Water, Civilisation and Power: Sudan's Hydropolitical Economy and the Al-Ingaz Revolution

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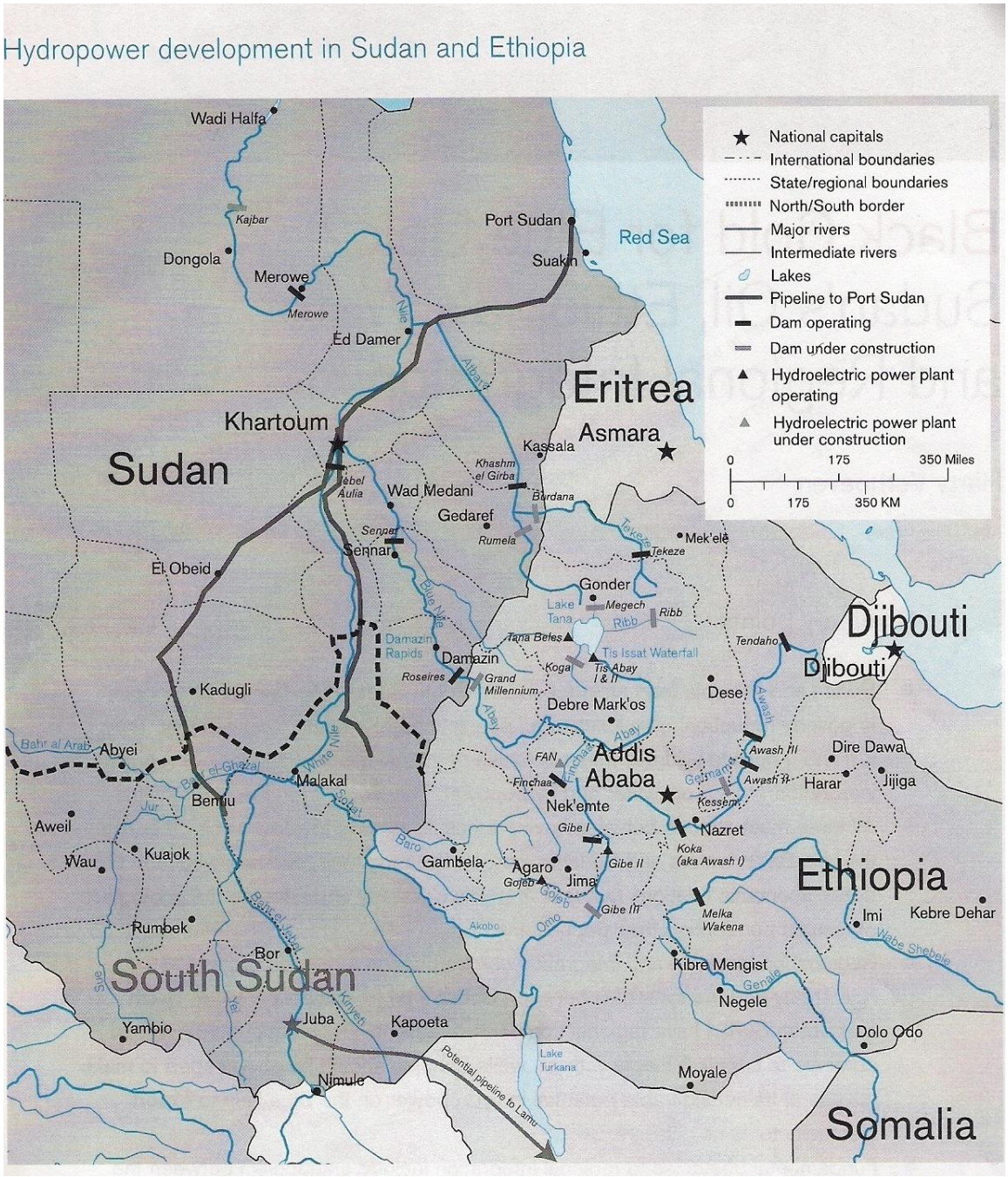
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Source: Chatham House

This map is intended to give an indication of the locations of hydroelectric power plants currently under construction or operating in Sudan and Ethiopia and should not be taken as geographically precise. The boundaries, names shown and designation do not imply endorsement or acceptance by me or by Chatham House.

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Introduction: the Sudanese Nile at the crossroads of conflict, (under)development and ecological change

This thesis highlights the centrality of hydropolitics in the practices and discourses of successive authoritarian states and governments in the Nile Basin, but focuses on the "Al-Ingaz" (Salvation) regime, which violently took power in 1989 in Sudan and is at the time of writing still governing. My central argument is that state-building through water and agricultural policies is not a relic of the past in Sudan, but is, in important respects, more present than ever before. Sudan's military-Islamist rulers have always objected to being labelled 'coup plotters', claiming revolutionary objectives. This thesis takes the idea of 'Islamic Revolution' seriously: I analyse Islamist efforts at material and immaterial transformation of Sudanese society through the development of a particular political economy of water and associated visions of hydro-engineering civilisation. The fundamental research question I will attempt to answer is

"*What role does water play in the Al-Ingaz Revolution and how does the hydro-agricultural mission of Sudan's Islamists drive dynamics of power accumulation, violent state-building and (under)development?"*

The notion of "Economic Salvation" - the rescue of Sudan's economy through what I term a "hydro-agricultural mission" that will help create a new 'Islamic' middle class- has been critical for Al-Ingaz since its inception and forms the heart of this thesis. Many of the political-economic practices and discourses of Al-Ingaz correspond with deeply embedded ways of thinking and political praxis in the Nile Basin, but in other respects the regime has launched a frontal assault on the old Sudan. The water-agricultural nexus has spearheaded its modernisation offensive in the last decade.

The hydro-agricultural mission is a revolutionary attempt at Islamist state-building through a hyper-ambitious Dam Programme and an Agricultural Revival in Sudan's riverain core. Massive investment

in hydro-infrastructure and irrigated agriculture in the "Hamdi Triangle" are intended to give Sudan a stronger productive basis and help it diversify away from the petrodollars that have sustained rising government expenditure since 1999. The mission intends to entrench the regime in power for another generation by delivering services and economic growth to those constituencies deemed critical to continued political hegemony –a "substantial minority", according to Al-Ingaz' main economic ideologue- and situated (mostly) around the Nile.

The hydro-agricultural mission builds on long-established patterns of development, political authoritarianism and water policy, but also brings radical changes to Sudan's political-economic fabric. While the bottom-line is political survival, rather than ideological purity, the regime and its mission espouse very particular ideas about what 'civilisation' is; about whom it should benefit; and about what kinds of violence, structural and physical, are acceptable. The mission mixes grand universalist ideas about bringing development to impoverished peripheries and growing urban centres with more parochial drivers like patronage and tribalism.

Finally, the hydro-agricultural mission is, like Islamism itself, a profoundly modern project and links national processes of wealth and power accumulation with violent local fallouts and global economic dynamics and narratives. While some of its foundational elements go back to Pharaonic times, the mission is profoundly embedded in 21st century globalisation, including the politics of oil, climate change controversies, the global power shift from West to East and rising commodity prices. It alternates between hiding its true nature as a sophisticated master plan for consolidating military-Islamist hegemony and boasting about high-modernist grandeur that will eliminate poverty. Its products are simultaneously *fata morganas* –mirages of development and sustainability- and cynical outcomes of the logic of power in Sudan. Above all, Al-Ingaz' hydro-agricultural mission draws together ideas about water, civilisation and power that are essential to understanding the regime itself, the political economy of the Nile Basin and political battles over climate, food and land in the modern era in general.

The 21st century hydro-agricultural mission of the Al-Ingaz regime is unique, but has to be understood in the context of a complex political economy and long history of clashing paradigms in the region. For at least 6000 years, ideas about the links between control over water, the flourishing of civilisation and the accumulation of wealth and power have been at the centre of political thinking in the Nile Basin. Since the Pharaohs, it has been understood that the rise of powerful states has been closely tied to their ability to benefit from the "gift" of the Nile and its diverse ecosystems. The Nile's flood regime ranks among the most predictable of any world river, even if changes in the flow have regularly had devastating effects.[1]

Humans have since the advent of agriculture sought ways to control the forces of nature, managing their dependency on the Nile. The nilometer at Rodah[2] has compiled data about the flood since 622, the longest uninterrupted series of information on a major river on earth. Silt deposits and irrigation underpinned Egypt's golden era, generating the agricultural surplus required to project political and military power across the Eastern Mediterranean and upstream into Africa, including contemporary Northern Sudan.[3] By contrast, the demise of Egypt's Old Kingdom was exacerbated by a terrible drought following the failure of the Nile floods in the context of a comprehensive political and economic crisis that Egyptian civilisation was not able to adapt to.

Thinking about the environment –and water especially- in Egypt, Sudan and Ethiopia has been shaped by a tension between two opposing but inter-related visions: on the one hand, cornucopian vistas of bringing the desert to life, with a central role for human intervention and irrigated agriculture as the basis for human civilisation and political power; and on the other, the prospect of environmental upheaval and famine, associated with doomsday scenarios of societal collapse. How to navigate this tension and address the question of resource scarcity has been one of the central challenges for all political systems in the Basin. The answers formulated have been determinants of

[1] Julian Rzóska (ed.), *The Nile: Biology of an Ancient River.* Monographiae Biologicae, Vol.29, 1976.

[2] Kamel Ghaleb Pasha, *Le Mikyas ou Nilomètre de l'Ile de Rodah*. Cairo: Institut Français d'Archéologie Orientale, 1951.

[3] Fekri Hassan, 'Nile Floods and Political Disorder in Early Egypt', H. Nüzhet Dalfes, George Kukla, Harvey Weiss (eds.), *Third Millennium BC Climate Change and Old World Collapse*. Heidelberg: Springer, 1997.

what shape riverain states have taken, how processes of wealth accumulation have developed and how violence and cooperation have been reproduced.

It is thus one of the central claims of this thesis that water has always been political in the Nile Basin, a fact that actors have sometimes deliberately emphasised -for example in the upstream-downstream geopolitics between Cairo, Khartoum and Addis Ababa- but downplayed in domestic resource discussions during which scarcity is naturalised as an "Act of God". Water in the Nile Basin has been actively instrumentalised to build the material basis for hard power, controlling communities in centralised systems of management, and has as such been a crucial dimension of state-building and the formation and consolidation of elites. But equally important, hydro-infrastructure has also been essential to immaterial dimensions of power, through the projection of ideologies of "civilisation" and "national greatness", both vis-à-vis a polity's own inhabitants and towards the outside world. I argue that in the past 200 years "conquering" the Nile and regulating its flow has not just been seen as a prerequisite for agricultural revolutions (and later industrialisation through power generation), but as a key part of the legitimisation of successive regimes, from Ottoman imperialism and British colonialism to Sudan's current military-Islamist rulers. Nasser's Aswan, Nimeiri's Breadbasket and Al-Ingaz' Dam Programme have all connected the imagined glorious past of the nexus of water and political power with regional aspirations for the future as exponents of high modernism intended to impress (inter)national audiences.

This chapter is divided into three sections: it seeks to introduce the thesis' topic and demonstrate the relevance of studying water, civilisation and power in Islamist Sudan; it seeks to explore through which frameworks the research question can be usefully thought of; and it seeks to defend the methods used and demarcate the subject matter.

I first establish the *status quaestionis* and situate the project in broader academic discussions. I summarise the extant literature on the links between environment, development, politics and conflict, identifying three dominant approaches and introducing a conceptual framework within

which the key theoretical ideas will be developed and the empirical evidence presented by the thesis must be understood. The second section will give a concise overview of the state of Sudan studies, highlighting that studying the water-agriculture nexus and the Islamists' "hydro-agricultural mission" is filling a major gap in our grasp of political-economic dynamics: the hydropolitical angle provides unique insight not just into Sudanese politics in general, but the Al-Ingaz project especially, and is vital to understand both the past 23 years of Islamist rule and the future of regime, country and region. The chapter will also discuss the methodology used and review the quality of data used. I conclude with an overview of how the central argument of the thesis will be built up in subsequent chapters.

I. Status Quaestionis: where the project fits in

Ever since the first polities in the Fertile Crescent, Egypt and India, scientists and decision-makers have understood that the relationship between a society and the water in its environment shapes patterns of cooperation and conflict within, and between, communities. Throughout history, the extent to which geography, and especially the relative abundance or scarcity of water, determines the livelihood-options available to man has been discussed; since the Industrial Revolution, it has become clear that man, in turn, also influences his environment in dramatic ways and that the relationship human-nature is complex and often contradictory. At its most fundamental, water is indispensable for every individual human being's survival; on a societal level, all economies depend on water to keep the wheels churning. In today's globalising world, issues like climate change, agricultural productivity traps, violent conflict, disease-control and refugee-flows all have a "water dimension". Water, in other words, provides extremely fertile terrain for the social sciences.

This thesis pays tribute to the work that scholars have undertaken for decades on the complex triangular relationship environment-development-politics/conflict and builds on rich theoretical traditions. It applies their insights to the specific Sudanese case where they have rarely been used in a comprehensive manner to understand its political economy, multiple ecological challenges and various state-building projects. I roughly follow the categorisation of various conceptions of sustainable development by W.M. Adams.[4] Comparing and contrasting is up to some extent always arbitrary, but will bring analytical clarity to a vast subject as well as helping the reader understand why I chose to phrase my project in particular ways and not in others.

Three paradigms are identified and examined from a water perspective- mainstream sustainable development, (Neo-)Malthusianism and an amalgamation of radical counter-currents, sometimes called "Environmentalisms of the Poor". I explore the underlying assumptions of each perspective

[4] W.M. Adams, *Green Development. Environment and Sustainability in the Third World*. Oxford: Routledge, 2001.

and its guiding logic, while illustrating the salient issues and solutions advanced to tackle water-related problems. I critique many of these claims and weigh some of the empirical evidence available. This section concludes with the development of my own conceptual framework, drawing strongly, but not exclusively, on a political ecological approach. I engage with the nature of the state in least developed countries by dissecting the implications of the coalescing and fragmenting of elites for state-building, competition over natural resources and violence. I also highlight the historical importance of the interplay between state-building, 'scientific' narratives of resource management and discourses about civilising missions.

Scientists, Markets and Institutions

The first intellectual tradition to reflect on the inter-relations between environment, development and conflict is "mainstream sustainable development", a liberal-institutionalist and market-oriented framework that provides the orthodox body of thought and policy around water scarcity and possible environmental conflict. The paradigm is the common sense of our time[5], encapsulating several distinct approaches, which share specific epistemological assumptions, but differ in their emphasis.

Technocratic environmentalism refers not so much to an extensive body of literature as to the implicit beliefs of many policy-makers, engineers and scientists.[6] Through separating nature and man, ecological processes can be analysed in a positivist, authoritative manner, a process of knowledge accumulation and the rational application of that knowledge to environmental problems. This makes it possible for specialised bureaucracies to intervene in nature so both man and his environment benefit, provided facts and values are kept independent from one another.[7] The technocratic

[5] Sharachchandra Lele, 'Sustainable Development. A Critical Review.' *World Development*, Vol.19, June 1991, pp.607-621.
[6] R.P.McIntosh, *The Background of Ecology*. Cambridge: Cambridge University Press, 1985.
[7] R.F. Dasmann, J.P. Milton, P.H. Freeman, *Ecological Principles for Economic Development*. Chichester: Wiley, 1973.

worldview dismisses the political as 'subjective', finding refuge in the certainties, measurability and rationality of the 'objective'.[8] Politics is seen as hindering progress and skewing solutions to what are technical issues best left to experts.[9] They diagnose a biophysical 'crisis' –e.g. scarcity of freshwater-, quantify it and link it to other environmental processes –salinisation, declining rainfall,...- and then design some 'optimal' interventions– irrigation infrastructure, dams, etc.[10] These are meant to restore 'fragile balances', reduce 'risks' and 'manage' biophysical change, guided by considerations of efficiency and the general interest and not by views of local people (often seen as well-meaning but ignorant).[11]

This is very much a view of sustainable development and conflict prevention as clinical medicine: expert-based, technology-driven and always benevolent.[12] Jeffrey Sachs suggests "an overhaul in order to be much more like modern medicine, a profession of rigor, insight, and practicality."[13] The vocabulary is that of 'ailments', 'surgery', 'checklists', and the like; describing corruption as a "cancer" is a particular favourite. Such an approach abhors any engagement with power, violence and 'messy' decision-making. It prides itself in being a-political (if politics is mentioned, it has to be about 'governance'): discussion can be useful to get public buy-in, but seldom to contradict the water-engineers and hydraulic planners who are equipped to prevent environmental disasters through powerful technologies.[14]

Market environmentalism draws on technocratic observations to situate ecological problems but argues that only markets can effectively regulate human-environment interactions by dealing with

[8] Tim Forsyth, *Critical Political Ecology*. London: Routledge, 2003.
[9] B.L. Turner, Robert Kates, William Clark, (eds.), *The earth as transformed by human action*. Cambridge: Cambridge University Press, 1990.
[10] Jay Wright Forrester, *World Dynamics*. Cambridge: Wright-Allen Press, 1971.
[11] Ulrich Beck, *Risk Society*. London: Sage, 1992.
[12] Raymond Murphy, *Rationality and Nature. A sociological inquiry into a changing relationship*. Boulder: Westview Press, 1994.
[13] Jeffrey Sachs, *The End of Poverty*. London: Penguin Books, 2005, p.74.
[14] Michael Thompson, Michael Warburton, Tom Hatley, *Uncertainty on a Himalayan Scale*. London: Ethnographica, 1986.

"negative externalities" through the price-mechanism.[15] Market environmentalists prioritise growth and posit that incentives and property rights are a *conditio sine qua non* to ensure it is sustainable. Based on methodological individualism and a utilitarian worldview, they argue for the application of neo-classical economics: as resources like freshwater become scarcer, the marginal cost of consumption rises, increasing the drive to find cheaper and greener alternatives for current consumption through innovation and conservation.[16] Price-signals stimulate technological advances – the ultimate (and inexhaustible) resource is human ingenuity- and erode the meaning of biophysical notions of scarcity.[17] There are no natural limits to growth; rising populations and resource scarcity lead to economic progress, not collapse.[18]

By contrast, the logical consequence of a priceless environment is Hardin's "tragedy of the commons"[19]: in a context of open access, a shared and finite resource (e.g. a water hole) will be destroyed by a community of rational individuals, even if it is no one's interest for this to happen. People act independently based on self-interest (taking out as much water as they can), without facing an individual responsibility (e.g. a price) for their behaviour. Market environmentalists therefore propose the establishment of various mechanisms –property rights, cost recovery fees, water quota trading- to counter negative externalities. Water resource development can *only* be sustainable if the market-mechanism is applied to environmental goods and services and neutral incentive-structures are allowed to work their magic, locally and globally.[20] State-interventions regarding water-use are guided by politics and mostly problematic; their only role should be to

[15] Wilfried Beckerman, 'Sustainable Development. Is it a useful concept?' *Environmental Values 3*, 3, 1994, pp.191-209.

[16] Yacov Tsur, Terry Roe, Rachid Doukkali, Ariel Dinar, *Pricing Irrigation Water. Principles and Cases from Developing Countries*. Washington DC: Resources for the Future, 2004; Mark Rosegrant, Ximing Cai, Sarah Cline, *World Water and Food to 2025*. Washington DC: International Food Research Policy Institute, 2002.

[17] Julian Simon, *The Ultimate Resource 2.* Princeton: Princeton University Press*,* 1998.

[18] Ester Boserup, *The Conditions of Agricultural Growth. The economics of agrarian change under population pressure*. London: Allen and Unwin, 1965.

[19] Garrett Hardin, 'The Tragedy of the Commons.' *Science*, Vol.162, 3859, 1968, pp.1243-1248.

[20] Nicholas Low, Brendan Gleeson, *Justice, Society and Nature*. London: Routledge, 1998; Bjorn Lomborg, *The Skeptical Environmentalist*. Cambridge: Cambridge University Press, 2001; Frederik Segerfeldt, *Water for Sale. How Business and the Market can resolve the World's Water Crisis*. Washington DC: Cato Institute, 2005.

address market imperfections, preventing inefficient allocations of resources.[21] Market environmentalists warn of violent consequences in the absence of economically sound water management, particularly when resources are transnational, as most of the world's important freshwater-systems are.[22] There is a vast literature in the market environmentalist tradition, best known as "environmental economics".[23]

A third approach in mainstream sustainable development emphasizes institutions to prevent conflicts and solve environmental crises. Institutionalists think that market-failures are more common than economic liberals admit; an ecological facelift of *laissez-faire* doesn't guarantee a cornucopian future. But they also share market environmentalists' scepticism about whether scientific advice and expert interventions will alter the behaviour of governments, businesses and individuals.[24] The state needs to play an important role in water policy, though conceptually a shift is occurring away from Weberian notions of the importance of the state to less hierarchical relations between actors through 'shared understandings' in globalising networks. Increasingly the state is seen as a *primus inter pares* in a system of multilevel-governance, operating in concert with private enterprise, NGOs and epistemic communities to increase access to clean water, rationalise consumption and reduce pollution.[25] Internationally, institutionalism pins its hopes on treaties, international organisations and global governance.[26]

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[21] Ronald Coase, 'The Problem of Social Cost.' *Journal of Law and Economics*, Vol.3, 1, 1960, pp.1-44.
[22] Maria Saleth (ed.), *Water Resources and Economic Development*. Cheltenham: Edward Elgar Publishing, 2002.
[23] David Pierce, 'An Intellectual History Of Environmental Economics.' *Annual Review of Energy and the Environment*, Vol.27, 2002, pp.57–81; A. Jansson, M. Hammer, C.Folke, R.Costanza, *Investing in Natural Capita. The ecological economics approach to sustainability*. Washington: Island Press, 1994; H.E. Daly, JR Cobb, *For the Common Good. Redirecting the economy towards community, the environment and a sustainable future*. Boston: Beacon Press, 1989.
[24] Jennifer Clapp, Peter Dauvergne, *Paths to a Green World. The political economy of the global environment*. Cambridge, Massachusetts: MIT Press, 2005; Claudia Sadoff, Dale Whittington, David Grey, *Africa's International Rivers. An Economic Perspective*. Washington DC: World Bank, 2002.
[25] Hans Bressers, Lawrence O'Toole, Jeremy Richardson, (eds.), *Networks for Water Policy*. London: Frank Cass, 1995.
[26] J. Roddick, 'Earth Summit north and south. Build a safe house in the winds of change', *Global Environmental Change*, 1997, 2, pp.147-165; Asit Biswas, Tsuyoshi Hashimoto, (eds.), *Asian International Waters. From Ganges-Brahmaputra to Mekong*. Oxford: Oxford University Press, 1996.

The institutionalist vision is embodied by the Brundtland Commission on Sustainable Development[27] (1987) and the UN Conference on Environment & Development in Rio (1992). Both had substantial conceptual and discursive influence at policy level, preaching gradualism and co-operation, not revolution and confrontation. Growth remains central to global welfare, as do science-based interventions[28]; yet where the market and technology fail, states need to come together to craft multilevel partnerships and long-term management mechanisms to keep this earth inhabitable.[29] The emphasis is on 'win-win'-situations through multilateral cooperation and a web of regimes, which could unlock tremendous benefits in terms of wealth-creation and reducing man's water footprint. Institutionalists typically avoid annoying questions about political economy and inter-state rivalry, opting instead for more overseas development assistance and "integrated approaches to the development, management and use of water resources".[30]

The institutionalist paradigm is prevalent in international law and political science, reflecting on environmental legal principles, trans-boundary cooperation and the relationship between doctrines of freshwater use and conflict-potential.[31] Because overconsumption, unilateral infrastructure projects and inequitable distribution of water-resources make already complex negotiations even harder, scholars call upon states to transfer some sovereignty through pragmatic agreements that will benefit basin countries in the long run and act as a bulwark against violent conflict.[32]

On a micro-level, New Institutionalists highlight the importance of local institutions: throughout the centuries, communities have created diverse institutional arrangements to manage common pool resources like pastures, fish stocks and irrigation systems sustainably, thereby belying Hardin's

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[27] Harlem Gro Brundtland, *Our Common Future*. Oxford: Oxford University Press, 1987, for the World Commission on Environment and Development.

[28] International Union for Conservation of Nature and Natural Resources, *The World Conservation Strategy*. Geneva: IUCN-UNEP-WWF, 1980.

[29] Adams, *Green Development*, pp.54-100.

[30] United Nations, *The Global Partnership for Environment and Development. A Guide to Agenda 21*. New York: United Nations, 1993, Chapter 18.

[31] Steven C. McCaffrey, *The Law of International Watercourses*. Oxford: Oxford University Press, 2003; Daniel Bodansky, Jutta Brunnee, Ellen Hey, *Oxford Handbook of International Environmental Law*. Oxford: Oxford University Press, 2007.

[32] Arun Elhance, *Hydropolitics in the Third World*. Washington DC: USIP Press, 1999.

"Tragedy of the Commons" and associated violent fall-outs.[33] They warn against a silver bullet approach to preventing resource exhaustion and underline the complexity of human-nature interactions. Multiple actors will inevitably be involved in dealing with environmental challenges, but local participation and ownership are vital. Various principles of collective action and institutional design have been identified to help develop water-resources through common property regimes, even when formal ownership is absent and risks of 'free riding' are real.

Despite the differences between technocratic, market-oriented and institutionalist approaches, the three share more than divides them. Development is taken for granted, and interpreted as economic growth; environmental changes are 'crises' following from biophysical events which we should study in strictly positivist ways; ideas of management and efficiency are stressed; a Panglossian optimism regarding human rationality, the potential of technology and the instinct to collaborate with others is omnipresent; the interaction of markets, experts and institutions can solve all environmental problems, if the incentives point in the right direction; intergenerational solidarity is prioritised over intra-generational sharing; and 'power' and structural violence are ignored.

