NIGER

Source: esri

General

Niger - officially the Republic of the Niger - is a landlocked country in Western Africa, named after the Niger River. Niger is bordered by Libya in the Northeast, Chad in the East, Nigeria and Benin in the South, Burkina Faso and Mali in the West and Algeria in the Northwest. The area of the country is 127 Mha (million hectares) with, in 2024, a population of 27.0 million, or 0.21 persons per ha (Wikipedia and United Nations, 2024).

Climate and geography

Niger's subtropical climate is mainly very hot and very dry. In the extreme South there is a tropical climate on the edges of the Niger River Basin (source: Wikipedia).

The terrain is predominantly desert plains and sand dunes, with flat to rolling savanna in the South and hills in the North. Over 80% of the land area is covered by the Sahara Desert (source: Wikipedia).

Existing polders

Namari Goungou Polder (Figure 1). In the project proposal of the Niger Irrigation Project it was stated that the proposed project aimed primarily at assisting the Government in expanding cereal and vegetable production along the Niger River, and at creating an appropriate structure for the development of its irrigation programme. Among others, the project would finance: i) construction of the irrigation scheme of the Namari Goungou Polder (2,250 ha of gross area, 1,550 ha net area); ii) provision of administration and financial services through the National Irrigation Authority (Office National des Amenagements Hydro-Agricole (ONAHA)); iii) provision of agricultural development services to participating farmers in this polder and to farmers established in neighbouring irrigation schemes; iv) training programs for farmers in modern agricultural techniques; v) preparation of a feasibility study for a nearby polder (World Bank, 1978)**.** The works for development of the Namari Goungou Polder would include a 12 km dike to protect the polder against maximum flood levels; two pumping stations designed to allow for gravity irrigation when feasible; about 70 km of irrigation network, and a drainage network. The project would be implemented in the period 1978 – 1981 (World Bank, 1978). In 1985 a new project proposal was presented. Among others, this proposal consisted of the following project components: i) rehabilitation of irrigation infrastructure and equipment; ii) assistance to irrigation cooperatives; iii) strengthening of ONAHA's management capability, including setting up a monitoring and evaluation unit; iv) strengthening of the management capability of the Société Riz du Niger (RINI) (World Bank, 1985). With respect to the rehabilitation component it is, among others, stated that rehabilitation works would cover 16 perimeters, namely, 11 pump-irrigated perimeters in the Niger valley, totalling about 2,200 ha, and five gravity-irrigated perimeters in the Ader-Doutchi-Maggia valley, totalling about 850 ha. The main improvement in the Niger valley would consist of the replacement of most diesel-driven pumping units with electric ones, which are easier to maintain and more economical. Diesel pumps would be repaired and kept as back-ups in case of power failure. In both valleys, rehabilitation works would also involve the reshaping and reinforcement of protection dikes, and the rehabilitation of portions of irrigation canals, drains and access roads. After rehabilitation, ONAHA would continue to be responsible for any maintenance of irrigation canals, drains and dikes requiring heavy equipment.

Polders near Lake Chad. In the east of Niger on the border with Nigeria near the Yobe River and Lake Chad there are large areas with rich soils, termed here as polders in analogy with those of the Bol region in Chad (Figures 2 and 3). In these polders maize, cowpeas, sorghum and vegetables are being cultivated under rainfed conditions (Lemoalle and Magrin, 2014). However, without return of the Lake on the polders, due to the drop of the lake water level, there is a serious risk of soil exhaustion (see also the Country report of Chad) (Luxereau *et al*., 2012).

Figure 1. Lay out of the Namari Goungou Polder (source: Maptons)

