

Courtesy of Leon Tebbance

BUCHUBERG:

Built on the backs of men

Constructed in the 1930s, the Buchuberg Dam was one of the first attempts to tame the lower reaches of the mighty Orange River for irrigation purposes. Lani van Vuuren looks back at the history of this dam surrounded by red dunes and quiver trees where man and beast worked side by side for want of a better life.

The idea of constructing a dam and canal in the lower reaches of the Orange River to irrigate the narrow strip of alluvial soil which lies across the south bank of the river to the west of the Buchuberg range (so named for the Buchu plant – a medicinal herb – which grew wildly there) was considered as far back as 1872, shortly after the discovery of the first diamonds in the Northern Cape. The government owned a series of farms along the river front, which had been reserved for irrigation.

The first definite scheme for the irrigation of any portion of these farms was prepared in 1895. In that year a survey was made and estimates were prepared for a canal 58 km long,

to irrigate 2 800 acres (about 1 133 hectares), in four farms. It was to take off at a point on the Orange River, about eight kilometres above the Buchuberg Range, from above a masonry weir, about 4 m high. The scheme was discussed in the Cape Parliament by Cecil John Rhodes, John X Merriman and Jan Smuts. However, the calculated cost of the scheme at £40 per acre was considered prohibitive and the scheme was placed on the backburner.

During the next decade the scheme would come up in parliamentary discussions often, and various changes were proposed to the original design in efforts to come up with a cheaper solution. MPs expressed their concern over the fact

that the Colony's water resources were allowed to flow "unused into the sea," and pleaded that the waters of the Orange River should rather be used for irrigation.

In 1906, it was proposed that the Buchuberg Irrigation Project be brought back on line. Director of Irrigation, WB Gordon, proposed the construction of a smaller canal to irrigate 1 400 acres (567 hectares) at a cost of about £20 an acre. The canal would be about 27 km long instead of 58 km as originally planned. Gordon suggested that a weir would not be needed because the inlet of the canal would be above the rapids. The entire project would cost £34 000. In his report, laid before Parliament in 1907, Gordon states: "An irrigation scheme is urgently needed for the development of this backward part of the country."

Initial work started on the scheme in September 1906. Interestingly, initial work was carried out by black labourers as white labour was considered "too scarce" in the area. However, on 10 September 1907 it was indicated in Parliament that work on the project had been abandoned due to the unexpectedly high construction costs. Commissioner of Irrigation, Dr Smartt, said that £7 500 had already been spent on the works. He also stated that: "As soon as the financial position of the country improved, it was the intention of the government to resume operations." However, this was not to be for nearly two more decades.

A PROJECT IN AID OF THE POOR

In 1929, as the country was in the grip of its worst drought experienced in living memory, and the Great Depression had the world's economy on its knees, Director of Irrigation, AD Lewis, received sudden instructions to organise and start with construction of irrigation works at Buchuberg. He was told to "start construction as soon as possible to

provide employment for white people who were suffering from the effects of drought." Funds were to be provided by the Department of Labour (which was also in charge of employing labour for the project from its Pretoria headquarters), with construction led by the Department of Irrigation.

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This was in spite of Lewis' caution against the implementation of large water resource development schemes in the Orange River. He stated that, because of the steep gradient of the river and the magnitude of floods, storage works for the purpose of irrigation would be "very expensive". Lewis wrote in 1929: "The Orange River will never provide a solution to the problem of water conservation, because large storage facilities will be subjected to siltation." These words proved to be prophetic as siltation would significantly reduce Buchuberg Dam's storage capacity in later years.

The Buchuberg Dam and canal would be tackled as two separate construction projects. Resident engineer DF Kokot oversaw works at the dam, and the dam's construction camp was to be sited on the farm Seeikoeibaart. Mr Aslaken was the resident engineer in charge of work on the canal, and this construction camp was at Sternham (later renamed Groblershoop). Work on the dam and construction camp started concurrently in 1929.

The dam wall was constructed to a final height of 0,7 m and is 622 m long.