World Bank policy symbolises mainstream sustainable development; the Bank is the dominant institution driving the dissemination of governance prescriptions for reconciling growth and environmental sustainability: mankind *can* have the best of both worlds, on the condition that the market-mechanism and cutting-edge technologies are applied, with (some) social corrections and a solid scientific basis for intervention. The Bank encourages water regimes, like the Nile Basin Initiative, where "benefit sharing" between riparian states is key, preferably through joint projects-conservation or hydropower generation. Domestically, 'getting the prices right' is the main challenge: clearly defining property rights; reforming or privatising urban water and sanitation-systems;

[33] Elinor Ostrom, *Governing the Commons. The evolution of institutions for collective action*. Cambridge: Cambridge University Press, 1990.

introducing 'green' taxes; and abolishing sub-optimal water-subsidies.[34] Fusing technocratic, market environmentalist and institutionalist views, the Bank embraces the concept of Integrated Water Resources Management, "a process which promotes the coordinated development and management of water, land and related resources in order to maximise ... economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems."[35] It seeks to be comprehensive, science-based and participatory in its approach and is resolutely optimistic, economically orthodox and a-political.[36]

Ecological collapse and "Water Wars"

The second paradigm follows Thomas Malthus' pessimism[37] about population-induced resource crunches and associated violence, positing stark warnings about environmental conflict. Contrary to the optimism of the liberal paradigm, neo-Malthusians underline "limits to growth"[38] of conventional processes of economic development. They highlight that the carrying capacity of our planet and local ecosystems is being undermined by rampant population growth[39] and consumption patterns, and that mounting supply constraints are generating shocks that destabilise societies.[40] Technological change, institutions and markets can delay adjustments, but don't fundamentally come to grips with the crisis: societies that fail to check these forces will be overwhelmed by environmental stress and

[34] World Bank, *Shaping the Future of Water for Agriculture.* Washington DC: World Bank Group, 2005; World Bank, *Approaches to Private Participation in Water Services*. Washington DC: World Bank Group, 2006.
[35] Global Water Partnership, *What is IWRM?* GWP Website, http://www.gwp.org/en/The-Challenge/What-is-IWRM/ , last consulted on 11/5/2011.
[36] World Bank, *Water Resources Sector Strategy. Strategic Directions for World Bank Engagement*. Washington DC: World Bank Group, 2004.
[37] Thomas Malthus, *An Essay on the Principle of Population*. London: J. Johnson, 1798.
[38] Donella Meadows, Dennis Meadows, Jorgen Randers, W.W. Behrens, *The Limits to Growth*. London: Earth Island, 1972.
[39] Paul Ehrlich, *The Population Bomb*. London: Pan Books, 1971.
[40] A.H. Westing 'A world in balance', *Environmental Conservation*, Vol.8, 1981, pp.177-183; G.M. Higgins, A.H. Kassam, L. Naiken, *Potential Population Supporting Capacities of Lands in the Developing World*. Rome: Food and Agriculture Organisation, 1982.

ultimately collapse. The Maya civilisation, Easter Island and Haiti are typically cited, with key roles for processes of deforestation, drought, soil degradation and water mismanagement.[41]

Over the decades, many have challenged Malthusian claims and attacked their implicit anti-poor bias[42], but the Malthusian spirit –finite resources + population-growth is too high= chaos- has proven to be enduring. To those critics who argue that current population-levels are almost seven times higher than in Malthus' era and that, simultaneously, global prosperity is at an all-time high, Neo-Malthusians respond that complacency is unfounded as our world is breaking apart: there is already an unprecedented, worsening ecological crisis and, especially in developing countries, scarcity-induced violent conflict is spreading at alarming rates.[43]

The most influential incarnations of Malthus have been Robert Kaplan's and Thomas Homer-Dixon's ideas about environmental conflict.[44] Kaplan painted a dystopian picture of West African states overwhelmed by soaring populations and environmental degradation while civil wars are fought by displaced, drug-using youngsters. Crime, disease, ecological collapse and unchecked urbanisation are intertwining and creating vast expanses of Hobbesian lawlessness: West Africa's Malthusian dynamics will soon threaten the Western way of life.[45]

Unlike Kaplan's controversial thesis, which relies on impressionist sensationalism, Homer-Dixon has tried to give academic cachet to "green wars". Despite his disclaimers about rejecting determinist links between water-scarcity and wars over water, his argument is de facto Neo-Malthusian[46]: "Scarcities of critical resources -especially of cropland, freshwater and forests- contribute to violence... These environmental scarcities usually do not cause wars among countries, but they can generate severe social stresses within countries, helping to stimulate subnational insurgencies,

[41] Jared Diamond, *Collapse*. New York: Penguin, 2006.
[42] Mary Tiffen, 'Population Density, Economic Growth and Societies in Transition.' *Development and Change*, Vol.26, 1995, pp.31-65.
[43] Lester Brown, *Plan B 3.0. Mobilizing to save civilization*. London: Norton, 2008; Norman Myers, *Ultimate Security. The environmental basis of political stability*. London: Norton, 1993.
[44] Betty Hartmann, 'Population, environment and security: the new trinity.' *Environment and urbanization*. Vol.10, 2, 1998, pp.113-127.
[45] Robert Kaplan, 'The Coming Anarchy.' *The Atlantic*, Vol.273, Feb.1994, pp.44-76.
[46] James Fairhead, 'International Dimensions of Conflict over Natural and Environmental Resources.' Nancy Lee Peluso, Michael Watts, (eds.), *Violent Environments*. Ithaca: Cornell University Press, 2001, pp.216-221.

ethnic clashes and urban unrest. Such civil violence particularly affects developing societies, because they are in general highly dependent on environmental resources and less able to buffer themselves from the social crises that environmental scarcities cause."[47]

Neo-Malthusian pessimism shapes contemporary ideas about conflict and is an integral part of the post-1989 search for a redefinition of the international system and its security agenda.[48] The "New World Order" dissipated in the chaos of Somalia, Rwanda and Bosnia but the international community refused to abandon the narrative of a definitive victory of liberal democracy and capitalism ("End of History").[49] The dominant paradigm[50] tries to combine Fukuyama-inspired optimism –denying that the upsurge in civil wars, displacement and ecological problems are in any way systemic failures- with dark concerns about 'failed' states and their link to terrorism and forced migration.[51] Individual countries face transition-crises that stem from domestic causes, though particularly in the era of the Global War on Terror the international community shouldn't stand by idly, given its 'benign' self-interest in restructuring the local political order.[52] Ecological problems are increasingly incorporated into the thinking about state-failure, with a focus on how resource scarcity leads to inter-state and civil war. According to the EU's top foreign policy voices: "Climate Change is a threat multiplier which threatens to overburden states and regions which are already fragile and conflict prone."[53]

This securitisation trend[54] got underway in the 1990s amidst environmental concerns but has acquired new momentum in the past five years. Climate change is already increasing the number of

[47] Thomas Homer-Dixon, *Environment, Scarcity and Violence*. Princeton: Princeton University Press, 1999, p.12.
[48] Simon Dalby, 'Geopolitical Knowledge: Scale, Method and the "Willie Sutton Syndrome"'. *Geopolitics*, Feb. 2007, pp.183-191.
[49] Francis Fukuyama, *The End of History and the Last Man*. New York: Perennial, 1992.
[50] Jennifer Milliken, (ed.), *State Failure, Collapse & Reconstruction*. Oxford: Blackwell Publishing, 2003, pp.1-19.
[51] Harry Verhoeven, 'The Self-Fulfilling Prophecy of Failed States. Somalia, State Collapse and the Global War on Terror.' *Journal of Eastern African Studies*, Vol.3, 3, 2009, pp.405-425.
[52] Center for Global Development, *On the Brink. Weak States and US National Security*. Washington DC: Commission on Weak States and US National Security, 2004.
[53] Council of the European Union, *Climate Change and International Security, Report from the Commission and the Secretary-General/High Representative to the European Council*, 7249/08, Brussels, March 2008.
[54] Mark Duffield, *Global Governance and the New Wars*. New York: Zed Books, 2001, pp.1-15.

extreme droughts and flash floods, but also altering aggregate precipitation rates and thus agricultural productivity. Freshwater is extraordinarily sensitive: given its importance to both basic human survival and agricultural and industrial production systems, its conflict potential is greater than that of other scarce resources. A growing policy literature has developed as climate change moved up the international agenda following Al Gore's "An Inconvenient Truth", successive reports by the Intergovernmental Panel on Climate Change and grassroots work by countless civil society organisations; 80% of publications linking national security and global warming have been published after 2005[55]: "the analytical literature and conventional wisdom in policy circles had shifted from global warming as a scientific question and environmental issue to climate change as a real and present security threat."[56]

In policy circles, raising the question about possible linkages between climate change and violent conflict implies almost always answering it positively: as the water-cycle is altered by rising temperatures and crop yields decline, poor populations' entitlements become precarious, triggering mass population movements and violent struggles. Yemen's water crisis has recently been connected to state-failure: it is alleged to be co-responsible for the underdevelopment that is underpinning Yemeni terrorism.[57] The UN Secretary-General in his statements on Darfur and the climate change-conflict link has identified Somalia, Burkina Faso and Côte d'Ivoire as countries with "food and water insecurity."[58] High-ranking officials in the three most recent American administrations have publicly expressed fears over the scarcity-conflict link and French President Sarkozy echoed the merging of several security fears: "Climate Change is already driving conflict, instability and war...If we keep going down this path, climate change will encourage the immigration of people with nothing towards

[55] Diana Simpson, 'Climate Change and National Security.' Muir S. Fairchild Research Information Center, April 2008, http://www.au.af.mil/au/aul/bibs/climate.htm, last checked 26/1/2012.
[56] Jeffrey Mazo, *Climate Conflict*. London: International Institute for Strategic Studies, 2010, p.34.
[57] Gavin Hales, *Under Pressure. Social Violence over Land and Water in Yemen*. Genève: Yemen Armed Violence Assessment/Small Arms Survey, 2010.
[58] AFP, 'Climate Change Driving Darfur Crisis', 18 April 2008.

areas where the population do have something, and the Darfur crisis will be only one crisis among dozens of others."[59]

"Green War"-ideas are now mainstream[60], no longer just as conventional geopolitical "Resource Wars" over oil[61], or as greedy rebellions[62], but especially as "Water Wars".[63] Conflicts over freshwater resources have for many decades been on people's minds –Middle Eastern protagonists like Anwar Sadat and Levi Eshkol's threats to wage bloody wars to ensure Egypt's and Israel's access to water if necessary, are often quoted- and the Jordan, Indus, Nile and Euphrates are identified as future flash points. For World Bank Vice-President Ismail Serageldin, "the Wars of the Next Century will be about Water."[64]

The argument for water scarcity causing conflict echoes Hardin's aforementioned tragedy of the commons; the intuition for environmental scarcity as the independent variable driving violence is simple, drawing inspiration from Hobbes: a situation in which individuals act self-interestedly without facing an individual responsibility for their behaviour leads to resource depletion. The shrinking pie thus confronts people with potentially existential consequences of declining access to a resource, leading them to use force to maintain entitlements.[65] A security dilemma pushes states or communities to control as much of the resource as they can, thereby compounding the problem and giving others reason to do the same, in turn legitimising the first state or community's selfish behaviour but causing a deadly scramble for the remaining water or land.[66]

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[59] AFP, 'France warns climate change driving war, hunger', 18 April 2008.
[60] Günther Baechler, K.R. Spillmann, (eds.), *Environmental Degradation as a Cause of War Vols. 2 & 3. ENCOP Final Report*. Zurich: Verlag Ruegger, 1996.
[61] Michael Klare, *Resource Wars. The new landscape of global conflict*. New York: Metropolitan Books, 2001.
[62] Paul Collier, Anke Hoeffler, *On Economic Causes of Civil War*. Oxford Economic Papers, 50(4), 1998, pp.563–573.
[63] Peter Gleick, 'Water and Conflict. Fresh Water Resources and International Security.' *International Security*, Vol.18, 1993, 1, pp.108-109.
[64] Quoted in B. Crossette, 'Severe Water Crisis Ahead for Poorest Nations in New Two Decades'. *New York Times*, 10/08/1995.
[65] W.H. Critchley, T. Terriff, 'Environment and security.' R. Shultz, R. Godson, T. Greenwood (eds.), *Security studies for the 1990's.* Washington D.C.: Brassey's, 1993.
[66] Paul Hensel, Sara Mitchell McLaughlin, Thomas Sowers, 'Conflict Management of Riparian Disputes.' *Political Geography*, Special Issue, 2006, pp.384-411.

The prediction is that in the climate change era violence will erupt both between countries and within states; this will happen with increasing frequency, particularly in resource-poor regions. Country-level variations in (rising) temperature and incidence of conflict are linked often in crude mechanistic terms as evidence for this thesis, without much engagement with major contributions to social science or the conflict literature: "We find strong historical linkages between civil war and temperature in Africa, with warmer years leading to significant increases in the likelihood of war. When combined with climate model projections of future temperature trends, this historical response to temperature suggests a roughly 54% increase in armed conflict incidence by 2030, or an additional 393,000 battle deaths if future wars are as deadly as recent wars."[67]

Environmentalisms of the Poor

The final paradigm differs fundamentally from the other two in its epistemology and political-economic recommendations. I group together a diverse range of counter-currents to orthodox visions under the umbrella of political ecology and "Environmentalisms of the Poor"[68], an academically important but politically marginal theoretical framework for thinking about environment, development and politics. This paradigm draws, inter alia, upon Marxist traditions, critical theory and ethnographic work to ask questions about accumulation, the neutrality of science and the benefits and benefactors of environmental crises. "Eco-feminism"[69], "eco-socialism"[70], "liberation ecologies"[71], "eco-anarchism"[72], "environmental justice"[73] and "political ecology"[74] share

[67] Marshall B. Burke, Edward Miguel, Shanker Satyanath, John A. Dykema, David Lobell, 'Warming increases the risk of civil war in Africa.' *Proceedings of the National Academy of Sciences of the United States of America*. Vol.106, 49, Dec 2009.
[68] Joan Martinez-Alier, *The Environmentalism of the Poor*. New Delhi: Oxford University Press, 2005.
[69] Vandana Shiva, *Staying alive. Women, ecology and development*. London: Zed Books, 1988.
[70] David Pepper, *Eco-socialism. From deep ecology to social justice*. London: Routledge, 1993.
[71] Richard Peet, Michael Watts, *Liberation ecologies. Environment, development, social movements*. London: Routledge, 1996.

fundamental doubts about conventional notions of the relationship man-nature and market-driven development, and instead examine them in terms of "who gets what, when and how"[75] to explore alternative departures. They refuse to take 'capitalism', 'development' and 'sustainability' in their various guises for granted. Power is the central concept and is spatio-temporally analysed in its economic, discursive and social dimensions.

Importantly, none of these approaches claim to be value-neutral. They explicitly position themselves as political, helping subaltern voices speak for themselves, against the hegemonic discourse.[76] They call upon mainstream and Neo-Malthusian approaches to abandon the myth that they are 'objectively' describing human-environment interactions and to see the political influences behind, and political implications of, their worldview.[77] Nature is 'man made'; our understanding of ecological processes cannot be separated from social relations. 'Scarcity', 'fragile equilibrium' and 'abundance' are neither strictly objective notions derived from positivist science, nor are they necessarily mere inventions: we need to understand how knowledge (science) and social values (politics) are co-produced.[78]

Issues become salient for socio-political reasons and environmental narratives, like "desertification"[79] or "deforestation"[80], that are spun around these problems are often more reflective of deeply ideological preconceptions and political control-strategies than of any solid engagement with local realities. The scale on which an environmental 'crisis' is framed is never neutral, but allows the 'international' community to call for 'joint action' or 'burden-sharing', ignoring that 'common global' problems are created by the activities of a few; likewise, deforestation and land degradation are cast

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[72] Murray Bookchin, *The ecology of freedom. The emergence and dissolution of hierarchy*. Palo Alto: Cheshire Books, 1982.
[73] Manuel Castells, *The Power of Identity*. Oxford: Blackwell, 1997.
[74] Piers Blaikie, Harold Brookfield, *Land degradation and society*. London: Methuen, 1987.
[75] Harold Laswell, *Politics. Who gets what, when, how*. London: McGraw-Hill Book company, 1935.
[76] Arturo Escobar, 'Whose Knowledge, Whose Nature? Biodiversity Conservation and the Political Ecology of Social Movements.' *Journal of Political Ecology*, Vol.5, 1998, pp.53-77.
[77] James Fairhead, Melissa Leach, *Reframing Deforestation. Global analyses and local realities: studies in West Africa*. London: Routledge, 1998.
[78] Tim Forsyth, 'Political ecology and the epistemology of social justice.' *Geoforum*, Vol.39, 2008, pp.756-764.
[79] Michael Mortimore, *Adapting to Drought*. Cambridge: Cambridge University Press, 1989, p.25.
[80]James Fairhead, Melissa Leach, *Misreading the African landscape*. Cambridge, Cambridge University Press, 1996.

as 'local' or 'Southern' issues, which poor countries urgently need to resolve, conveniently overlooking how these are enmeshed in globalised networks.[81] Some political ecologists would go as far as positing that it's meaningless to label crises as 'environmental', in that they are mainly social, political and cultural. This approach clashes with the neo-Malthusian conception of the environment as an independent variable triggering conflict, or the 'win-win' rhetoric of mainstream sustainable development that ignores conflicts of interests, or assumes they are always reconcilable.

Reconceptualising the Links: the saliency of politics

The first two paradigms dominate the conversation on environment, development and politics: alarmism about "Water Wars" that undermine development efforts and engender state-collapse in unstable societies like Darfur or Yemen; and technocratic optimism, associated with liberal approaches to institutions, markets and transboundary cooperation. My thesis engages with these perspectives, but proposes an alternative lens, which draws inspiration from the environmentalisms of the poor without fully adopting any specific subaltern viewpoint. I reject the a-political assumptions underpinning technocratic environmentalism and dystopian Neo-Malthusianism, to argue that 'water 'scarcity' is *endogenous* to particular kinds of political systems and paradigms; the environment is considered as quintessentially political. Ecological problems like human-induced climate change are real, and not imagined constructs, but environmental changes impact differently on people according to their levels of vulnerability: they are functions of underlying material and discursive hegemonic processes, and as such produce losers but also winners. Behind narratives of 'scarcity' lurk struggles over power and exclusionary projects that often tell us more about the messenger than about on-the-ground realities. A thorough discussion of the state, its political economy –including local manifestations and regional-global linkages- and the rivalries between

[81] Lorraine Elliott, *The global politics of the environment*. New York: New York University, 2004.

elites is essential to understand how environment, power and violence are indeed linked, but not as some sort of "water war".

The environmental conflict literature illustrates the problems with both mainstream liberal approaches and Neo-Malthusian scholarship and helps us think about alternative conceptualisations. While "Water Wars" has acquired wide public acceptance, increasing numbers of scholars reject the idea as reductionist/determinist, hugely oversimplifying and empirically incorrect. In recent years, a rival thesis, "Water Peace", has been gaining acceptance.[82] Several thorough large-N studies on water scarcity and conflict have suggested that far from leading by definition to war, countries have shown surprising pragmatism in handling water-issues.[83] Few inter-state conflicts can be directly attributed to water: "at this stage...we do not have much solid evidence for saying that sharing a river provides a major source of armed conflict or that water scarcity is the only or even the main issue in whatever such conflict do occur."[84] Even some authors who link scarcity and conflict concede that "For all the academic and policy-oriented discussions of ''water wars'' dominating future conflict, we have identified only 17 militarized interstate disputes between 1900 and 2001 that explicitly involved attempts to alter the river-related status quo. One partial explanation for this lack of ''water wars'' -even in the Middle East- is that river-specific institutions have made a positive contribution to avoid armed conflict over rivers."[85]

Water seems to be a no-go area for, and in, violent conflict. Even during wars between Israel and the Arab states, committees of water-technocrats have continued to cooperate; the use of water as a military weapon –though practically feasible- appears to be a sort of 'nuclear option' that neither side wants to resort to.

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[82] Philippe Stucki, *Water Wars or Water Peace?* Genève: Programme for Strategic and International Security Studies, 2005.

[83] Aaron Wolf, 'Conflict and Co-operation along International Waterways.' *Water Policy*. Vol.1, 2, 1998, pp.251-265; Hussein Amery, Aaron Wolf, *Water in the Middle East. A geography of peace*. Austin: University of Texas Press, 2000.

[84] Nils Petter Gleditsch, Havard Hegre, Hans Petter Wollebaek Toset, 'Conflicts in Shared River Basins.' Velma Grover (ed.), *Water. A Source of Conflict or Cooperation?* Enfield: Science Publishers, 2007, p.62.

[85] Hensel et al, 'Conflict Management of Riparian Disputes', p.407.

The international system with regards to water is by no means the anarchical, conflict-ridden jungle that Realists and Neo-Malthusians describe; interstate violence doesn't seem to be a particularly efficient way to solve scarcity-issues, hold states accountable for pollution or change demand-patterns. The costs of war are steep, the returns unsure and fully capturing and controlling water is difficult.[86] States, cities and regional organisations have concluded thousands of treaties bringing predictability and trust to a hypersensitive issue. Once a process of negotiation and compromise is initiated, cooperation tends to endure: abandoning institutions carries a reputational price-tag and most developing countries simply don't have the military-economic capacity to wage a full-scale war over water (or anything else), and so resort to cooperation, accepting even sub-optimal solutions.[87] Moreover, the concept of "virtual water"[88] demonstrates how countries, through international trade, can maintain 'water deficits' for prolonged periods of time, escaping the existential security dilemma and precluding conflicts with their neighbours over dwindling supplies.

International environmental conflict is very much a question of agency; there seems to be no compelling reason why scarcity or climate should be conceptualised as external variables causing violence.[89] Barnett rightly concludes: "If there is a conflict over water, then that conflict is the result of a failure of politics to negotiate a settlement over the shared use of water. The idea that a war over water, or any other resource, is not a war about politics is dubious. Politicians and military leaders might wish to present war in Darwinian or Malthusian terms as a fight over subsistence needs, but this "state of nature" rhetoric is a pragmatic device that denies responsibility for peaceful action, and justifies violence in lieu of meaningful dialogue."[90]

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[86] Daniel Deudney, 'The Case Against Linking Environmental Degradation and National Security.' *Millennium*, Vol. *19,* 1990, pp.461-476.

[87] Shlomi Dinar, 'Water Wars? Conflict, Cooperation and Negotiation over Transboundary Water.' Velma Grover (ed.), *Water. A Source of Conflict or Cooperation?* Enfield: Science Publishers, 2007, pp.21-38.

[88] Tony Allan, *Virtual Water*. London, IB Tauris, 2011.

[89] Halvard Buhaug, 'Climate Not To Blame for African Civil Wars.' *Proceedings of the National Academy of Sciences*, 107, 138, 2010, pp.16477-16482.

[90] Jon Barnett, 'Destabilising the environment-conflict thesis.' *Review of International Studies*, Vol.26, 2, 2000, p.276.

On the domestic level too, there is little evidence to posit an increase in the number of conflicts caused by environmental scarcity as an exogenous variable, despite the narrative's salience in policy-circles. On conceptual grounds there seems to be little reason to assume that the incentive structure of conflict over scarce resources–high costs, unsure returns and difficult control- is very different from that of the international arena. If international resource wars are essentially political, then domestic conflicts should be too.

The role of politics and the state is typically superficially examined and described in general, intuitive terms, without solid theoretical framework or clear definition of concepts. There is insufficient discrimination between resources, their characteristics and their particular link to politics and/or conflict.[91] A key problem for 'green wars'-hypotheses is that of analytical obfuscation, since environmental degradation, population growth,...are amalgamated into one concept ("scarcity"), even though the causes, dynamics and consequences of such factors clearly differ from one another in space and time.[92] This has led some to argue against the misguided focus on scarcity; more often, it is resource abundance that seems to be associated with conflict, suggesting a very different conflict-resource dynamic.[93]

Empirically, Malthusian collapses are on even shakier grounds. Ideas of environmental conflict are affiliated with a-political cultural-ecological theories of violence and 'primitive war' that naturalise violent struggles.[94] This is linked to a simplistic understanding of how different scales interact in the political economy of conflict and environmental change[95] and the lack of attention paid to the OECD-world (either in terms of violence or its role in the global political economy); all environmental conflict is situated in poor countries.

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[91] Philippe Le Billion, 'The Political Ecology of War: Natural Resources and Armed Conflicts', *Political Geography,* 20, 5, 2001, pp.561-584.

[92] Fairhead, 'International Dimensions of Conflict over Natural and Environmental Resources', pp.216-221.

[93] Indra De Soysa, 'The Resource Curse: Are Civil Wars Driven By Rapacity or Paucity?' Mats Berdal, David Malone (eds.), *Greed & Grievance: Economic Agendas in Civil Wars*. Boulder, Lynne Rienner, 2000.

[94] Peluso, Watts, *Violent Environments*, pp.12-15.

[95] Shannon O'Lear, Paul Diehl, 'Not Drawn to Scale: Research on Resource and Environmental Conflict.' *Geopolitics*, Feb.2007, pp.166-182.

For example, slash-and-burn-farming and small-scale logging by ever more poor peasants are blamed by Homer-Dixon for deforestation, destabilising the Philippines. However, this overlooks how during the Marcos dictatorship a clique of 200 oligarchs controlled most Filipino woodland, cutting down 80% of the country's forests. **"**The main culprit [for ecological marginalisation & associated 'social unrest'] was not population growth- one study found zero correlation between population growth and rates of deforestation in the country's provinces- but rather the illegal logging concessions Marcos gave to relatives and political friends, as well as his agricultural policies that heightened rural inequalities."[96]

Another example is Jared Diamond who quotes Malthusian dynamics in causing Rwanda's descent into evil: "I conclude that population pressure was one of the important factors behind the Rwandan genocide, that Malthus's worst-case scenario may sometimes be realized, and that Rwanda may be a distressing model...Severe problems of overpopulation, environmental impact, and climate change cannot persist indefinitely: sooner or later they are likely to resolve themselves."[97] This insistence on a population-underdevelopment-conflict link ignores the reasons for why people weren't able to respond to increased competition for land[98] –including policies preventing movement from rural to urban zones and the absence of markets to trade land formally- which were key to the Habyarimana regime's strategy to stay in power. Diamond discusses neither the nature of the Rwandan state, nor communities' adaptive capacity in the face of environmental pressures.

The archetypal resource war is 'perennial' pastoralist-cultivator conflict in Africa's drylands. The Sahel's climate predestines these inherently antagonistic social groups to clash over land and water, dixit neo-Malthusians. Yet growing encroachment by the desert seems to be neither a sufficient nor a necessary condition for Malthusian collapses: far from being internally homogenous communities destined to be enemies, groups of pastoralists and cultivators form complex patchworks in which

[96] Betty Hartmann, 'Will the Circle be Unbroken? A Critique of the Project on Environment, Population and Security'. Nancy Lee Peluso, Michael Watts (eds.), *Violent Environments*. Ithaca, Cornell University Press, 2001, pp.39-62.

[97] Diamond, *Collapse*, pp.327-328.

[98] Karol Boudreaux, 'Land, Conflict and Genocide in Rwanda.' *Electronic Journal of Sustainable Development*, Vol.1, 3, 2009, pp.85-95.

symbiotic relations are as likely as open war; ethnic identity is fluid rather than fixed and most people don't belong to just one social group (either through lineage or in terms of livelihoods- most farmers have livestock and most herders farm). Conflict and cooperation are embedded in long-term moral and material motivations. Many micro-level socio-political conflicts are expressed through struggles involving resources, but that doesn't imply that these are resource-wars. Climatic changes should be integrated in a multidimensional framework of relations with the state, outside experts, personal feuds, the colonial experience and other factors to understand conflict and (under)development.[99]

For example, Bassett situates violent confrontations in the Sahel of the 1980s between Senufo farmers and Fulani pastoralists in the context of global political economy and local agency. Mounting balance-of-payments problems led to IMF-imposed austerity in Côte d'Ivoire and to state-led attempts to increase export-revenues through meat-processing enterprises in collaboration with foreign capital. The state favoured livestock producers and drew in Malian and Burkinabe cattle-herds which triggered intensive Fulani grazing in Senufo farming regions. Multilateral lenders, foreign investors, state-officials and powerful herders benefited significantly from this political economy. However, Senufo farmers, whose way of life was threatened, resisted by driving out Fulani herds, leading to the collapse of the export-oriented networks. This research demonstrates how local, regional and global political-ecological dynamics interact, belying simplistic ideas about ancient rivalries and climatic changes. Rebellions by nomads are caused by bad governance, political marginalisation, global economic asymmetries and the divide-and-rule tactics of elites who manipulate land ownership laws and markets.[100]

[99] Matthew Turner, 'Political ecology and the moral dimensions of ''resource conflicts'': the case of farmer–herder conflicts in the Sahel.' *Political Geography*, Vol.23, Sep.2004, pp.863-899.

[100] Thomas Bassett, 'The Political Ecology of Peasant-Herder conflicts in the northern Ivory Coast', *Annals of American Geographers*, Vol.78, 3, 1988, pp.453-472; Tor Benjaminsen, 'Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel?' *Journal of Peace Research*, Vol.45, 6, 2008, pp.819-836.

Analyses like Bassett's undermine Neo-Malthusian oversimplifications of environment, development and conflict, but also show the problems with mainstream sustainable development narratives which have little meaningful to say about power, conflicting interests and zero-sum game dynamics. Liberal accounts emphasise trans-boundary cooperation and best practices, but ignore the different ways in which ordinary people experience violence on a daily basis and the omnipresence of power politics in environment and development. Moreover, they fail to accept the importance of bringing a multitude of actors into the framework, each with their own agendas and their own internally coherent logic, problematising simple dichotomies like rational versus irrational: local, national and global groups build coalitions of convenience across scales, based on their own interest, often adopting a common 'crisis' narrative that benefits the constituent parts of the alliance. These "discourse coalitions"[101] produce environmental knowledge, developing their own 'gestalt' and causal mechanisms to ascertain that truth based on internal compromise and strategic calculations. These clash in the scientific and policy realm, but as Bassett's Sahelian example shows, they often have real world implications in terms of structural violence and physical conflict between different coalitions.

