

## NIGER



### 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 2020 a population of 24.2 million, or 0.19 persons per ha (Wikipedia and United Nations, 2019). Over 80% of the land area is covered by the Sahara Desert.

Source: esri

### 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. The terrain is predominantly desert plains and sand dunes, with flat to rolling savanna in the South and hills in the North (source: Wikipedia).

### Existing polders

*Namari Goungou Polder.* 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. 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. In the Project performance audit report of the Niger Irrigation Project there is a map of the Namari Goungou Polder (Figure 1) (World Bank, 1986).

*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. 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).

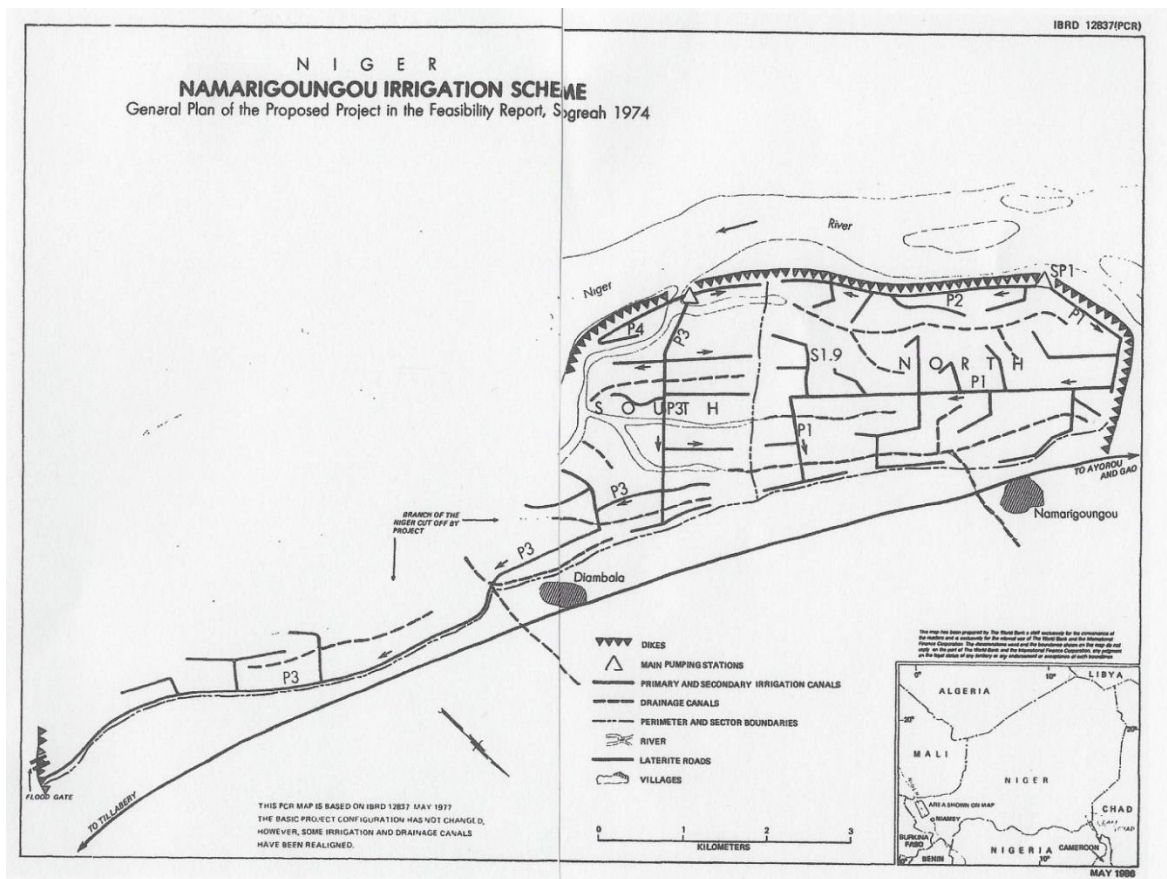


Figure 1. Lay out of the Namari Goungou Polder

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 locks and dikes to control water flow from the Lake. They studied one of these polders, the Bultungur Polder.

Some characteristic data of the existing polders are shown in Table I.

### Proposed polders

No proposed polders could be identified.

### References

- Bertoncin, M. and A. Pase, 2105. *L'irrigation dans le bassin tchadien*. In: Magrin, G.J. Lemoalle and R. Pourtier (eds.), *Atlas du lac Tchad*, Paris, Passages, N'Djaména, Rép. du Tchad.
- Lemoalle, Jacques and Géraud Magrin, 2014 *Le développement du lac Tchad Situation actuelle et futurs possibles*. Institut de Recherche pour le développement. Marseille, France (in French).
- Luxereau, Anne, Pierre Genthon and Jean-Marie Ambouta Karimou, 2012. Fluctuations in the size of Lake Chad: consequences on the livelihoods of the riverain peoples in eastern Niger. *Regional Environment Change*, Volume 12, Issue 3, September, pp 507–521.
- Sarch M.T. and C. Birkett, 2000. Fishing and farming at the Lake Chad; responses to Lake-level fluctuations, *The Geog. J.*, 166, 156-172 S.
- United Nations, Department of Economic and Social Affairs, Population Division. 2019. *World Population Prospects, medium prognosis. The 2019 revision*. New York, USA.
- World Bank, 1978. *Report and recommendation of the president of the International Development Association to the executive directors on a proposed credit to the Republic of Niger for an irrigation project*. Washington D.C., USA.

World Bank, 1985. *Report and recommendation of the International Development Association to the executive directors on a proposed credit of SDR 9.6 million to the Republic of Niger for an Irrigation Rehabilitation Project.*

World Bank, 1986. PPAR, *Project performance audit report Niger - Irrigation Project* (Credit 851-NIR), OED Report No. 6275 dated June 23, 1986.

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Table I. General characteristics of existing polders in Niger

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Namari Goungou Polder	1980-1983	2,250	RLL	14° 19' N	1° 17' E	210	
Polders near lake Chad							
• Bultungur Polder			RLL	13° 43' N	13° 26' E	279	
Total		2,250					

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