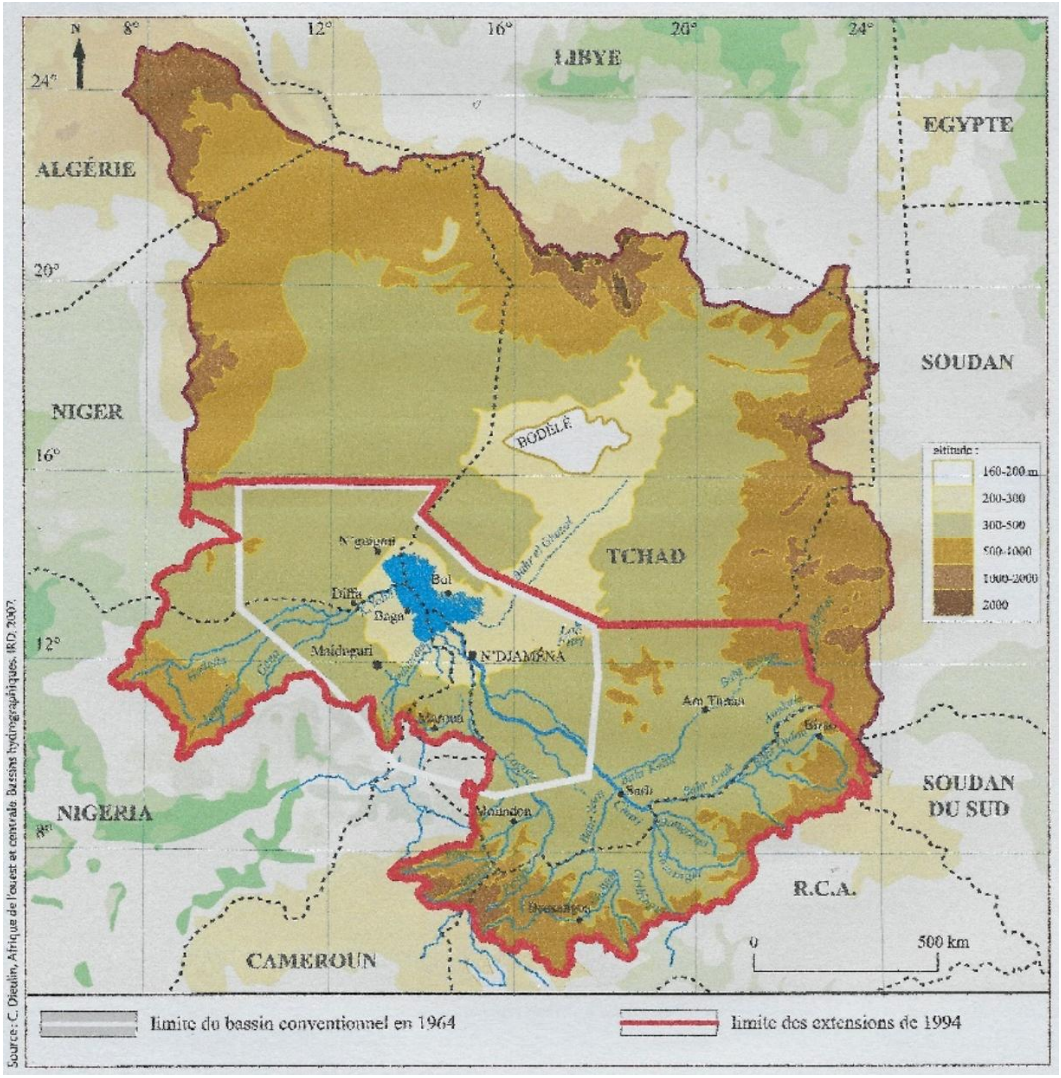

Figure 2. Topographic map of Lake Chad Basin (Magrin et al., 2015)

