

55 Water, land and Arab investments in Sudan

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Abstract

This chapter seeks to describe the current trends of agricultural investments in Sudan. Given the sub-desert or desert climate, irrigated agriculture is at the heart of the discussion. Grafted onto elements of continuity, some innovations, though not so extensive, are precursors of a potentially radical transformation of the economic geography of the area. With Sudan's great abundance of water for an ever-thirsty Arab world, the country continues to be a powerful attractor. Thus, a 'new stage of openness' of the Sudanese economy, promoted by the government, has allowed for the creation of productive enclaves that are completely in the hands of investors: circular green oases arise in the margins of the desert. These new agricultural perimeters are characterised by their minimal infrastructural intervention. The high mechanisation of the production cycle has drastically reduced the number of workers required. In the last section, the chapter describes the first signs of deeper processes capable of drastically modifying the face of the country's core agricultural area. Perhaps these 'experiments' are the starting point of what could be called the real 'great game' on Sudanese land: the dismantling, reconversion and reassembling in a neoliberal and hyper-technological key of the mega-irrigation projects which date back to colonial and postcolonial times.

Introduction

This chapter seeks to describe the current trends of agricultural investments in Sudan. Given that the sub-desert or desert climate affects a large part of the country, irrigated agriculture is at the heart of our discussion. Grafted onto elements of continuity, some innovations, though not so extensive, are precursors of a potentially radical transformation of the economic geography of the area. In fact, they are perhaps the first signs of deeper processes capable of drastically modifying the face of the country's core agricultural area. They are referred to as 'signs' for two reasons: first, because these changes are at an initial stage where future trajectories can only be imagined; second, the data needed to quantify the phenomena are often lacking or are incomplete and uncertain. Regarding many other aspects, there are no surveys or, if they exist, do not appear to be reliable because of the methodologies applied or to the political 'sensitivity' of the themes. Consequently, our work consisted in trying to read these indications of change starting from

what we can observe on the ground. Many of these transformations concern entrepreneurs and capital from Arab countries, especially from the Gulf.

Agriculture in Sudan is central in terms of contribution to GDP for its share in the country's exports and for employment (31% GDP, 55% exports and 54% employment, respectively).¹

Moreover, Sudanese agriculture has the potential to be one of, if not the main producer for both the Arab world and the Horn of Africa. Historically, Sudan has been portrayed as having large expanses of fertile lands, nourished by a powerful river system. These images – in the eyes of successive governments and of powerful external actors – identified it as an ideal place to develop rich modern productive agriculture.

The continuity of the presence of Arab investors, public and private, in Sudan finds a solid base from the intertwining of multiple proximities, which brings Sudan closer to the core areas of the Arab world. The first remarkable fact is that of geographical proximity: distances are reduced or shortened towards Egypt by following the course of the Nile and towards the Arabian Peninsula by crossing the Red Sea. Historically, the ports situated on the Red Sea, such as Suakin (an antique port) and then Port Sudan (which dates back to the colonial period), had been successful in organising traffic towards the Gulf countries. The geographical proximity decreases the friction of the distance and can therefore facilitate the interactions and synergies between the economic actors, whether competitive or cooperative.² But the geographical proximity (absolute, understood as the kilometric one, or relative, understood as distance-time and distance-cost) is only one of the components of proximity assumed as an activator of potential for economic development and the spread of innovation.

