

North West University to establish SA's first national water history archive



North West University's (NWU's) Vaal Campus in Vanderbijlpark has given its tacit support for a project to develop South Africa's first Water History Archival Repository.

The archive will be housed in the university's new multimillion Rand library, which is currently under construction. South Africa has a proud history of water management. In the twentieth century the Department of Water Affairs (DWA) was responsible for creating one of the

most advanced national water infrastructure systems in the world in a region that has a long history of severe drought conditions. It is a heritage in which South Africans can justifiably take pride.

According to Prof Johann Tempelhoff of NWU's School of Basic Sciences, who is leading the project, a number of retired officials of the DWA as well as consulting engineers have collections of valuable historic material that need to be collected for posterity. "There is a notable shortage of primary source materials on South Africa's DWA – known between 1912 and 1956 as the Department of Irrigation. Many historians, especially those specialising in water history, have sorry tales to tell about the shortage of information on some of the department's most legendary projects, such as the Thukela-Vaal Transfer Scheme, the Orange River Development Project as well as the impressive irrigation works developed throughout the country in the twentieth century. The proposed repository should be in a position to partially address the existing shortage of

historical information, especially in the pre-digital era."

The intention is to create a repository where hard copies of valuable primary documents are stored. However, at the same time, there is a need to digitalise this information, so that documentation that would otherwise be confined to dusty store rooms can be turned into functional electronic material, accessible for all to use.

It is expected that the repository will not only serve historians, but also other water sector stakeholders, such as engineers looking for information on the original design and materials used in water resource development projects up for refurbishment or enlargement.

Earlier this year the university received its first donation from Prof Will Alexander, Emeritus Professor of Civil and Biosystems Engineering at the University of Pretoria and a legendary former engineer and hydrologist at the Department of Water Affairs. The impressive collection includes construction

notes and related information such as photographs and multimedia on, among others, the Orange-Fish Tunnel, Leeuw-Gamka Irrigation Works, Gamtoos canals, and Floriskraal Dam. Also included is Prof Alexander's impressive data on hydrology and climate-related subject matter.

In the photograph, accompanying this article (taken by Gustaf Tempelhoff), Prof Alexander is taking Prof Tempelhoff and *Water Wheel* Editor, Lani van Vuuren, through a part of his collection.

Collaboration is being sought with all individuals and institutions who have a passion for the country's impressive water heritage to be conserved for future generations. A workshop, to be hosted by NWU in collaboration with the Water Research Commission, is being planned for the first quarter of next year to bring stakeholders in the South African water sector together to discuss ways of developing the repository.

For more information about the repository Email: johann.tempelhoff@nwu.ac.za

Changing theoretical lenses broadens research space

Governance is the result of interactive socio-economic and political forms of governing that result in problem solving and opportunity creation. As such, governance has a complex character, reports Dr Richard Meissner, Senior Researcher with the CSIR's Water Resource Governance Systems Research Group.

"This implies that governance is not only the domain of state institutions, for instance Parliament, the judiciary, national government departments and local government. Because of this inherent complexity and the fact that governance encompasses different spheres of authority, governance can be explained and analysed through a variety of theoretical lenses, such as neorealism, neoliberal institutionalism, structuralism, complexity and resilience theory, risk society theory and social constructivism."

In 2011 the CSIR conducted a compre-

hensive survey of literature that had been conducted over the past 14 years on South Africa's water institutions — catchment management agencies (CMAs), water user associations (WUAs), irrigation boards (IBs) and international water management bodies (IWMBs). The research team reviewed publications that included newsletters, articles, doctoral theses, Water Research Commission reports as well as CSIR reports on the subject.

One of the conclusions of the review was that over 80% of the publications with a likely influence on policy processes (e.g. peer reviewed articles, reports, theses, etc.) were researched and written by researchers with a natural sciences background, while only 10% were from the economic and social sciences, and only as co-authors that produced the publications.

What the researchers also noted is that the major implicit theoretical

underpinning of these studies was based on governing processes being driven by the government entities. This theory, called neoliberal institutionalism, with its roots in the political sciences, has a number of assumptions: state organs, such as parliament, the judiciary, cabinet, government departments as well as the leaders leading these institutions are paramount in the policy process.

"The theory also maintains that the policy process is a top-down process, where the states develop and implement policies from the top-down instead of bottom-up processes," explains Dr Meissner. "What's more, governments develop policies to grant them powers to regulate society. Everything that happens within the water discourse depends on what government does and through which policy instrument it is doing it. It is for this reason, we believe, that 86% of the

research focussed on the role of CMAs in bringing about a more optimal utilisation of South Africa's water resources, since CMAs are defined within the National Water Act (No. 36 of 1998)."

Nevertheless, the CSIR argues that broadening the theoretical foundation of future research on water institutions will enlarge the research space beyond CMAs, WUAs, IBs and IWMBs. This will also include the role of non-state actors, such as large corporations (mining companies and financial institutions) and ordinary individuals that act from the bottom up with consequences at national, river basin and quaternary level. Governability (the capacity to govern) as well as the theory of agential power (the ability of an actor to determine and implement policy without constraints) is promising in widening the water governance and water politics research field.