Courtesy of Leon Terblance

A POEM FOR BUCHUBERG

Canal Construction Engineer W Lingnau wrote the following poem of his experience of building the Buchuberg Canal in August 1933:

Have I Loved These

*Rotton roads and windy days
Flapping tents torn many ways
Dusty plates and gritty food
A rattling car without a hood*

*Sacks for carpets on muddy floors
Vacant spaces where should be doors
A stretcher with a mattress thin
Where warm goes out and cold comes in*

*A stagnant pool the pump does stand
Disinfectant used by liberal hand
Dead donkeys in the river sand
Tasty water to beat the band*

*Yapping dogs and donkeys bray
Troubled callers every day
Tattered clothes in bright array
Does the pay car come this way?*

*Families large and still they grow
Ag sister kom kyk tog na my vrou
Always ready their ails to show
Are they happy for all we know?*

*Here we meet something so rare
Surely not found everywhere
Dust and wind for all to share
Few trees and shrubs but here and there*

*Have I loved these say it not
Rather would I place a dot
For Buchuberg although you're hot
You still remain a lovely spot*

Source: Boegoebergdam se Mense

BLOOD, SWEAT AND TEARS

Mr Willa Cloete was one of the first workers on site in May of that year. He describes the area that greeted these first 18 men as "a wasteland". Cloete told Lokkie van Zyl, author of *Boegoebergdam se Mense*, that there was no cement at the start of the project, and labourers started by collecting sand needed for the concrete. Level areas were chiselled from the mountain to create space for the stone crusher. Tip-trucks were hauled up

the mountain by machine to bring the rock to the bottom. All work was done by hand, with pick, shovel and wheelbarrow, with the assistance of donkeys and mules. Even the holes for the explosives (some as deep as two metres) were drilled by hand. The coffer dams were built on sand bags which the workers carried on their backs. Work was carried out by day under the 40°C heat and at night by oil lamp to tame the mighty Orange River by hand. Tales are told of hardened men reduced to tears at the site of their bleeding hands.

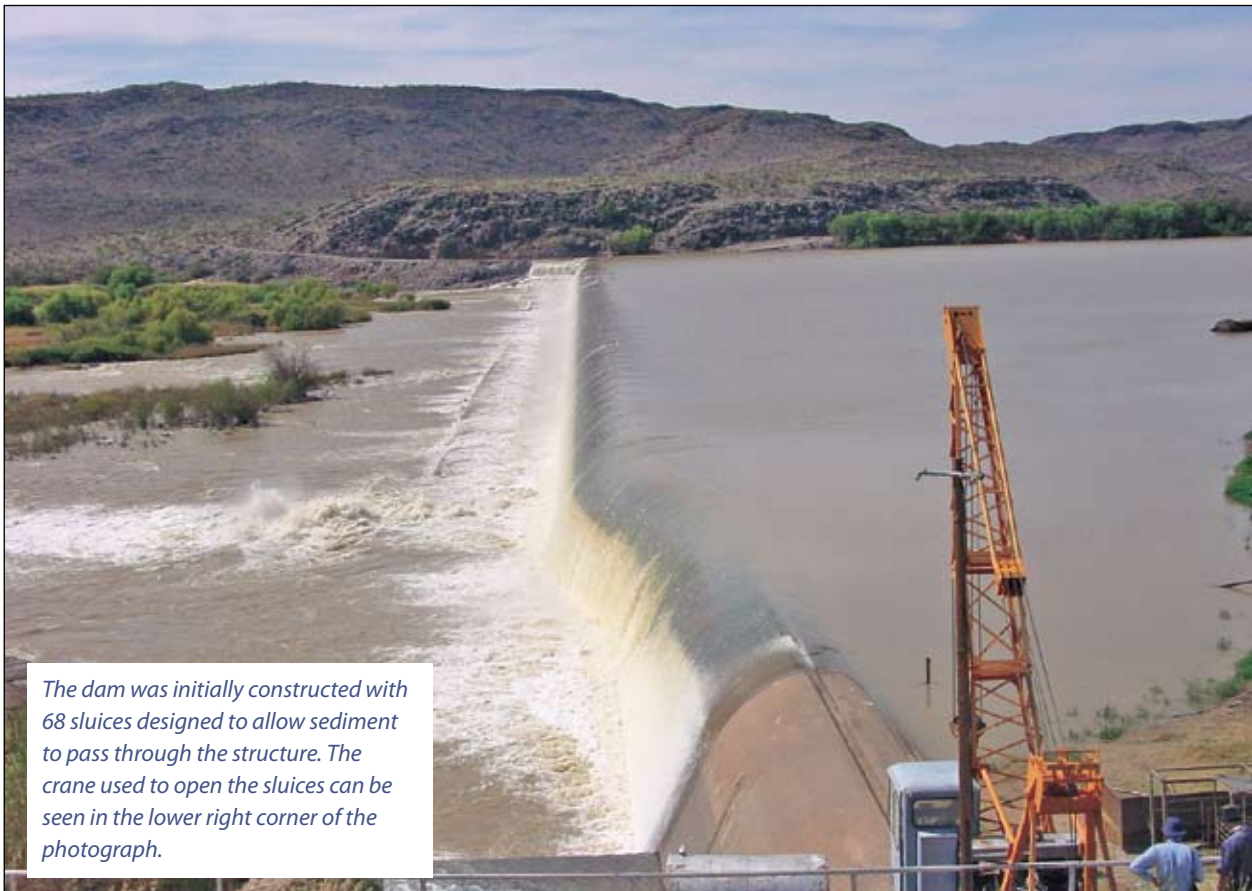
**"Work was carried out by day
under the 40°C heat and at
night by oil lamp to tame the
mighty Orange River by hand."**