However, geographical proximity is not enough to intensify economic relations. The 'other' proximities are of a relational nature, arising from the sharing of cultural, social and institutional

characteristics that make it possible to facilitate exchanges and foster trust between the stakeholders. There are many features that bring the Sudanese context closer to the Arab world: the immediate ones concern the sharing of language and religious belief. This is what also promotes emigration of intellectuals and Sudanese workers, in particular to Saudi Arabia. The contacts between the two areas are rooted in the past: on the route to Mecca, it was precisely in Sudan where the Muslims, arriving from far regions of Sahel, embarked in Suakin, landing in Jeddah. To this cultural background (linguistic and religious), there are then added the political proximities that bring into play other actors, external to the Arab world but that share some historical-cultural traits with Sudan. Just think of the alliance with Iran that the Bashīr regime had made in the first phase of ‘militant Islamism’ or of Turkey’s reappearance in Africa –in search of its ‘strategic depth’– which evoked the favourable ancient relations of Sudan with the Ottoman world. At the present time, the United Arab Emirates and Saudi Arabia seem favoured, while relations with Egypt, however, have always been more controversial and tiring. It is within this context that the innovations involving irrigated agriculture in Sudan find space.

Sections 2 and 3 describe how the Sudan drylands have been affected by irrigation projects. These sections are based on a historical perspective. Our aim is to briefly present how the hydro-agricultural mission was activated in specific periods, from the time of the British colonial and postcolonial governments (including the ‘Breadbasket Strategy’ years of the 1970s) up to today’s neoliberal context. Since the start of postcolonial Sudan, the commercial activism of Arab governments and investors in Sudan has been remarkable. The fourth section focuses on the Kenana Sugar Company (KSC) – the only successful hydro-agricultural project of the ‘Breadbasket Strategy’ – that is still competing for its recognition as a role player on a global scale. In the fifth section, we present a radical innovation of the hydro-agricultural mission in

Sudan: ‘green circles’ appear in the drylands. The ‘openness’ of the Sudanese economy combined with the spread of a special irrigation technique based on pivots facilitated the propagation of a new frontier for capital accumulation. Before the conclusion, an even more recent tendency of agricultural projects on the ground will be examined, as exemplified by the Al Waha project of the DAL Group: a project heralding how mega-irrigation schemes dating back to colonial and postcolonial times could be upended in the future.

A short historical background: From the colonial age to the ‘Breadbasket Strategy’

The first to grasp the hydro-agricultural potential of the country were English colonizers. It is indeed well known that the largest agricultural project in Sudan is still the Gezira Scheme that was established by the British in the early twentieth century and that constituted the paradigm of Sudanese territorial development for a long period. The Gezira Scheme began producing cotton for the British textile industry in 1925 after the completion of the Sennar Dam on the Blue Nile.³ The Sudanese state, which became independent in 1956, built the Roseires Dam in 1966 with the aim of expanding the scheme: the Managil Extension made it possible for the Gezira to cover nearly 2.5 million *feddan*.⁴

The hydro-agricultural activism of the Arab countries in Sudan began in the 1970s. There were essentially two reasons. First of all, with a continuous and sustained increase in the price of oil agreed upon by the OPEC countries in 1973 after the Yom Kippur War, there was a substantial increase in the availability of petrodollars. They were then directed towards financial and productive purposes; in this way, banks and agricultural projects sponsored by the Arab countries were established in Sudan. The second reason is that in the 1970s the need to promote ‘food security’ policies became stronger: both Sudan and the Arab countries felt the urgency of

guaranteeing food to their population in order to maintain political consensus. Sudan could offer large quantities of water and vast extensions of arable land, while the Arab countries could invest large amounts of capital for the *mise en valeur* of natural resources. Consequently – under President Ja‘far al-Nimeyrī – Sudan tried to become the ‘Breadbasket of the Arab world’ by improving its domestic food production and by expanding food exports to Saudi Arabia, Kuwait and other Arab countries.⁵ The importance of food crops became increasingly important in Sudan. While sorghum was needed to feed the Sudanese population, wheat and sugar were mainly exported to the Gulf countries. In particular, sugar played a key role in that period: the state approved the construction of new agricultural schemes for the cultivation of sugar cane to supply sugar factories. Among these, Kenana represents the business ‘jewel’ of the Gulf countries in Sudan (Figure 55.1).⁶

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The ‘Breadbasket Strategy’ resulted in a significant loss for both the investing countries and the host country due to unfavourable financial and environmental conditions. Nevertheless, Arab countries continued to view Sudan as a place rich in land and water that was waiting to be exploited.⁷ In the rhetoric of official documents, it is often quoted that ‘the total amount of arable land in Sudan is about 175 million *feddan* which is equivalent to 45% of the Arab world’s arable land, out of which only 31 million *feddan* are being used’.⁸ Sudan is therefore the ‘agricultural giant’ that needs to be awakened.

