ZAMBIA

Source: esri

General

Zambia - officially the Republic of Zambia - is a landlocked country in Southern Africa, neighbouring the Democratic Republic of the Congo in the North, Tanzania in the North-east, Malawi in the East, Mozambique, Zimbabwe, Botswana and Namibia in the South, and Angola in the West. The country has an area of 75.3 Mha (million hectares) with in 2022 a population of 20.0 million, or 0.27 persons per ha (Wikipedia and United Nations, 2022).

Climate and geography

The climate of Zambia is tropical, modified by elevation. There are two main seasons, the rainy season (November to April) corresponding to summer, and the dry season (May/June to October/November), corresponding to winter. The dry season is subdivided into the cool dry season (May/June to August), and the hot dry season (September to October/November). The modifying influence of altitude gives the country pleasant subtropical weather rather than tropical conditions during the cool season of May to August (source: Wikipedia).

Zambia is located on the plateau of Central Africa, between 1000 - 1600 m+MSL (mean sea level). Zambia is drained by two major river basins: the Zambezi/Kafue basin in the centre, West and South covering about three-quarters of the country; and the Congo basin in the North covering about one-quarter. In the Zambezi basin, there are a number of major rivers flowing wholly or partially through Zambia. The Zambezi valley, running along the southern border, is both deep and wide. In the West the most notable being the Barotse Floodplain on the Zambezi, which floods from December to June, lagging behind the annual rainy season (typically November to April). The flood dominates the natural environment and the lives, society and culture of the inhabitants and those of other smaller, floodplains throughout the country. The Kafue Flats consist of a very large flat area of which a large part is subject to seasonal flooding (source: Wikipedia).

De Groot and Marchand (1983) mention that a development study by the Ministry of Rural Development showed seven polders, each about 10,000 ha. They also present a possible development strategy for the Kafue Flats as summarised in Figure 1.

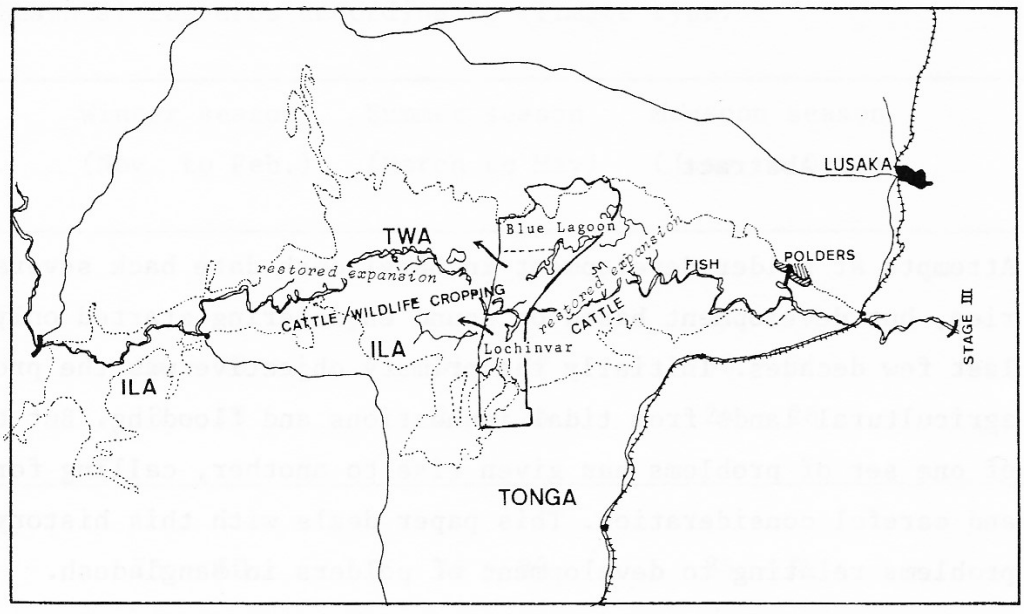

Figure 1. A possible development strategy for the Kafue Flats: restoration of inundations expansion, cattle raising, wildlife cropping and medium scale impoldering (De Groot and marchant, 1983)

Existing polders

Kafue Pilot Polder. A detailed description of the development of the Kafue Pilot Polder in the Kafue Flats is given by Hellen (1964). At invitation of the Rhodesian Selection Trust in 1955 a Dutch Firm undertook a survey on the possibility of large-scale irrigation in the Kafue Flats. After consultation with the Government in 1956 the Kafue Pilot Polder of 283 ha was set up near Mazabuka (Figure 2). Within this pilot polder there were two farms of 60 ha each. In addition there were seven small farms with areas ranging from 4,5 – 10 ha. In 1963 the pilot polder was inundated.