An average 350 men worked on the construction of the dam. They came in hordes, from the closed diamond mines and the insolvent farms to earn a meagre 7s-6d a day. Only white men were employed on the project, as was the case with many government infrastructure projects during that time. The only work people of colour could hope for was to cut firewood for a few scraps of food. Children as young as nine worked for a sixpence hauling stone in an effort to help their families put food on the table. It is reported that at one time as many as 30 children between the ages of nine and fourteen were working on the dam site.

Initially, the labourers and engineers stayed together in tents. Kokot had a strict rule: no liquor and no women! However, liquor was easily smuggled in and the workers' wives soon started arriving on site, living in makeshift shelters. Later these shelters were replaced by wooden units with sink roofs and clay floors for the use of families. Unmarried men remained in the tented camp or the so-called 'bachelor's camp'.

Everything, from labourers to equipment, sluices and even the stone crusher was initially transported piece by piece by donkey cart from the nearest train station at Draghoender, more than 60 km away. Such a round trip could not be done in a day. Thus the hotel, the liquor and grocery stores at Draghoender became very popular during the construction of Buchuberg Dam. The donkeys were later replaced by trucks, rented from richer farmers in the region.

In June, 1930, a school was opened (although the pioneer teacher, Koos de Beer, initially taught children under the trees with no books and no desks). Although the camp later boasted a hospital with a medical officer paid for by the Department of Labour, these were tough times, and around 50 people (including 38 children) died during the construction of the dam. In 1933, the river stopped flowing, causing an outbreak of diarrhoea. The camp was also plagued by malaria when the river was in flood.



The dam was initially constructed with 68 sluices designed to allow sediment to pass through the structure. The crane used to open the sluices can be seen in the lower right corner of the photograph.

Courtesy of Leon Terblance

By 1932, construction of the dam had advanced enough for water to flow into the canal for the first time. The dam wall was constructed to a final height of 10,7 m and is 622 m long. The dam was initially equipped with 68 sluices designed to allow sediment to pass through the structure.

The completion of the 121 km canal in 1934 was celebrated with big fanfare. Dignitaries walked ahead of the water in the canal and at the canal's end a prayer of thanks was held.

All present had to pick up a stone along the way which was to be used later to construct a monument in honour of those who constructed the dam. The monument did not materialise until some years later when a rebuilt oxwagon camped at this venue on its way to a commemoration ceremony of the Great Trek. The monument that was erected afterwards served a dual purpose (to commemorate the Great Trek and, with the inclusion of the stone collection, the pioneers of the Buchuberg Dam and canal).

SOURCES

Boegoebergdam se Mense – 'n Flukse Draai van die Wiel by Lokie van Zyl.

Hydropolitical History of South Africa's International River Basins (WRC Report No: 1220/1/04).

Buchuberg Irrigation Works on Orange River, Prieska. Report on the Proposed Buchuberg Canal from the Orange River by Mr WB Gordon, Director of Irrigation, Cape Town. Department of Water Affairs & Forestry website (www.dwaf.gov.za).

Thanks to Mr Leon Terblance for photographs.

Although the dam had an initial storage capacity of 40 million m³, this has been halved through the years through sedimentation. The sediment sluices have been closed permanently and the structure is now effectively a concrete weir which supplies water into the canal on the left bank. Today, the Buchuberg canal supplies water to 7 560 hectares of irrigation in the area, most of which is used for field crops and a small portion of fodder crops.

At present, the Buchuberg site is one of several sites being considered for a new larger dam along the lower Orange River to provide additional storage and regulation capacity below the Vanderkloof Dam. It is thought that a new weir will be constructed at a proposed construction site about 1,5 km downstream of Buchuberg Dam, although a final decision is still pending. 