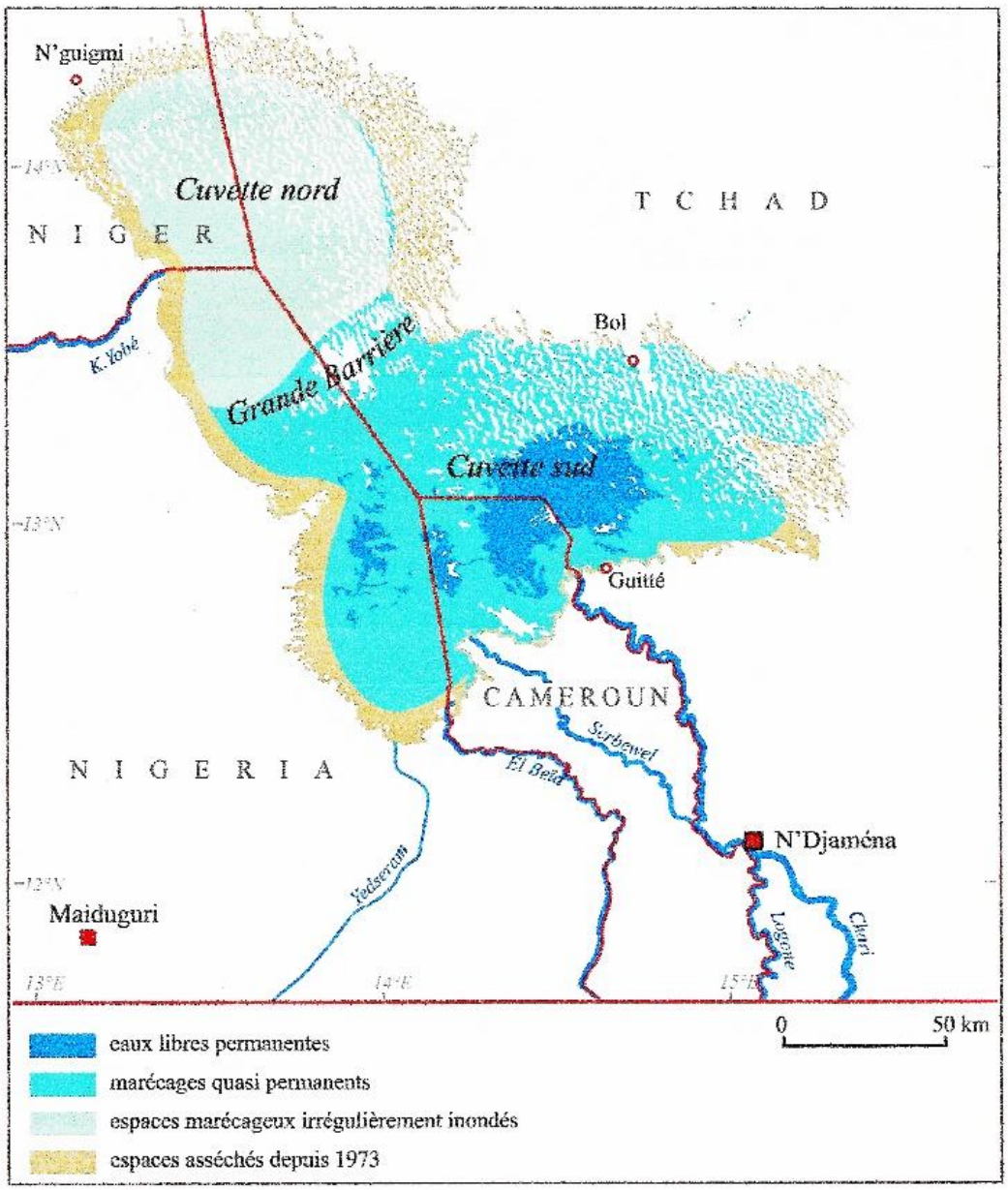

Figure 3. Situation of Lake Chad in 2010 (Magrin et al., 2015)

The cultivation in the Bultungur polder has been studied in depth by Abdourahamani (2011). He also mentions the polders Katchimba 1 and Katchimba 2 in the South and South-Oest and Korongole in the North (Figure 4).

Luxereau *et al*. (2012) describe that in this case polder is commonly used for the inter-dune depressions in the francophone countries bordering Lake Chad when they are used for farming, either if they are situated below the level of the Lake or not. Only a few of them use sluices and dikes to control water flow from the Lake. They also studied the Bultungur Polder, as one of these polders.

General characteristics of the polders in Mozambique are shown in Table I.

Proposed polders

No proposed polders could be identified.

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

The location of the polders in Niger is shown in Figure 5.