The fundamental point is that politics can never be removed from a framework for the environment, development and conflict discussion; it needs to be placed right at the heart of the analysis. Neo-Malthusians are right to warn about unsustainable ecological practices and the importance of violence, even if they are misguided in the causal links they establish. Technocratic and liberal environmentalists have shown that Water Wars are not an empirical reality and that institutions matter a great deal to human-environment interactions, but offer no adequate theory of politics and are mistaken in believing that clashing interests can almost always be reconciled; their neglect of everyday violence is a logical consequence of an all too superficial engagement with the political economy of resources. In the next section, I propose a conceptual framework that draws on the strengths of the three paradigms discussed, and combine it with theories of the state and elite politics.

[101] Maarten Hajer, The Politics of Environmental Discourse. Oxford: Oxford University Press, 1995.

II. A framework for understanding Water, Civilisation and Power

The State and the Question of Violence

One key problem with neo-Malthusian approaches and much of mainstream sustainable development is the shallow engagement with the state and the sources of social power.[102] While technocrats distrust politics but are willing to use the state's penetration of society to implement their 'neutral' interventions, market environmentalists don't have much to suggest beyond creating an enabling environment for neoclassical economics. Neo-Malthusians posit that states are either locked themselves in security dilemmas over water resources or have to act as Hobbesian Leviathans to prevent domestic conflict. The only approach that gives the state a more central role is liberal-institutionalism, investing great faith in its regulatory and treaty-making capacities; however "[the] state is often treated as a monolith, and institutions are so briefly sketched that it is impossible to determine how and in what way institutions are being weakened by 'scarcity'."[103]

I argue that it is vital to engage thoroughly with how the state shapes the environment-development-conflict linkages, but is also shaped in turn by political-economic forces, the discourses they produce and their interaction with ecological processes. In this thesis, the state in most of the developing world -including in Sudan- is considered to be both the battleground for elite conflict, an instrument for accumulation and the product of elites coalescing and fragmenting. First I focus on how elite dynamics shape a state and how the question of violence is addressed; I then explain how power is projected into society, how natural resource systems are integrated into the state and how state-building projects have drawn on visions of 'civilisation' and 'progress' to legitimise their actions, but have become selectively blind to real world developments because of their own discourse. How elites use material and discursive strategies and work through the state to maintain control, relying

[102] Michael Mann, *The Sources of Social Power. Volume 1*. Cambridge: Cambridge University Press, 1986.
[103] Peluso, Watts, *Violent Environments*, p.22.

on pragmatic arrangements to build the coalitions they need to realise their goals, is central to the argument about water, civilisation and power- violence is an integral part of these strategies.

The "natural state" uses the political system to manage economic competition and temporarily resolve the problem of controlling violence through rents which structure social relations and assure buy-in from elites.[104] To resolve security dilemmas between them, rents are systematically created through artificially limiting political and economic competition; the struggle to get access to these rents ties elite interests together and ties them to the survival of the coalition, which temporarily displaces the problem of violence from within the coalition to outside it, whether as physical repression or structural violence against marginalised groups. For regime stability, it is crucial that material interests are perceived by elites to be converging- i.e. that they have more to gain from cooperation than confrontation (the latter may lose them their privileges and their life).

Institutions, formal and informal, are critical to understanding how violence is contained between elite factions. They play a vital role in managing perceptions, entrenching scarcity for some (and rents for others) and making inherently unstable elite dynamics more predictable. The greater the degree of institutionalisation, the less likely it becomes that intra-elite relations spiral into a security dilemma with devastating consequences. In most states however, institutions remain relatively weak and locked in a difficult relationship with the threat of intra-elite violence.[105] The strength of the coalition partly depends on the deterrence factor but is simultaneously undermined by it: the mutual ability of interests to mobilise their neo-patrimonial networks for conflict and punish violations of the pact helps keep the alliance together, but also highlights the temporary nature of the institutionalised equilibrium.

No coalition is permanent, particularly not when hegemonic interests maintain recourse to violent technologies: the lack of formal rules can, through the "commitment problem", trigger a coalition

[104] Much of this section is based on Douglass North, John Joseph Wallis, Barry R. Weingast, *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History*. Cambridge: Cambridge University Press, 2009.

[105] James D. Fearon, 'Rationalist Explanations for War.' *International Organization,* Vol.49, 3, 1995, pp.379-414.

collapse even if nobody wants this to happen, followed by a coup d'état or a rebellion mobilised by aggrieved elite factions.[106] Yet importantly, violence is also often a strategic option actively pursued by coalition partners[107], not just the result of irregular regimes failing to manage coalition politics: if certain factions think that the balance of interests can be altered, they might risk a deliberate breakdown, hoping to recommence negotiations over rents from a strengthened position or aiming at a fundamental restructuring of the power bloc. One of the key arguments here is therefore that at the local level too, in Sudan and elsewhere, we are not witnessing "environmental wars" with population, water scarcity or another exogenous shock as the cause of conflict.[108] The breakdown of livelihoods systems and institutions of natural resource management, and subsequent violence, is often not an unfortunate failure of the old system due to ecological crisis, but a result of power struggles[109] and sometimes even a strategy of elites in wider processes of power and wealth accumulation, *and* contestation.

The famine literature provides an excellent illustration. Contrary to what was posited by the once dominant paradigm of interpreting food crises, famines are not 'tragic', 'extraordinary' events, quasi-mechanically following natural disasters.[110] For a long time, the focus rested on a discrete, biophysical event creating an exogenous shock: famines were attributed to hazard-induced food availability decline- there simply isn't enough food to feed everyone in the disaster-zone due to, for example, flooding or drought. Recovery then is about a return to normality, mainly through

[106] Robert Powell, 'War as a Commitment Problem.' *International Organization,* Vol.60, 1, 2006, pp.169-203.
[107] Stathis Kalyvas, 'Fear, Preemption, Retaliation: An Empirical Test of the Security Dilemma.' *Intra-State Conflict, Governments and Security: Dilemmas of Deterrence and Assurance*, Stephen M. Saideman, Marie-Joëlle Zahar, (eds.), New York: Routledge, 2008, pp.20-32.
[108] For a discussion of Darfur not as an environmental conflict, but as intimately tied to political-economic factors and national and local power struggles: Harry Verhoeven, 'Climate Change, Conflict and Development in Sudan. Neo-Malthusian global narratives and local power struggles.' *Development and Change*, Vol.42, 3, 2011, pp.679-707.
[109] Jack Goldstone, 'Demography, Environment and Security.' Paul Diehl, Nils Petter Gleditsch, *Environmental Conflict*. Oxford: Westview Press, 2001, pp.90-93.
[110] Kenneth Hewitt, 'Sustainable disasters? Perspectives and powers in the discourse of calamity.' Jonathan Crush (ed.), *Power of Development*. New York: Routledge, 1996, pp.115-128.

increasing food supply and technical assistance.[111] However, extensive empirical research has shown that famines shouldn't be seen as "acts of God", but as complex and extended processes, with a multitude of socioeconomic, agricultural and political factors interacting, both as causes and consequences of famine. As Amartya Sen famously noted: "Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough food to eat. While the latter can be a cause of the former, it is but one of many possible causes."[112] The actual starvation of human beings is not an isolated, 'shocking' moment, but the final stage of a drawn-out process related to questions of political economy, asymmetric 'voice' and failing livelihoods.[113]

Supply-shocks like natural hazards don't explain the mechanisms through which people lose their entitlements and why people were vulnerable in the first place; famines have even occurred in the midst of economic booms and plentiful harvests. The 'shocking' truth is that "*vulnerable people often suffer repeated, multiple, mutually reinforcing shocks to their families, their settlements and their livelihoods.*"[114] Famine is nothing 'extra-ordinary', but part of the daily condition of entire social groups.[115] Deliberate marginalisation and structural choices exclude people from power and keep them permanently vulnerable, so that when a natural hazard occurs, it merely pushes them over the edge but does not *cause* the 'tragedy': the paradigm on famines needs to shift from an exogenous shock to an endogenous process.

The famine debate illustrates not just the complex, multidimensional nature of vulnerability[116], but also highlights the issue of structural violence by elites against populations and the entitlements they try to command. Elites temporarily 'solve' the question of violence among them by projecting it into

[111] Peter Bowbrick, 'A Refutation of Sen's Theory of Famine.' *Food Policy*, Vol.11, 2, 1986, pp.105-124.
[112] Amartya Sen, *Poverty and Famines. An Essay on Entitlement and Deprivation*. Oxford: Oxford University Press, 1981, p.1.
[113] David Keen, *The Benefits of Famine. A Political Economy of Famine & Relief in Southwestern Sudan 1983-1989*. Oxford: James Currey, 2008.
[114] Piers Blaikie, T. Cannon, I. Davis, B. Wisner, *At Risk: Natural Hazards, People's Vulnerability and Disasters*. London: Routledge, 2004, p.5.
[115] Amrita Rangasami, 'Failure of Exchange Entitlements Theory of Famine. A Response.' *Economic and Political Weekly*, Vol.XX, No.41 & 42, October 12th & October 19th 1985, pp.1747-1751 & 1791-1800.
[116] Hans-Martin Füssel, 'Vulnerability: A Generally Applicable Conceptual Framework for Climate Change Research.' *Global Environmental Change*, Vol.17, 2, 2007, pp.155-167.

society: the coalescing and fragmenting of elites shape the material conditions that ordinary people have to navigate but also the 'ordinary' violence they have to endure.[117] Sometimes this takes the form of open intra-elite struggles in which local communities get embroiled but more often it is the multidimensional vulnerability and chronic scarcity of everyday life. Permanent violence is all too often an 'ecological' equilibrium too, a condition that despite its extremes remains remarkably bearable from a systemic perspective.[118]

This rejection of a monolithic state, and notions of that state as either inherently oppressive or a saviour against an evil market, creates space for more fertile inquiries into the political economy and narratives that are constructed by elite coalitions in their projects of state-building and material accumulation. By considering the state to be the product of elite coalescing, but also a resource to be captured and a battlefield for elite struggles, such an approach allows for a dynamic instead of a static approach to environment, development and politics[119]; elite coalitions create scarcity and violence for some and abundance and 'peace' for others, and as time and space change, so do these conditions.

Elite projects, Civilisation and the power of Discourses

Coalescing and fragmenting elites have long affected natural resources management and the violent experiences of peripheral regions and communities with the state. While in Europe the state was created for war out of war with taxation as the key link[120], patterns of commodification of resources and ecological 'crises' were integral to the building of colonial states in Latin America, Asia and Africa and to the insertion of entire peoples in international commodity chains.[121] Powerful narratives,

[117] Alula Pankhurst, *Resettlement and Famine in Ethiopia*. Manchester: Manchester University Press, 1992.
[118] Peluso, Watts, *Violent Environments*, pp.1-31.
[119] Antonio Gramsci, *Selections from the Prison Notebooks*. London: Lawrence and Wishart, 1971, p.52.
[120] Charles Tilly, *Coercion, capital, and European states, AD 990-1990*. Cambridge, MA: Blackwell, 1990.
[121] Mike Davis, *Late Victorian Holocausts*. London: Verso, 2002.

developed through "the epistemological state"[122], legitimised these processes of accumulation and subjugation. Pseudo-scientific racism was useful but the Enlightenment too provided ammunition: ideas of universal laws, progress and rationality, as well as a responsibility to spread those ideals, amounted to a civilisational mission; colonialism integrated resource suppliers and markets as it spread its 'moralising' tentacles across large swathes of 'empty space'. In the realm of resource management, it allowed colonial administrators to claim superior knowledge and dislocate 'backward' population groups, positing the convergence of 'scientific evidence' with political-economic benefits of resource exploitation for the colonial state and metropolis.[123]

Political ecology has made important contributions to understanding how these power dynamics drew legitimacy from science but in turn also shaped science, the state and the ecosystems in which these ideologies were unleashed.[124] For example, scientific forestry[125] was invented in 18th century Prussia and Saxony in a context of early modern European states who approached forests mainly through the lens of taxation. To maximise fiscal revenue as states consolidated and battled each other, scientific techniques and 'knowledge' were developed to increase the revenue yield of timber, making abstraction of (living and non-living) things of non-fiscal value in those forests. There was a push for uniformisation and standardisation of forests –facilitating greater extraction- with knock-on effects on how forest trees were planted, grown and cut. The discipline developed its own bureaucracy, laws and frames to understand forests and claimed objectivity, even though its paradigm clearly obeyed a political-economic logic. The adoption of the scientific forestry lens closed the eyes of administrators and politicians for other approaches to forests, creating blind spots in their understanding of ecosystems.[126]

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[122] Paul Robbins, 'The State in Political Ecology.' Kevin Cox, Murray Low, Jennifer Robinson, (eds.), *The SAGE Handbook of Political Geography*. London: Sage, 2008, pp.205-218.

[123] Theodor Shanin, 'The Idea of Progress', Majid Rahnema, Victoria Bawtree, (eds.), *The Post-Development Reader.* London: Zed Books, 2003, pp.65-71.

[124] L. Robin, 'Ecology. A science of Empire?' T. Griffiths, L. Robin (eds.), *Ecology and Empire*. Keel: Keele University Press, 1997, pp.63-75.

[125] Chris Lang, Oliver Pye. 'Blinded by Science. The Invention of Scientific Forestry and its Influence in the Mekong Region.' *Watershed*, Vol.6, 2, November 2000–February 2001, pp 25-34.

[126] James C. Scott, *Seeing like a State*. London: Yale University Press, 1998, pp.11-22.

The spread of scientific forestry in British India and after independence has been a key factor in extending the reach of the state to remote regions and over *adivasis* reluctant to be drawn into the monetised system. Not only have refined techniques of forest management allowed for greater exploitation of forest resources (and the shifting of surplus from rural producers to the state, and the powerful interests group that control it), they have also been instrumental in increasing control over unruly subjects, bringing them into the fold of the modern state where they have become legible, the subject of governmentality.[127] While local concepts of resource management have been dismissed as unsustainable and anti-developmental, co-habitation in India's forests has increasingly been substituted for a dual approach that separates the human and the non-human: forests must either be conserved, off limits to humans, or made available for investors. [128]

This exemplifies how discourses too become endogenous and shape the material processes that first gave rise to them. This is a dynamic evident in many centralising polities as they legitimise processes of violent state-building, commodification and subjugation of unruly populations through a civilising mission. As elites coalesce and seek to accumulate wealth and power, the uprooting of alternative power centres, different modes of production and subaltern discourses requires the authority of the state. Justifications have mixed legal arguments (*terra nullius* being a favourite), securitising 'empty spaces' and moralising claims about confronting 'prehistoric' living standards.

The civilisation argument has been particularly compelling, often allowing elites to gain popular support in their endeavours –David Livingstone's "Civilisation, Christianity and Commerce" roused the masses- as they exploited Africa's and Asia's untapped natural resources and combated 'open sores' like slavery, female infanticide and *sati*.[129] Culturally, this justified abolition of 'barbarian' practices; economically, it enabled the commercialisation of the commons and the spread of

[127] Michel Foucault, Arnold Davidson (ed.), Graham Burchell (translation), *The Government of Self and Others*. *Collège de France, Lecture Series, 1982-1983*. Basingstoke : Palgrave MacMillan, 2010.
[128] For an excellent discussion of the political economy of deforestation: Adams, *Green Development*, pp.255-271.
[129] Niall Ferguson, *Empire*. London: Penguin Books, 2002, pp.126-145.

extractive capitalism and wage labour; bureaucratically, it opened the gates to classify, measure and alter social realities, courtesy of the West's enlightened knowledge. Social evolutionism was embraced by ideologues as varied as Saint Simon, Marx and Wilburforce, pitting Western supremacy against forces in denial of history's direction. Social evolutionists became apologists for colonial oppression, as a common humanity was not denied, but it was argued that Western states had reached a level of civilisation that was centuries ahead of the societies outside the imperialist fold.[130] The notion of speeding up history underpinned the imperialist endeavour, but has also proved to be a hallmark of many 20th and 21st century post-independence elites in the Global South.

Critical to that legitimising effort of spreading civilisation has always been the Enlightenment idea of "modernity", to be contrasted against primitive worldviews, whether born out of ignorance or malice. "High modernism" is defined by the belief in the virtues of techno-scientific innovation and centralising authority and knowledge, and the concrete expression of that belief through politics (e.g. government-led social engineering) and culture (e.g. austere, symmetrical and 'awe inspiring' architecture).[131] High modernism radicalizes universalist notions of rationality and teleological progress that have been dominant in the West since the French Revolution and takes them to their logical extremes through the belief in *tabula rasa*, creating a blank slate through which to transform material and immaterial realities. This process of transformation –often the 'taming' of nature- is spearheaded by an enlightened elite that uses its supreme knowledge to craft a new more economically productive society. Because this idea of state-led modernisation draws both on claims of moral superiority *and* scientific backing, it is ethically imperative and fully rational to squash dissent and confront backwardness as part of the civilising mission.

Much as political, military and economic factors initially drive what is called the spread of civilisation, the powerful narratives that empires and states project alongside the deployment of material power inevitably acquire a dynamic of their own. These discourses are not only instruments of power

[130] Gilbert Rist, *The History of Development*. London: Zed Books, 1997, p.43.
[131] Scott, *Seeing like a State*, p.4.

separating permissible modes of thought from 'anachronistic' ideas; they also become realities of their own.[132] Just as scientists working on Prussian forestry projects were over time blinded to alternative conceptions of trees and forests, so have sweeping visions of civilisation deluded the ultra-rational elites whose plans they are meant to accompany, not lead. As states have embarked on processes of standardisation and commodification, they have often substituted the overwhelmingly 'chaotic' nuances of ecological and social systems for a strongly simplified but overseeable version of these realities. In doing so, bureaucratic elites have entertained the myth that they vastly increased their understanding of nature- and thus also ability to implement grand plans- based on concepts of "fragility", "balance" and "best practices".[133]

This self-deception is at the core of quite a few *fata morganas*- mirages in the desert. Development itself, with or without the adjective "sustainable", has been criticised for mistaking means and ends.[134] The civilisation and development rhetoric, and the associated assumption of mastery over the forces of nature and society, have been at the heart of many dramatic failures of statist overreach. Mao Zedong's Great Leap Forward, Tanzania's Ujamaa and the villagisation efforts of Ethiopia's Derg were led by political elites and powerful bureaucratic interests convinced that the forces of production could be transformed through combining scientific insight, voluntarism and rejecting production models of individual smallholders. Economies of scale, standardisation and mechanisation were deemed critical to catapult countries from underdevelopment to civilisation. However, these social engineering schemes crashed miserably and ended in famines that cost the lives of millions; planners overestimated their ability to 'read' nature, shape human beings and eradicate what they termed the informal, messy and chaotic.[135] Authoritarian high-modernism, though sometimes couched in communitarian rhetoric, drove these fiascos, clashing with complex social and ecological systems with surprisingly resilient diversity. They are testament to how

[132] James Ferguson, *The Anti-Politics Machine*. Minneapolis: University of Minneapolis, 1994.
[133] Adams, *Green Development*, pp.35-42.
[134] M.P. Cowen, R.W.Shenton, *Doctrines of Development*. London: Routledge, 1996, pp.3-5.
[135] Judith Shapiro, *Mao's War against Nature. Politics and the Environment in Revolutionary China*. Cambridge: Cambridge University Press, 2001.

profound and distorted the impact of discourses, that acquire relative autonomy from the forces that gave rise to them, can be.[136]

[136] For criticism and further refinement of Scott's authoritarian high-modernism, see Special Issue of *American Anthropologist*, 'Moral Economies, State Spaces and Categorical Violence', Vol.107, 3, Sep 2005, pp.321-402.

III. Sudan and the Al-Ingaz regime: how the project makes a difference

Earlier, I introduced the history of political struggles, state-building efforts and development projects around the longest river on earth. Based on an extensive review of the literature and three main paradigms of thinking about environment, development and violence, I subsequently developed an alternative theoretical framework, arguing that the analysis of the water-agriculture nexus must be contextualised not just with ecological science but also with history, sociology, institutional analysis and regional politics. Ideas about environment and development are produced as integral parts of elite projects and struggles between rivalling factions of the power bloc, and as such are valuable tools for local and global actors in processes of material accumulation and political legitimisation. Behind 'unparalleled agricultural potential' or 'dam-led development' lurk questions about authority, violence and resource distribution.

This section explains why this framework to understand the links between water, civilisation and power needs to be applied to Sudan and how Sudan scholarship stands to benefit from my analysis. I highlight the importance of several key claims that will be developed throughout this thesis. Firstly, that water has been actively instrumentalised to build the material basis for hard power and to control communities in centralised systems of management - in other words, there is an important 'water' dimension to state-building in Sudan. Secondly, that such state-building projects and visions of transforming Sudanese society through hydro-infrastructure are not relics of the past, but are more salient –and more political- than ever before under the Salvation regime, as evident in the "hydro-agricultural mission". And thirdly that the hydropolitical angle provides unique insight into Sudanese politics in general, but into the Al-Ingaz project in particular, and is vital to understand the past 23 years of Islamist rule as well as the future of regime, country and region.

Sudan, until 9 July 2011 Africa's largest state, has been studied for a long time; an extensive literature has influenced our understanding of issues of conflict, state-building, development

dilemmas and cultural traditions elsewhere. My doctoral research has benefited immensely from the outstanding contributions by anthropologists[137], historians[138] and political scientists[139]. However, much remains to be done, both in terms of deepening the accumulated knowledge and bringing local, regional and international analyses together in a multidisciplinary framework. One of the most glaring absences in the Sudan literature is a comprehensive, longitudinal study of water policy and associated agricultural visions, in a country where the vast majority of people still depend directly on water and agriculture for their daily livelihoods. Strong contributions were made on British colonialism, the Sudan Political Service and ambitious master plans for Nile water management.[140] There is also an impressive literature on Egypt's (hydro)political economy[141], which provides insights into the realities of the *Turkiyya* preceding the Anglo-Egyptian Condominium and into post-independence economic thinking in Sudan influenced by Nasser. Scholars have focused on the Gezira irrigated scheme[142]; on Nimeiri's dreams of exporting food[143]; on tensions in the Nile Basin between Egypt, Sudan and Ethiopia[144]; and on the Jonglei Canal[145], but never have different state-building

[137] Wendy James, *War and Survival in Sudan's Frontierlands. Voices from the Blue Nile*. Oxford: Oxford University Press, 2009; Edward Evan Evans-Pritchard, *Nuer Religion*. Oxford: Clarendon Press, 1994; Sharon Hutchinson, *Nuer Dilemmas*. Berkeley: University of California Press, 1996.

[138] Peter M. Holt, Martin Daly, *A History of Modern Sudan*. New York: Longman, 2000; Martin Daly, *Empire on the Nile 1898-1936*. Cambridge: Cambridge University Press, 1986; Richard Hill, *Egypt in the Sudan 1820-1881*. London: Oxford University Press, 1959; Derek A. Welsby, *The Kingdom of Kush, the Napatan and Meroitic Empires*. London: the British Museum Press, 1996; Gabriel Warburg, *Islam, Sectarianism and Politics in Sudan since the Mahdiyya*. London: Hurst and Co, 2003.

[139] Tim Niblock, *Class and Power in Sudan. The Dynamics of Sudanese Politics 1898-1985*. Albany: State Universitt of New York Press, 1985; Peter Woodward, *Sudan 1898-1989. The Unstable State*. Boulder: Lynne Riener, 1990.

[140] G.N. Sanderson, 'The Ghost of Adam Smith. Ideology, Bureaucracy and the Frustration of Economic Development in the Sudan, 1934–1940', Martin Daly, (ed.), *Modernisation in the Sudan*, New York: Lilian Barber Press, 1985, pp.101–20; Anthony Kirk-Greene, 'The Sudan Political Service. A Profile in the Sociology of Imperialism. *The International Journal of African Historical Studies*, Vol.15, 1, 1982, pp.21-48.

[141] Timothy Mitchell, *Colonising Egypt*. Berkeley: University of California Press, 1988; Timothy Mitchell, *Rule of Experts*. Berkeley: University of California Press, 2002; John Waterbury, *The Egypt of Nasser and Sadat: The Political Economy of Two Regimes*. Princeton: Princeton University Press, 1983.

[142]Tony Barnett, *The Gezira Scheme. An Illusion of Development*. London: Frank Cass, 1977; Bret Wallach, 'Irrigation in Sudan since Independence.' *The Geographical Review*, 74, 2, 1984, pp.127-144.

[143]Jay O'Brien, 'Sowing the Seeds of Famine', *Review of African Political Economy*, Vol.33, August 1985, pp.23–32; P. Oesterdikhoff, Karl Wohlmuth, 'The "Breadbasket" Is Empty', *Canadian Journal of African Studies,* Vol.17, 1, 1983, pp.35–67.

[144] Robert Collins, The Waters of the Nile. Hydropolitics and the Jonglei Canal 1900–1988. Oxford, Oxford University Press, 1990; John Waterbury, *Hydropolitics of the Nile Valley*. Syracuse, NY: Syracuse University Press, 1979; Mohamed El Zain, 'Reshaping the 'Political'. The Nile Waters of Sudan.' Terje Tvedt, R. Coopey, (eds.), *A History of Water. The Political Economy of Water*. London: IB Tauris, 2006.

projects and the political-economic dynamics surrounding water and agriculture been brought together in one framework of analysis. Much valuable work occurred in isolation, without linking it back to seminal theoretical contributions that are relevant to the Sudanese case. Water is the proverbial elephant in the Sudanese political space; a comprehensive inquiry is long overdue.

Similarly, plenty has been written on conflict in Sudan[146]- in the South[147], in the Nuba Mountains[148] or in Darfur[149]- and the politics of humanitarian relief[150]. Traditional explanations for the highly violent nature of the Sudanese polity have centred on religion and culture, colonial legacies, rivalries between big personalities, core-periphery dynamics and destabilizing geopolitics. Recently, natural resources have received more attention, with oil and land figuring prominently[151], but the link between the hydro-political economy, state-building and widespread violence in Sudan continues to be overlooked. Water has by and large been depoliticised and kept out of 'hard' analyses of politics and conflict, unless in the form of the stereotypical 'tribal clashes' over 'scarce resources' that explain very little.

This thesis therefore aims to inject a multi-scalar "water-perspective" into our understanding of the Sudanese state and the elites that have dominated it. The hypothesis is that political exclusion, persistent underdevelopment and chronic violence in Sudan are not simply a matter of bad

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[145]Paul Howell, Michael Lock, Stephen Cobb, (eds.), *The Jonglei Canal: Impact and Opportunity*. Cambridge: Cambridge University Press, 1988.

[146] Douglas Johnson, *The Root Causes of Sudan's Civil Wars*. Oxford: James Currey, 2003; Francis Deng, *War of Visions*. Washington DC: Brookings Institution, 1995.

[147] Mohamed Omer Beshir, *The Southern Sudan. Background to Conflict*. London: Hurst and Co, 1968; Lam Akol, *SPLM/SPLA. Inside an African Revolution*. Khartoum: Khartoum University Printing Press, 2011; Hilda Johnson, *Waging Peace In Sudan. The Inside Story of the Negotiations That Ended Africa's Longest Civil War*. Brighton: Sussex Academic Press, 2011.

[148] African Rights, *Facing Genocide: The Nuba of Sudan*. London: African Rights, 1995; Guma Kunda Komey, *Land, Governance, Conflict & the Nuba of Sudan*. Oxford: James Currey 2010.

[149] Julie Flint, Alex De Waal, *Darfur. A New History of a Long War*. London, Zed Books, 2007; Mahmood Mamdani, *Saviors and Survivors*. London: Verso, 2009; Martin Daly, *Darfur's Sorrow*. Cambridge: Cambridge University Press, 2007 ; Jérôme Tubiana, *Chroniques du Darfour*. Paris: Glénat, 2010.

