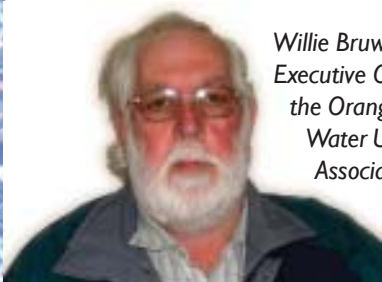


Diamonds Are Forever But Not Water

The Orange-Vaal Water Users' Association, based in the Northern Cape town of Douglas, manages water use in one of the driest parts of South Africa.

The Orange-Vaal Canal bringing water from the Orange to the Vaal River.

A group of farmers stood silently on the banks of the Vaal River surveying the few shrinking puddles on the riverbed. The Vaal had never failed them until now. For the first time any one could remember there was no water to irrigate crops or sustain livestock.



Willie Bruwer, Chief Executive Officer of the Orange-Vaal Water Users' Association

They knew that without the river the future of their farms, 180 in all, and the agricultural town of Douglas, built on the banks of the Vaal, were at stake. Without crops what was the point of sustaining this community in the arid Northern Cape. Green fields of lucerne, wheat and mealies, growing on the banks of the steady flowing Vaal, its tributary the Riet and the Orange, further south, was all that softened the harsh Karoo landscape as it reached into the Kalahari. Rainfall, in this dry land, was unpredictable. In a good year one could expect 300 mm of rain.

It was 1981 and Korrels van der Merwe, a farmer and a management

committee member of the (former) Orange-Vaal Irrigation Board (now the Orange-Vaal Water Users' Association), knew dramatic action was needed if the more than 9 000 ha of croplands, relying on the Vaal River for water, were to be salvaged.

"There was a feeling that we had to move quickly or else everything we had spent so long building would be lost," he said.

WATER SHORTAGES

In the early days of Douglas water shortages were unheard of but, from the 1950s, as the water needs of the industrialised cities on the Witwatersrand increased, the river

began to show signs of strain. Water supply to Douglas, the last stop on the Vaal before it joins the Orange, became unreliable while the quality of water, polluted by factories and farming upstream, deteriorated. If this small community was to survive its farmers had to find a way of getting fresh water back into the river.

"After much discussion we decided to build a 24km-long canal to lead water from the Orange, south of Douglas, to the Vaal," says Van der Merwe who was part of the team that conceptualised the plan. "It was going to cost a lot of money and we knew we needed state help," he says, "but the problem was there was no time to wait out the process for government to make a decision." What the farmers were able to secure quickly was government approval to go ahead with the project themselves.

ORANGE-VAAL CANAL

The community immediately set about raising the R3 million needed to build the channel and, by 1982, eight months after the decision to build was made, the Orange-Vaal Canal, including pumps and a pump house, was complete. Water flowed steadily, at a rate of between 10 and 12 m³/s, from the Orange into the Vaal at the Douglas weir basin. The Orange-Vaal canal was the third to serve the community of Douglas. The Bucklands Canal, which channelled water from the Vaal to several small-holdings around town, was built at the end of the 19th century and extended in 1937. It was lined for the first time during 1960 to 1965 and then relined in 1991 and 1992. The unlined Atherton Canal began at the weir on the right bank of the Vaal. Originally all irrigation development around Douglas was below the level of this canal.

The Douglas weir, the holding area

where the Orange River water was pumped, was the sixth weir to be built on the site of a Griqua weir that was built in 1870. The first weir built by Europeans was completed in 1890.

The new Orange-Vaal Canal was hailed by farmers as a salvation and they enthusiastically pumped the far cleaner Orange River water onto their lands. However, the project was not without problems. The water flowed through sandy soil and soon sections of the canal walls became unstable and low-lying areas water logged.

"In one instance the Farmer's Co-op had to buy a house in town that was so water logged water was coming up under the floors," said Van der Merwe.

The only way to counter the problem would be to line portions of the canal with cement but that would cost an extra R4 million - beyond the payment ability of the farmers.

STATE TAKE-OVER

Willie Bruwer, Chief Executive Officer of the Orange-Vaal Water Users' Association picks up the story: "It was at that point the state was asked to take over the canal - once this was implemented the canal was cemented from its beginning to a point near the GWK (Griqualand West Co-op) silos." The cost was R18 million. The rest of the canal was temporarily sealed with plastic and a soil/lime mixture. The largest unlined portion was cemented in 1995.

