10. Noordoewer/Vioolsdrift Dam

**Project description and objectives**

The Orange River System (ORS) is one of the most highly developed River Systems in Southern Africa. In September 2015, Namibia and South Africa, under the auspices of the PWC, commissioned the Noordoewer / Vioolsdrift Dam (NVD) Feasibility Study. The study investigated many possible options and in 2016 initially concluded that the optimal NVD would have a wall height of about 73m, with a storage capacity of 2,800 million m³ and would be of concrete faced rock fill type (CFRD). The project objectives are to:

- **Increase the long-term sustainable** yield of the Orange River System
- **Provide for the projected growth** in water requirements in the Orange River System
- **Improve water supply and sanitation**
- **Compensate for the impact of the implementation** of the Reserve on the yield of the Orange River System
- **Provide a re-regulation storage** on the Lower Orange River to allow for releases to be made to correct the seasonal distribution of flows in accordance with the riverine Ecological Water Requirements (EWRs) in the Lower Orange River.

**Location on the Map**

![Link: https://pp2.au-pida.org/approved-project/entry/2iew3/](https://pp2.au-pida.org/approved-project/entry/2iew3/)

**Project status**

- The project is in **Feasibility** stage (S2B)

**Financial needs**

- Project Cost Estimate: USD 501.0 Million
- (Further feasibility studies-approximately USD 1 million; and Detailed design, procurement and construction-Approximately USD 500 million)

**Key parties**

![Namibia](https://pp2.au-pida.org/approved-project/entry/2iew3/) ![South Africa](https://pp2.au-pida.org/approved-project/entry/2iew3/)

**Technical specification of the project**

- The initially proposed NVD was sized as a concrete face rockfill dam (CFRD), with parameters as set out below, consisting of a side spillway, outlet works, hydroelectric plant, river flow gauging weir, etc. Parameter Description: Full Supply Level (FSL)-230 measlse; Freeboard-12.5 m; Non-Overspill Crest (NOC)-242.5 m; Lowest River Bed Level-162 masl; Dam Height up to NOC Level-80.5 m; Crest Length-1 km; Crest Width-10 m; and Embankment Slopes- 1V:1.4H.

**Market size**

- About 1.2 million people are within the project sphere of influence. The comparative advantage of agriculture in the area and high levels of unemployment best exhibits the NVD’s potential contribution to development in the region. The proposed NVD can potentially stimulate specific sectors that have some resonance in the particular environments of the area, specifically agriculture and tourism. Through targeted support measures that look to address the evident weaknesses in the local economic system, the project can have a remarkable developmental impact.