[150] Alex De Waal, *Famine Crimes*. Oxford: James Currey, 1997; Ataul Karim, Mark Duffield, Susanne Jaspars, Aldo Benini, Joanna Macrae, Mark Bradbury, Douglas Johnson, George Larbi. *Operation Lifeline Sudan (OLS): a review.* Geneva: Department of Humanitarian Affairs, 1996.

[151] Human Rights Watch, *Sudan, Oil and Human Rights*. New York: HRW, 2003; Mohamed Suliman, 'Civil War in Sudan: The Impact of Ecological Degradation', *Contributions in Black Studies*, Vol.15, 1, 1997.

geography or colonial divide and rule, but very much the consequences of deliberate political-economic strategy of rulers in Khartoum in which the instrumentalisation of water plays a central role. Water doesn't *cause* marginalisation and conflict as such, but has been central to exclusionary state-building projects that produce scarcity for some and abundance for others; violence has been an integral part of these 'missions'.

I will demonstrate that the visions of civilisation that accompany state-building in Sudan, partly because they mixed developmental wishful thinking and administrative incompetence and partly because they were always about consolidating elite hegemony rather than lifting all boats, have proven to be hugely disempowering for many local communities. Water policy and the associated 'greening the desert'-rhetoric has been a powerful tool in driving projects of asymmetric integration into the world economy and in legitimising the regimes that pushed them. This highlights the academic but also real world importance of this doctoral thesis: many of the dominant claims made about the environment, development and violence in Sudan aren't just either factually incorrect, internally inconsistent and/or politically all too convenient, but also shape and legitimise policies that are often, at best, misguided. As I will shown, in Sudan these 'a-political' arguments actively fuel exactly those problems elites claim to be concerned with: socio-economic marginalisation; political exclusion; societal violence; and environmental crisis. Thus, following Keen's line of thinking, I argue that 'violence', 'development' and 'scarcity' must not be understood as self-evident categories, but as the consequences of long-term strategies to consolidate political control involving water and agriculture, fulfilling specific *functions* and being integral parts of the logic of power in Sudan.[152] I try to offer a coherent synthesis of Al-Ingaz' hydropolitical economy within which the links between the water-agriculture nexus, visions of civilisation and dynamics and instruments of power are highlighted.

[152] Keen, *The Benefits of Famine*; African Rights, *Food and Power in Sudan*. London: African Rights, 1997.

This comprehensive inquiry is all the more relevant when it comes to the Salvation Revolution[153] that has ruled since 1989. The best studied period in recent history is the 16 years of rule by Ja'afar Nimeiri: the rise and fall of the alliance with the communists; his modernism and attacks on the traditional Sudan of Ansar and Khatmiyya; the signing of the peace agreement in Addis Ababa and re-eruption of conflict with the SPLM/A; and, subject of considerable discussion in this thesis, the Breadbasket strategy.[154]

Due to successive civil wars and the general crackdown instigated after the military coup, less illuminating research has been conducted on Al-Ingaz and the ways in which Sudan has been transformed in the past 20 years. It is only after Sudan's Comprehensive Peace Agreement that it's been possible again for many scholars to do long-term fieldwork, including on the enigmatic Islamists themselves. Despite a number of important publications[155], Al-Ingaz' internal politics and long-term strategy have been the object of much speculation but little actual evidence. I hope to contribute substantially to better understanding the regime, its competing factions and the continuities and changes that have defined its outlook on the world.

This thesis prioritises Al-Ingaz "hydro-agricultural mission"- the cornerstone policy of the last decade that is meant to entrench the Revolution in power for another generation. Hardly anything has been written on Sudan's Dam Programme, its sweeping aims, its economic rationale and ecological price-tag, or the growing resistance against it. No publications have comprehensively surveyed water and agricultural policy under Al-Ingaz, and even the general economic direction since 1989 has been

[153] "Al-Ingaz regime", "Al-Ingaz Revolution" and "Salvation" will be used throughout the thesis to refer to the regime, including the post-2000 period. I feel it is pertinent to use these specific terms as a) the regime continues to refer to itself in this way, informally but also in official communications; b) it underlines important continuities about the regime that are central to the argument over the entire 1989-2011 period. Despite political changes, large swathes of the political-economic vision and normative assumptions made by the Al-Ingaz leadership remain fundamentally unaltered.

[154] Mansour Khalid, *Nimeiri and the Revolution of Dis-May*. London: KPI, 1985; Mark Duffield, 'From Emergency to Social Security in Sudan. Part I. The Problem.' *Disasters*, Vol.14, 3, pp.188-203; Peter Adwok Nyaba, *Politics of Liberation of South Sudan. An Insider's View*. Kampala: Fountain, 1997 & 2000; Abel Alier, *Southern Sudan. Too Many Disagreements Dishonoured*. Exeter: Ithaca, 1990.

[155] Abdelwahab El Affendi, *Turabi's Revolution. Islam and Power in Sudan*. London: Grey Seal Books, 1991; Abdullahi Gallab, *The First Islamist Republic. Development and Disintegration of Islamism in the Sudan*. London: Ashgate, 2008; Alex De Waal (ed.), *Islamism and its Enemies in the Horn of Africa*. London: Hurst & Company, 2004; Mahboub Abdel Salam, *Haraka al-Islamiya al-Sudaniya*. Cairo, 2010; Mohamed Elhachmi Hamdi, *Conversations with Hassan al-Turabi*. Boulder: Westview Press, 1998.

poorly studied with little in-depth work of the calibre of the contributions made in the 1970s-1980s about Nimeiri's socialism. This thesis cannot hope to remedy all gaps, but seeks to make progress in several vital areas.

The hydropolitical angle offers a unique approach to better understanding how Al-Ingaz wields power, how it sees 'power', 'civilisation' and itself, and how it differs (or not) from other governments in the Nile Basin when it comes to 'development'. It has the potential to teach us about ideological and institutional legacies in water policy; about the resource dimension of Sudan's core-periphery problem; and about Islamist social engineering in a context of globalisation and privileged economic ties with China, the Arabian Peninsula and Egypt. It generates reflections on alternative, illiberal state-building projects in places like Sudan where an infatuation with China's growth miracle and its supposed recipe -political authoritarianism and mass investment in infrastructure- is leading to an obsession with the material expressions of modernity but remains largely oblivious to the 'software' that really drives systemic social change.

A multi-scalar hydropolitical angle also enables us to draw attention to regional and local perspectives of those regimes, opposition parties and local communities interacting with the Khartoum of Hassan Al-Turabi, Omar Al-Bashir and Ali Osman Taha. It thus sheds new light on long identified root causes of Sudan's civil wars and demonstrates how under Al-Ingaz marginalisation and political exclusion continue to be consciously reproduced, particularly through the water-agriculture nexus. This reproduction is not an inconvenient side-effect, but a direct consequence and integral part of the particular relationship between water, civilisation and power in Islamist Sudan.

IV. Methodological Considerations: gathering evidence, weighing the data, validating the claims

Implications of a political ecology framework

I have given an overview of the prolonged engagement with the diverse literatures on environment, development and politics that was necessary to make sense of the Sudan material gathered over a period of three years. The insights from political ecology and other critical approaches have continuously informed the ways in which the data was analysed during the course of this project, but not in deterministic ways. When drawing on theoretical ideas to interpret a society with its own political system and social-ecological problems, there is always the risk of (implicitly) forcing findings into the framework that one is familiar with, regardless of whether the data objectively warrants such an inclusion. On the other hand, trying to do research in a non-existent 'vacuum' where no biases, frames or comparative methods exist, is unrealistic and would lead to much impoverished findings.[156] It would beg questions about the relevance of one's projects.

There is a fine balance to strike between linking Sudan's particular case to broader conceptual ideas and political-economic trends and engaging with it on its own terms and recognising its specificity. This thesis therefore tries to be as clear as possible about its philosophical and analytical assumptions as well as its theoretical background. My argument is specific to Sudan and the Nile Basin; it builds on empirical and theoretical findings from political science and sociology to structure its thinking about the Sudanese case, but in turn, it uses the unique dynamics of Sudan's hydropolitical economy to make a broader contribution to social science. This doctoral project offers, inter alia, insights into the politics of the environment, the manipulation of global Malthusian narratives for local power struggles and the complexity of 21st century Islamist attempts at state-building.

[156] James W. Davis, *Terms of Inquiry. On the Theory and Practice of Political Science*. Baltimore: Johns Hopkins University Press, 2005, pp.166-168.

Contrary to what critics assert[157], self-reflective research grounded in political ecology neither embraces the determinism of some Marxist theories, nor does it ignore science or make 'development' in any meaningful sense impossible. Like any other framework, political ecology relies on specific philosophical and epistemological assumptions, but it tries to clarify them. Although the political is given primacy on an analytical level, it is the complex interaction with the real biophysical world that distinguishes the approach from conventional political economy or Foucauldian lenses. Structural and physical violence, dynamics of political economy and narratives of 'ecological crises' (or 'sustainability') are tightly linked, but in not straightforward ways. Reality is messy and contradictory, and political ecology thus rejects romanticised constructions of 'the local' or 'the Global South'; it does, however, have an explicit, instinctive distrust of power and attempts at de-politicisation that naturalise ecological problems and hegemonic projects.[158]

It is vital to underline that a political-ecological approach emphasises the multi-scalar set-up of the research.[159] Though the main contribution of this thesis is about water, power and civilisation in the context of Sudan's Al-Ingaz revolution, it can only do so by constantly embedding national dynamics in wider global and regional processes, but also by relating it to local realities. Political ecology attempts to integrate social relations and environmental shifts on different levels of analysis and refuses to see them as separate, positing their interactive and mutually constitutive nature. The implication is that both theoretically and empirically a multi-scalar and historic perspective is needed to fully spatio-temporally contextualise the actors and processes analysed. This adds considerable complexity, but also enables a more nuanced and rewarding examination.

[157] Andrew Vayda, Bradley Walters, 'Against Political Ecology.' *Human Ecology*, Vol.27, 1999, 1, pp.167-179; Peter A. Walker, 'Political Ecology. Where is the ecology?' *Progress in Human Geography*, Vol.29, 2005, 1, pp.73-82.
[158] Arturo Escobar, *Encountering Development*. Princeton: Princeton University Press, 1994.
[159] Robbins, 'The State in Political Ecology.'

The Thesis and its Sources

The approach of this thesis is inductive and holistic -with a focus on history and the complex interdependence between institutions and people-, rather than deductive, relying on a few controllable variables for widely generalisable conclusions. To substantiate its arguments, this thesis has drawn on three types of sources, integrating them systematically. The appendix to this thesis elaborates on some of the methodological discussions here and delves deeper into research dilemmas, particularly regarding the use of elite-interviews.

None of my sources is without faults and all of them offer a valuable but only partial understanding of Sudan's hydropolitical economy. Pulled together however, with awareness of their limitations, they can yield "thick analysis rather than broad, numerical generalisations"[160], as qualitative research often does in hitherto underexplored subjects with a limited number of "known instances".[161] The methodological triangulation[162] used here –combining primary documents, the best secondary literature, field observation and extensive elite-interviews- should increase the validity of findings and reduce some of the weaknesses inherent in relying on only one method; particularly in multidisciplinary research, cross-checking is likely to allow the social scientist to capture the complexity of social behaviour more fully.

Analysis of the secondary literature

My research builds on the already highlighted impressive secondary literature. Johnson, De Waal, Deng, Collins, El-Affendi and James have made seminal contributions to our understanding of politics, society, ideology, migration and war in Sudan. Their ideas about the core-periphery dynamics in

[160]Ariadne Vromen, 'Debating Methods. Rediscovering Qualitative Approaches', David Marsh, Gerry Stoker, (eds.), *Theory and Methods in Political Science*. Basingstoke: Palgrave Macmillan, 2010, p.249.
[161] Charles C. Ragin, Dirk-Berg Schlosser, Gisèle de Meur, 'Qualitative Methods', Robert E. Goodin, Hans-Dieter Klingemann, *A New Handbook of Political Science*. Oxford: Oxford University Press, 1996, p.750.
[162] N.K. Denzin, *The Research Act in Sociology*. Chicago: Aldine, 1970.

Sudan, as well as their combination of local fieldwork connected to macro-political insights are both substantively and methodologically inspiring. The post-Nimeiri period has generated less cutting-edge analysis, due to problems with access to the field in the midst of war and the closing of political space. Two already mentioned exceptions are the contributions about conflict itself and the literature on famine, both in Darfur and along the North-South border. Strong empirical evidence has improved our grasp of war and the functional nature of marginalisation and mass starvation in Sudan, but has also helped to shift social science's frameworks in thinking about famine, offering new mortality models[163] and drawing attention to the benefactors of crises and the logic of violence and exclusion. Especially Keen's work, through the centrality it accords to political economy, through its reflections on the nature of the Sudanese state and through its questions about Khartoum-led 'development', has inspired my own explorations of the links between politics, economics and ecology.

Extensive evaluation of Primary Sources

This category includes publications by the government of Sudan and international bodies (IMF, World Bank, UN Food and Agriculture Organisation, etc.) and statistical material (social indicators, government budgets, etc.) on agriculture, water use and economic trends. While some information is of less than reliable quality –some documents might be deliberately omitting certain elements, or falsely representing 'trends'-, I found that a surprising amount of decent material has never been engaged with in earnest. Plenty of the material hesitantly made available by Sudan's Dam Implementation Unit (DIU), the central institution in Al-Ingaz' Dam Programme, is hugely insightful regarding DIU activities and Salvation thinking about dams and development. Some of the strategies and action plans produced by the Ministry of Agriculture, the FAO and Supreme Council for the

[163] Alex De Waal, *Famine that Kills. Darfur, Sudan 1984-1985*. Oxford, Oxford University Press, 1989.

Agricultural Revival are extremely valuable too, perhaps more so than the technocrats in these institutions seem to realise.

Key sources that deserve explicit mention are the IMF's Article IV Consultations-Staff Reports, invaluable for economic analysis; the FAO statistics on agricultural production trends in the past 30 years, nationally and by state; the Executive Summary of the Agricultural Revival Programme, which sets out the official government strategy for the sector; and the DIU's publication on its most prestigious achievement, "*Merowe Dam Project: A Battle of Dignity and Independence of Decision"*. Another landmark, consisting of pro-government propaganda but couched in fascinating high-modernist language and illustrated with great detail, are "*The Pages of Achievements in the March of National Salvation 1989-2005*", as published through the Council of Ministers. Perhaps the single most important document that was analysed is an unpublished paper (2005) in Arabic by Al-Ingaz economic guru Abdelrahim Hamdi innocuously titled "*The Economic Paper for the ruling National Congress: Future of Foreign Investment in Sudan*". Hamdi's piece was not another forgettable conference intervention: a true call to arms, it laid out a comprehensive vision on how to consolidate Islamist hegemony for the next 10-15 years and became Al-Ingaz' unofficial grand strategy. It is the political-economic rationale behind the hydro-agricultural mission.

Two types of analyses were applied to the material. Some of the data was used, with care, as factual background, and where possible information is provided on the numbers' reliability. In other cases, a textual interpretation of grand development plans, public and private website information (e.g. DIU, Kenana Sugar Company,...), government communiqués and other vital documents brought to light salient/recurrent themes, particular representations of an issue or deliberate omissions where an explanation is to be expected. Analysing written records through the historiographical method and discourse analysis is a valuable source of information[164]; its representation and interpretation by the researcher is verifiable by other scholars, though biases, incomplete information and outright

[164] Vromen, 'Debating Methods.', pp.261-262.

falsehoods are almost inevitable, particularly concerning sensitive political and statistical data.[165] It is here that triangulation techniques are particularly useful, as the political-ecological framework and a Gramscian lens help identify some of the assumptions and normative judgements implicit in these publications, and shed light on deliberate manipulation for political purposes.[166]

Khartoum's elites have projected a specific narrative about water and agriculture in Sudan in these publications and engaged in sophisticated communication strategies to veil exclusionary state-building projects: the banner of civilisation –"*dams are development*", for instance- is critical to the logic of power in Sudan. Such discourses, a mix of Malthusian warnings and cornucopian optimism, are important tools to consolidate hegemony and to engage with the outside world in ways that deepen the political-economic asymmetries. The challenge here is not so much that the government documents produce outright lies (though sometimes, the factual 'mistakes' are glaringly obvious), but to ask the right questions and note what is highlighted and what is kept silent about: " 'scarcity', 'progress' and 'development' –all so eagerly made reference to- for whom?" is an especially important consideration.[167]

Interviews and field observation

A final source for much of my claims has been extensive fieldwork across Sudan, in Khartoum as well as in the heartlands of the regime (Shendi, Al-Mutamma), key agricultural zones (White Nile State, Gedarif, Gezira, Sennar) and the peripheries (Blue Nile State, Kassala). Half a dozen visits to Sudan (ranging from three weeks to three months) over a period of three years have been critical in better understanding the multilayered dynamics under investigation. Much of this time was spent talking to ordinary people –traders, students, businessmen, taxi drivers- to develop an understanding of Sudan

[165] Janet Buttolph Johnson, Richard A. Joslyn, H.T. Reynolds, *Political Science Research Methods. Fourth Edition*. Washington: CQ Press, 2001, pp.263-266.
[166] Douglas Ezzy, *Qualitative Analysis. Practice and Innovation.* Sydney: Allen & Unwin, 2002, p.107.
[167] K. Jacobs, 'Discourse Analysis', Maggie Walter (ed.) *Social Research Methods*. Melbourne: Oxford University Press, 2006, p.138.

and the environment in which the hydropolitics play out. Though it's hard to pinpoint where exactly this has influenced my thesis, there can be no doubt that countless conversations with Sudanese citizens have shaped my thinking. More direct influence is visible in the dozens of exchanges with people on the receiving end of water and agricultural policies of Al-Ingaz, particularly in dam-affected areas.

Another key channel of information has been in-depth interviews with key actors in Sudan's water-agriculture nexus, particularly within the Salvation regime. The appendix to this thesis discusses interviews as a method –its attractions and possible pitfalls- and explains how I was able to get access to a wide range of politicians, senior civil servants, security staff, scholars and what the importance of these exchanges is for social science research. Because interviews have been so important in establishing the politics of Sudan's hydro-agricultural mission, they merit a serious discussion; additionally in the appendix I provide an overview of all elites, in Sudan and elsewhere, whose testimonies have been crucial in piecing together this thesis' core arguments.

Interviews function best as a source in an accumulative sense.[168] Here, they were used to better grasp Al-Ingaz decision-making and those dynamics outside the literature's remit, but also in turn generated new ideas that forced me to return to the theory and secondary data to make sense of what was said. Rather than further muddying the waters, this multi-method approach has enabled me to map uncharted terrain in Sudan studies and to bring to life many conceptual (often untested) ideas found in theoretical arguments.

Demarcating the Argument: what is not included

Given that the project sketched out is ambitious, it is perhaps wise to demarcate the areas about which this thesis doesn't make any claims. To recapitulate, this DPhil attempts to understand

[168] Lewis Anthony Dexter, *Elite and Specialized Interviewing*. Evanston: Northwestern University Press, 1970, p.12.

"*What role does water play in the Al-Ingaz Revolution and how does the hydro-agricultural mission of Sudan's Islamists drive dynamics of power accumulation, violent state-building and (under)development?"*

I focus on the transformation Sudan has undergone since 1989 with particular reference to the water-agriculture nexus, and try to connect its ecological and socio-economic consequences with political developments and ideological visions. My fundamental argument is about water, civilisation and power and how these interact: yet while most claims are about Sudan and Al-Ingaz, many of these concepts and their real world expressions apply more broadly to the Nile Basin and are strongly rooted in historical regional patterns of state-building. The thesis demonstrates the primacy of the political and the material but also the enduring power of narratives that try to obscure where Sudan's elites need it and highlight where the Islamists want it.

I chose not to focus on water safety and sanitation issues, refugees and IDPs and access to water, or local disputes over *hafirs* (water points), nor did I opt for an anthropological study of socio-cultural meanings of 'water' for particular ethno-regional groups. Geographically, the project concentrates on the Nile and riverain Sudan –sites of the irrigated schemes and the Dam Programme- and not on the resource politics of South Kordofan, the environmental impacts of the oil industry, the land-water nexus in Darfur or the huge political-ecological issues faced by South Sudan. I pay attention to community adaptation strategies, the international legal framework and the hydrology of the Nile, but none of these is the focus of the research and they are therefore treated without detail.

Perhaps surprisingly, I choose not to give a more prominent role to the Gezira scheme; while drawing attention to its vital importance to Sudan's economy in the mid 20th century, I don't get bogged down in the details of contemporary local feuds and disastrous management choices that have contribute to the scheme's decline in recent decades. Gezira matters to Al-Ingaz, but has not (yet?) been central to its hydro-agricultural mission in the way other regions and projects have been; the

social background of many tenants also means that neglect and de-prioritisation have shaped 'policies' since 1989. Gezira is a unique case and given its complexity, worthy of a new research project of its own.

This DPhil is limited in space and time, concentrating on a macro-argument regarding Sudan's recent past: the analysis is multi-scalar and historically contextualised, but ultimately I prioritise the present and national politics in my claims. This is the consequence of pragmatism, but also a strategic choice: for underexplored subjects like Sudanese hydropolitics and Al-Ingaz' political economy, it seems more useful to first set out the general argument, the central dynamics and the associated parameters and then, in future research, to develop more extensively the local nuances and contradictions that are inevitably present. The most important contribution this DPhil can make is at the country and regime level and hence many theoretical concepts, case studies and individual organisations, though important in their own right, are specifically put at the service of examining the main research questions, generating (hopefully) interesting secondary insights into state-level problems or Nile Basin geopolitics. Many of the regional and local examples (or the theoretical implications) need to be researched further from multiple perspectives- with the background of the hydro-agricultural mission in mind but also on their own terms. Finally, it is worth underlining that future research may draw on some of the concepts used here, or to extend its central argument about water, civilisation and power to other cases in Sudan, the Nile Basin or elsewhere. But inevitably those will be the claims of future research, not of this DPhil.

Outline of the Thesis

The development of my argument starts by reviewing the history of the water-agriculture nexus in the Nile Basin, from Pharaonic times over Napoleon and Muhammad Ali to British colonialism. Chapter Two provides historical background to thinking politically about water in the region. It discusses the collapse of Ancient Egypt's Old Kingdom and shows how, contrary to modern ideas about Egypt as a "hydraulic civilisation", it was a surprisingly decentralised system of water management that formed the basis for economic and military ascendency of Egyptian civilisation. Local irrigation systems, not top-down centralisation as described in Wittfogel's "*Oriental Despotism*", contributed to long-term success.

By contrast, the birth of modern Egypt entailed a revisionist interpretation of how Pharaonic civilisation dealt with the challenge of water scarcity. The chapter explores the profoundly modern production of the twin imagery of scarcity and abundance in riverain Egypt and Sudan and demonstrates how this discourse, in which the notion of "civilisation" is critical, became a vital instrument in legitimising policy shifts between 1800 and the mid 20th century. Successive polities sought to centralise control over the Nile and use its waters to build the material basis for regional supremacy. From the 1821 invasion and the *Turkiyya* onwards, Sudan was integrated closely into the global economic system; resources were systematically extracted from it. This asymmetric pattern was adapted over time, but Sudan's water and agricultural resources continued to be put at the disposal of international and domestic elites in exclusionary accumulation processes.

Chapter three examines Nasser's Egypt and the Aswan High Dam, as well as economic and water policy in post-independence Sudan. I discuss the Breadbasket strategy of Ja'afar Nimeiri- the dream of turning Sudan into the producer of food surpluses for Africa and the Middle East at times of rising environmentalism and worries about resources crunches in the 1970s. Nimeiri's ambitions, encouraged by international organisations which saw Sudan's agricultural potential as the answer to their fears, were heavily influenced by two key elements: wishful thinking about how to realise a

Green Revolution in Sudan and the imperative of maintaining political control. Ultimately the Breadbasket vision collapsed under its own contradictions and famine returned to Sudan while food exports to the Middle East continued; economic failure and illegal land-grabbing also paved the road to the resumption of civil war.

Chapter four discusses Sudan's *Al-Harakat Al-Islamiyyah* and its Al-Ingaz Revolution, and analyses the Islamism of Dr Hassan Al-Turabi. It sets out goals with which the new regime came to power in 1989: the revolutionary radicalism of Turabi and "*mashru al-hadhari*", "the civilisation project". Besides an overhaul of Sudan's political institutions, a re-ordering of the relationship between religion and state, and an Islamic Revival, Al-Ingaz also made economic recovery and modernisation a top priority. Abdelrahim Hamdi's Economic Salvation Programme combined drastic liberalisation with unorthodox recovery measures to pull Sudan back from the brink- the birth of the Islamist claim to derive popular legitimacy not just from the strength of their ideas, but also from delivering economically for substantial sections of the population.

Chapter Five discusses the rise of Al-Ingaz' hydro-agricultural mission through the launch of Sudan's Dam Programme and *Al-Nahda Al-Zira'ayah*, the Agricultural Revival. It explores the rationale behind the wave of dam building, examines the high-modernist discourse accompanying it and investigates the Dam Implementation Unit, the driving force behind the hydro-infrastructural investment and, increasingly, one of Sudan's most powerful institutions. Under Usama Abdallah's aegis, the DIU has marginalised other ministries and controls unprecedented budgets, as well as deploying its own security forces to crush dissent; the political economy of the Dam Programme and the Agricultural Revival is examined in detail. I discuss the long-term strategies of the post-Turabi regime and the concept of "output legitimacy," the idea that Sudan's 'reformed' Islamists need to deliver economically to certain constituencies in the so-called "Hamdi Triangle" Dongola-Kordofan-Sennar to retain political hegemony for another 10 to 20 years. I link this political logic to developments in the global system, from growing worries about climate change and rising global food prices over the rise

of successful 'Islamic' business elites to disenchantment with liberal models of state-building and the ideological pull the Chinese model exerts on illiberal states like Sudan.

The Nile's international hydropolitics are the focus of chapter six. The water-agriculture nexus in Sudan has always been shaped by external forces and patterns of extraversion; this chapter provides an extensive dissection of the regional and global context in which Al-Ingaz has launched its hydro-agricultural mission and the opportunities and constraints on the regime of Bashir and Taha. The rapprochement between Khartoum and Cairo after Turabi's political demise enabled the launch of Sudan's Dam Programme following years of international isolation.

The dams and Al-Nahda Al-Zira'ayah were facilitated by diplomatic U-turns, but are also integral to the development of a new global political economy of food, water and energy. China, as the main dam builder in the Nile Basin, plays a central role in this emerging configuration. The other key players are the Gulf Arab states which have returned to Sudan and are important beneficiaries of the revival of irrigated agriculture as well as being the chief funders of the Dam Programme. I discuss the motives and strategies of these actors and their relevance in the Sudanese context. I conclude by contextualising increased tensions in the Basin between upstream countries, led by Ethiopia and Egypt, backed by Sudan, and the new geopolitics of the Nile following the secession of South Sudan and the Egyptian Revolution.

In chapter seven, I use Blue Nile and Nubia as case studies of how Sudan's hydropolitics, and in particular Al-Ingaz and its hydro-agricultural mission, play out locally. Blue Nile is a socio-cultural melting pot, a microcosm of Sudan as a whole, but also the frontline in the civil war following Nimeiri's Breadbasket reforms, as well as a prime target of Al-Ingaz' Civilisation Project: under Ali Osman Taha's leadership, an Islamisation campaign was launched in the 1990s to garner politico-military momentum and usher in a new model of development. Taha's offensive of mosque building and mechanized farming backfired; Blue Nile turned into an SPLM/A stronghold. Today, the

heightening of the Roseires Dam, part of Usama Abdallah's dream of mastering the Nile waters, is yet another example of Khartoum-led 'development' that is receiving a hostile reaction, much like the Merowe and Kajbar Dam, which spearhead Al-Ingaz' Dam Programme, in Nubia. In the 1960s tens of thousands were displaced when Aswan was built; the same tragedy is being repeated since 2003 and is triggering fierce protests and lethal repression. The chapter includes findings from fieldwork in dam-affected communities.