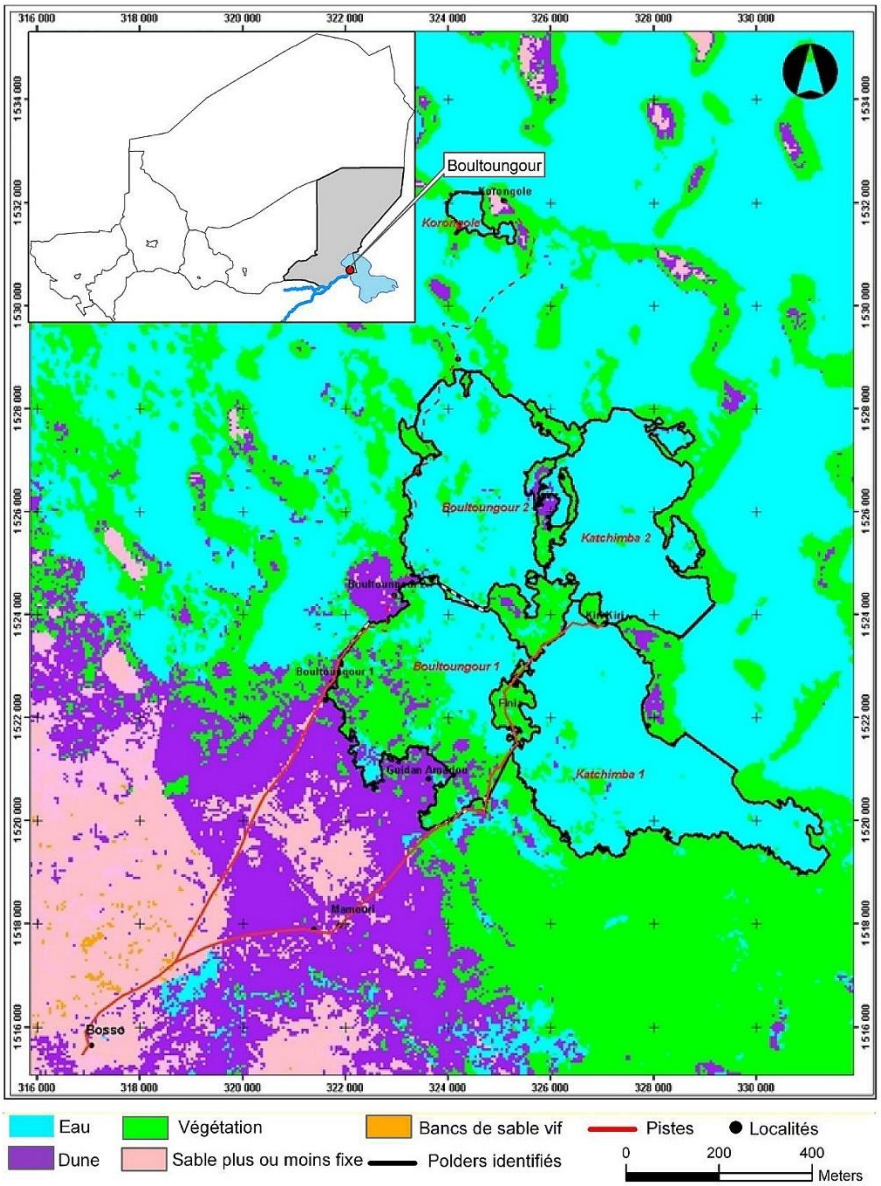

Figure 4. The Bultungur, Katchimba 1 and 2 and the Korongole polders (Abdourahamani, 2011)

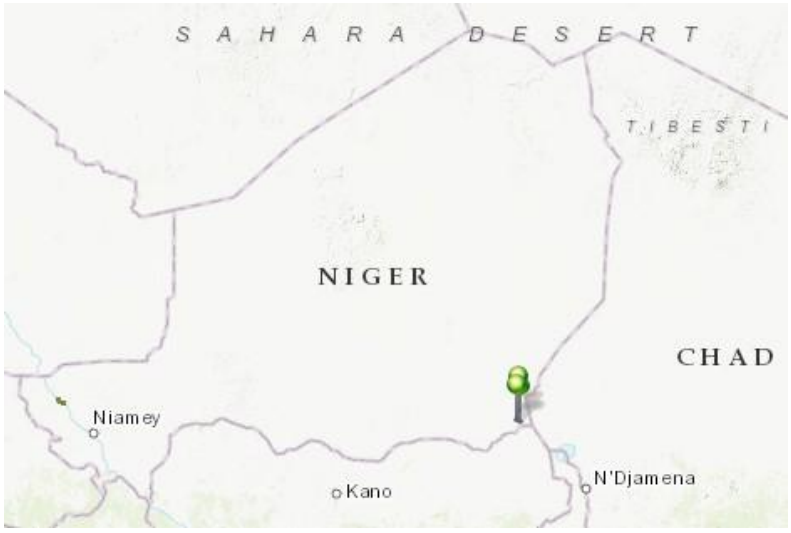

Figure 5. Location of the polders in Niger (source: esri – Bativialand)

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Lelystad, September 2024

Table I. General characteristics of existing polders in Niger

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Bultungur Polder 1 and 2		600	RLL	13° 43' N	13° 26' E	279	Agriculture
Katchimba Polder 1 and 2			RLL	13° 43' N	13° 27' E	279	Agriculture
Korongole Polder			RLL	13° 45' N	13° 26' E	279	Agriculture
Gabou-Bonfeba Polde		3,300	RLL	14° 33' N	1° 04' E	214	Agriculture
Namari Goungou Polder	1980-1983	2,250	RLL	14° 19' N	1° 17' E	210	Rice
Total		6,150					

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