In 1984, Louis Wilken, then Manager of the Irrigation Board discovered that the water meters measuring usage weren't working and that farmers were pumping unknown volumes of water from the river. Wilken persuaded the Board to use

the method of crop water requirement as a measuring tool to determine how much water a crop would use in the coming growing season. There was only so much water available and farmers were limited to using 60% of their quota between July and November. (It was a water management plan that worked and today the Orange-Vaal Water Users' Association is one of three WUAs working with the Department of Water Affairs to formulate a water management plan for the whole country.)

Despite these initial hiccups farming in the Douglas area was thrown a lifeline and now, more than twenty years later, 105 major farming operations and 71 small-holdings benefit from the water. The future of town has been guaranteed.

While Douglas is a major farming centre for Griqualand West the story of its beginnings is tied to the history of a fledgling country. In his book, *Discovering South Africa*, T.V. Bulpin described how the town was sited on a strategic ford that, in 1775, had been in bitter contention between the Bushmen and the Hottentots. Forever after the Bushmen knew the area as "Go Koo Lume" which meant "Where we had a hard time," or "where no mercy was shown."

In 1867 European settlers persuaded the Griqua chief, Nicholas Waterboer, to allow them to establish a town at the ford, 12 km above the confluence of the Orange and the Vaal. Waterboer's father Andries, a catechist, had been appointed "captain" of the people by the British in 1813. The Waterboer's had been among the freed slaves that had trekked north with Adam Kok in search of a new life in the hinterland. The area they chose became was a centre of industrious Christian outreach in the early 1800s with characters like the



A measuring flume in the Orange-Vaal Canal.

missionary Dr Robert Moffat settling in the area. The explorers David Livingston (who married Moffat's daughter Mary) and William Burchell were well-known faces in the new communities of Griqualand. A mission station was established near the site of the future town of Douglas in 1848 on the farm Backhouse. When the new village took shape a surge of settlers, eager to try their luck farming between the great rivers, moved into the area. The town was named after Lieutenant-General Sir Percy Douglas and soon grew into a busy agricultural centre.

Douglas historian Willie Bruwer (senior) of the farm Vogelfontein says it was a time in South African history where anything seemed possible.

"Diamonds had been discovered and 107 km east of Douglas, the new town of Kimberly was booming."

In fact Douglas wasn't far from the site where South Africa's first diamond, the Eureka, was discovered in 1866.

It was a time when Cecil John Rhodes was building his fortune and political career and he was instrumental in a decision that allocated funds to Douglas' farmers to build their first weir wall on the Vaal, says Bruwer.

"Douglas was at the forefront of water development in the country," says Bruwer, "it was here that farmers first begin to take advantage of South Africa's great rivers."

In 1882 the new town was also a challenge for land-surveyor John Mintern who surveyed several of the town's original erf's, citing them on the contour – plots that are still in use today and which, says Bruwer, are the only ones never to have been flooded.

FARMING TOWN

Modern day Douglas is typified by the hustle and bustle of a farming town. Depending on the time of year farmers plant lucerne, maize, wheat, potatoes, onions and some even have vineyards.

Van der Spuy Botes, whose farm Kom Nader is 15 km above the

Douglas weir, says the challenge now is to ensure crop production remains economically viable as water and power costs rise and crop prices fall.

"About 80% of my 500 hectares are under spray irrigation," he says.

"Water costs are high – we pay for the upkeep of the canals, tariffs for water from the major dams, taxes and power costs." The overheads to keep water flowing and lands producing are high.

"You don't mind any of this if you are guaranteed a reasonable return on your investment but this is not happening and times are hard."

EXTRA PUMPS INSTALLED

During 2002/2003 the Water Users' Association enlarged the original pump station. Three extra pumps and a second pipeline were installed to meet the water requirements of irrigators who had bought extra water rights on the Orange River. It means new work opportunities and greater crop production have given the local economy a new lease on life.

The rivers – the Orange, the Vaal and their tributaries, the Harts, the Riet, the Klein Riet, the Modder – all part of an intricately linked system have, like the farmers on their banks, sometimes bowed under the strain of the demands they face.

"With good management there will always be water," says Willie Bruwer, from the Orange-Vaal WUA, "We have learnt though that it's a resource we cannot take for granted. "Water, like the diamonds discovered on the banks of the rivers near Douglas, is something we must always treasure."



In Memoriam

The *Water Wheel* regrets to announce the sudden death of Mr Willie Bruwer (senior), the Douglas historian, who was interviewed for this article. He died in his sleep on 1 July 2004, aged 77.