The conclusion of this thesis ties the insights from the different chapters together and summarises the argument about water, civilisation and power. It integrates the long history of the politicisation of water in the Nile Basin and the contemporary recalibration of Sudan's (hydro)political economy under the Al-Ingaz regime to argue that there are strong links between scarcity, development and violence but very different ones than the connections proposed in a Neo-Malthusian or liberal-institutionalist framework. Water has always been vital to state-building in Sudan, mainly (but, in the modern era, not solely) through its links with agriculture. Rather than a particular type of state being determined by absolute scarcity, dynamics of elite consolidation, material accumulation and political struggles have given risen to structural marginalisation and a very particular view of water; this paradigm, in turn, has shaped politics and economic exchange, emerging as a discursive instrument of power.

Sudan's Al-Ingaz regime builds on this long history and has developed a 21st century version of the water-civilisation-power nexus. Its Islamism was never about a return to an imagined past, but imposed a violent, modernising project of wholesale transformation on Sudanese society. Following dramatic geopolitical and internal changes around 2000, it launched its hydro-agricultural mission, drawing on a discourse of civilisation to legitimise a strengthening of Islamist Khartoum's grip on power as it reshapes the Sudanese state after the Comprehensive Peace Agreement that resulted in self-determination for South Sudan. Local communities in areas affected by dams and capital-intensive farming are once again sacrificed to enable 'progress': Al-Ingaz relies on structural and

direct physical violence to execute its civilisation project and maintain power. The consequence of the argument pursued here is that Sudan's 'new' hydro-political economy might well generate another round of conflict, displacement and marginalisation and as such reproduce the kinds of violence that Al-Ingaz' development agenda claims to be putting an end to.

Chapter Two

The History of the Water-Agriculture Nexus and the Nature of Political Power in the Nile Basin

"The white man's real burden lies in replenishing the earth and subduing it"

William Willcocks, designer of the Aswan Dam[1]

The Nile, sustainer of life in a region of more than 250m people, has long fascinated politicians, historians and scientists alike who have sought to understand and control the river for their own purposes. It was in the world's great basins that civilisation arose –the Euphrates and Tigris, the Jordan, the Indus and the Nile- and it was there that the first polities emerged and the first recorded wars were fought. This chapter explores how political and scientific elites have historically thought about the Nile and the links between water, civilisation and power and how this has informed state-building projects in Egypt and Sudan- crucial background to understanding the hydro-agricultural mission of Sudan's Al-Ingaz regime today.

Two ways of thinking about the environment, development and politics are contrasted. On the one hand, I examine the end of Ancient Egypt's Old Kingdom and the political economy of water under the Pharaohs, showing how, contrary to modernist assessments of "hydraulic civilisations" and "Oriental Despotism", the success of Egyptian civilisation was the product of a strongly decentralised system of water governance and agricultural policy. On the other hand, I analyse how, from 1800AD onwards, a revisionist reading of Ancient Egyptian history has led to a very different conceptualisation of the environment-development-politics links, producing a logic of state-building that endures to this day: centralisation of water policy in the hands of 'technocratic' elites; integration of key resources of peripheral zones into regional and global political economies; and physical and structural violence against those who resist.

[1] William Willcocks, *Sixty Years in the East.* Edinburgh: W. Blackwood, 1935, pp.72-73.

Muhammad Ali's revolutionary ambitions spawned the birth of modern Egypt and the invasion of Sudan to capture slaves, trade gold and control the Nile. The chapter explores how many of the key problems of the contemporary Sudanese state can be traced back to the brutal processes of resource capture that led to its formation in the 19th century, from Ali over the Mahdiyya to the British takeover in 1898, which was linked to the imperative of securing most of the Nile Basin as part of a geopolitical "Great Game". I end by demonstrating how the water-agriculture nexus, and its intersection with core-periphery exploitation, became Sudan's central economic dynamic in the 20th century.

Egypt under the Pharaohs: water, civilisation and power

Environmental Determinism and the Collapse of the Old Kingdom

For millennia, the annual flood of the Nile has shaped the fortunes of kings and farmers as one of the key determinants of the economic foundations on which Pharaonic civilisation (including, for large parts of history, the heartland of Northern Sudan) was built. Failure of the flood was a time of cosmic chaos, a sign that the Gods were displeased and as such a dangerous moment politically for the Pharaoh, the earthly intermediary between the people and the Gods.[2] When in 2200BC large-scale climatic shocks across the Northern Hemisphere contributed to the disintegration of the Akkadian Empire and disorder from Greece to Palestine, a century-long drought struck Egyptian civilisation at its heart and is argued to have played a significant role in the collapse of the Old Kingdom.[3]

Climatic changes were nothing new for Egyptians. Between 9000BC and 4000-3500BC the Sahara was a far more humid place.[4] The agricultural revolution arrived relatively late in Egypt because the Nile delta was so well endowed with wildlife, edible plants and fish that sedentary production simply wasn't needed. As weather patterns shifted, Egypt adapted and flourished, developing an ever more complex society; by the time the cornucopian days in the Sahara were over, its civilisation was dependent on the Nile waters.[5] The combination of climatic changes and a soaring population forced Egyptians to domesticate animals and develop sedentary agriculture to increase the surplus- riverain cultivation, entirely reliant on the Nile flood, became the basis of economic life.

However, the shocks in 2200BC were so calamitous that they seemed responsible for changing Egyptian civilisation forever. The length and intensity of bad floods were unprecedented. The great

[2] Edmund Meltzer, 'Horus', Donald Redford (ed.), *The Oxford Essential Guide to Egyptian Mythology.* New York*:* Berkley, 2003, pp.164-168.

[3] Jean-Daniel Stanley *et al.*, 'Nile flow failure at the end of the Old Kingdom, Egypt: Strontium isotopic and petrologic evidence', *Geoarchaeology,* Vol.18**,** 3, 2003, pp.395–402.

[4] Robert Marchant, Henry Hooghiemstra, 'Rapid environmental change in African and South American tropics around 4000 years before present: a review', *Earth-Science Reviews*, Vol.66, 2004, pp.227-229.

[5] Fekri Hassan, 'Nile Floods and Political Disorder in Early Egypt', H. Nüzhet Dalfes, George Kukla, Harvey Weiss (eds.), *Third Millennium BC Climate Change and Old World Collapse*. Heidelberg: Springer, 1997, p.1.

famine of circa 2180BC to 2130BC precipitated a societal collapse: "All of Egypt was dying of hunger, to such a degree that everyone had come to eating his children...Women are barren, none conceive...hearts are violent, plague is throughout the land, blood is everywhere...many dead are buried in the river...Indeed, the river is blood, yet man drink from it. Men shrink from human beings and thirst after water. Indeed, the desert is throughout the land... Barbarians from outside have come to Egypt, there are really no Egyptians anywhere...Housewives say: 'Oh that we had something to eat!'"[6]

The devastating drought contributed to a line of thought that posits that the environment is the main shaper of human societies. Jared Diamond is perhaps the most famous contemporary exponent, but "environmental determinism" has a long track-record, from Herodotos *("*Egypt is a gift of the Nile*"*) over the Greek geographer Strabo's assessment that climatic features shape the character of nations to (Neo-)Malthusian authors today. Egypt in particular has been observed through this lens; Bell attributes the collapse of the Old Kingdom to drought and famine: "If sufficiently severe, a drought may not only incite invasions from marginal lands, but may weaken the power of the major states to resist invasion and in some may even plunge them into a Dark Age without any serious foreign threat. In the case of Egypt...the evidence presently favours the latter condition."[7]

While not minimising the decades of poor floods, the view that environmental determinists have advanced –Egypt fell into a century-long dark age because of water scarcity- is heavily reductionist. While many societies would have struggled with a shock of this magnitude, the key political-ecological question is how resilient Egypt's economy was around 2180BC and why it wasn't able to adapt to these changes; the drought's political-economic context is critical.

The late Old Kingdom was marked by civil unrest and political infighting against a background of growing economic fragility as ever greater scientific knowledge and engineering prowess was put at

[6] Barbara Bell, 'The Dark Ages in ancient history: The first dark age in Egypt', *American Journal of Archaeology*, Vol.75, 1, 1971, pp.9-12.
[7] Bell, 'The Dark Ages in ancient history', p.3.

the disposal of Egypt's divine rulers whose grandiose monuments took their toll on civilisation's productive basis. Egypt's vulnerability to 'exogenous' shocks had grown considerably due to changes in its political economy and dynamics at the apex of the power pyramid. After 94 years of rule of Pepi II, almost 20 different kings claimed nominal control over Egypt while confrontation between the central power in Memphis and provincial strongmen consumed ever more resources and lives.[8]

This centre-periphery tension preceded Pepi's reign, with governors operating increasingly independently and the core controlling less of the agricultural surplus; the fragmentation of authority and chaos predated the droughts and so the climate cannot be seen to have been *causing* state-collapse.[9] Egypt was not a unified nation-state but more of an uneasy federation between rival urban and agricultural centres with Memphis failing to project power over the entire territory.[10] Pepi's death detonated power struggles, leading to civil strife and an invasion by Asiatic people. The great drought was well underway by then, and probably represented the final push for a deeply divided society that collapsed as belligerent elites tried to increase taxes on an impoverished population. Moreover, the failure of the Nile floods dealt heavy blows to Egypt's weakened rural economy but also to the immaterial dimension of political power, the politico-religious philosophy underpinning Pharaonic rule. The latter "was derived from the prehistoric rain-maker who kept his tribe, their crops, their beasts in good health by exercising a magical control over the weather...The Pharaoh [was] able to sustain the entire nation by having command over the Nile flood...The Kingship and the Nile are closely associated."[11]

A Hydraulic Civilisation?

[8] Barry Kemp, 'Old Kingdom, Middle Kingdom and Second Intermediate Period c. 2686-1552BC', B. Trigger, B. Kemp, D. O'Connor, A. Lloyd, *Ancient Egypt. A Social History*. Cambridge: Cambridge University Press, 1983, p.112.

[9] Karl Butzer, 'Sociopolitical Discontinuity in the Near East C. 2200BCE', H. Nüzhet Dalfes, George Kukla, Harvey Weiss (eds.), *Third Millennium BC Climate Change and Old World Collapse*. Heidelberg: Springer, 1997, p.258.

[10] Fekri Hassan, 'Population ecology and civilization in Ancient Egypt', Carole Crumley (ed.), *Historical Ecology. Cultural Knowledge and Changing Landscapes*. Santa Fe: School of American Research, 1993, p.567.

[11] Cyril Aldred, *The Egyptians*. New York: Praeger, 1963, p.157.

Close links between political power, civilisation and the Nile, central to this thesis' argument about Sudan, acquired a simplistic academic interpretation in the 20th century. Egypt was a "hydraulic civilisation", the archetype of what Wittfogel termed "Oriental Despotism": an extremely centralised state under the command of a single ruler (not an aristocratic class, and without meritocratic principle) where power is exercised through an exclusive control over water.[12] Pharaonic rule allegedly combined an impressive bureaucracy and total authority over water allocations with state-led investment in huge infrastructure, turning irrigation into Egypt's economic foundation. The lessons it would have drawn from the drought and famine at the end of the Old Kingdom would be to further centralise power and neutralise the provincial powerbrokers diverting resources to their own projects and threatening the centre's ability to allocate water.

For Wittfogel, the development of hydraulic civilisations in Egypt, Mesopotamia and Ancient China and their mission to irrigate led to the first impersonal systems of government; as complexity increased, states expanded their powers, developed a slave economy and tightened their grip on water resources. They also developed a politico-religious ideology to legitimise their absolutist rule so as to marshal the forced labour needed for irrigation projects. Wittfogel's thesis exemplifies environmental determinist ideas, not least because his bottom-line argument is that climatic factors -especially water scarcity- predestine certain regions to embrace authoritarianism but also to develop a more sophisticated civilisation than elsewhere: where geography favoured a monopolisation of the control over resources, the degree of absolutism and civilisation would increase. Power in the Orient is inherently more centralised than in the West and the space for social or political change is extremely limited: all conflict of importance is inter-dynastic, not between social classes.

[12] Karl Wittfogel, *Oriental Despotism.* Yale University Press: New Haven, 1957.

There is no need here to look into the archaeological evidence that refutes Wittfogel's hypothesis in Mesopotamia, Mexico or China, nor to delve into the criticism of scholars like Said[13] of "The Orient" and its inherent tendency to despotism. Ancient Egypt's political ecology and the realities of water management in the Nile Basin highlight very different linkages between water, power and civilisation than the ones proposed by Wittfogel and 19th century revisionists of Egyptian history.[14] According to recent archaeological research, the Old Kingdom's violent end wasn't a total collapse of civilisation in the absence of central government, but in many ways heralded necessary political, social and religious changes. Rather than plunging into a Dark Age, Egyptian society, during the First Intermediary Period, developed new ideas about the role of Pharaohs and managing the state. Egypt thrived again thanks to a decentralised economy and local –not national- systems of water governance.[15] While Pharaohs remained divinely mandated rulers with a mission, as intermediaries to the Gods, to facilitate the Nile flood, kings acquired a social role that did not previously exist, stressing the importance of upholding security, the responsibility of elites to care for the dispossessed and the duty to ensure social justice.

The dawn of a new Egypt with a reconfigured 'social contract' reduced economic centralisation rather than increase it: "Maintenance of local irrigation canals and drains... was a major activity in ancient Egypt, but there is no evidence of centralised management of nation-wide irrigation projects...The peasants did not, in reality, need the state for meeting their own needs. In fact, the continuation of Egyptian civilisation was predicated upon the high yields that ensured the production of an excess beyond the basic necessities of peasant life."[16] There is little evidence for micro-management by Memphis (and later Thebes) of economic policies, let alone a hydraulic bureaucracy

[13] Edward Said, *Orientalism.* New York: Random House, 1979.
[14] Christopher J. Eyre, 'The Village Economy in Pharaonic Egypt', Alan K. Bowman, Eugene Rogan, *Agriculture in Egypt.* Oxford: Proceedings of the British Academy, 1999, pp.33-35.
[15] Karl Butzer, *Early Hydraulic Civilization in Egypt*. Chicago: University of Chicago Press, 1976, pp.41-50.
[16] Hassan, 'Nile Floods and Political Disorder in Early Egypt', p.11.

that could shut down water supplies for recalcitrant local centres.[17] The kind of produce that would have required artificial irrigation on a substantial scale, like sugar, cotton or rice, was never cultivated, only being introduced in the Islamic period; no summer crops were planted after the harvest for most of Egyptian history.

Moreover, there was no complex infrastructure; it was much later, in Ptolemaic Faiyum, that a more centralised artificial irrigation was tried. Natural irrigation of the flood basins made systems of the Mesopotamian type impractical. Overall, "the Nile flood regime is more predictable and reliable than that of any other world river, thanks to the multiplicity of its water sources in sub-Saharan Africa, and the basic regularity of the monsoonal rains."[18] Egyptians didn't possess the technology to lift or pump water from one level to another, but relied on the annual flood which brought water as well as rich sediment as natural fertiliser. The short and long-term variability of flows meant constant adjustment was required and different localities developed different technologies to respond dynamically. The state seemed both unable and uninterested to set top-down policies that would alter a system that was so successful. "Dynastic land use in Egypt shows a simple pattern of winter agriculture, largely confined to the flood basins, with their crude but effective system of annual flood irrigation. Perhaps the only centralised aspect was the traditional link between tax rates and the potential harvest, as inferred from the height of each Nile flood."[19]

It was the decentralised nature of agriculture production and water management -local adaptation to changes in the flood- that constituted the bedrock of Egyptian civilisation, forming the basis for the Pharaoh's political power and generating surpluses that turned Egypt into an economic and military giant for centuries. Given how naturally compartmentalised irrigation was, the idea of a hydraulic bureaucracy with centralised control was neither purposeful nor would it have been effective.[20] After

[17] Barry Kemp, *Ancient Egypt. Anatomy of a Civilisation*. London: Routledge, 1989.
[18] Butzer, *Early Hydraulic Civilization in Egypt*, p.41.
[19] Butzer, *Early Hydraulic Civilization in Egypt*, p.50.
[20] Christopher J. Eyre, 'The Water regime for orchards and plantations in Pharaonic Egypt', *Journal of Egyptian Antiquity*, Vol.80, 1994, pp.57-80.

the Old Kingdom's demise, new ideas about social justice and the state's responsibilities vis-à-vis its citizens, combined with the understanding that taxation and coercion were likely to depress rather than augment agricultural output, enabled the reinvented Pharaonic system to endure after its century-long crisis and to flourish through a complex system of local production.[21]

[21] Hassan, 'Nile Floods and Political Disorder in Early Egypt', pp.17-18.

The birth of modern Egypt: Muhammad Ali and the reinvention of the water-agriculture nexus

Napoleon's Savants rewrite history: water and the modernisation ideology

After the First Intermediate Period, Egyptian civilisation thrived for another 1500 years, through its economic surplus generated by decentralised production, responding flexibly to fluctuations in the Nile flood. After 800BC, politico-military supremacy in the Eastern Mediterranean shifted westwards and eastwards. Invasions by Persians, Alexander the Great and the Romans handed the ultimate blow to an independent Egyptian state; for two millennia, successive empires ruled Egypt. Only after 1800AD did politically viable dreams of independence resurface. Yet the nationalist project would need outside invasion and a revisionist reading of ancient history to succeed.

Late 18th century France was a socio-cultural laboratory.[22] The Enlightenment revolutionised political theory with its ideas about the social contract, the purpose of the state and the central role of rationality and science in society and government, but was also marked by "Egyptomania". Egyptian civilisation, to its romanticising admirers, symbolised architectural perfection, religious rationality and benign government. The ideals that the French Revolution, supreme product of the Enlightenment, aspired to, had partly been realised in Egypt 3000 years earlier: what better way of carrying forward the universalist dreams of 1789 then to liberate Egypt, turning it into a French colony, so that 'immortal' wisdom and modern political practice could together usher in a new golden age?[23]

[22] Ken Alder, *The Measure of All Things—The Seven-Year Odyssey and Hidden Error That Transformed the World.* London: Abacus, 2004.

[23] Jean Kerisel, *The Nile and its Masters. Past, Present, Future*. Rotterdam: A.A. Balkema, 2001, pp.91-92.

This was the context in which Napoleon Bonaparte invaded Egypt in 1797.[24] The invasion had an obvious strategic dimension, but its most important impact was ideological and cultural. Napoleon brought a corps of scientists –engineers, historians, agronomists-, the "*savants"* (literally: those who *know*), who were to find evidence in Egyptian history for the principles Revolutionary France was exporting. While Napoleon used the *mission civilisatrice* as cover for imperialism, the savants themselves were genuinely convinced that Egypt could be restored to its former greatness if it returned to the heritage of 'enlightened' Pharaonic government and revived the agricultural powerbase that had been neglected under 'parasitic' Mameluke rule. The savants projected French revolutionary values onto Egypt's past and proposed a centralised bureaucracy for rational planning that would control water allocations and direct them to the most productive projects. If the Nile had been the key to Egyptian civilisation, then surely its potential should be exploited through large-scale infrastructure and year-round irrigation?[25]

This was an agenda for state-building based on the combination of hard power and sophisticated ideological claims, following universalist logic and the *tabula rasa* argument: if the roots of Egypt's decline were removed, the light of science could overcome the darkness by acting as intermediary for the rediscovery of Egypt's spiritual greatness and the economic foundations of scientific advances. Knowledge was to return as the greatest source of power of those ruling Egypt; the Nile and its floods were to be captured through measurements and benchmarks, with standardised tools, techniques and infrastructure to be used by local cultivators. The twenty-three volumes of the "*Déscription de l'Egypte"* intended to make the past legible and assist contemporary modernisation with rational bureaucrats unleashing universal laws of engineering and apolitical solutions to efficiency-problems.[26] The revival of old knowledge and the discovery of new would simultaneously elevate Western and Egyptian civilisation.

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[24] For an excellent discussion of the savants in Egypt: Michael Kalin, *Hidden Pharaohs. Egypt, Engineers and the Modern Hydraulic*. MPhil Thesis University of Oxford, Wolfson College, 2006.

[25] Jacques-Marie Le Père, 'Mémoire sur La Vallée de Nil et le Nilomètre de l'ile de Roudah.' *Description de l'Égypte*. Paris: Imprimerie Royale, 1822, pp.555-638.

[26] Said, *Orientalism*.

The savants never got to execute this agenda of state-building through enlightened water management. However, although France was forced to quit Egypt after four years, their visions, which reduced economic policy in Egypt to a question of hydro-engineering –measuring demand for water, calculating water supply and the land's capacity, channelling irrigation waters-, left a critical legacy. British-Ottoman forces installed Muhammad Ali as Constantinople's viceroy in Cairo. Within five years, Ali had eliminated his political rivals, adopted the nationalist mantra and established his autonomy from the Sublime Porte: for 44 years, he would implement a Pharaonic vision for Egypt that drew on the savants' ideas to transform his adopted country into a modern regional power.

The vision of a new hydraulic civilisation

Muhammad Ali combined political opportunism with the French legacy to become the father of Modern Egypt and Sudan, entrenching key characteristics for both states as they consolidated and expanded in subsequent decades. His project for Egypt relied on the kind of state Wittfogel described as a "hydraulic civilisation": an absolutist, omniscient authority at the top of the pyramid, regulating water flows throughout the land, maximising revenue, and stretching its tentacles ever deeper into society as complexity increased.[27] Ali agreed with the savants that Egypt's pre-modern agriculture implied that the material basis for politico-military power was lacking and made the water-agriculture nexus his priority so he could feed more people and increase export revenues; at the same time, he also believed that Cairo needed to eliminate foreign overrule that made it subservient to a distant metropolis.[28] He borrowed the West's civilisational rhetoric and technical expertise to advance his state-building mission, but ignored the Enlightenment's deeper liberal values.

[27] Kenneth M. Cuno, *The Pasha's Peasants: Land, Society, and Economy in Lower Egypt, 1740-1858*. Cambridge: Cambridge University Press, 1992, p.27.
[28] P.J. Vatikiotis, *The History of Egypt*. Baltimore: Johns Hopkins University Press, 1985, pp.51-55.

For Ali, control over water meant control over people and he identified a mutually reinforcing relationship between growing state power and the centralisation of water and agricultural policy. Nothing less than a revolution was needed to tame nature and strengthen the state: Ali personally became owner of all land and its people; heavy taxes were imposed on Egypt's *fellahin* (farmers) to fund infrastructure across the territory; slave labour was enlisted to lower the costs of production; and new (water-intensive) crops were introduced when year-round cultivation became possible.[29] Ali's militarised rational planners built canals, dykes and embankments to have the marvels of irrigation penetrate into the smallest village; given the supreme knowledge of his bureaucracy, the Pasha felt no qualms about violently pulling rural Egypt into modernity, even at the expense of tens of thousands of deaths.

Accompanying the resurrection of Egypt's fabled past was a discourse for all constituencies. Ali harnessed nationalist sentiments raised by occupation and depicted his project as a restoration of Egyptian dignity. His foreign policy played off European powers against each other but also impressed them with agrarian reforms and the build-up of a modern state, epitomised in his armed forces, bureaucracy and control over the Nile waters. Some recognised a state socialist, engaged in an experiment to revolutionise a backward society; for others he was a nationalist lion battling imperialist designs with the lessons of the Pharaonic past.[30] He co-opted the revisionist version of Ancient Egyptian history written by the savants and used the image of spreading civilisation to personalise power in ways unprecedented since the days of the New Kingdom Pharaohs.

The same factors of controlling the Nile waters, showcasing grandeur and capturing resources that would help revolutionise Egypt, also underpinned the 1821 invasion of Sudan.[31] Muhammad Ali sought more slave labour for his infrastructure projects and taxable communities to fund his growing bureaucracy, but also wanted to push towards the Nile's sources, fearing that the greatest asset

[29] Roger Owen, *Cotton and the Egyptian Economy, 1820-1914: A Study in Trade and Development.* Oxford: Clarendon Press, 1969, pp.28-29.
[30] Kerisel, *The Nile and its Masters,* pp.97-102.
[31] Mahmoud El Zain, 'Reshaping the 'Political'. The Nile Waters of Sudan.' In: T. Tvedt, R. Coopey, (eds.) *A History of Water*. London: IB Tauris, 2006, pp.123-127.

underpinning his project –the river- could become his greatest liability if the waters were used by foreign powers against him; this attempt at establishing direct control followed centuries during which Egyptian envoys paid tribute to Ethiopian kings so that the latter would not obstruct the Nile waters. The *Turkiyya*, as Ottoman-Egyptian rule was called by the Sudanese, triggered great resistance locally because of the brutal extraction of labour, taxes and commodities. Ali never reached Lake Victoria and Lake Tana, sources of the White and Blue Nile, but his legacy was critical: it heralded the start of a new phase of violent state-building in Sudan, based on a colonial logic, from the riverain core areas into the peripheries.[32]

Ali's monopolisation of political and economic power led to the development of an omnipresent coercive apparatus and rising commodity production for the global economic system.[33] Cairo became a regional player again; the Egyptian landscape was physically altered through canals, dykes and embankments to facilitate irrigation and embody modernisation. Yet the cost of "back to the future"-vision was high. While peasants, labourers and slaves sacrificed in Egypt and Sudan, the top-down designs began to crack under their own contradictions in the 1830s. Fiscal revenues decreased as farmers tried to escape coerced production and public works; the ecological limitations of hydro-engineering 'progress' on the Nile's floodplains became visible.[34] The "Farmer-General's" power struggle with nature –denying that the diversity and adaptability of the Nile's ecosystems could be Egypt's blessing- turned increasingly against him as canals silted up and 'rational' irrigation led to decreasing, not increasing, output in many regions.[35]

The misreading of the real agricultural basis of Pharaonic civilisation trapped Egypt in a battle it could not win. Just like Scott described in the case of Prussian scientific forest managers who became selectively blind to information that was non-legible to their modern instruments[36], Ali's

[32] Douglas Johnson, *The Root Causes of Sudan's Civil Wars*. Oxford: James Currey, 2003, pp.4-5.
[33] Arthur Goldschmidt, Jr., *Modern Egypt: The Formation of a Nation-State*. Boulder: Westview Press, 1988.
[34] Timothy Mitchell, *Colonising Egypt.* Berkeley: University of California Press, 1988, pp.34-43.
[35] Kalin, *Hidden Pharaohs*, pp.50-51, 65-69.
[36] James C. Scott, *Seeing like a State*. London: Yale University Press, 1998, pp.11-22.

modernisation narrative, itself the product of specific material forces, was now shaping those forces in turn and had gone to lead a life of its own, disconnected from the growing crisis on the ground. Ancient Egypt had proven resilient in the face of erratic Nile floods because of its encouragement of local production systems and the recognition of limits to state policy over water and land. The utopian dreams of the savants and Ali's quest for personal power put all their eggs in the basket of centralisation.

Facing possible collapse, Muhammad Ali switched gears near the end of his rule and began to decentralise control over water and land; the state could no longer afford the overstretch. This decision, and policy changes by the Pashas of the second half of the 19th century that augmented productivity, didn't lead to a more socially progressive form of agriculture or a more sustainable form of water management. The logic of Ali's successors remained that of power and disregard for the fellahin and local ecosystems.[37] Large concessions were awarded to key members of the bureaucracy and armed forces, entrenching an exclusionary political economy and the top-down model of control over land and water, but shifting the emphasis from one man rule to technocrats and oligarchs that pushed for mechanisation in agriculture and water management.[38] This deepened rather than weakened a hegemonic model, locking in export-oriented production patterns that benefited a narrow elite and that shape Egypt and the Nile Basin to this day.

