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Niger

WATER-WISE

Smart Irrigation Strategies for Africa

The Government of Niger has shown strong commitment through institutional and programmatic innovations relevant to irrigation expansion. Between 2003 and 2013, Niger witnessed a rapid increase in the uptake of irrigation: the share of arable land under irrigation increased by 20 percent.[1] Yet the 2018 Biennial Review Report by the African Union revealed that Niger is not on track to meet Malabo Commitment area #3.1, "Access to agriculture inputs and technologies," given its score of 0.29 out of 10, which falls well below the 2017 minimum score of 5.53.[2] **The potential to increase the amount of irrigated land was estimated at 0.07 million hectares (ha) for large-scale irrigation systems, with an internal rate of return (IRR) of 9 percent, versus 0.13 million ha for small-scale irrigation systems, with an IRR of 40 percent.[3]** Up to 20 percent of Niger's agricultural gross domestic product (GDP) is generated through irrigated agriculture.

INSTITUTIONAL INNOVATIONS

In close cooperation with other government agencies focused on irrigation, the General Directorate of Rural Engineering within the Ministry of Agriculture is responsible for developing and implementing a national policy on agricultural land development, surface and groundwater mobilization, rural infrastructure construction, and irrigation development. In 1978, Niger created the National Office of Hydro Agricultural Management (ONAHA) – a national agency to promote irrigated agriculture in Niger through the construction and management of irrigation schemes. However, in 1986, ONAHA was transformed into a public company so that cooperatives, the government, and local authorities must pay for services provided. As a result, ONAHA has financial autonomy and draws its funding from its commercial activities.[4] In 2006, recognizing the importance of the private sector in transforming agriculture, the government set up the Network of Regional Chambers of Agriculture (RECA). RECA constitutes a platform for advocacy and dialogue between stakeholders to strengthen agricultural organizations and producers, including those of irrigated agriculture.[5] Furthermore, in 2012, Niger created an office in charge of implementing the Nigeriens Nourishing Nigeriens (I3N) initiative aimed at strengthening national capacities for food production, food supply, and resilience in the face of food crises and climatic disasters. The I3N initiative includes irrigation programs to mobilize funding through collaboration among public, private, technical, and financial partners.[6]

POLICY AND PROGRAMMATIC INTERVENTIONS

In Niger most irrigation policies and programs have been developed through national sectoral policies. Five policies and strategies are particularly noteworthy. In 2002, Niger implemented the Accelerated Development and Poverty Reduction Strategy, aimed at halving poverty levels. The strategy considered irrigation, in particular small-scale irrigation, as one of the main priority areas to accelerate economic development and reduce poverty.[7]

In addition, in 2003, the government launched the Rural Development Strategy to boost economic growth in rural areas and improve food security. As part of this strategy, an irrigation development program to increase agricultural production under irrigation was developed. The program encourages private investment in small-scale irrigation through construction of community infrastructure needed to mobilize surface and groundwater resources, and the establishment of appropriate financing mechanisms.[8]

In 2005, the government developed the National Strategy for the Development of Irrigation and Collection of Runoff Waters (SNDI/CER), aimed at improving the share of irrigated agriculture in agricultural GDP. The government developed a framework to attract investment and private sector involvement in irrigation activities, as well as to encourage integrated and sustainable management of water and land resources. The framework also defines the roles and capacity-building activities of public and private actors involved in irrigation development and the collection of runoff water.[9]

In 2012, under the I3N initiative, a program for increasing agricultural production under irrigation sought to raise the contribution of irrigated crops to GDP from 20 percent in 2011 to 30 percent by 2015 by expanding the land under irrigation.[10]

Finally, in 2015, Niger developed the Strategy of Small Irrigation, which seeks to harmonize interventions and funding approaches in small-scale irrigation to develop a decentralized mechanism for development of sustainable small-scale irrigation.[11]

Between 2008 and 2012, a small-scale irrigation project was implemented by the Ministry of Agriculture and its partners to improve food security in the region of Tillabéri. The project promoted the expansion of irrigation capacity in 49 small perimeters and provided quality seeds and fertilizers, in addition to training and other technical support, to beneficiaries. The organizational capacity of 64 groups of farmers with about 4,000 members, of whom more than 80 percent were women, was strengthened. Beneficiaries improved their water management systems and used irrigation technologies more adapted to their context. Due to this intervention, more than 4,000 families were able to significantly increase their income, from US$170 per harvest to US$255, whereas before the intervention, families produced only for their own consumption.[12]

Between 2003 and 2008, a small irrigation project, the Private Irrigation Promotion Project, was implemented by the Nigerien Agency for the Promotion of Private Irrigation (ANPIP). Its objective was to promote farmer-led, small-scale irrigation and increase the production and profitability of high value-added irrigated crops for small producers by using simple, low-cost technologies. The direct beneficiaries were small-scale farmers with less than 10 ha of land. Farmers received access to advice, equipment, and inputs through input shops. Equipment was subsidized between 50–90 percent, with the highest rates applied to small pumps, manual pumps, and drip irrigation systems. With the subsidy, farmers acquired 10,870 motor pumps and 7,809 pedal pumps. Local entrepreneurship also rose, spawning drillers, pump manufacturers, and repair workers. The project included a capacity-building program for national private sector operators such as input suppliers, transporters, agrifood industries, wholesalers, retailers, and some decentralized government services. Horticultural yields improved considerably: onion yields increased from 26 to 41 tons per ha between 2001 and 2006, and pepper yields increased from 11 to 19 tons per ha during the same period. Revenue per hectare for those farmers growing onions and peppers increased by nearly 80 percent.[13]

Recently, the government has been partnering with the private sector to promote the development of innovative irrigation technologies and facilitate their adoption at scale. In 2011, the "Tele-Irrigation" kit was developed and brought to market by a local company. The kit consists of a solar station and pump, a water distribution network, and a mobile phone. It allows farmers to remotely control their irrigation systems using a mobile phone. Tele-Irrigation also makes it possible to collect and disseminate real-time and remote meteorological and hydrological data, including temperature, soil moisture content, rainfall, solar radiation, and wind speed. As a result, farmers save time, use water more efficiently, and can increase their irrigated land size, which in turn may increase their production and income. The technology contributes to a reduction in greenhouse gases by using solar energy. Furthermore, to compensate for lack of fodder during the dry season, Tele-Irrigation kits are being adopted to produce fodder in breeding centers.[14]

Niger's growth in irrigation uptake in the decade to 2013 was largely driven by an increase in small-scale irrigation uptake, and private sector involvement. The government's commitment to expanding irrigation has been demonstrated through comprehensive institutional innovations and targeted policy and programmatic interventions. Despite this, Niger still has a large potential to increase the amount of land under irrigation.

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