The new wave of Arab investments

New investments from Arab countries reappeared in the early 1990s by taking advantage of a phase of increasing economic liberalisation, which began with the *coup d’état* of the then-brigadier Omar al-Bashīr in 1989. *The New York Times* said that ‘with a copy of the Koran in

one hand and the economic theories of Milton Friedman in the other, the Sudanese Government [was] trying to wed unbridled capitalism to militant Islam'.⁹ The subsequent decrease of Islamist propaganda – which was initially necessary for the new government to establish the ideological conditions of its power – finally allowed the neoliberal agenda of the regime to develop in a more pragmatic way.¹⁰

The 2000s were characterised by the promotion of a further expansion of irrigated agriculture. The 'agricultural revival' was intended to attract capital mainly from those Arab countries which were worried about the reduction of their water resources and cultivable land. The Sudanese government's goal was to establish new agricultural schemes in the north of the country to protect itself from the uncertainties of oil revenues. Indeed, oil wells were placed on the dangerous border area between present-day South Sudan and Sudan. According to Abdelrahim Hamdi, the former Sudanese finance minister, the government's priority was to reinforce its control over the 'useful Sudan'¹¹: foreign investments – very large, quickly executable and export-oriented – were to be carried out in the northern regions not far from the Nile and a few other fertile areas. Hamdi claimed that these selected areas could constitute 'a viable state' in case of separation of the South and in the eventuality of the worsening of the conflicts in Darfur and the Blue Nile.¹² What the government was worrying about was the maintenance of political power in the years to come rather than the territorial integrity of the country.

As expected, after the secession of South Sudan in 2011 and with the consequent loss of most of its oilfields, the government of Sudan needed new sources of income. There was a pressing need to diversify the national economy, which was entering a post-oil era. For this reason, new attempts to increase its attractiveness were promoted, especially in the agricultural sector,¹³ as well as in the mining industry (especially for gold).¹⁴ This institutional effort is what fostered the

‘new stage of openness’ of the Sudanese economy. The National Investment Encouragement Act of 2013 represents one of the most important legal attempts by the Sudanese government to attract new sources of income. After the approval of the Act, financial and bureaucratic benefits in Sudan – especially in the agricultural sector – have become higher than ever before. The Arab countries are once again among the leading investors in the agricultural sector.

To the consolidated partnership in Kenana (with shares of 30% for Kuwait and 11% for Saudi Arabia), several investments were added north of Khartoum, such as that of GLB Invest (managed by a Lebanese company), and many others, where – among the various investors – the Saudis are prevalent: the Crown Agricultural Project, the Alkear Project, the Tala Investment Corporation (Shendi region); the Bashair Project, the African Malaysian Company, the Akasha (Ad Damir region); the Al Rajhi International for Investment, the RAI, the Kafa’a Project development (Atbara region); the AAAID and the Rawabi Co., the Arab Company for Crop Production (Berber region); further north, in the Abu Hamad region, there is still the AAAID with the Abu Hamad Wheat and Feed Production Project.

Kenana Sugar Company: Sudan’s attempt to build a Sudanese-Arab partnership on the world stage

After a series of irrational investments, difficult economic situations, unfavourable environmental conditions (the great Sahelian drought of the 1970s) and social conflicts (between pastoralists and farmers), the ‘Breadbasket Strategy’ failed.¹⁵

Among the many agricultural investments supported by the Arab world in Sudan, the KSC is the only successful survivor. This agricultural project has continuously obtained financial injections in order to equip it with the best technical tools and to promptly strengthen its balance in times of difficulty. Although with very high costs, it seems that the efforts have paid off: currently, the

Kenana irrigation scheme and the refining plant are the most efficient nationwide and Kenana sugar is traded globally.

