

REPUBLIEK VAN SUID-AFRIKA  
DEPARTEMENT VAN WATERWESE  
TAK SUIDWES-AFRIKA

## *Die Naute Staatswaterskema*

Brosjure uitgegee vir die opening van die skema  
op 9 September 1972.

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REPUBLIC OF SOUTH AFRICA  
DEPARTMENT OF WATER AFFAIRS  
SOUTH WEST AFRICA BRANCH

## *The Naute State Water Scheme*

Brochure issued for the opening of the scheme on  
9th September, 1972.

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REPUBLIK SÜDAFRIKA  
MINISTERIUM FÜR WASSERWESEN  
ABTEILUNG SÜDWESTAFRIKA

## *Das Naute Staatswasserprojekt*

Broschüre zur Eröffnung des Projektes am  
9. September 1972.

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Buitebladfoto  
Aansig van die Naute Dam uit die suide  
Cover photo  
View of the Naute Dam from the south  
Umschlagphoto  
Ansicht der Naute Staumauer von Süden

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## THE NAUTE STATE WATER SCHEME

The Naute State Water Scheme provides primarily for the supply of potable water to the town of Keetmanshoop. It consists of a storage dam in the Löwen River, 45 km to the south west of Keetmanshoop, a water purification plant near the dam, pumping stations, pipelines and reservoirs.

### Historical Background

The construction of a storage dam in the Löwen River as a permanent source of water, primarily for irrigation purposes was first investigated by the privately owned "Syndicate for Irrigation Schemes in German South West Africa" in conjunction with the German Colonial Government in the period 1897 to 1902.

A locality originally named "de Naauwte" in Dutch, later germanised to "Naute", indicating the narrowness of the gorge, made an ideal site for a storage dam due to its topographical conditions and the presence of a "regularly" flowing river.

Two independent investigations carried out by Th. Rehbock and A. Kuhn resulted in the decision to construct a 22 m high rockfill dam at the entrance to the 4 km long Naute gorge to create, according to then carried out calculations, a basin of 71 Mm<sup>3</sup> capacity to enable the irrigation of 5100 ha in the Seeheim plain below the dam. The construction of a small hydro-electric station was included. The total cost was estimated at R4 million. The scheme never came to fruition during the remaining period under the German control, chiefly owing to the native wars which followed.

During the 1950's the need for an additional or completely new water supply scheme for Keetmanshoop became apparent when it was realised that the existing sources consisting of boreholes and the van Rhyn Dam could no longer meet the ever increasing demand.

Keetmanshoop's water consumption:

Year	Average daily m <sup>3</sup>	Total yearly Mm <sup>3</sup>
1960	2 270	0,6
1965	1 630	0,85
1970	5 120	1,14
1980*	5 800	2,12
1990*	10 570	3,86

\* Predicted estimates.

In 1961 the Water Affairs Branch of the S.W.A. Administration recommended the construction of a scheme on the Löwen River for the supply of water to the Municipality of Keetmanshoop and for a pilot irrigation scheme on the Seeheim plain. The Executive Committee of the South West African Legislative Assembly accepted this proposal.

The Commission of Enquiry into S.W.A. Affairs of 1962/63 then recommended in its report (RT 12/1964 Gov. Printer) that the Naute State Water Scheme be built as part of the first Five Year Development Plan for South West Africa. The scheme was to serve not only as the water supply for Keetmanshoop but also for an experimental irrigation station. Subsequently the question of irrigation, even on an experimental basis, has been reconsidered by the Department of Water Affairs with the intention of studying in greater detail the economic feasibility of the utilisation of the water resources of the Fish River basin, against the background of the integrated development of the whole southern part of the territory.

In 1964 the Executive Committee of the South West African Legislative Assembly appointed Consulting Engineers to carry out the design work for the proposed scheme. In the same year the first contract was awarded for diamond core drilling and the geological investigation of the foundation materials at the two possible dam sites. In 1966 the construction of the access road, and extension to the Jürgen Railway Siding were commenced. In 1967 the works for the establishment of housing facilities, potable and construction water supply and power generation were put in hand. In 1968 the works commenced on the Naute Dam proper and in 1969 work on the purification works, pump stations, pipelines and reservoirs started. The last major contract, awarded in 1970, involved the con-

struction of the power line and transformers.

The first flood waters were retained in the storage basin during the 1970/71 rainy season. All components of the scheme were completed by the end of 1971 and the supply of water to Keetmanshoop commenced during the second half of 1972 after the extensions to the Keetmanshoop Municipal Power Station, from where the entire scheme is fed with electricity, had been commissioned.

### The Catchment Area

At the Naute Dam the Löwen River has a catchment area of 8800 km<sup>2</sup>. The Löwen River and its southern tributaries drain the mountainous and hilly areas on the northern and western slopes of the Grosse and Kleine Karasberge mountain ranges. This area, because of its higher rainfall, steeper topography and geological composition, delivers a high percentage of the yield of the catchment area. Its main northern tributary, the Garuchab, de-waters the gently sloping plains to the east of Keetmanshoop.

The climate in the entire region is semi-arid. The vegetation is generally sparse and consists of a thin grass cover, small scattered bushes and euphorbia. A belt of trees and dense bush lines most of the riverbanks.

The principal hydrological data are:

Catchment area	8800 km <sup>2</sup>
Mean annual rainfall	150 mm
Mean annual runoff	45 Mm <sup>3</sup>
Maximum flood once in 200 years	2380 m <sup>3</sup> /s
Mean yearly evaporation in area	2,65 m
The capacity of the dambasin is	70 Mm <sup>3</sup>