[37] Mitchell, *Colonising Egypt*.

[38] Ghislaine Allaume, 'An Industrial Revolution in Agriculture?', Alan K. Bowman, Eugene Rogan, *Agriculture in Egypt.* Oxford: Proceedings of the British Academy, 1999, pp.331-344.

Colonising the Nile and State-Building in Sudan: from slavery to hydropolitics

In this section, I examine the nature of the state-building process in Sudan and how dynamics of accumulation of wealth and power by internal and external actors, not least Muhammad Ali's Egypt, led to the 'original sins' of core-periphery exploitation, racial antagonisms and slavery on which the Sudanese state was built. This is vital to understand the kind of agricultural policies that Khartoum would later initiate and how the links between water, civilisation and power became integral to material and discursive dimensions of Sudan's violent politics. I briefly explore the pre-colonial roots and elucidate on the consequences of Ali's designs for his Southern neighbour; subsequently I analyse how Britain's growing role in Egypt forced London to immerse itself in Sudan, particularly following the Mahdiyya uprising and French "encroachment" on the Nile. This culminated in the Anglo-Egyptian Condominium, where hydropolitics and irrigated agriculture became central to the justification and economic logic of British colonialism in Sudan.

Resource Capture: taxation, slavery and riverain agriculture

Muhammad Ali's invasion of Sudan revolved around gold, slaves and water.[39] While the presence of Cairo's former Mameluke rulers in Dongola triggered the invasion, the underlying motive was that Sudan could be useful to the 'resurrection' of Egypt and financially lucrative through levying taxes and exploiting new sources of labour for agricultural and infrastructural work. For the Sudanese, the Turkiyya would turn out to be more than a violent nightmare inflicted by foreigners: it concentrated political and economic power in the central Nile valley from whence its own modern state-building experience began.

[39] El Zain, 'Reshaping the 'Political'.', pp.123-127.

Pre-colonial Sudan was dominated by the Funj Kingdom of Sennar along the Blue Nile in the East and the Darfur Sultanate in the West. Both were built on commerce along trade routes and on exploitation of the hinterlands. The state's military and economic strength was a function of what the peripheral areas were able to supply in terms of natural and human resources for the core area- with the slave trade as an important government activity.[40] Slaves manned the standing armies of Sennar and Darfur and fulfilled key roles in the bureaucracy as part of an increasingly complex social hierarchy: "Coming from the peripheries...defined one's status within the state, and in this respect territorial origin did become a factor in social stratification."[41]

The Turkiyya did not introduce totally new processes of state-consolidation through accumulation and violence; it consolidated some political-economic dynamics already present, violently deepened others and led to the establishment, for the first time, of a united political authority ruling most of today's territory.[42] Sennar was no match for the Pasha's army. The state that developed under Ottoman-Egyptian rule was colonial, but fused the inherently extractive logic of such a project, with the specificities of the Sudanese context and the particularly rapacious demands of Cairo. Slave labour became the foundation of the new state and slave trading characterised the interactions between the core in riverain Sudan and the peripheries in West, East and South.[43] Ali's invasion shattered the buffer that had kept Southern Sudan separate from the Sudanic kingdoms in the North and opened avenues for the projection of military power and trade deep into Upper Nile and Equatoria.

Economic strength and military power mutually reinforced each other just like in Egypt: while deploying the coercive apparatus against recalcitrant subjects demanded substantial resources, increases in production and taxation could only be realised through repression and slavery. The difference with Egypt was that the Ottoman state in Sudan lacked the ambition to violently pull each

[40] Mahmood Mamdani, *Saviors and Survivors*. London: Verso, pp.109-130.
[41] Johnson, *The Root Causes of Sudan's Civil Wars,* p.4.
[42] Justin Willis, 'The Ambitions of the State', John Ryle et al (eds), *The Sudan Handbook*. Suffolk: James Currey, 2011, pp.54-62.
[43] Jay Spaulding, 'Slavery, Land Tenure and Social Class in the Northern Turkish Sudan.' *International Journal of African Historical Studies*, Vol.15, 1, 1982, pp.1-15.

village into modernity as part of a nation-building and modernisation drive; instead it couldn't care less about the developmental outcomes. The resultant asymmetric integration of Sudan's peripheral regions into the state sowed the seeds of future conflict: only the useful bits, like certain resources (gold, cattle,...) and parts of its population (slaves) were violently inserted into the national political-economic system, with total neglect for what was considered useless.

The Turkiyya encouraged non-state slave raiding and agricultural reforms. The former was the logical consequence of the tribute in slaves demanded by the Pasha of different communities and encouraged the domestication of slavery in Sudan.[44] It stimulated quasi-permanent raids into Upper Nile, Nuba Mountains and Bahr al-Ghazal by tribes who allied themselves to the rulers –particularly the Shaigiyya, Rufa'a and Baggara- and was legitimised by the development of increasingly intolerant racial and religious stereotypes. The economic pressures of state-building led, inter alia, to the creation of a North-South divide, not least because 'slaves', 'blacks' and 'Africans' were used to describe the same groups of people.[45]

Agricultural reforms too contributed to a deepening of cleavages in Sudanese society and to the 'original sins' of core-periphery exploitation, racial antagonisms and slavery on which the Sudanese state was built. Agriculture had been an important source of wealth for Darfur and Sennar, but the Turkiyya transformed the role natural resources played in politics. It marked the birth of an exploitative centralised state for which the combination of fertile land with ample water was seen as an ideal resource –political as well economic- for exercising power. Land by the Nile could be taxed to fund Egypt and its occupying forces; it could also be inserted in growing patronage complexes whilst Khartoum 'governed' its immense hinterlands through a mix of divide and rule and terror.

The riverain communities between Dongola and Shendi were forced to increase agricultural output to meet the financial obligations imposed by the militarised bureaucracy. The Turkiyya stimulated economies of scale and more centralised production; high taxes spurred greater efficiency but also

[44] Martin Daly, 'Broken Bridge and Empty Basket.' Martin Daly, Ahmad Alawad Sikainga (eds.), *Civil War in the Sudan*, London: British Academic Press, 1993, p.3.
[45] Johnson *The Root Causes of Sudan's Civil Wars,* pp.5-6.

increased use of marginal lands and slaves as well as the transfer of land from common use to private ownership. While this brought wealth and power to some in the Danagla and Ja'aliyyin communities, others were dispossessed and fled the North, joining the military-commercial networks that were crucial in the process of violently integrating those elements in the peripheries deemed useful for accumulation inside and, increasingly, outside Sudan.[46] Such reliance of central authority on (armed) local henchmen who were themselves exploited became an enduring characteristic of state-building, war and politics in Sudan. While Danagla and Ja'aliyyin made their money from agriculture and trade, the Shaigiyya became the state's armed tax collectors: these groups have dominated Sudanese politics since Ottoman-Egyptian times.

Initially, Muhammad Ali's dream of a hydraulic civilisation was not extended to Sudan and few modernisation efforts for irrigated agriculture were undertaken. However, the land-water nexus as a source of economic and political power grew in importance as the Turkiyya progressed, with the state pushing deeper towards the equatorial lakes. Following a relaxation of the pattern of exploitation after Ali's death, one of his successors, Khedive Ismail tried to re-launch the modernisation agenda in the midst of a cotton boom –the gamble on irrigated agriculture seemed to finally pay off- but faced financial catastrophe as the bubble burst. Egypt fell prey to colonialism as Ismail's Western creditors gradually increased their grip over the politics and economy in the 1860s and 1870s.[47] With the Suez Canal completed, travel time between Europe and the East was reduced by half and following Disraeli's buy-out of the French stake, Egypt became a key link in the imperial chain from the Far East over India to the British metropolis.[48] The Nile Basin as a whole became the focus of European attention –cf. the search for the source of the White Nile by Speke, Grant, Baker and Livingstone- and led to calls to open up the 'darkness' of Africa to Christianity, Commerce and

[46] Johnson *The Root Causes of Sudan's Civil Wars*, p.5.
[47] Thomas Pakenham, *The Scramble for Africa*. London: Weidenfeld and Nicholson, 1991, pp.72-85.
[48] Robert Collins, *The Waters of the Nile. Hydropolitics and the Jonglei Canal 1900-1988*. Oxford: Oxford University Press, 1990, pp.26-27.

Civilisation. London sought to integrate Cairo into the Empire while its politico-military machine began securing supply lines around Egypt.[49] This had major repercussions for Sudan.

Under British influence Ismail initiated governance reforms, including a push to remove slavery as a pillar of the colonial state and its political economy. He wanted a professional army instead of armed militias of slave-trading Egyptian-Sudanese elites that didn't recognise the distinction between public and private wealth maximisation. Such ideas were unpopular among local merchants, landowners and slave trading warlords who had learned to manipulate the colonial state and thrived on the commerce in humans and forced labour in riverain agriculture. By the early 1880s, administrators could only maintain control over the territory by tolerating the illegal slave trade, for fear of confrontation with powerful Sudanese interests. The uprising of Muhammad Ahmad ibn as-Sayyid Abdallah tapped into hatred of foreign occupation and combined his charisma with politically astute alliances, including traditional slave traders like the Baggara and riverain factions that wanted to rule themselves without having to share their revenue from commerce and agriculture around the Nile with Cairo.

The *Mahdiyya* didn't fundamentally change the internal colonialism that had formed under the Turkiyya. The Mahdist state replaced local structures of authority, carried on with slave-raiding and mostly entrenched the positions of the emerging riverain elites vis-à-vis other tribal leaders.[50] Between 1885 and 1898, ethno-racial stereotypes and arguments about *jihad* against those opposing centralised rule further legitimised ideas about power, violence and state-society relations that have proven so problematic in the 20th and 21st century.[51] Whereas the rhetoric was inclusive – emphasizing the equality of all in the Islamic *Ummah*-, the benefits of consolidating the new state flowed largely to those loyal to the Mahdist centre.

Ironically but not coincidentally, core-periphery and identity questions fatally undermined the Mahdiyya, ushering in the age of British colonialism around the entire White Nile and much of the

[49] Niall Ferguson, *Empire*. London: Penguin Books, 2002, pp.193-195.
[50] Mamdani, *Saviors and Survivors,* pp.136-142.
[51] Johnson, *The Root Causes of Sudan's Civil Wars*, p.7.

Blue Nile. The Mahdi's successor, the Khalifa Abdullahi, was a Ta'aisha Baggara from Darfur who symbolised the rising power of groups from Western Sudan. The emergence of this new power bloc in Khartoum-Omdurman unsettled the powerful riverain elites. A split weakened a state already battered by economic problems and military overreach. Before the Khalifa Abdullahi's defeat at Lord Kitchener's hands, his forces massacred Ja'aliyyin in 1897 in Al-Mutemma; Sudan's traditional power-holders swore never to let *gharaba* –Western Sudanese- anywhere near state authority again.[52]

The Great Game around the Nile: 19th century hydropolitics

Establishing the Anglo-Egyptian Condominium secured the Nile, a key determinant of the stability of Egypt, which by the 1890s was a colony in all but name.[53] The most fundamental reason for Britain's invasion of Sudan was the threat to the Basin's hydropolitical equilibrium.[54] The Nile waters might be obstructed by the Mahdist state together with Ethiopia, that other anti-colonial holdout. This risked forcing Egypt, the vital link in the imperial chain, on its knees, or so London reasoned. The argument gained traction as Samuel Baker predicted doom scenarios in light of the 1888 Nile flood, the lowest on record: biblical texts were cited to demonstrate that famine in Egypt had been caused by diverting the river and that the Mahdiyya and Imperial Ethiopia might be incited by European powers.[55] Though according to Victorian scientists the White Nile contributed more to the flood than the Blue Nile with its source in the Ethiopian highlands, the growing Italian influence over Emperor Menelik compounded London's anxiety about protecting the blue gold on which Egypt was built. Expeditions into the Upper Nile Basin –such as the one launched by the Belgians in 1892- were altering the strategic balance; German and French agents in Equatoria and Bahr al-Ghazal came close to claiming

[52] Philip Roessler, 'Internal Rivalry, Threat Substitution and Civil War: Darfur as a Theory-Building Case'. Manuscript, University of Oxford, 2010.
[53] Peter Woodward, *Sudan 1898-1989. The Unstable State*. London: Lester Crook Academic Publishing, pp.13-14.
[54] Pakenham, *The Scramble for Africa*, pp.316-335.
[55] Collins, *The Waters of the Nile*, pp.34-38.

rights over important upstream areas. Following the continent-wide "Scramble for Africa", Britain had taken irreversible steps to scale up its presence in the Basin and felt it imperative to consolidate its pre-eminence.

In Berlin in 1885, the European powers had decided that colonial claims would only be accepted if the claimant could give evidence of a permanent presence on the ground. Tensions around the Blue Nile were temporarily settled through Anglo-Italian mutual recognition of each other's spheres of influence (1891) and a treaty between London and Addis Ababa in 1902 that committed Ethiopia not to unilaterally obstruct the Blue Nile.[56] However, the vacuum left by the collapsing Mahdist state in the late 1890s risked opening up Upper Nile to French conquest: through the Nile, Paris could establish a stranglehold over Egypt, imperilling irrigated agriculture and thus economic stability and the imperial transport and communication system with India.[57] Though Britain was in charge in Cairo, between the 1860s and 1882 a cold war raged between London and Paris with French influence in Egypt's politics and economy often surpassing that of the British. Culturally, upper-class Egyptians looked to France ever since the savants, embracing the French language, education and Enlightenment (and Romantic) ideas. This background of enduring rivalry –and British suspicions about Paris plotting a comeback to undermine the Empire- is essential to understand the late 19th century hydropolitical game around the Nile.[58]

Britain's fears culminated when scientists in Paris proposed a dam on the White Nile with the potential, it was claimed, to regulate flood and drought in Egypt; the French government promptly prepared an expedition to Southern Sudan. To make matters worse, in 1896 the Italians suffered a devastating defeat in Ethiopia, also making encroachment from the East, perhaps through a Franco-Abyssinian alliance, a possibility. This sudden urgency explains the timing of Lord Salisbury's decision to invade the Mahdist state: the Prime Minister had long prioritised the clean-up of Egypt's finances, but the hydropolitical situation compelled intervention in Sudan in January 1898 to establish direct

[56] Collins, *The Waters of the Nile*, p.38.
[57] Pakenham, *The Scramble for Africa*, pp.526-554.
[58] Collins, *The Waters of the Nile*, pp.32-35.

control over most of the Nile Basin. Lord Kitchener first crushed the Khalifa Abdullahi and then advanced towards Fashoda in Upper Nile, capital of the Shilluk Kingdom and target of French plans for Sudan. Kitchener confronted General Marchand's expedition and reasserted Anglo-Egyptian claims over the entire length of the White Nile and its basin, including Bahr al-Ghazal hundreds of kilometres to the West. Sudan thus became part of the British Empire first and foremost because of hydropolitical considerations.[59]

After having secured the Nile Basin against foreign blackmail, the internal pacification of Northern Sudan went smoothly; splits in the Sudanese resistance meant that the Condominium could consolidate power quickly and use old and new allies alike to transition from military to civilian government.[60] The new colonial system built on some of the dynamics that had developed during the Turkiyya (the riverain power elite), tried to resolve others (the role of slavery), and deepened bitter fault-lines (most notoriously through the "Southern Policy"). Fearing a new nationalist revolt, it co-opted the ruling Sudanese families, allowing them to rally political followers along sectarian lines (Ansar, Khatmiyya, Hindiyyah,...), and to further accumulate economic power though agriculture and commerce. The religious brotherhoods and riverain elites of the Nile valley became the most important beneficiaries of colonial rule, despite pretending to be neutrally administering Sudanese society.[61]

Southern Sudan proved harder to pacify, mainly because its people saw no difference between the Turkiyya, Mahdiyya and Condominium.[62] Economic power remained in the hands of Northern *jallaba*, riverain bureaucrats ran the administration and slave soldiers remained the coercive arm of an alien state. Although the lack of colonial penetration underpinned lingering suspicions about French encroachment, only the most basic form of government was maintained. Neglect, disinterest and

[59] Pakenham, *The Scramble for Africa*, pp.539-556.
[60] Johnson, *The Root Causes of Sudan's Civil Wars,* p.9.
[61] Woodward, *Sudan 1898-1989*, pp.19-24.
[62] Daly, 'Broken Bridge and Empty Basket', p.5.

violence firmly entrenched Southern distrust of any form of state authority.[63] It took until the 1920s before the South was pacified and the White Nile basin had been secured.

The Anglo-Egyptian Condominium and its hydro-political economy

Muhammad Ali's vision of a reborn civilisation through the agricultural revolution of perennial irrigation had resulted in a dramatic expansion of cultivated area and, after adjustments to his coercive model of production, had resulted in higher output.[64] But population growth in Egypt was high and Lord Cromer feared Malthusian pressures: additional food production was possible, the Viceroy's engineers argued, but the total supply of Nile water available in Egypt needed to be augmented. Dreams of measuring and controlling the entire river re-arose as the Empire now controlled almost the entire Nile Basin: through a system of dams, barrages and canals all along the Nile, a continuous supply of water could, theoretically, be guaranteed and 'optimal' levels of water could be allocated to high-value plots in Egypt and Sudan.

British hydrologists knew little about the Nile, particularly not south of Aswan (where a dam was constructed in 1902), and scientific expeditions were sent to Sudan and Ethiopia to learn more. The Sudd –the impenetrable marshes in the heart of Southern Sudan- was a major obstacle in navigating the river and maximising total water availability for agriculture, but this didn't deter the technocratic water-elites in Egypt and Sudan who drew up ambitious schemes of water-for-development. The boldest was "Nile Control" of Murdoch MacDonald, a 1920 master plan for water use, combining high productivity agriculture, the best irrigation techniques and incentives for conservation. The central concept was over-year storage of water through a series of dams throughout the Basin so that demand could be met throughout the year and the impact of flood and drought could be

[63] Johnson, *The Root Causes of Sudan's Civil Wars,* pp.9-11.

[64]Patrick O'Brien, 'The Long-Term Growth of Agricultural Production in Egypt, 1821-1962.' P.M. Holt (ed.), *Political and Social Change in Egypt*. London: Oxford University Press, 1968, pp.162-195.

mitigated.[65] Dams were proposed at Lake Tana and the Equatorial lakes, as well as a canal to bypass the Sudd (later the Jonglei Canal), to reinvigorate agricultural production in Egypt and enable the modernisation of Sudan along a similar trajectory of irrigation-led development.

Control over water had been the Empire's rationale to secure Sudan, but soon also offered a way of making occupation more lucrative. London was determined not to let the Condominium become a net cost and made integration of Sudan's most valuable resources –its water and land- into the imperial system a priority. Rising competition with Germany and America forced Britain to improve the competitiveness of Lancashire textile.[66] Cotton had long been sourced from the colonies; by 1880 Britain consumed 80% of Egypt's exports and cotton production was a major reason for the virtual takeover of the Egyptian economy by British capital. Sudan's formidable water supplies too could be used to irrigate hundreds of thousands of feddan[67] in the Gezira region for cotton cultivation. Muhammad Ali's ideas about reviving agriculture through centralised control over the Nile were dusted off to legitimise the project; Sudanese farmers were seen as inherently lazy, but modern rational bureaucracy would unlock Sudan's potential. British engineers built the Sennar Dam to regulate the Nile flow, planned the irrigation canals and designed cropping patterns, with thousands of tenants labouring on the centrally managed Gezira scheme from the 1920s onwards, producing limited incomes for themselves, a decent stream of revenue for the Condominium authorities and affordable cotton for the Empire.[68]

Despite British claims to the contrary, Gezira's hydro-agricultural model was not the optimal developmental strategy for Sudan.[69] Local tenants improved their economic situation somewhat, but millions of smallholders across the country were neglected, as were, the migrant farmers cultivating

[65] For most of this section: Collins, *The Waters of the Nile.*
[66] Tony Barnett, *The Gezira Scheme. An Illusion of Development*. London: Frank Cass, 1977, pp.4-6.
[67] One feddan equals 1,038acres.
[68] G.N. Sanderson, 'The Ghost of Adam Smith. Ideology, Bureaucracy and the Frustration of Economic Development in the Sudan, 1934-1940'. Martin Daly, *Modernisation in the Sudan*. New York: Lilian Barber Press, 1985, p.101, 111-112.
[69] Barnett, *The Gezira Scheme.*

cotton in Eastern Sudan through flush irrigation. Like in India, tariffs were set so that no manufacturing industry could develop, locking Sudan into a pattern of commodity production: Condominium officials rejected industrial development as harmful in 'an agricultural society like the Sudan'.[70] Infrastructure investment underpinned the cotton machine- railroads, irrigation systems and dams. The orientation towards imperial needs deepened inequalities in Sudan and in Gezira itself, with large landowners (mostly tribal leaders) securing significantly larger shares in the scheme than smallholders or the landless. Yet the strategy succeeded in its core objectives: making Sudan by 1930 one of the world's leading producers in cotton and the undisputed number one in gum Arabic output.[71]

The inequalities created by the Condominium's hydro-agricultural and trade policies weren't unfortunate by-products of unequal, but necessary development.[72] Keeping the vast majority of peasants destitute was functional: on the one hand, the expanding hydropolitical economy was co-dominated by the sectarian forces needed by the British to maintain stability; on the other hand, as the capitalist economy expanded, it pulled in subsistence farmers whose contact with the modern economic system forced them to compliment their own production with seasonal wage labour on agricultural schemes. This reserve of unorganised labour, for which virtually no public services were provided, became a pillar of the colonial system- wages had to be suppressed so exports could be low-cost. Export agriculture through the magical formula of fertile land, dirt cheap labour and a constant supply of 'free' water became the economic logic of imperial rule. Sudan played a vital role in keeping British textiles competitive, despite the economic storms of the 1920s and 1930s.

Gezira mattered, both in hard material terms and as a modernist symbol of how the colonial administration envisaged 'development' through the control of water and labour. Colonial engineers drew inspiration from Muhammad Ali and the savants: ideas about Sudan's unsurpassed agricultural

[70] G.N. Sanderson, 'The Ghost of Adam Smith', pp.101-120.
[71] Robert Tignor, 'The Sudanese Private Sector. A Historical Overview.' *The Journal of Modern African Studies*, Vol.25, 2, 1987, pp.179-212.
[72] El Zain, 'Reshaping the 'Political'.', pp.123-127.

potential –and 'idle' land and labour- abounded while political figures and hydrologists retained a strong belief in their capacity to shape the flow of the river. However, bureaucratic infighting between water technocrats in Cairo and Khartoum over volumetric quota delayed the mega-projects proposed in MacDonald's "*Nile Control*". Discussions about optimising total water supply became increasingly embedded in the chaotic politics of Egyptian demands for independence, political and economic, from the Empire. Britain retained important interests after formally declaring Egypt a sovereign state in 1922 and tried to reconfigure the political-economic equilibrium in a fast changing context.

The 1929 Nile Waters Agreement locked in the (hydro)political economy of the Nile, strengthened irrigation-led development and clarified the changed relationship between Britain, Egypt and Sudan.[73] Signed by Cairo and London (on behalf of the Condominium and British East Africa) it settled discussions about how to split the available water (as measured at Aswan), handing the lion's share to Egypt (48bn m^3) and allocating Sudan 4bn m^3 for irrigation, which exceeded contemporary consumption patterns in the Condominium. Cairo obtained the right to veto any future infrastructural works on the river and had its 'historical user rights' recognised. This reflected Egypt's growing clout, its continued importance to London and the underdeveloped agricultural potential in the other territories, including Sudan. Independent Ethiopia was kept out of the treaty, the birth of a grievance in Addis Ababa that destabilises the Nile Basin to this day.

The 1929 Treaty clarified British-Egyptian-Sudanese relations but didn't lead to the dramatic expansion of infrastructural projects to tame the river that many dreamed of, to the great frustration of new generations of technocratic planners. Scarcity of funds in Cairo and Khartoum, enduring bureaucratic chaos, the intricacies of running Gezira, World War II and lacking political will to organise a coerced modernisation drive meant that for two decades little happened in terms of comprehensive development of water resources, apart from the construction of a dam at Jebel Aulia

[73] Woodward, *Sudan 1898-1989*, p.59.

(1937), that turned out to be a fiasco.[74] Only after 1945 did momentum for further hydro-engineering Sudanese and Egyptian society return.

The Condominium expanded development efforts and social services to other groups than the elites of the Nile Valley and Gezira from 1940 onwards. However, the focus remained on those agricultural schemes with a major government stake in them; thanks to the 1929 Treaty, more water could be used for big projects while a panoply of smaller schemes relied on pump irrigation. The vast majority of initiatives took place in the core states around Khartoum and the Nile where the interests of Sudanese elites were most direct: Blue Nile, the Nile valley, Gezira, the 'useful' parts of Kordofan and Kassala and (occasionally) Northern Province. Areas further removed from the political-economic heartland, like Darfur, the central belt, Southern Sudan and the (North)East, continued to be neglected and administered through a disengaged form of indirect rule.[75]

The processes of accumulation reinforced by colonial policies led already in the late 1920s to an increase in private hydro-agricultural initiatives, particularly around the Blue Nile and White Nile in Northern Sudan; by 1956 1/3 of all irrigated schemes were privately controlled pump schemes. These emulated government strategies for unequal profit sharing with local tenants and were, just like state-run schemes, tightly integrated, with input suppliers and trading outlets all controlled by the same elite interests to maximise rents. The dominant families and tribal leaders in Sudan quickly learned that it was the production of exportable crops, like cotton, and not that of food produce that generated real money.[76] They thereby confirmed the external orientation of Sudan's leading agricultural schemes, regarding the traditional subsistence sector, in which the vast majority of Sudanese worked, as 'backward'.

In the run-up to independence, the Condominium introduced another, highly water dependent form of cultivation that would play a crucial role in Sudan's political economy in subsequent decades:

[74] Collins, *The Waters of the Nile.*
[75] Johnson, *The Root Causes of Sudan's Civil Wars,* pp.16-17.
[76] Woodward, *Sudan 1898-1989*, pp.55-56.

mechanised rain-fed agriculture.[77] Kick-started by the public sector in the late 1940s in Ghadambaliya (Gedarif) with sorghum, many saw this modern form of producing as essential in expanding grain output and 'finally' capturing Sudan's vast agricultural potential. More sceptical voices recommended colonial officials to implement this capital-intensive strategy only on a limited scale, because a dustbowl could result from the large scale removal of trees and shrubs to facilitate mechanised production. Heavy regulation was introduced, but could not contain growing enthusiasm of private investors who saw the combination of Western technology and Sudanese natural wealth as perfect for rapid accumulation. By 1956, in the Ghadambaliya area alone 388000 feddans were covered by rain-fed mechanised agriculture.[78]

The post-1945 period led to a growing fascination with the mechanisation of agriculture and provided new momentum for high-modernist ideas of controlling the Nile waters through centralised designs by a rational bureaucratic elite, devoid of all pollution by politics. A milestone publication was H.E. Hurst's "*The Nile Basin*" (1946), which sought to manage the entire Basin according to scientific principles and a 'win-win' logic. Hurst's concept of "Century Storage" didn't differ significantly from the designs of the 1920s with their central role for dams in stabilising Nile flows, but for the fact that it intended to make it possible to withstand once-in-a-century droughts and floods as opposed to coping with year-on-year variation. Hurst proposed an all-encompassing plan to regulate the Nile flood from the equatorial lakes and Lake Tana to Egypt, including a range of reservoirs to store exceptional quantities of waters which could be released by development specialists depending on the needs of irrigated agriculture- seasonal and (mild) climatological variation would be cancelled out, allowing for near perfect planning. Moreover, industry would also benefit through a series of hydroelectric turbines bringing electricity to the entire region.[79] While few of the bold proposals contained in Hirst's work materialised –least of all the Jonglei Canal and the

[77] P.M. Holt, Martin Daly, *A History of the Sudan*. New York: Longman, 1988, pp.156-158.
[78] Tim Niblock, *Class and Power in Sudan*. Basingstoke: MacMillan Press, 1987, pp.36-40.
[79] H.E. Hurst, R.P.Black, Y.M. Simaika, *The Nile Basin Vol.VII. The Future Conservation of the Nile.* Cairo: Government Press, 1946.