The KSC was founded in 1975 in the context of Nimeiri's design to make Sudan an agricultural power¹⁶ and, specifically with regard to sugar, to make it the 'Cuba of Africa'.¹⁷ The irrigation scheme, which draws water from the White Nile, came into operation in 1981. Kenana is a declaredly business-oriented company: its best product – high-quality white sugar – is destined for the international market, especially Europe and the Gulf countries (135,000 tons on an average production of 400,000 tons). The area occupied by the Kenana is 168,000 *feddan*: of these, 83,000 are in cultivation. The company defines itself, in the propaganda aimed at external relations, as 'the king of green gold'¹⁸ (sugar cane). This is why it aims to recruit the best managers, technicians and researchers available in Sudan. The company claims that it invests heavily in training. It boasts as having the best production performance ('the best raw sugar in the world') and aspires to achieve the highest technological standards. These statements attest to its competencies as an organisational culture and with a very high sense of identity. The company is also open to the expertise and innovations of the global market and deals with international competitors in Brazil, India, South Africa, Cuba, Mauritius and Guadelupe.¹⁹ The successful image of the Kenana led the government to mobilise the skills of the company in the development plans of the Sudanese sugar sector in the early 2000s. The most significant project was that of the White Nile Sugar Company (WNSC) established in 2007, whose commercial operations began in 2012. As the name implies, it draws water from the White Nile, in an area far to the north of the Kenana. The WNSC was established under the supervision of the Arab-Sudanese company which designed the project and provided staff and expertise. KSC holds a direct 30% stake. The other shares are from the Arab Authority for Agricultural

Investment and Development with 13.9%, while the remaining 56.1% are divided between the national government and that of the White Nile State, the Abu Dhabi Development Fund, the Saudi Development Fund and some Sudanese banks. The total area of the WNSC is 165,000 *feddan*: the project is still in the implementation phase and currently only a portion of the 125,000 planned *feddan* is in cultivation. The production capacity should reach that of the Kenana, but the WNSC is encountering many difficulties and appears to be very far from the set objectives.

Up until the collapse of the sugar price in 2012, the Kenana had also been involved in future expansion projects in new areas, always along the White Nile and the Blue Nile, and sometimes designed to replace previous, but now exhausted, irrigation projects.²⁰ Indeed, given the profound crisis of the state's mega-irrigation projects, the KSC had been called to the rescue by the government to manage the rehabilitation of some particularly degraded situations. One of these was the Rahad project. Built in the late 1970s, this irrigation scheme project was spread over 300,000 *feddan* and was to be a triumph of Sudanese mechanised agriculture: in reality, the management and maintenance difficulties quickly led to a drastic reduction in cultivated lands and agronomic yields. Not wishing to intervene directly, the state had attributed to the KSC the reconstruction of irrigation facilities and the modernisation of agricultural practices with the creation of the Rahad Agricultural Corporation.²¹ Established as a branch of the KSC, it was organised as a joint venture between the Sudanese government and banks and private companies on the one hand and Saudi and Kuwaiti institutional investors on the other.

In other words, there was a time when the Kenana seemed to be able to assume a leading role, not only in the country but also on a regional scale: a true Sudanese and Arab champion able to compete on the international market as a global player. In those years, there were explicit talks

regarding plans for the construction or acquisition of many sugar factories in Sudan for 2020 and concerning investments in partnerships with countries such as Nigeria, Kenya, Uganda, Ethiopia and Mauritania for exportation of know-how. The game plan was to set up a regional training centre for technicians for all sugar companies, both private and public. There were also investment plans for the by-products in order to activate the animal feed and agro-fuel chain. There was even the idea of establishing a private university for the company. Due to the sugar market problems and the overall deterioration of economic conditions in the country, not much has remained of this strategy. Nowadays, Kenana has withdrawn its core business and expansion projects have been cancelled or suspended.

