

OKACOM LOOKS AT

Irrigation on the Cubango-Okavango Basin

Poverty alleviation in the basin should be a major investment target for Angola, Botswana and Namibia

IRRIGATED AGRICULTURE has the potential for much higher productivity than rain-fed agriculture in the dry lands and ambitious water-use development plans could be of great economic benefit. The Permanent Okavango River Basin Water Commission (OKACOM) takes a look at irrigation needs, challenges and opportunities on the basin.

Due to the prevalence of water resources in the Cubango-Okavango, there are a considerable number of proposals for large irrigated agriculture schemes, which represent employment and income possibilities in the basin.

In Namibia, irrigated agricultural development is already well advanced, but there are a number of additional proposed schemes. These estimates are based on a crop water-demand of 15,000 m³/ha/annum. These levels of abstraction are likely to affect the flows during periods of low flows. The implementation of

these projects will require careful management and impact analysis to avoid negative impacts on the water resources in Namibia and downstream.

In the medium term in Angola, about 270,000 ha of new irrigation schemes are proposed, most of which are located in the Cubango catchment. In the longer term, a further three large schemes are proposed, bringing the total irrigated land to 490,000 ha. There are proposals for the rehabilitation of existing irrigation schemes, as well as 186,000 ha for the development of new small- and medium-scale schemes by 2025.

A major limiting factor for the development of irrigated agriculture in the basin is the suitability of soils. The feasibility of these schemes will also depend on agro-ecological features, agricultural practices and market opportunities. It is likely that horticulture and fruit production will be the principal irrigated crops, while cereal crops will continue to be cultivated as rainfed crops.

ANGOLA

There are currently three schemes totalling 1,200 ha of irrigated land. It is believed that this is below the irrigation potential in the upper catchment.

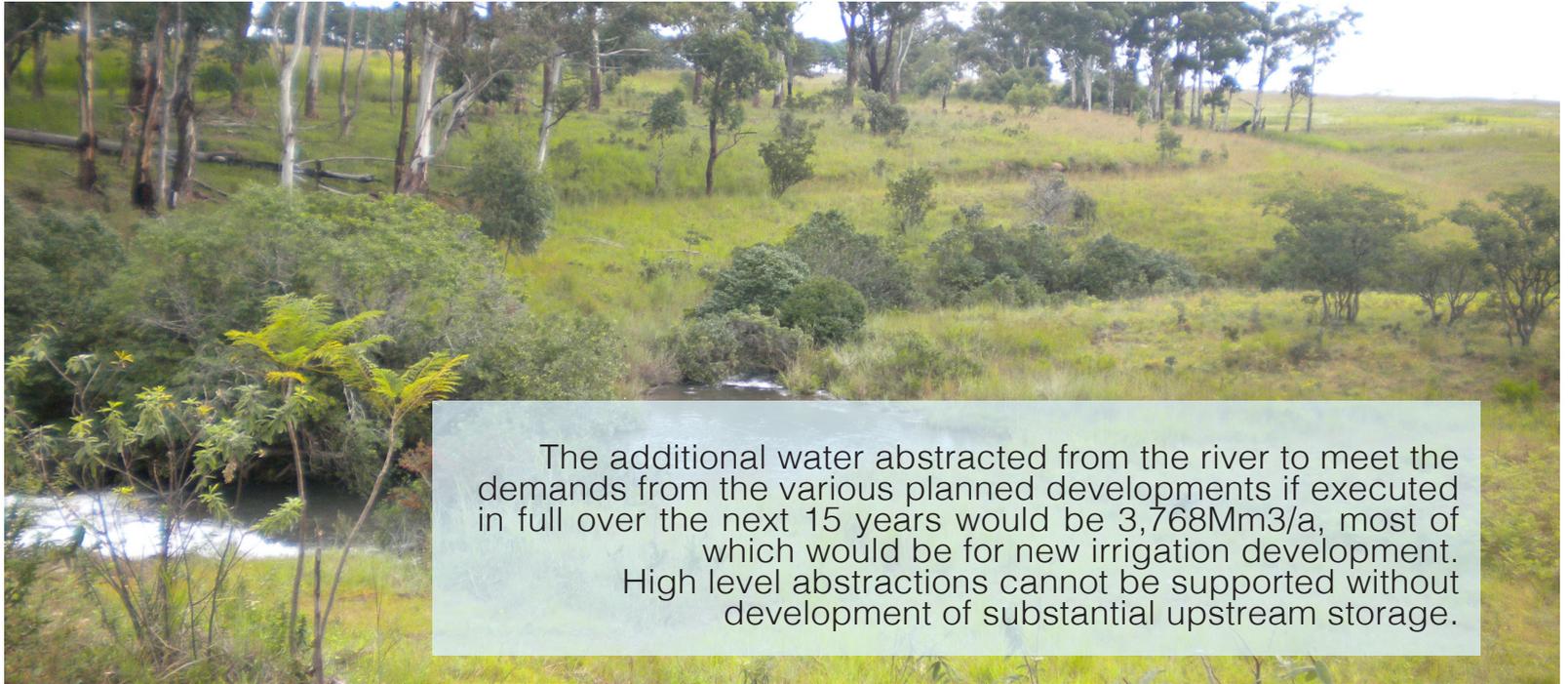
BOTSWANA

Of the 188 ha allocated for irrigation around the delta, only 17% is currently being utilised.

NAMIBIA

With 12 agricultural schemes covering a total 2,197 ha, Namibia has invested the most in irrigated agriculture to date. The primary objective of the irrigation schemes in Namibia is to contribute to domestic food security.

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The additional water abstracted from the river to meet the demands from the various planned developments if executed in full over the next 15 years would be 3,768Mm³/a, most of which would be for new irrigation development. High level abstractions cannot be supported without development of substantial upstream storage.

THE POTENTIAL LEVEL OF SUSTAINABLE IRRIGATION DEVELOPMENT IS UNCLEAR

- The **ECONOMIC FEASIBILITY** of some the schemes is questionable even under the most favourable economic conditions once the trade-off between loss of livelihood value and increase (or loss) in national economic benefit has been taken into consideration.
- This **FEASIBILITY** becomes even less favourable once the costs of the irrigation development are taken into account - this includes the global value placed on the Cubango/ Okavango basin and Delta and willingness to preserve them as biological treasures.
- The remoteness of the schemes and **THE COST OF INFRASTRUCTURE** required to transport goods to market. The confirmation that the markets exist (national, regional and international) for the planned produce.
- The **SUITABILITY OF THE SOILS** for large irrigation schemes
- The **IMPACT OF THE SCHEMES** on the sediment regime and water quality and the cost implications.

THE POTENTIAL SCHEMES NEED TO BE ASSESSED. A STRATEGIC ENVIRONMENTAL ASSESSMENT IS NEEDED

People in the Angolan part of the basin currently derive relatively little of the river-based income, although all of the basin's water comes from Angola and it has 57% of the basin population.

Botswana, with only 18% of the basin population, derives by far the bulk of the river-based income. The water use developments could reverse this imbalance, but as formulated, they could equally destroy the very signif-

icant current and future income from the lower basin, which is almost entirely dependent on ecosystem integrity. This therefore requires deeper cooperation between the riparian s



OKACOM

The Permanent Okavango River Basin Water Commission

OKACOM is the primary vehicle that can facilitate this cooperation. Over the past 20 years OKACOM has facilitated the Member states to develop tools and instruments for joint management, primary of which is the joint basin-wide shared Vision of an economically prosperous, socially just and environmentally healthy development of the basin.

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