Equatorial Nile Project (with a dam for century storage at Lake Albert)-, it did help bring about a new phase in the history of hydro-infrastructure development, which would climax with the construction of the Aswan High Dam, while the deeper logic remained the same: central control over water, 'civilisation' as rational planning and 'power' symbolised in overwhelming architecture.

Conclusion

This chapter has provided an overview of how various political systems and rulers, with different ideological backgrounds and in different contexts, have thought *politically* about the Nile. Using the theoretical lenses of the opening chapter, I showed how elites have strategically shifted their discourse from a 'development for all', technocratic approach to a zero-sum geopolitical position and back- these manoeuvres have been a function of changing economic circumstances, ideological frameworks and internal power struggles rather than any exogenous ecological impact. It is the Nile environment that has been made endogenous, with successive elite projects trying to 'tame' the river, augmenting predictability, harnessing it for development and concealing the local, national and international political-economic dynamics that underpinned their visions of riverain development and state-building.

The chapter presented Pharaonic Egypt as an important counter-example to the hegemonic projects that have drawn on revisionist historical narratives to justify what are deeply modern political-economic processes. Ancient Egypt was different from what many in recent centuries have assumed[80]: local autonomy in building and managing hydro-infrastructure was key to success. The state recognised its limited ability to project authority and the limitations to trying to control the Nile flood. This was a strength rather than a weakness, increasing Egypt's resilience as a whole when faced with hydrological variability: "Altogether the economic history of ancient Egypt was primarily continuous ecological readjustment to a variable water supply, combined with repeated efforts to intensify or expand land use in order to increase productivity."[81]

By contrast, Napoleon's savants, Muhammad Ali and British engineers emphasised the links between centralised water management, technological mastery, agricultural exports and resurrecting greatness: the interplay between these ideas became the basis of modern state-building in the Nile

[80] Hussein M. Fatim, *Dams, People and Development*. New York: Pergamon Press, 1981.
[81] Butzer, *Early Hydraulic Civilization in Egypt*, p.108.

Basin, in Egypt and Sudan. Academically, this is embodied by environmental determinists like Wittfogel and his "hydraulic civilisations": bureaucratic water Leviathans with an inherently authoritarian state-building project, shaped by water scarcity and the bureaucracy's ability to control the resource. This discourse has been central to powerful hegemonic projects, like that of today's Al-Ingaz regime, as a legitimisation of colossal spending (and massive displacement) for 'Pharaonic' development schemes and hydro-infrastructure.

The vision of a self-declared hydraulic state has been altered throughout the modern era in function of the specific objectives of various ruling elites in the Nile Valley –British colonialists in Sudan, Nasser's leftist Free Officers, Muhammad Ali, Khartoum's post-independence rulers- but has always retained the same core: overly ambitious assumptions about the possibility of taming the river; the reliance on a bureaucracy of experts who understand the Nile and are allowed to centrally regulate it; and the goal of producing an agricultural surplus that allows Egypt and/or Sudan to integrate deeper into the global economic system while feeding national processes of accumulation. This core of state-building through control over the blue gold has given rise to narratives that highlights some dimensions of hydro-engineering, but remain silent about others. Elites go to great lengths to veil their designs for the Nile, and the power this both produces and reflects. However, at other times they triumphantly emphasise the links between water, civilisation and power through depicting themselves as modern Pharaohs and exerting state-sanctioned physical and structural violence on 'awed' populations.

Chapter Three

Post-Independence Developmentalism: the Fata Morgana of Sudan as the Regional Breadbasket

"If we have to drive our people to paradise with sticks we will do so for their own good and for the good of those who come after us"

Abel Alier, President of the Southern regional government[1]

The Anglo-Egyptian Condominium ended on 1 January 1956 with the promise of a prosperous future. This chapter investigates post-independence water and agriculture policy and the elite calculations that gave shape to a reconfigured political economy. It pays particular attention to Ja'afar Nimeiri's "Breadbasket strategy", which despite its failure to turn Sudan into an agricultural superpower in the 1970s and 1980s continues to influence today's hydro-agricultural mission. Understanding the origins of that vision, its political logic and its economic and ecological contradictions is essential to analysing Sudan's Dam Programme and Agricultural Revival in 2012 and their importance to Islamist state-building.

The first decade of independence was marked by continuity: Sudan's sectarian factions relied ever more on irrigated cotton to generate revenue for the state and its ruling elites. This conservatism was rejected by the modernist forces in Sudanese society, which sought to break the power of the Ansar and Khatmiyya. State-led reforms intended to sweep away the old economy and the traditional elites; the idea was development as big projects: master interventions, like a huge canal in the South, that could catapult the country into modernity, symbolically representing Sudan's graduation as an autonomous nation but also unleashing the material forces needed to kick-start dynamic growth. At a time of rising international worries about an environmental doomsday, Nimeiri's leftist regime saw

[1] *Statement to the people's Regional Assembly on the Proposed Jonglei Canal* quoted in John Waterbury, *Hydropolitics of the Nile Valley*. Syracuse University Press, Syracuse, 1979, p.77.

Sudan as a potential breadbasket for Africa and the Middle East, a country of boundless potential thanks to abundant land, cheap labour and 'free' water. Rain-fed mechanised agriculture was presented as the silver bullet.

Yet by 1980, dreams of greening the desert were turning into a *fata morgana*, a mirage of epic proportions. Khartoum became more dependent than ever before on extraversion and famine returned to Sudan while food was being exported. The Sudan's People Liberation Army/Movement began an uprising that cited the Jonglei Canal as one of its motivations for going to the bush. The water-agriculture nexus, couched in language of civilisation, had been Nimeiri's proposal to meet the promise of independence and usher in a new era. It became the source of his downfall, taking much of the country with him.

Continuity after Independence: Milking the Water-Agriculture Nexus

The Political Economy of "King Cotton" and Sectarian Dominance

Like for so many African states, Sudan's independence was not just a transfer of sovereignty, but the birth of a multitude of dreams. Much of that optimism was linked to the post-World War II boom that had accompanied a more benevolent colonialism which increased investments in infrastructure and services and paid higher wages.[2] Surging cotton prices, particularly during the Korean War, meant that production was further expanded, including in Eastern Sudan, the Nuba Mountains and the South –the rain-fed Zande scheme in Equatoria-, a bonanza that bolstered the confidence and fortunes of the Al-Mahdi and Al-Mirghani families. Independence would formalise their political power –the nationalist movement was largely limited to riverain Sudan-and consolidate their economic hegemony through "King Cotton".

The Ansar (politically represented by Hizb al-Umma) and the Khatmiyya (represented by the National/Democratic Unionist Party) were since the early days of the Condominium the most powerful forces in society. Led by Sayyid Abdelrahman Al-Mahdi (Ansar) and Sayyid Ali Al-Mirghani (Khatmiyya), they had their roots in Sufi traditions of Sunni Islam in Sudan but were far more than religious sects. Al-Mahdi and Al-Mirghani controlled vast swathes of the land and economy, including prime agricultural plots around the Nile, making them the number one beneficiaries of the water-agriculture nexus. The sects structured not just spiritual and social life for their followers, but also commercial dynamics and wielded disproportionate influence in national politics and local administration through patronage networks in Western and Central Sudan (the Ansar) and the East and urban centres (Khatmiyya): they could plausibly claim to represent the masses, even if their

[2] James Morton, *The Poverty of Nations.* London: IB Tauris, 1994, pp.202-205.

praxis was elitist and wedded to the status-quo.[3] Land, irrigation and ignorance of the population comprised the formula underpinning their dynastic power.

Post-independence economic policy predictably emphasised business-as-usual, contrasting with the left-wing politics and nationalisations of many other African states.[4] There was virtually no autonomous private sector, nor were heavily capitalised and export-oriented multinationals the central players; under the Condominium the state had been the chief economic actor, with its Sudanese partner in the form of the sectarian factions. Family companies, trading networks (not least the *Jellaba*, mainly Ja'aliyyin merchants active all over Sudan, historically linked to the slave trade but also to the supply of daily necessities to remote regions) and irrigated farming interests dominated the economy.[5] 80% of all export revenues came from cotton in 1955-1956.

The main rivals to sectarian dominance consisted of the "*effendiyya*", who had more progressive ideas. The latter were an urban sub-class, graduates of Gordon College/University of Khartoum who had worked with the British –and with the Ansar and Khatmiyya- since the 1920s as administrators and saw themselves as the natural bureaucrat elite. They had been major beneficiaries of state expansion after 1945 and internalised the belief that they, contrary to ordinary Sudanese from the peripheries or sectarian leaders, possessed the knowledge to lead independent Sudan. Many of the best chose to join the prestigious water bureaucracy.

Several effendiyya were aware of how dangerously dependent the new state was on water and cotton for growth and stable inter-elite relations. British colonialism had neglected economic diversification and had actively worked against industrialisation through tariff policies: Sudan lacked the processing industries to add value to cash crops like sugar, groundnuts and gum Arabic and play a more strategic role in international trade.[6] Moreover, the economic model produced a decent surplus for the Ansar and Khatmiyya elites, but did not accumulate wealth on a scale that would

[3] Sharif Harir, 'Recycling the Past in the Sudan', Sharif Harir, Terje Tvedt, *Short Cut to Decay.* Uppsala: The Scandinavian Institute of African Studies, 1994, pp.33-45.
[4] Crawford Young, *Ideology and Development in Africa*. New Haven: Yale University Press, 1982.
[5] Robert Tignor, 'The Sudanese Private Sector', *The Journal of Modern African Studies*, Vol.25, 1987, 2, pp.179-212.
[6] Tim Niblock, *Class and Power in Sudan*. Basingstoke: MacMillan Press, 1987, pp.45-48.

transform the country as a whole. The effendiyya suggested an activist state to further capitalise on irrigated cotton, diversify the economy and undertake big infrastructural projects, but were mostly rebuffed by the sectarian elites.

Between 1956 and 1969, policies prolonged the status-quo, keeping social peace in Northern Sudan and milking the cotton cow: the state expanded Gezira and incentivised additional production in riverain areas. Maintaining good relations with the Gezira tenants, who operated more as state employees than as agricultural capitalists and enjoyed benefits no other Sudanese farmer could claim, was critical in a de facto corporatist model that oversaw output increases, though at ever greater cost to the state.[7] This conservative consensus was maintained under the parliamentary regimes of Ismail Al-Azhari, Muhammad Ahmad Mahjoub and Sadiq Al-Mahdi and under the military rule of General Abboud. The only domain of government policy where an activist course was followed was language and culture, with Abboud and Mahjoub aggressively promoting Arabisation across South Sudan, which contributed to the worsening Anyanya rebellion.[8] Sudan remained a cash crop oriented commodity supplier of the West.

Egypt, the Aswan Dam and the 1959 Treaty

Khartoum's key bilateral relationship remained with Egypt, even though this was highly controversial inside Sudan. As this section will illustrate, foreign policy in post-colonial Africa was often remarkably insulated from popular discontent and shaped by external pressures on the one hand and African elites embedding themselves in patterns of resource extraction from the international system.[9] Cairo and London had been locked into fierce competition over Sudan in the 1940s, as Egypt sought to extend its influence south of its border. Particularly after the radical Free Officers coup, British

[7] K.M. Barbour, 'The Sudan since Independence', *The Journal of Modern African Studies*, Vol.18, 1980, 1, pp.73-97.
[8] Francis Deng, *War of Visions*. Washington DC: the Brookings Institution, 1995, p.360.
[9] Christopher Clapham, *Africa and the International System. The Politics of State Survival*. Cambridge: Cambridge University Press, 1996.

officials favoured Northern Sudan's elites in an attempt at preventing a powerful federation and eventually accepted independence as the cost of keeping Sudan and Egypt separate. For Cairo close ties with Sudan were, as always, about controlling as much of the Nile waters as possible.

Gamal Abdel Nasser's rise underlined the importance of updating the 1929 Nile Waters Agreement, particularly when the 'unity of the Nile Valley' was rejected by the Sudanese. Nasser, like Muhammad Ali, believed in grand plans and revolutionary 'voluntarism' that would restore Egypt to its rightful place among the great powers, and knew that the Nile was both Egypt's powerbase and its Achilles heel. Nasser wanted to boost food production to keep pace with rampant population growth and reduce Egypt's nefarious dependence on international trade to focus on its own industrialisation. Nasser envisaged Egypt re-emerging as a leader of the Arab world, ridding itself of the colonial influence and the Israeli problem.

Water was central to that vision. The Aswan High Dam, approved in December 1952, and nationalising the Suez Canal were inter-related gambles, providing Egypt with the material power to give it economic independence, but also symbolically reclaiming a prominent role for Cairo in international politics.[10] Suez and Aswan signalled Egypt taking control of its own destiny: the High Dam connected Nasser's regional aspirations simultaneously with the imagined glorious past of the water-agriculture nexus and with the future, as an exponent of high modernism and technical excellence intended to impress domestic and Third World audiences. Aswan remains to this day the largest man-made water storage reservoir ever: it can hold a massive 168 km^3, double the capacity of China's Three Gorges reservoir, the most expensive hydraulic project in history.[11] It enables year-round irrigation and allows Egypt to regulate the flow of the river within its own borders, instead of relying, like the British masterplans suggested, on hydro-infrastructure in Ethiopia and Uganda.

To satisfy Egypt's growing thirst and to regulate the fall-out of the High Dam –the creation of Lake Nasser and the displacement of tens of thousands of Sudanese Nubians-, Cairo required an update of

[10] John Waterbury, *The Egypt of Nasser and Sadat: The Political Economy of Two Regimes*. Princeton: Princeton University Press, 1983, pp.64-66.

[11] John Anthony Allan, *The Middle East Water Question: Hydropolitics and the Global Economy.* London: IB Tauris, 2001, pp.249-250.

the 1929 treaty. It pressured Khartoum to sign quickly, including politico-military threats when technocrats complained that Aswan only had negative consequences for Sudan and went against the philosophy of comprehensive, multilateral Basin development of "*Century Storage*". Ultimately, Khartoum relented. There was little chance of getting funded from third parties for its own hydro-infrastructure projects, like a dam for storage at Roseires on the Blue Nile or the irrigation of a proposed 6m feddans of agricultural land, without approval of its influential neighbour.[12] The revised agreement of 1959 divided the 94bn m³ of White and Blue Nile waters that reach Egypt annually into a 55,5bn m³ share for Cairo, 18,5bn m³ for Sudan and a massive 10bn m³ that were estimated to evaporate at the High Dam; no reservoir on earth loses more water due to evaporation than Aswan. Just like in 1929, Ethiopia and other upstream countries were excluded from the negotiations, despite Haile Selassie's attempts to become part of the agreement.

Thus, from the start, Aswan rested on a crucial geopolitical contradiction.[13] On the one hand, it boosted Nasser's claims as the Arab world's leader and, together with the 1959 treaty, diminished the Egyptian security establishment's paranoia about the possibility of Egypt being taken hostage by upstream countries that might tamper with the flow of the Nile. However, this assertion of Cairo's hegemony simultaneously eroded Egypt's position vis-à-vis its African regional partners and set them on a revanchist course of confrontation, making the security nightmares of Cairo more –and not less- realistic.

Many were unhappy about the tens of thousands who were forcibly displaced, yet Sudan's ruling elites were not too bothered with these Nubians, nor with the effendiyya in Khartoum's water bureaucracy who warned against a treaty that was so generous to Egypt. The close ties between General Ibrahim Abboud's junta, with strong affiliations to the pro-Egyptian Khatmiyya, and Egypt's military regime were one explanation for why Khartoum signed the 1959 treaty. Negotiations

[12] Robert Collins, *The Waters of the Nile. Hydropolitics and the Jonglei Canal 1900-1988*. Oxford: Oxford University Press, 1990, pp.248-269.
[13] Waterbury, *Hydropolitics of the Nile Valley*.

between Sudan and Egypt didn't progress much before 1956 with British officials openly supporting Sudan's stance on sharing the Nile as Cairo edged closer to the Soviet Union, nor was a new Nile Waters Agreement likely under the brief period of parliamentary rule (1956-1958) when Sudanese-Egyptians relations worsened. Abboud however wanted Nasser's support for his own consolidation of power in Khartoum and conceded, particularly after the World Bank made it clear to Sudan that no financial assistance for its own hydro-infrastructure would be forthcoming without a deal with Cairo. Another explanation for signing was the cultural fascination of Khartoum's ruling classes with the Egyptian big brother, to who they looked for guidance and whose respect they craved: permanent confrontation with Cairo over the Nile was unthinkable.[14] But the decisive factor might well have been the "business as usual"-attitude of the *Awlad al-Balad*[15] (Sudan's traditional ruling tribes, Ja'aliyyin, Shaigiyya and Danagla): an update of the hydropolitical status-quo suited their goals perfectly well, further entrenching their grip on power. Sudan was nowhere near exhausting its new quota of 18,5bn m^3 of Nile water and lacked the developmentalist ambition and strategic vision of a national interest that Nasser had for Egypt. Given that Sudanese agriculture would remain under the patronage of the Al-Mahdis and Al-Mirghanis (rather than a state-led green revolution or giving freedom to smallholders), the post-independence elites saw no reason to complicate negotiations and risk a geopolitical standoff.

The 1950s and 1960s were not decades of absolute stagnation, though the fragile resource base of the state, worsening terms of trade and fluctuating commodity prices made planning difficult.[16] Initiatives to modernise the economy were few, remaining focused on hydro-agricultural development, which was more than ever the main source of foreign exchange: the priorities were the expansion of the railways and the Managil extension of the Gezira scheme (almost one million extra acres, mostly for irrigated cotton, organised along the same high-modernist pattern of straight

[14] Deng, *War of Visions*, pp.352-354.
[15] Harir, 'Recycling the Past in the Sudan', pp.30-56.
[16] M. Holt, Martin Daly, *A History of the Sudan*. New York: Longman, 1988, p.177, 193-194.

canals and rectangular plots[17]), but also the construction of the Khasm al-Girba (1964) and Roseires Dams (1965) to generate power and enable irrigation. The latter two were pushed by Sudan's water bureaucracy and had been planned under British rule, with Roseires a favourite of those who wanted to store large quantities of water (3bn m^3) within Sudan, enabling large-scale irrigation without having to deal with the Ethiopians.

There was little money for more hydro-infrastructure, nor were Sudan's political leaders able to adopt a hydraulic mission of the kind Nasser pushed in Egypt, despite the legal space provided by the 1959 Treaty. But this reluctance to transform the economy's structure was not so much induced by resource constraints, as a logical consequence of the parochial-conservative views of the elites and how comfortable they were with the (hydro)political-economic system as it had emerged from colonialism.

As the key role of cotton, pump schemes and dams in Sudan's political economy demonstrated, water and political power in the post-independence era remained tightly linked. If in "Old Sudan" of the 1950s and 1960s that meant irrigated production by the Nile and its well-known benefits for traditional elites, the rise to power of new protagonists in the 1970s would lead to radical shifts in the type of agriculture prioritised and in the geographic location of commercial expansion.

[17] Bret Wallach, 'Irrigation in Sudan since Independence', *The Geographical Review*, Vol.74, 2, 1984, pp.127-144.

Sudan as the Breadbasket of Africa and the Middle East

The Paradigm Shifts: from Traditionalism to Revolutionary Developmentalism

On May 25th 1969, leftist officers under the leadership of Ja'afar Nimeiri grabbed power in a revolutionary bid to transform Sudan through state-(re)building and an economic u-turn. Discontent with the status-quo had been building on all fronts: trade unions, Gezira tenants, the communists, the Khartoum University Student Union and radicalizing army officers all identified the 'traditionalism' of Sudan's elites as the main cause of independence's unmet promises. The return to parliamentary rule after Abboud only led to infighting among Hizb al-Umma politicians, while the civil war in the South worsened and economic stagnation continued.

Nimeiri was influenced by the internationally dominant ideology of state-led modernization and nation-building.[18] His "May regime" adopted three inter-related priorities: redefining Sudan's relationship with the outside world; establishing political dominance by neutralizing Ansar and Khatmiyya power; and revitalising the Sudanese economy. Nimeiri, like Nasser, identified the water-agriculture nexus as central to realising his goals and, supported by a bureaucracy keen to expand its penetration of society, developed the ambition of Sudan as the "Breadbasket" of Africa and the Middle East. Sudan was resource-rich and its potential had never been appreciated by traditional elites: its land, labour and water could feed the world.[19] Like in China, India and Egypt, a big, state-led push would revolutionise relations of productions and shake subsistence farmers out of their complacency, so they could participate in a march to higher levels of progress. Mechanised, capital-intensive agriculture would become the engine of growth, producing export revenues to fund industrial expansion and social services. The Breadbasket vision was high-modernist: utopian in its aims for a new Sudan; technocentric in its assumptions that 'new knowledge' (mechanised farming

[18] Niblock, *Class and Power in Sudan*, pp.246-266.
[19] Jay O'Brien, 'Sowing the Seeds of Famine', *Review of African Political Economy*, Vol.33, August 1985, pp.23–32.

and canal building) was both necessary and desirable to remake society; and centralising, in that the supposed beneficiaries (Sudan's poor) were seen as backward and in need of guidance by an enlightened bureaucracy.

Nimeiri and his advisers were inspired by the Aswan Dam and Suez, but also by India's Green Revolution and Latin American developmentalism: seeming success stories where reformed political economies seemed to go hand in hand with international emancipation and personalised, popular leadership. Importantly, at the same time, the West became increasingly concerned about population growth, environmental degradation and resource scarcity in the 1960s and 1970s. Fears about a *"Population Bomb"*[20] and dwindling stocks of strategic minerals abounded and the UN Food and Agricultural Organisation organised its first World Food Conference in 1974[21]: famines in Bangladesh, Biafra and the Sahel warned of a dark future. The oil crisis following the 1973 Israeli-Arab conflict added political dimensions to resource crunch nightmares. A new geopolitics emerged with wealthy nations scrambling for natural riches and the empowered Middle East desiring to change the tone in global trade.

The regime sensed a unique opportunity to realise its domestic goals in this enabling international environment.[22] Following his 1971 split with the communists, Nimeiri reached out to the anxious West, to Anwar Sadat in Egypt and to the Gulf Arabs who wanted to invest their petrodollars. He presented Sudan's hydro-agricultural potential as vital to avert a Malthusian doomsday and drew on the same 'cornucopia in the desert'-imagery Muhammad Ali had used in Egypt and the British evoked to legitimise Gezira. The international financial institutions responded enthusiastically to the Breadbasket's simple magical formula: 'free' water, cheap labour, abundant land, capital from Gulf Arabs and Western technology to break Sudan's dependence on medieval production-techniques.[23] An agricultural giant would be awoken by exporting sorghum, wheat and sugar in unprecedented quantities.

[20] Paul Ehrlich, *The Population Bomb*. London: Pan Books, 1971.
[21] United Nations, *Report of the World Food Conference*. New York: UN, 1975.
[22] Mansour Khalid, *Nimeiri and the Revolution of Dis-May*. London: KPI, 1985, pp.62-6, 335.
[23] Tignor, 'The Sudanese Private Sector', pp.199-208.

The Breadbasket was integral to Nimeiri's project of building a new Sudan, providing Khartoum with international legitimacy and with the material resources to pay for an interventionist state that would penetrate remote villages. The President signed the 1972 Addis Ababa Agreement, which granted regional autonomy to the South and strongly increased his political popularity, but his top priority remained a frontal assault on the patronage networks of the Khatmiyya and Ansar.[24] Sudan's political system was reliant on sectarian elites in the centre buying relative stability from local powerbrokers and keeping the population ignorant and dependent. Nimeiri knew that he lacked the political muscle to destroy this system at once, and so used the bureaucracy and the military for his showdown with the Al-Mahdi dynasty. After bombing the Ansar stronghold of Aba Island and nationalising key interests of the Al-Mirghanis and Al-Mahdis, a root and branch approach would crush old Sudan.

Enter the Breadbasket, which hoped to increase production on Sudan's irrigated schemes, but also aimed to expand agricultural output between the 14th and 10th parallel north, Sudan's Sahelian Belt that runs from South Darfur in the West to Blue Nile in the East and is populated by Arabised pastoralists and sedentary cultivators, mostly subsistence farmers. Large swathes of this vast region were loyal to the Hizb al-Umma, perhaps none more so than the Baggara cattle herders from Western Sudan and the inhabitants of White Nile region. Nimeiri believed that his agricultural reforms would overturn Sudan's economic fortunes and allow him to build up his own constituencies in the Sudanese heartland.

To prepare the ground for its revolution and expand the state's presence in the peripheries, the May regime began with legal engineering. The 1970 Registered Land Act turned almost all tribally owned land into state property, as all of Sudan's unregistered plots had to be made available for national development. In 1971, the People's Local Government Act ended the "Native Administration" built by the British that underpinned Ansar and Khatmiyya control over rural Sudan through 'traditional'

[24] Abdelwahab El Affendi, *Turabi's Revolution*. London: Grey Seal Books, 1991, p.131.

chiefdoms. Instead, the Sudan Socialist Union and a powerful modernising bureaucracy would lead the transformation.[25] The state shouldn't just maintain law and order in the peripheries; all resources had to be mobilised for the Breadbasket through crushing sectarian allegiances.

Big is beautiful: the Jonglei Canal

The peace agreement enabled Nimeiri to unleash his political-economic activism in the South too. The top priority became the Jonglei Canal, dreamed up during the Anglo-Egyptian Condominium, but shelved for decades due to war and lack of resources. The 360km long Canal intended to bypass the quasi-impenetrable Sudd marshes with their high evaporation rates, guiding the waters directly to Malakal to boost irrigated export agriculture in Northern Sudan and above all Egypt: engineers estimated that an additional 3,8bn m^3 would be available at Aswan. As stipulated under the 1974 deal, Cairo and Khartoum would share (monetary) costs and (hydrological) benefits of the Canal in equal measure.[26]

Jonglei had been designed in 1901 and was concretised by Hurst's "Century Storage", requiring unprecedented engineering works in the difficult malarial environment of Southern Sudan: ideal for those who believed in hydraulic civilisations by the Nile and Pharaonic visions of heroic engineers bringing progress to the wilderness.[27] It also came to symbolise Sudan's growing proximity to the Arab world. An alliance with Washington and Cairo provided Khartoum politico-military support; the opening of Middle Eastern markets for cash crops from the irrigated and mechanised schemes would equip it with the resources for transformation. Nimeiri and Sadat designed strategies for economic and political integration between Sudan and Egypt and a 25 year Basic Programme for Agricultural Development was concluded between Khartoum and the Arab Fund for Economic & Social Development. Saudi Arabia, Bahrain and Kuwait channelled further funds bilaterally and through the

[25] Mahmood Mamdani, *Saviors and Survivors*. London: Verso, 2009, pp.190-191
[26] Collins, *The Waters of the Nile*, pp.310-318.
[27] Waterbury, *Hydropolitics of the Nile Valley.*

newly created Arab Authority for Agricultural Investment and Development.[28] They hoped that Sudan would supply up to 40% of their grain and meat requirements and 20% of sugar needs within ten years; the partnerships should result in investment of USD$6bn over 25 years.