Figure 2. Aerial view of part of the Kafue Flats with the Kafue Pilot Polder in front (Hellen, 1964)

Although several plans for impoldering of certain parts of the Kafue Flats have been made, as far as can be identified only the Kafue Pilot Polder has been constructed (Group Polder Development, 1982). However, from Google Earth it can be derived that the actual polder area should be larger.

Characteristic data of the existing polders in Zambia are shown in Table I.

Proposed polders

Kafue Polder. Hellen (1964) also describes that in 1962 a study on the possibility of creating a commercial polder was commissioned. The result was published in 1963 and is known as the Roberts Report. The polder would have an area of 11,300 ha (Figure 3). Eventually a series of polders would follow up to a total area of 182,000 ha.

Location of the polders in Zambia as shown on the World polder map

The location of the polders in Zambia is shown in Figure 4.

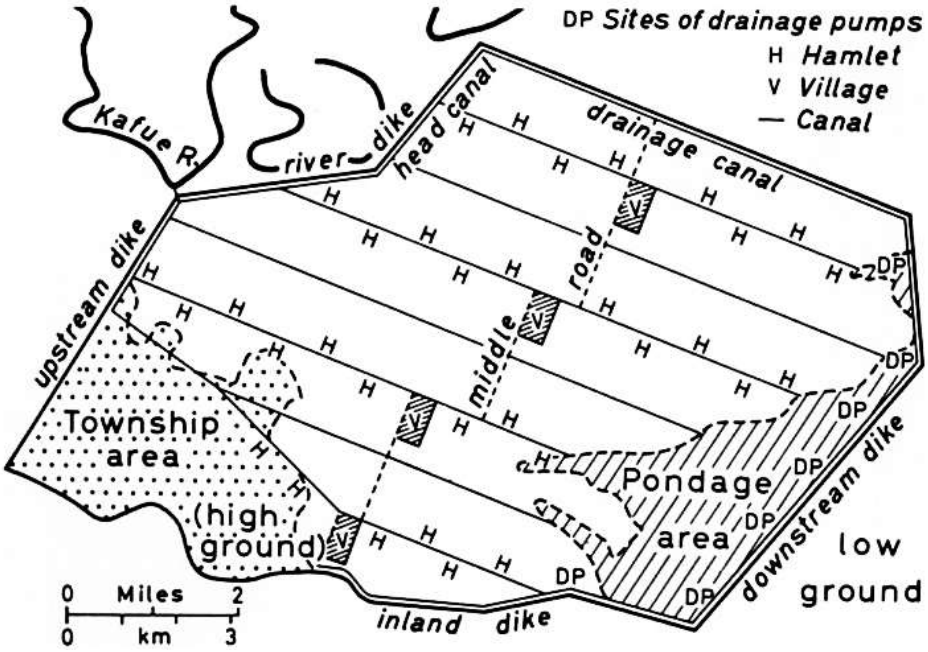

Figure 3. Proposed Kafue Polder (after Roberts, 1963)

Figure 4. Location of the polders in Zambia (source: esri – Batavialand)

References

De Groot, W.T. and M. Marchand, 1983. *Kafue flats, Zambia: flood-plain planning on crossroads*. In: Proceedings International Symposium 'Polders of the World'. International Institute for Land Reclamation and Improvement, Wageningen, the Netherlands.

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Hellen, A., 1964. A note on development of the Kafue Flats in Northern Rhodesia with particular reference to polder methods in agriculture. *Erdkunde*, Band XVIII.

Roberts, R.H., 1963. *Preliminary study of the application on a large scale of the polder system of agriculture on the Kafue Flats*. Vainona Estates Ltd., Salisbury, Rhodesia.

United Nations, Department of Economic and Social Affairs, Population Division. 2022. *World population prospects, medium prognosis. The 2022 revision*. New York, USA.

Web site: https://www.alamy.com/stock-photo/kafue-pilot-polder.html. This website contains a large number of pictures taken in the Kafue Polder

Note: Development study by the Ministry of Rural Development showing seven polders, each about 10,000 ha as mentioned by DeGroot and Marchand (1983).

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Table I. General characteristics of the existing polder and proposed polder in Zambia

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Existing polder							
Kafue Pilot Polder	1956	283	RLL	15º 50' S	27º 47' E	1030	Agriculture
Proposed polder							
Kafue Polder		11,300	RLL				
Total		280					

*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake