January 2014
The WRC operates in terms of the Water Research Act (Act 34 of 1971) and its mandate is to support water research and development as well as the building of a sustainable water research capacity in South Africa.

TECHNICAL BRIEF

Water and agriculture

Water-related research projects in agriculture

The WRC has developed a database of all water-related research projects in agriculture undertaken in South Africa.

Motivation for study

The WRC initiated a project to identify and quantify all water research projects related to agriculture in South Africa. A key driver behind this project was the fact that little of this information is publicly accessible.

Initiatives of this nature are important because they promote coordination, improve collaboration between research organisations, encourage greater transparency, particularly with regards to research funding and dissemination of information.

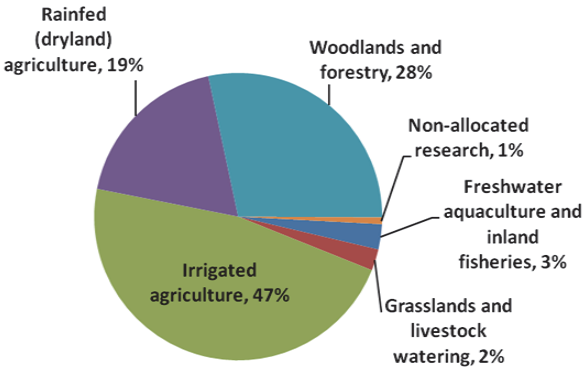
The project analysed water-related research studies conducted by various organisations covering the categories of irrigated agriculture, rain-fed (dry-land) agriculture, woodlands and forestry, grasslands and livestock watering as well as freshwater aquaculture and inland fisheries.

Findings

A total of 65 projects were identified with research funding totalling around R208-million. The majority of the projects identified, both in terms of project number (60%) and funding value (47%), fell within the research sub-sector of irrigated agriculture.

The results perhaps reflect the nature of the agricultural sector in South Africa, which has a well-developed irrigated commercial sector. Big investments have been made and high levels of management are required for use of the largest share of surface water that makes a significant contribution to the country's food production.

These research projects were also mapped across the WRC thrusts, with the Thrust: Water Utilisation for Food, Forage and Fibre Production having the highest number of projects (26). This is followed by the Thrust: Water Utilisation for Poverty Reduction and Wealth Creation in Agriculture, with 20 projects and the Thrust: Water Resource Protection, Restoration and Reclamation in Agriculture, with 15 projects.

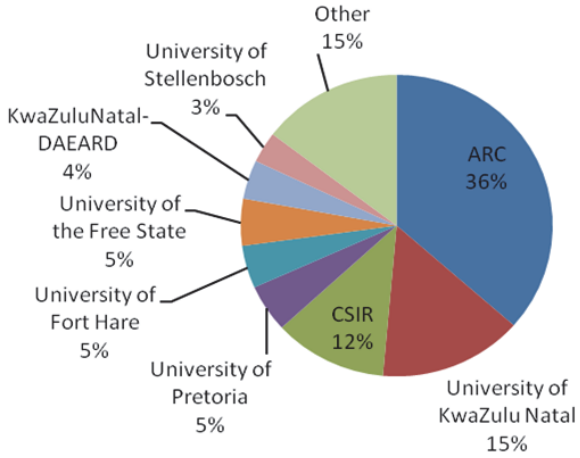


Total research funding segmented by agriculture sub-sector.

In terms of the funding value, the Agricultural Research Council (ARC) completed research totalling the highest value (R76-million). The majority of the funding for ARC projects can be attributed to the WRC (around R20-million). And the Working for Water project funded by the Department of Water Affairs (DWA) (about R44-million).

Among universities, the University of KwaZulu-Natal conducts the most funded research (about R31-million), followed by the universities of Pretoria and the Free State, who both conduct research funded at about R10-million each. Overall, universities and science council research institutes constitute the bulk of organisations conducting research.

A total of 62% of the total project funding identified can be attributed to the WRC, with research funds of about R129.8-million for 43 projects. The DWA represents the



Total research funding segmented by organisations conducting the research.

second-largest source of research funding at about R35.7-million for the Working for Water project. The balance of this project funding was provided by the ARC.

Conclusion

A consideration when reviewing these results is the importance attributed to the project funding data. It may appear that a particular research thrust is more important because it attracted a greater amount of funding, but this is perhaps not always the case.

Time and effort are important cost drivers with projects of this nature so in the event that a particular project requires more time to complete the overall cost and required funding may be higher. Hence, projects that have more funding should not be seen as strategically more important or valuable than projects with a lower value.

An important conclusion from this project was the amount of effort required to collate the project data. As previously stated, organisations were either not able to prioritise time to collect the information or the data was not easily accessible.

Improved reporting and communication in terms of projects and funding, within and between organisations would certainly make project data of this nature much easier to collate. More standardised databases are certainly needed among research organisations to provide improved transparency and streamlined access to research project details and funding information. This will contribute to better coordination of and cooperation in research activities.

Further reading:
To order the report, *Water-related research projects in agriculture undertaken in South Africa* (**Report No. TT 503/11**) contact Publications at Tel: (012) 330-0340, Email: orders@wrc.org.za or Visit: www.wrc.org.za to download a free copy.