Yet if this attempt has – at least for now – stagnated, other experiments are still going ahead.

With Sudan's great abundance of water for an ever-thirsty Arab world, it continues to be a powerful attractor, especially since Saudi Arabia has decided to hoard its groundwater and, therefore, needs to import 'virtual water',²² mainly in the form of forage for its dairy industry.

Thus, a 'new stage of openness' of the Sudanese economy, promoted by the government, is allowing for the creation of productive enclaves that are completely in the hands of investors: a new political-economic geography is emerging,²³ as will be discussed in the next paragraph.

'Land of the pivots': A peculiar mixture of land, water and (delegation of) sovereignty

Particularly interesting is what is happening in the River Nile State: important wealthy investors, especially Arabs, are focusing their attention on lands far from the Nile which are inexpensive and whose property ownership is 'uncertain', in the sense that they are lands whose access and use are regulated by a community system.²⁴ The population is concentrated along the courses of the Nile and Atbara where the main villages and towns are located. The land is fertile and

irrigation guarantees high production standards. These are precious, very expensive lands. The local smallholders cultivate profitable crops, such as mango and henna, which form the basis for a production and marketing chain that is often managed locally. On the contrary, in areas far from the river, pastoral activities are practised above all: since mobility is inherent to pastoralism, the local populations have found a way to adapt to water scarcity. Even if the lands obtained through a long lease may be over tens of kilometres from the Nile, water supply does not worry investors. In fact, their financial possibilities assure them access to modern irrigation techniques: investors benefit from river water by connecting to pre-existent channels or through the construction of new channels or pipelines. Alternatively, they install deep wells to take advantage of the Nubian groundwater. In both cases, the ‘construction’ of water availability is characterised by its original spatial determination: circular oases arise in the margins of the desert radically different in terms of shape and function from the traditional cultivated fields along the banks of the Nile (Figure 55.2). In the analysed agricultural schemes – of very different sizes: from 2,000 to 100,000 hectares – the cultivated land is sprayed by central pivot irrigation systems. The water is distributed inside ducts high above the ground, connected to each other by mobile towers and with sprinklers positioned along their entire length. The outermost tower dictates the speed of the entire system, while a device checks that each tower is aligned with the adjacent one. A pivot can irrigate extensions from 34 to 63 hectares. Agricultural investments in the River Nile State, almost all carried out over the last 15 years, are essentially aimed at the agro-industrial production of alfalfa (*Medicago sativa*). This crop is considered the ‘queen of fodder’ because of its high productivity and greater nutritional value than that of other forages. This agrarian system can produce up to ten harvests a year: the operation is repeated every 30–35 days, and the average production of each cultivated land ranges between 2 and 3 tons per hectare,

which is considered optimal. The fodder is wholly targeted to the livestock (dairy and slaughter) of Saudi Arabia and United Arab Emirates.

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These new agricultural perimeters are characterised by their minimal infrastructural intervention: the techniques adopted have reduced the need for a radical transformation of space, which is what had happened in the colonial and postcolonial irrigation mega-projects. Pivot irrigation does not require expensive ground levelling (just a minimum of flattening that facilitates movement of the towers), and it does not require a deep removal of stone. The work of removing the rocks is fast and cheap and the topsoil is not depleted. Furthermore, the high mechanisation of the production cycle has drastically reduced the number of workers required. Consequently, there is little interest in employing the local population. In order to mitigate the effects of these unfavourable agricultural interventions among the pastoralists, who see themselves dispossessed of ancestral rights, entrepreneurs sometimes offer compensation in exchange for the appropriation of land, such as supplying goods and services (a school, a mosque, access to a well...). The creation of a minimum of consensus at the local level is also necessary in order to avoid popular uprisings, which have sometimes occurred.

These hydro-agricultural investments introduce a new model of political space management.²⁵

Thanks to the considerable facilities they receive (among those, advantageous imports and unlimited export), investors can establish productive enclaves which are only partially integrated into the local territory. Thus, by promoting the proliferation of foreign enclaves inside the country, this policy is contributing to a 'foreignisation of space'.²⁶ The state operates its own 'disassembling' by externalising the exploitation of the national territory, now considered 'goods' available in the global market.²⁷ The commodification of the sovereignty involves the

onset of ‘gaps’ in the conceptually unitary territorial framework of state sovereignty. Sovereignty over the territory is no longer the sole privilege of the state, but can be ‘delegated’ to others. In this process, active on a global scale, some scholars view as a disengagement between sovereignty and state.²⁸ Alternatively, other researchers reason in terms of a ‘repositioning’ of market functions within the ‘national’ sphere, which has taken place thanks to the increased importance of private actors.²⁹ A new political geography is emerging: clearly one in which the territory becomes available to authorities and stakeholders that do not belong to the national sphere. However, this ‘disassembling’ – according to Sassen’s vocabulary – does not lead automatically to the affirmation of a decline in the state’s grip on the territory.³⁰ The new agricultural investments are rather the expression of a new connection – although precarious – between the territory, the state and global capital. The state acts as a broker, an intermediary between local spaces and global capital. After all, the state makes the relationship between its territory and the investors possible. The state’s role is to facilitate the acquisition of *de facto* private lands. The negotiation is activated through the market-friendly regulatory production that is proposed by the state to liberalise the land market and, therefore, attract the interests of global capital: this reality is now evident in those states where land grabbing by private investors has reached substantial dimensions.³¹ If it is true that – through a normative production that supports private investments – the state expands the spaces of action for global capital, it is also true that, by activating measures in this way, it is trying to reaffirm its own political role in the current political-economic phase. In this sense, the act of placing land in the market and then granting it to private or foreign investors would take on the tone of a new and different claim of sovereignty on the part of the state. However, the lack of transparency and the risk of corruption in land allocation processes, together with other pragmatic difficulties such as sandstorms, wind-blown

plastic waste and frequent electricity cuts often hinder the effective implementation of these investments.³²

'Bulldozing' pre-existing irrigation schemes: What is at stake?

Another sign of change worth mentioning is the Al Waha case, another 'land of pivots' managed by the DAL Group, the main Sudanese agricultural-industrial conglomerate. DAL is capable of relating as equals with the most ambitious foreign companies and entrepreneurs with whom it shares a solid cognitive proximity dictated by common values and ambitions and with whom it can discuss problems and potential innovations in the agricultural sector. If the most recent agricultural investments were established mostly in the north of the country, whose earlier principal occupation had been pastoral, the Al Waha case is significantly different because it was built in an area already previously affected by modern irrigation and, therefore, with well-established farmers within it. DAL was inspired by the productive innovations installed in the north and, in a process of imitation, brought them closer to the political, administrative and commercial centres of the country. It could not be otherwise. DAL has its dairy industry near Khartoum in order to be closer to the main market for its production. For this reason and for the convenience of a logistics already prepared, the Sudanese company has chosen to invest in growing fodder necessary for its dairy industry in this area, even if already partially occupied by a previous hydro-agricultural project. The fact that the company is at the centre of the country's economic and political establishment certainly facilitates access to this zone despite the discontent of the local community.

