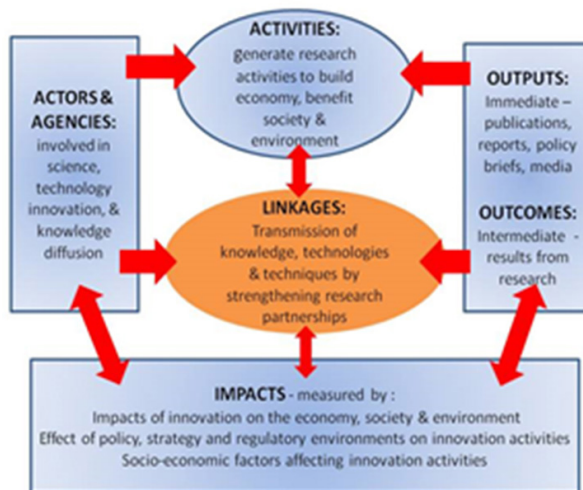
economic and market analysis capabilities; and retain post-doctoral students through improved and longer-term funding.

RESULTS

The establishment of an innovation systems approach capable of directing policy, funding and practices that will take SA on a path of growth, development and sustainability.

Further reading:

To obtain the report *A Gap Analysis of Technologies, Techniques and Capacity for the Water and Wastewater sector in South Africa* (Project No: **K5/2258**) contact Publications at Tel: (012) 330-0340; Fax: (012) 331-2565; Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.



Innovation Systems Framework (Adapted from OCED, 2007)