IWRM Action Hub

CASE STUDY

# Zambia: Restoring the Kafue Flats

**Summary**

Kafue Flats are the vast open floodplain of the Kafue River, important for fishing, cattle grazing, sugar cane farming, and production of hydroelectric power. Increased human pressure is, however, threatening the ecosystem. Action was taken by WWF to create partnerships between different stakeholders. Furthermore, an IWRM plan has been initiated. This case illustrates how integrated planning can bring together stakeholders with diverse interests.


**Background**

Kafue Flats are the vast open floodplain of the Kafue River, covering some 6,500 $km^2$ within the wider basin of the Zambezi River. The area is important for fishing, cattle grazing, sugar cane farming, and production of hydroelectric power.

The Kafue Gorge hydroelectric power plant, situated at the eastern end of the Kafue Flats, is the country's largest power station, providing more than 50% of Zambia's electricity needs. A second storage reservoir (the Itezhi-tezhi Dam) at the western end of Kafue Flats allows for the release of sufficient water to maintain maximum power generation throughout the year.

On the south-eastern side of Kafue Flats, near the town of Mazabuka, there are several huge sugarcane farms. These farms produce the majority of Zambia's sugar for local use and export. Each farm relies heavily on water from the Kafue River for irrigation, while nutrient-rich effluent is discharged back into the river, contributing to the proliferation of many aquatic plants, including the problematic water hyacinth.

Until recently, the area was sparsely populated but this is changing as many people arrive in search of work, for example on sugarcane estates. This has promoted illegal over-fishing and hunting. As a

result, certain parts of the Flats are suffering from increasing human pressure.

**Actions taken**

The World Wildlife Fund (WWF) played a catalytic role to create partnerships (including Zambia Sugar, the energy, water and wildlife authorities, a chiefdom and two tour companies). With the sugar industry, WWF is working to restore 50,000ha of the Kafue Flats – the Mwanachingwala Conservation Area. This is being achieved through a combination of measures including raising awareness among local communities, the introduction of wise use practices, translocation of animals, and ecotourism.

WWF is also encouraging sugar farms to pre-treat their effluent through bio-filters to lower nutrient levels in the water. The plants grown as bio-filters can also be used to make a modest income – for example, basket-making from reeds.

With ZESCO (Zambian Electricity Supply Company) and MEWD (Ministry of Energy & Water

Development), WWF is working to the operating procedures of the Kafue Gorge and Itezhi-tezhi Dams. The aim is to mimic natural water flows as closely as possible in order to restore wetland functions and values.

The IWRM project is part of the Kafue pilot project being implemented by the MEWD through the Water Resources Action Programme (WRAP). WRAP is trying to develop a national strategy that will improve the management of water resources (surface and groundwater) throughout Zambia.

**Outcomes**

The first phase of this partnership produced an Integrated Water Resources Management Strategy, computer models to simulate potential water management scenarios and to study their likely impacts.

The second phase began in July 2003 and focused on implementation of the new water management system for Kafue Flats. Re-establishment of the hydro-meteorological monitoring network, further

refinement of computer models, dam operation, and legal and institutional frameworks were the main components of this phase. All key stakeholders and water users are part of this process.

This case illustrates how integrated planning can bring together stakeholders with diverse interests and result in projects which serve both socio-economic and conservation interests. It also demonstrates the importance of having model sites (geared to concrete results on the ground), and where ownership lies clearly with the partners. This scenario enabled WWF to play an initial catalytic role, but with a strategy for phased withdrawal, leaving the partners to take forward the work themselves. There is potential for extending this model to the whole of the Zambezi Basin.

**Lessons Learned**

The project should be designed to allow it to be taken over and run by local stakeholders who have a lasting presence and interest in the area.

Start small and scale up: For Kafue Flats, it was decided not to initiate a complex, fully integrated process from the beginning, but to start with simple, small-scale activities and build up a more integrated program.

To avoid misunderstandings that may hamper securing project goals, the role of outsider assistance (as a catalyst and intermediary, not as an owner or long-term donor) must be explained continually to the project partners and other stakeholders.

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**Supporting Materials**
GWP Southern Africa
Zambia: Restoring the Kafue Flats
Zambia: Restoring the Kafue Flats

**Related IWRM Tools**
Integrated Flood Management Plans, Communities of Practice, Socio-Hydrological Modelling, Monitoring and Evaluation Systems, Youth Engagement and Empowerment

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