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The Al Waha irrigation scheme is located 50 km south of Khartoum, just an hour's drive from the capital, on the left bank of the Blue Nile (Figure 55.3). This large-scale farm was built in

2010 to supply fodder to the ‘large, modern dairy farm’ built in 2006 in Ailafoun.³³ The current production – carried out by more than 100 pivots of 60 hectares each – is not only able to supply the dairy farm, it also exports alfalfa to the Gulf countries, Saudi Arabia in particular. The production area is fenced in and the access is manned.³⁴ During the 1970s, in the midst of the ‘Breadbasket Strategy’, the area was already involved in a collaborative project of Sudan with Kuwait: the El Waha Animal Production Project. However, only the main infrastructures were built (the pumping station from the Nile and the main channel). When the project was implemented in 1977, the local population rebelled against the expropriation of their land and the project failed. In the late 1980s, a cooperative of Sudanese lawyers, agriculturalists and engineers, especially from Khartoum, envisioned a smallholder irrigation agriculture modelled after the Gezira experience: they were ‘both tenants and investors’. By 1991, 1,800 tenants had leased from the government irrigation plots in the area along the Nile. However, the project, still partly owned by the Kuwaiti investors, ran into difficulties when the Gulf War broke out and Sudan sided with Iraq. After a long period of limited production, the DAL Group was able to obtain the land with a 25-year lease from the state. However, because of hypermodern irrigation circles, only a small portion of the land was left for use by smallholder irrigators from neighbouring villages. The Waha-DAL case seems significant because here the capital-intensive irrigation, aimed at the dairy industry and exportation, was superimposed and partly erased a previous project which had taken its inspiration from the Gezira tenancies system. The justification for this intervention by the company and the state that had supported it lies in the dramatic improvement in productivity due to new technologies and the organisational skills of technicians and private administrators, yet with the drastic side effect of diminished local participation.

Perhaps this is one of the first ‘experiments’ in what could be called the real ‘great game’ on Sudanese land: the dismantling, reversion and reassembling in a neoliberal and hyper-technological key of the mega-irrigation projects which date back to colonial and postcolonial times. In fact, these older projects occupy the best lands, they are already served by irrigation networks, although much deteriorated, and the Sudanese government has on several occasions thought of their conversion. Is the emerging prospect, therefore, that of ‘bulldozing the Gezira’ (and the other major Sudanese irrigation schemes) to make way for a performing, export-oriented agriculture funded by the Gulf countries, China and other major international and national investors?

But the Gezira is not an empty land: hundreds of thousands of people live there. Over time, a class of local agricultural entrepreneurs has emerged, active and capable of moving independently in search of new technology and new markets. The Sudanese government has recently renewed its intention to regain control of Gezira in order to also promote domestic and foreign capital investments.³⁵ The state would like to dismantle the current internal balances within the mega-project and constitute others that are more favourable to its new territorial logic where it acts more as a broker rather than a direct implementer. In reality, however, in the context of a huge hydraulic project like that of Gezira – where everything depends on the management of the dams and the main canals – the state would still have the need (or perhaps it would be better to say ‘the opportunity’) to play once again a central role in the overall organisation of agricultural production.

Conclusion

These examples of change, which for now are moving on the edge of the ‘agricultural heart’ of Sudan, seem to prefigure deeply different arrangements from the current economic rural

landscape. The results of this process, if it actually takes hold on a large scale, will be to reconfigure Sudanese irrigated agriculture in congruence with the reallocation of resources, investments and ‘fragments’ of territorial sovereignty acting on a global scale.

However, there are many open question marks, starting with what will be the outcome of the current transitional government. The internal context (e.g., the rise of a new kind of political dialogue pressed by the explosion of latent social demands) and the international alliances (mainly in the form of political recognition and financial aid) could change dramatically. The direction and the speed that the progress of the radical restructuring of Sudanese irrigated lands takes – that can be glimpsed today – will be profoundly influenced by the different possible scenarios. If these deep processes continue, the reaction of the inhabitants in the concerned areas remains to be understood: Would the local small/medium entrepreneurs be involved and what would happen to the expelled mass of peasants (if it were even possible to expel them, which, without a doubt, would be unethical)? ‘Making room’ for the neoliberal project of hypermodern agriculture is a risk with very high social costs: the current peasants, pastoralists, tenants and small entrepreneurs would become nothing but ‘surplus people’.³⁶

Moreover, if the Gezira and the other mega-projects on the Nile and the Atbara come into play, with an ineluctably increasing water consumption, the repercussions in international relations at the level of the river basin will be inevitable, especially in a framework where interventions such as the GERD in Ethiopia are already causing relevant geopolitical discords.

