South Africa

ORANGE RIVER PROJECT

VANDERKLOOF CANALS SCHEME

LOCATION

The Vanderkloof Scheme is part of the Orange River project and is located downstream of the Vanderkloof Dam on the Orange River.

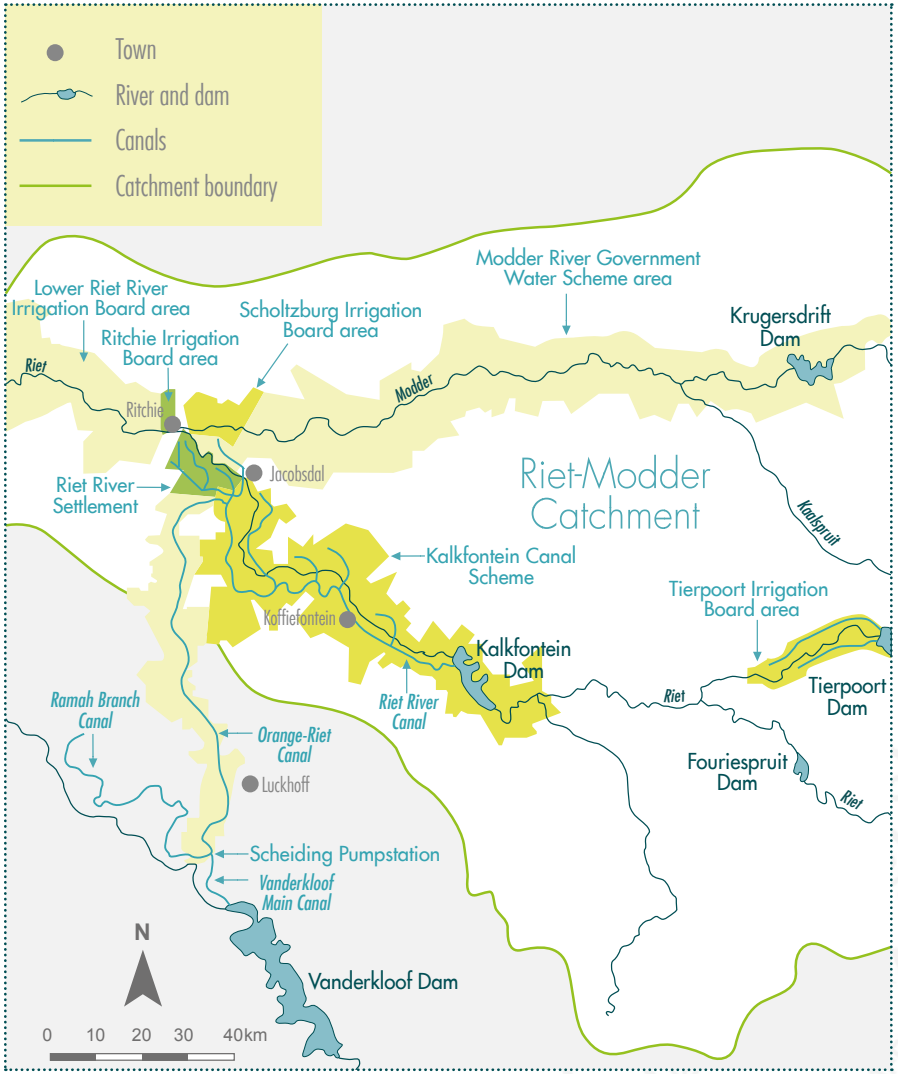
DESCRIPTION

The Vanderkloof Canals Scheme consists of three canals: the Vanderkloof Main Canal directly off the dam, the Orange–Riet Transfer Canal and the Ramah Branch Canal. The scheme also includes Scheiding Pump Station, where at this point the Vanderkloof Main Canal ends and the Orange–Riet and Ramah Canals begin.

The Vanderkloof Main Canal: Water is released directly from Vanderkloof Dam into this canal until it reaches the Scheiding Pump Station, where the water is pumped into the Orange–Riet Canal and the Ramah Canal.

The Orange–Riet Canal: At the Scheiding Pump Station water is pumped into the Orange–Riet Canal, where it eventually splits into two further canals, namely the Main Canal and the S350 Canal. The Orange–Riet Canal forms part of the Orange–Riet GWS.

Ramah Canal: At the Scheiding Pump Station, the Vanderkloof Main Canal extends into the Ramah Canal, which lies along the right bank of the Orange River. This canal has three reaches, known as Ramah I; Ramah II, and Ramah III. The canal has one balancing dam between reach I and II, with a capacity of 340 000 m^3, and a surface area of 12.68 ha. There is a second balancing dam between reaches II and III with a capacity of 280 000 m^3, and a surface area of 9.0 ha.



Locality map (from map produced for ORASECOM *Infrastructure Report*, 2007)

VANDERKLOOF CANALS SCHEME

Canal name	Length (km)	Capacity (m^3/s)
Vanderkloof Main Canal	14	57
Orange–Riet Canal (portion 1)	74.6	15.6
Orange–Riet Canal (reach 2)	38	13.2
Main Canal	Unknown	Unknown
S350 Canal	Unknown	Unknown
Ramah Canal I	17.3	9.6
Ramah Canal II	48.9	4.2
Ramah Canal III	21.2	1.48

PURPOSE

The Vanderkloof Main Canal: Vanderkloof releases water via the canal to the Scheiding Pump Station to be used further downstream.

The Orange–Riet Canal: The original intension for the construction of the Orange–Riet Canal in 1983 was to regulate the supply of sufficient water for peak daily demands and the annual water demand. The Orange–Riet Transfer Scheme abstracts water from Vanderkloof Dam (via the Scheiding Pump Station) to be transferred to the Riet River Catchment via the Orange–Riet Canal. The water is primarily used for irrigation but also supplies Koffiefontein (urban and mining), and the urban requirements of Ritchie and Jacobsdal towns.

The Orange–Riet Canal supplies water to 3 787 ha of irrigation next to the canal and the Lower Riet Irrigation Board (3 937 ha). The Main Canal supplies the Richie Irrigation Board (97 ha). The S350 Canal releases water into the Modder River, which is in turn abstracted (via the Scholtzburg Weir just upstream of the Riet and Modder confluence) to supply the Scholtzburg Irrigation Board (637 ha). The Riet River Settlement near Jacobsdal (7 812 ha) receives water from both the Main Canal and the S350 Canal. The settlement also receives water from the Orange River and is part of the Riet River Government Water Scheme.

Ramah Canal: The Ramah Canal supplies water to 5 667 ha of irrigated land on the right bank of the Orange River.

Click here to get an integrated schematic of the ORASECOM area