

# Case Study

## Kariba Dam – Co-owned dam with cost-sharing based on actual water use for national power generation

### Zambezi River Basin



**Basin area**  
1,350,000km<sup>2</sup>

### Riparian countries

Zambia (source), Angola, Namibia, Botswana, Zimbabwe, Malawi, Mozambique (delta)

### Main treaty/organisation

- Zambezi River Authority Act (1987)
- Established the Zambezi River Authority

### Members to agreement

- Zambia, Zimbabwe

### Case study dams

- Kariba Dam 1960 (south bank power station), 1975 (north bank power station)
- North Bank: 720MW
- South Bank: 750MW

### Main goals of the project

Hydropower

### Main mechanisms

- The bi-national Zambezi River Authority only manages Kariba Dam. It is co-owned by both governments
- The power houses on the north bank and the south bank are managed by the national utilities of Zambia (north bank) and Zimbabwe (south bank)
- ZRA is funded by both government based on the water that the national utilities use for energy production

### Cooperation background

- Kariba was planned and built by British authorities in the Central African Federation. The governments of two of the federal territories, Northern and Southern Rhodesia had interests in hydropower development, but differed in choice of location. The Federal government decided in favour of Kariba in 1955.
- Basin-wide cooperation dates back to 1987, when riparians adopted the Zambezi Action Plan (ZACPLAN) to establish a Zambezi Watercourse Commission (ZAMCOM). However, a lack of political will hampered implementation of the ZACPLAN.
- Negotiations on ZACPLAN led the already established Southern African Development Community (SADC) to adopt the SADC Water Protocol. The SADC Water Protocol effectively functioned as ZAMCOM Agreement surrogate. All further planning for ZAMCOM were coordinated by the SADC Water Division.
- Only in May 2011, an Interim ZAMCOM Secretariat was established and the work transferred from SADC to the Interim Secretariat.
- However, Kariba, Cahora Bassa and other dams on the Zambezi and its tributaries continue to be operated as individual projects.

### Joint planning and dam management mechanisms

- Kariba was first managed by a Federal Power Board, then after independence by the Central African Power Corporation (CAPCO). CAPCO's wide mandate included electricity sales and power-related investment.
- Conflicts between post-independence Zambia and Zimbabwe led to CAPCO being replaced by the bi-lateral Zambezi River Authority (ZRA) in 1987. ZRA's mandate is confined to managing the dam, while the power houses are operated by the national utilities.



Source: Encyclopaedia Britannica, <http://www.britannica.com/EBchecked/media/206/The-Zambezi-River-basin-and-its-drainage-network>



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## Specific provisions/asures

### Cost/benefit sharing

- ZRA is funded by both states through their national utilities. When the ZRA was founded, the funding arrangement was that both governments would contribute equal amounts. The arrangement was later altered to even out perceived imbalances. Now, payments are made based on the actual water use by the utilities for energy generation. The water tariff itself is reviewed annually by a Joint Operations Committee.

### Impact monitoring/mitigation

- As for the environment, the colonial authorities launched Operation Noah, a large-scale programme to rescue wildlife from the inundating reservoir.
- While the 1950s feasibility study made no mention of resettlement, some efforts were made: The resettlement procedure was the responsibility of the governments in the Central African Federation: Northern Rhodesia resettled members of the Gwembe Tonga tribe on the north bank, Southern Rhodesia the south bank Gwembe Tonga.
- North bank resettlement focussed on reservoir resettlement and was comparatively well planned, but shortage of funds, time and staff as well as the suspicion of the Gwembe Tonga led to widespread impoverishment, particularly a decline in agriculture and cattle grazing.
- Reservoir fisheries were successfully established.
- In the 1990s, the ZRA began compensation procedures for the Zimbabwean resettlers. The move was matched on the Zambian side by Zambia's national utility ZESCO with funding from the World Bank and the Southern African Development Bank.
- In 1998, the ZRA started an Environmental Monitoring Programme with funding from SIDA.
- To advance dam harmonization between the Kariba, Kafue and Cahora Bassa dams, a Joint Operations Technical Committee (JOTC) was created, including authorities and operators responsible for operating those dams. In this framework, also discussions to experiment with environmental flows at Kariba and Cahora Bassa are being held between SADC and the JOTC.
- A project on Dam Synchronization and Flood Releases in the Zambezi River Basin, is further currently ongoing under the auspices of SADC and funded by GIZ, DFID and AusAID.

### Imprint:

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