Figure 55.1 The Gezira Scheme, the ‘Sugar belt’ and Waha project (Gis production in partnership with F. Ferrarese, 2019).

Figure 55.2 Irrigation by pivot (S. Turrini, 2018).

Figure 55.3 Waha project (GIS production in collaboration with S. Piovan, 2019).

¹ World Bank. 2020. *Sudan Agriculture Value Chain Analysis*. World Bank: Washington, DC, 2. [last accessed 13 January 2021] <https://openknowledge.worldbank.org/handle/10986/34103>.

² Boschma, Ron. 2005. "Proximity and Innovation: A Critical Assessment." *Regional Studies* 39, no. 1: 61–74. See also Torre, André and Rallet, Alain. 2005. "Proximity and Localization." *Regional Studies* 39, no 1: 47–59 and Capello, Roberta. 2014. "Proximity and Region Innovation Processes: Is there Space for New Reflections?" in *Regional Development and Proximity Relations*, edited by Torre André and Wallet Frédéric, 163–194. Cheltenham UK, Northampton MA: Elgar.

³ Gaitskell, Arthur. 1959. *Gezira. A Story of Development in the Sudan*. London: Faber & Faber; Barnett, Tony. 1977. *The Gezira Scheme. An Illusion of Development*. London: Franck Cass; World Bank. 1990. *The Gezira Irrigation Scheme in Sudan; Objectives, Design, and Performance, Technical Paper Number 120*, Washington, DC: World Bank; World Bank. 2010. *The World Bank and the Gezira Scheme in Sudan: Political Economy of Irrigation Reforms, Report 69873*. Washington DC: World Bank; Bernal, Victoria. 1997. "Colonial Moral Economy and the Discipline of Development: The Gezira Scheme and 'Modern' Sudan." *Cultural Anthropology* 12, no. 4: 447–479; Ertsen, Maurits W. 2016. *Improvising Planned Development on the Gezira Plain, Sudan, 1900–1980*. New York: Palgrave Macmillan.

⁴ 1 *feddan* = 4200,833 m² = 0,42 ha. *Feddan* is a unit of area used for measuring the plots of land along the banks of the Nile, in the Gezira and in the agricultural projects for the cultivation of sugar cane. The unit of hectare is used for measuring land in pivot irrigated spaces.

⁵ Kaikati, Jack G. 1980. "The Economy of Sudan: A Potential Breadbasket for the Arab World?" *International Journal of Middle East Studies* 11, no. 1: 99–123; O'Brien, Jay. 1985. "Sowing the Seeds of Famine: The Political Economy of Food Deficits in Sudan." *Review of African Political Economy* 12, no. 33: 23–32.

⁶ El-Nazir, Osman A. and Desai, Govind. 2001. *Kenana, Kingdom of Green Gold. Grand Multinational Venture in the Desert of Sudan*. London: Kegan Paul; Desai, Govind and El-Tigani, Mohamed E. M. 2007. "The Sugar Industry in Sudan." *The Kenana Handbook of Sudan*, edited by Hopkins Peter, G., 639–650. London: Kegan Paul; Bertoincin, M., Pase, A., Quatrada, D. and Turrini, S.. 2017. "Territori dello zucchero: le dinamiche di prossimità nella Sugar Belt sudanese." *Rivista Geografica Italiana* 124, no. 2: 93–114.

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