Nimeiri launched new mechanised schemes in the Sahelian Belt, but also threw his weight behind Sudan's traditional source of income, irrigated agriculture on huge centrally led schemes, which he intended to milk just like his predecessors. First proposed under British rule and fed by the Blue Nile, the 300000 feddan Rahad scheme along a 50 mile long canal aimed to produce cotton and groundnuts with Western technology, World Bank support and Kuwaiti cash. Nimeiri's Arab-Sudanese jewel in the crown was a joint venture, the Kenana Sugar Company (KSC)[29], which uses the Nile's blue gold to produce 'white gold' for the Arab world and Europe in the barren plains of Central Sudan on the world's largest sugar plantation. KSC was to lead the development of a powerful agro-industrial complex, underwritten by massive subsidies and all-out political support. KSC exemplifies the international political-economic lock-in that the breadbasket offered.[30]

The IMF and World Bank enthusiastically offered loans –and continuous debt rescheduling- to the Breadbasket. Reagan's America supported the agricultural expansion plans, while also becoming the central actor in the nascent oil industry and deepening military ties with Sudan.[31] Khartoum was the number one recipient of USAID support in Sub-Sahara Africa, receiving almost USD$1,5bn; ideas about large-scale capital-intensive agriculture were enthusiastically spread by American advisors who saw resemblances between the Midwest and Sudan's Sahelian belt. Backed by so many international partners, Nimeiri's megalomania seemed boundless. Total cultivated land surged by millions of acres: Sudan seemed poised to keep its promise as an Arab-African Breadbasket.

[28] Khalid, *Nimeiri and the Revolution of Dis-May,* pp.64-69.
[29] Tignor, 'The Sudanese Private Sector', pp.204-207.
[30] Fieldwork and interviews in White Nile State, September 2009-December 2010.
[31] African Rights, *Food and Power in Sudan*. London: African Rights, 1997, second chapter.

From Breadbasket to Basketcase

Hubristic Politics, Bad Agronomics

As noted since the first chapter, Sudan has long been subject to the projection of outside fears –a barren land on the verge of collapse and famine- and fantasies –feeding the world thanks to the Nile, dams and mechanisation. Nimeiri and his administrators manipulated those ideas, getting considerable political and financial mileage out of them, domestically and internationally. Yet contrary to the stereotype of Sudan being a land of mass hunger, there were hardly systemic problems with food production before Nimeiri. Many Sudanese may have been malnourished, but this did not lead to mass starvation and permanent scars on the country's infrastructure, as the 1980s would.[32] The Breadbasket –mechanised farming, the Jonglei Canal, state-led interventionism in the peripheries- failed in terms of agricultural development and social progress; it deepened Sudan's dependence on the outside world; and it caused a radical political-economic transformation, but not the one intended: while Nimeiri boasted of a new nation that was capable of feeding the Middle East and Africa, famine and war returned to Sudan with a vengeance.

By the time Nimeiri's regime fell to popular protests, foreign debt approached USD$10bn, national income was declining and Khartoum was locked in permanent negotiations with the IMF to save the economy. Sudan produced less cotton than a decade earlier and was still an importer of sugar. The collapse began in the late 1970s: Nimeiri was unable to manage his debts after the investment spree on which he had embarked with the blessing of his Arab and Western friends.[33] The agricultural transformation of Sudan's Sahelian Belt turned out to be a *fata morgana* where little was produced sustainably; investors began to desert the country. There were several reasons for the mirage in the

[32] O'Brien, 'Sowing the Seeds of Famine'.
[33] Douglas Johnson, *The Root Causes of Sudan's Civil Wars*. Oxford: James Currey, 2003, p.43.

desert, but the fundamental problem were the internal contradictions at the heart of Nimeiri's logic of water, civilisation and power.

What began as a revolutionary project to destroy old Sudan, promising to replace conservative policies with empowering rural development, turned out to be as economically backward and politically driven as that which it had sought to destroy. New Middle Eastern markets presented opportunities for the cash crop sector that traditional subsistence agriculture could not capitalize on and the availability of international funds was attractive, but flawed assumptions about the environment and agronomics underpinned the bureaucracy's strategy and the focus on capital-intensive farming.[34] Nimeiri's model took a deeply unsophisticated view of how a green revolution could be realised, similar to the utopianism of the *savants* in Muhammad Ali's Egypt. The idea of a dramatic mobilisation of cheap labour, 'free' water, 'free land' and modern technology leading by definition to an increased and sustained rise in output was misguided. Environmentalist advice was ignored, whether about the risks of capital-intensive farming depleting soils, exhausting groundwater, being overly dependent on seasonal rains in areas with a notoriously erratic climate or about relying on monocultures and favouring export crops over (domestically oriented) food production.[35]

However, the problem wasn't just that Khartoum's centralising policies were disproportionately favourable to large-scale investors and tended to ignore subsistence farmers. The supposedly technocratic elite leading the reforms was in reality incompetent and heavily politicised.[36] Like elsewhere in Africa, profits for tenants in the irrigated schemes were reduced to increase state revenue, but eventually discouraged production[37], despite World Bank funding for rejuvenating

[34] P. Oesterdikhoff, Karl Wohlmuth, 'The "Breadbasket" Is Empty', *Canadian Journal of African Studies,* Vol.17, 1, 1983, pp.35–67.
[35] Nile Basin Initiative, *Nile River Basin. Transboundary Environmental Analysis*. Entebbe: NBI, May 2001, pp.26-31.
[36] Tignor, 'The Sudanese Private Sector', pp.201-202.
[37] Robert Bates, *Markets and States in Tropical Africa: The Political Basis of Agricultural Policy*. Berkeley: University of California Press, 1981.

them- by 1978 cotton was only 30% of the cropped area at Gezira instead of 60% at independence; the story for Gum Arabic and sesame was similar, and Sudan rapidly lost world market share.[38] The nationalisation of land implied that thousands of farmers and pastoralists in South Darfur, South Kordofan and Blue Nile were driven off their land, lost their grazing pastures and/or saw their migration corridors blocked.[39] Sometimes expropriations happened legally after the Land Registration Act had opened the door for allocation of plots on political grounds.[40] Often administrators, businessmen and party officials resorted to extra-legal and illegal means of expanding the area for capital-intensive agriculture, blocking Dinka cattle herders, Ingessana farmers and Misiriyya pastoralists from accessing their ancestral areas.

These processes of government-sponsored expropriation were by no means inconvenient side-effects of the Breadbasket: the patronage dimension of Nimeiri's reforms was their central logic as he attempted to replace the support base of the Ansar and Khatmiyya with his own constituencies. This political bottom-line clashed with the hopes of raising agricultural production. Nimeiri's agro-clients were neither free-marketeers nor socialist farmers, but useful allies in the continuing struggle over power in Khartoum, relying on rigged markets and paralegal means to accumulate wealth.[41] Unsustainable methods were adopted by absentee landlords who were driven by political motives or the desire to make money quickly, not to turn Sudan into an agricultural superpower. These civil servants, urban elites and army personnel lacked know-how, preferring to exhaust their lands and move on- confiscating new land was easier than re-investing in old plots.

By 1980 it was clear that Khartoum hadn't learnt the lessons of Asia's 'Green Revolutions': a land redistribution favouring smallholders instead of politically connected (large) producers; a focus on food crops instead of just export production; using new technologies carefully; preventing

[38] Morton, *The Poverty of Nations*, p.207.
[39] Abdel Ghaffar M. Ahmed, *Transforming Pastoralism*. Bergen: Christen Michelsen Institute, 2008, pp.3-12.
[40] International Food Policy Research Institute, *Empowering the Rural Poor under Volatile Policy Environments in the Near East and North Africa Region. Case Study Sudan*. Khartoum/Rome: IFPRI/IFAD, 2006, pp.16-18.
[41] African Rights, *Food and Power in Sudan*, second and seventh chapters.

unsustainable water use; government credit, research and infrastructural support; and strategic trade policies to shield Sudan from the international economy's whims.[42] None of these policies were implemented. Foreign investment collapsed, inflation rose and salinisation and exhaustion of land became widespread problems.[43]

Apologists have argued that the big drought of the early 1980s and ecological changes in the Sahelian belt in the 1970s derailed agricultural development and brought back mass starvation- naturalising the catastrophe.[44] But the famines of the 1980s and early 1990s occurred not in spite of fifteen years of the Breadbasket, but because of it. Extreme weather pushed regions already affected by food shortages over the edge but was not the cause: Sudan, before Nimeiri's capital-intensive export agriculture, withstood the fierce droughts of the early 1970s, contrary to Ethiopia and the rest of the Sahel. A decade later by contrast, as people were starving en masse in Darfur (1983-1985) and later in Bahr al-Ghazal and South Kordofan (1983-1990), crops were shipped out of the country —as dictated by the economic model[45]— whilst American food aid was shipped in. Though aggregate output increased somewhat, the Breadbasket made Sudan less, not more, food secure. Land ownership transfers brought dramatically increased vulnerability for marginalised communities, as they lost assets and their livelihood strategies were destabilized through structural and physical violence.[46]

Environment, Conflict and Development: Sudan returns to war

Nimeiri's manipulation of global resource-crunch fears backfired and ultimately left everybody disillusioned. His Revolution began to lose momentum in the late 1970s, when as part of the "National Reconciliation"-policy he reached out to Sadiq Al-Mahdi's Hizb al-Umma and Hassan Al-

[42] Jeffrey Sachs, *Commonwealth: Economics for a Crowded Planet*. London: Allen Lane, 2008, pp.172-174.
[43] Holt, Daly, *A History of the Sudan*, pp.210–14.
[44] Interviews with Nimeiri government officials, Khartoum, August 2009-April 2010.
[45] Mohamed Suliman, 'Civil War in Sudan: The Impact of Ecological Degradation', *Contributions in Black Studies*, Vol.15, 1, 1997.
[46] David Keen, *The Benefits of Famine*. Oxford: James Currey, 2008.

Turabi's Islamists. Nimeiri no longer shunned old Sudan and compromised, not least at the local level in the peripheries where his bureaucracy was unable to replace the Native Administration it had abolished. Revolutionary state-building took several steps back and grudgingly accepted local political realities. His continued authoritarianism left both his traditionalist critics and pro-democracy voices dissatisfied, while many who had believed in Nimeiri's discourse of fundamental reform of Sudan –including a shift away from Nile-centric development- saw their hopes dashed.

Nowhere was this truer than in Southern Sudan. While Nimeiri had spent billions on infrastructure and failed agricultural development schemes in Northern Sudan, Southerners complained that hardly any of the peace funds promised had reached them.[47] The May regime prided itself on solving the Southern question but seemed to ignore its people just as much as the sectarian parties had. There was one exception to this negligence and it was deeply resented: the Jonglei Canal. Under heavy pressure from Khartoum, Abel Alier's Southern regional government approved the project to increase the amount of water available at the Aswan Dam by 3,8bn m^3. However, resistance against the Canal spread like bushfire and consumed intra-Southern politics, with Equatorians contesting the legitimacy of a Dinka-dominated executive.[48]

It was claimed that the project would displace hundreds of thousands of people and that tens of thousands of Egyptian *fellahin* would be settled in mechanised farming projects in the South- a rumour that evoked memories of 19th century imperialism and the slave trade. Environmental scientists –including the UN Environmental Programme- warned against the destruction of the Sudd's ecosystem, which risked eliminating the livelihoods of the area's Nilotic people. Fish stocks would dwindle, underground water reserves would be damaged and the local climate would be disrupted. Riots erupted in 1974 and the government lost control of public discussions concerning the project;

[47] William J. House, 'Population, Poverty and Underdevelopment in the Southern Sudan', *The Journal of Modern African Studies,* Vol.27, 2, 1989, pp.201-231.
[48] Collins, *The Waters of the Nile*, pp.317-322.

perhaps not all together surprising after Alier had stated that he would drive his people to paradise with sticks if necessary.

Nimeiri and Alier tried to salvage the Canal by creating an executive body to develop Jonglei and offer it high quality services, but whatever technocratic language accompanied this white elephant, Southerners had made up their mind: the Jonglei Canal only served the interests of the *Awlad al-Balad* elites of the Nile Valley and their Egyptian allies, at the expense of local communities. For Southerners, Nimeiri was no different from Sudan's traditional rulers; his policies didn't reform Sudan's political economy, but consolidated it.[49]

The General had set out to destroy old Sudan, to change its relations of dependency with the outside world, to bring peace to the South and to implement a different model of economic development. He ended up deepening the centre-periphery relations, squandering political capital on a project that would above all benefit Egypt and impoverish Southerners. Nimeiri's ambitious state-building mission, because of its internal contradictions and the President's politicking to broaden his powerbase in Khartoum, reverted back to the historically determined, extremely violent pattern of state-society relations. Nimeiri's state had increased Nile-centric development, strengthened the water-agriculture nexus and governed the peripheries through a mixture of violence and cooptation. It played a subservient role in the global political economy, put its resources at the disposal of international markets and tried to draw legitimacy from its gatekeeping role in the face of internal contestation.[50]

The May regime's biggest achievement –peace- was shattered with the rise of the Sudan People's Liberation Army/Movement. Its leader, Dr John Garang de Mabior, envisaged a united, democratic and secular Sudan in which the stranglehold of the *Awlad al-Bahr* over political and economic power would be broken and religious or cultural hegemony could no longer be imposed on the South and other marginalised areas. This project of a 'New Sudan' posited that reform from within –Khartoum-

[49] Johnson, *The Root Causes of Sudan's Civil Wars*, pp.130-131, 145.
[50] Frederick Cooper, *Africa Since 1940*. Cambridge: Cambridge University Press, 2002.

led, by a representative of the Ja'aliyyin, Shaigiyya or Danagla (Nimeiri belonged to the latter)- was impossible: the failure of the Breadbasket and Addis Ababa Agreement demonstrated that change had to come from the peripheries. The Jonglei Canal, on which Garang wrote his PhD in Iowa, was one of several casus belli when the mutiny started in 1983; construction was halted due to SPLA/M attacks.

The link between breadbasket policies, (hydro)political-economic dynamics and violent conflict went beyond the hubris of the hated Pharaonic Canal: Jonglei was not alone in supporting the SPLA/M because of top-down development working against local communities. In the Sahelian Belt, the expropriation of indigenous people led to growing tensions and resistance against Khartoum.[51] Nimeiri's cronies grabbed ever more acres in Blue Nile, Upper Nile and South Kordofan for mechanized rain-fed farming, claiming that the land was either government-owned, laying idle or not being used productively: the civilisation rhetoric of the Breadbasket was used as a weapon. As the Nuba, Ingessana and Dinka joined the SPLA/M, repression came swiftly, first under Nimeiri, then under the Hizb al-Umma dominated parliamentary regime (1986-1989) by the *Murahalin* militias and, after 1989, by the Popular Defence Forces of the Al-Ingaz Revolution.

In a pattern passed on from the colonial state[52] that recurs time and again, the youngsters fighting for Khartoum hailed from those communities who had been some of the biggest losers of Nimeiri's abolishment of Native Administration, the spread of mechanized farming and the further widening of the core–periphery gap. The very people—typically semi-nomadic pastoralists like the Baggara and Rufa'a Al-Hoi—who had seen their waterholes wither and their migration routes blocked by export farming, allied themselves with Khartoum and fought other local groups. The Murahalin were typically unpaid, but given "carte blanche" as they attacked communities in eerie parallels with 19th century raiding: killing the men, stealing the cattle and often enslaving the children. Depopulation through murder, displacement and famine was the result. Nimeiri's reforms created a sprawling

[51] Mark Duffield, 'From Emergency to Social Security in Sudan. Part I.' *Disasters*, Vol.14, 3, pp.188-203.
[52] Crawford Young, *The African Colonial State in Comparative Perspective*. New Haven: Yale University Press, 1994, pp.124–40.

military-commercial chain that ravaged South Kordofan, Bahr al-Ghazal and Blue Nile, linking local events along the Tenth Parallel to processes of accumulation in Khartoum and Middle Eastern food markets.[53]

[53] Keen, *The Benefits of Famine*, pp.63-75.

Conclusion

My analysis has shown the primacy of politics and the importance of highlighting the inter-relations between local, national and global dynamics of power and wealth accumulation on the one hand and violent marginalisation in the name of civilisation on the other. An *intifada* finally unseated Nimeiri in 1985 amidst darkening economic clouds, a famine ignored in Darfur and escalating war with the SPLA/M. Though the regime blamed the widening instability on ecological upheaval, tribal differences and international interference, conflict and mass hunger returned to Sudan as a direct consequence of the particular environment-development-politics linkages it had forged for its state-building agenda. Malthusian fears were exploited and answered with a supposedly technocratic, modernising strategy for rural development.

The country Nimeiri left behind resembled the one he had found when assuming power in 1969: the Ansar and Khatmiyya resurgent; conflict in the South; the dominance of the Awlad al-Balad; a state with moderate ambitions after a period of turbulent modernisation. Yet Nimeiri's reforms had not left Sudan unchanged. His high-modernist offensive, embedded as it was in historically recognisable ideas about the water-agriculture nexus and 'big is beautiful'-development projects, led to the empowerment of new political and economic players. While the Breadbasket failed, some posited that Nimeiri's failure should not spell the end of the assault against old Sudan. The most important rising force was Hassan Al-Turabi's *Al-Harakat Al-Islamiyyah*, which heavily criticised Nimeiri's mistakes but shared many of the same modernist assumptions about Sudan's fundamental problem, the traditional elites. From 1989 onwards, Turabi would implement an even more radical project of state-building: Nimeiri had not gone far enough and his ideology of socialist interventionism and willingness to compromise with the sectarian parties and Egypt were recipes for disaster.

In the next chapters, I concentrate on the (hydro)political-economic dynamics of Turabi's Salvation project and the efforts at material transformation undertaken as part of an Islamist agenda. I explore how a regime that claims to differ strongly from all previous rulers, in many ways follows the same logic of water, civilisation and power that has characterised state-building in Sudan in the modern era.

Chapter Four

Mashru Al-Hadhari: the Rise of Sudan's Al-Ingaz Regime and its Civilisation Project

"We were a light in the darkness"

Colonel Muhammad El-Amin Khalifa, Speaker of the National Assembly[1]

This chapter tracks the rocky path to absolute power of Sudan's *Al-Harakat Al-Islamiyyah* (HI). Islamism is a reaction to a modernising world; Islamists try to restrain tectonic shifts in society but also attempt to ride the tiger and direct it to a more Islamic horizon. I focus on Islamist thinking about the material world, civilisation and power and how Hassan Al-Turabi's revolutionary project can be situated in broader ideological, sociological and political-economic trends. This world vision is critical to understanding why, when after 2000 the international and domestic conditions were ripe, the military-Islamist regime prioritised the hydro-agricultural mission, a core feature of its current identity and long-term political strategy. I show how the HI's radical ideology had much in common with other modernist projects and would come to embrace an approach to water, civilisation and power that has been part of the logic of Sudanese state-building since Muhammad Ali.

Rooted in discontent with the traditional sectarian rulers, the HI proposed a political, economic and social transformation of Sudan. Its initial popularity among graduates received a boost when Turabi and his followers joined the Nimeiri regime, beginning a process of infiltration of state institutions and business communities. The Breadbasket and Khartoum's alliance with the Gulf Arabs led to the proliferation of Islamic finance, which underpinned the Islamic Movement's growing prowess. Following their June 1989 coup, the new military-Islamist rulers launched the "Al-Ingaz" Revolution. The Salvation regime was built on four pillars –a new politics, economic liberalisation, an ethical

[1] Interview in February 2011, Khartoum; the next chapters rely heavily on extensive elite-interviewing. In the appendix, a list of those interviewed and their functions is provided.

(Islamic) revival and a U-turn in foreign relations- and mixed militant conservatism with social engineering.

Under the banner of *"Mashru Al-Hadhari"*, Hassan Al-Turabi, Ali Osman Taha and Abdelrahim Hamdi pursued a new state through a comprehensive, authoritarian modernisation: they would develop a new social contract and become a beacon for an Islamic Renaissance in the rest of the world. The old Ansar and Khatmiyya networks would be replaced by a higher level of civilisation with a dynamic economy that expanded world-class hydro-agricultural systems. Economic and social salvation would go hand in hand with permanent Islamist hegemony through the rise of a new 'Islamic' and globalised middle class as a result of the modernising reforms.

The Rise of the Islamists: Ideas, Power and Money

Islamism and Modernity

Hassan Al-Turabi considers the political philosophy of Sudan's HI to be part of a body of thought that goes back to the end of the *Rashidun* Caliphate, which encompassed the whole Islamic *ummah* following the death of the Prophet Muhammad in 632AD. The assassination of the Fourth *Khalifa*, Ali, caused the Sunni-Shia split in Islam, but is also seen by most Muslims as the demise of the best earthly politico-religious system ever to have existed. Many have proposed a return to the principles and practices of that golden age. Generations of 'Islamists'[2] have sought to respond to the crises of their time through an Islamic revival (*Nahda*), which has been variously interpreted as a rejection of modernity, a return to basics or a pragmatic adaptation to contemporary realities through an Islamic prism.

Most Islamist thinkers, and particularly the ones quoted by Turabi, are concerned with three inter-related problems: bad, oppressive governance; social injustice; and the relations between Muslim societies and non-Muslim influences. While proposed solutions have differed widely across time and space, Islamist ideas have tended to proliferate amidst rapid social change and political upheaval, as a criticism of both the undesirable status-quo –a confused society- and perceived problematic transformations. Islamism has often adopted a conservative undertone, with a real or imagined pure

[2] Islamism is what self-declared Islamists make of it. It is a controversial term –claimed proudly by some and rejected by others-, because of the connotations "Islamism" invokes but also because so few Islamists agree on what is covered by the concept. For the purposes of this thesis, Islamism is considered to be a broad spectrum of thought and praxis that sees Islam as a source of political ideology. It can, potentially, be anything ranging from an individual politician who claims that Islamic values guide him in his political action or preaching Islam (*dawa*) to a quasi-totalitarian worldview in which the Quran and *Sunnah* are taken to be the only sources of legislation and a confrontation between believers and non-believers is actively sought. This definition deliberately doesn't make any statements about whether Islam as a religion is inherently political or not. I accept Sudan's Al-Harakat Al-Islamiyyah's claims that it is part of a long and deep tradition of thought that aims to put Islamic traditions at the heart of politics, bringing about an "Islamic society". I make no claims as to whether this is theologically accurate; I merely see those claims as political reality and relevant to understanding the actions of the Al-Ingaz regime.

past looming large in the imagination, not least because some of the most influential Islamist thinkers witnessed the decline of the Ottoman Empire firsthand, the last state to claim the title of Caliphate: Jamal ad-din Al-Afghani, Muhammad Abduh and Rashid Rida called for a rediscovery of Islamic values and Sharia, faulting a spiritual as much as a political crisis as the cause of the triumph of Western imperialism.[3]

Yet it would be wrong to see Islamism as merely a reactionary backlash. Though drawing inspiration from the immutable principles of Islam, the framework in which self-declared Islamists situate their answers to various crises is also strongly shaped by the political grammar and economic dynamics of modernisation, making it a profoundly modern phenomenon.[4] The manner in which Islamists discuss societal problems; the institutions through which they organise; the enthusiastic embrace of communication technologies, education systems, science and rationality; and the ways in which most Islamists think *politically* (i.e. about power) are very modern indeed. Many Islamists, Hassan Al-Turabi included[5], do not reject modernity as such, but seek to mediate it, engaging the worldly changes and embedding them within an Islamic context.

Islamism proliferated after decolonisation.[6] Discussions flared regarding the purpose of the new states, particularly when in many cases sovereignty turned out to be more nominal than actual, socialist and militarist experiments could not meet the people's economic aspirations and Western hegemony in global politics, the world economy and the realm of ideas continued. Modernising trends converged in the 1970s to create a confusing environment: a population explosion in the Muslim world; soaring urbanisation; the expansion of education systems; the decline of traditional family structures and rising unemployment. Growing momentum for Islamism was a product of the promises of modernisation and the hopes to be part of a more dynamic, meritocratic society –

[3] Hamid Enayat, *Modern Islamic Political Thought*. London: IB Tauris, 1982.
[4] Olivier Roy, *The Failure of Political Islam*. London: IB Tauris, 1994.
[5] Abdullahi Gallab, 'The Insecure Rendez-vous between Islam and Totalitarianism.' *Arab Studies Quarterly*, Vol.23, 2, 2001, pp.87-109.
[6] Abdelwahab El Affendi, *Turabi's Revolution*. London: Grey Seal Books, 1991, pp.17-21.

including aspirations for greater wealth and Western consumerism- and the failure of conventional ideologies and political systems to deliver.[7] The sociology of Islamist movements across Africa and Asia demonstrates how.

The future cadres of the HI in Sudan and elsewhere were neither classical scholars (*ulama*), most of whom were apologists for secularist regimes, nor representatives of religious brotherhoods, whose control was diminishing in urbanising and modernising societies. Instead, the Islamists were youngsters from outside the traditional elites who achieved some degree of social mobility through modern education but saw their dreams barred by authoritarian, strongly socially stratified institutions.[8] They took the promise of modernisation seriously, but were repulsed by the practical outcomes. As socialism disappointed many, traditionally leftist university campuses began falling into the hands of a new intelligentsia, passionate about social justice, political change and modernisation. High numbers of engineers, doctors and natural scientists joined Islamist movements, believing in the malleability of what they saw as deeply imperfect societies and in the power of structure and progress in bringing about a more Islamic order. Many of them sought ways to control –and not necessarily crush- the transformational shifts that their societies were undergoing.[9] Islamism offered the possibility of having one foot in a pure, untainted past and to use the other one to guide the changes towards a more just ('Islamic') horizon.

Political and economic power in an Islamist worldview

Islamism inherently subscribes to ideas about linear progress and the possibility –even the inevitability- of a more perfect society in this world (and not merely salvation in the next). For those Islamists who participate in politics, this opens up the possibility of revolutionary change and

[7] Roy, *The Failure of Political Islam*, pp.20-23.
[8] Gilles Kepel, *Jihad. The Trail of Political Islam*. London: IB Tauris, 2002, pp.66-67.
[9] Nevzat Soguk, *Globalisation & Islamism*. Lanham: Rowman & Littlefield, 2011.

wholesale transformation of society. Islamism rejects secularism and nationalism but its modernity is symbolised by its struggle for a universalist state, its insistence on rationality and its rejection of all forms of particularism as well as its own historicity. In this and other respects, Islamism is strikingly similar to Marxism, not altogether surprising given how many former leftists kept their frameworks of analysis but turned to Islam as the new central principle of politics, rather than class, in the Muslim world's universities in the 1970s.

Islamism distrusts the state and wants to ultimately abolish it, but marvels at its transformational potential; triggering an irresistible move to the logical endpoint presupposes the capture of crucial societal and statist institutions, which, in turn, necessitates a strategic analysis of key interest groups and how to tie them together politically in order to overwhelm rival ideologies.[10] Like Marxists, Islamists face the perennial dilemma of gradually accumulating support at the grassroots for this perfect society through preaching and the provision of public goods, or leapfrogging into the 'inevitable' future by pre-emptive action of an enlightened vanguard. Most Islamist movements chose the former, attempting to forge an alliance between two radically different social groups: the alienated urban underclass that aspired to Western-style consumerism and social mobility but experienced psychosocial dislocation and repression; and the God-fearing petty bourgeoisie that was excluded from political power and resented the corrupt traditional elites. This explains Islamists' resistance against the conspicuous excesses and sinful authoritarianism of regimes across the Muslim world and their emphasis on a Quran-inspired clean politics.[11]

This analysis firmly established the importance of economic issues to Islamic movements everywhere, including in Sudan. However, the interests of both constituencies clearly differed. Islam was of little guidance given that it doesn't offer a comprehensive vision on relations of production or macro-economics. The solution proposed by most Islamists was to try to solve this contradiction by emphasising the shared goal of Sharia and the pursuit of power, but only Ayatollah Khomeini succeeded in building a truly all-encompassing revolutionary front. Elsewhere choices had to be

[10] Roy, *The Failure of Political Islam*, pp.50-56.
[11] Kepel, *Jihad*, pp.6-7

made and were highly contingent on individual leadership and the space provided by the state. In Egypt, Palestine and Lebanon, the Muslim Brotherhood and Hizbullah prioritised the poorest in society: the provision of social services empowered hitherto politically unmobilised groups that had emigrated from rural areas and were excluded from the formal work environments where trade unions traditionally thrive.

Elsewhere, the HI concentrated on the capitalist economy and expanding the options for social mobility available to the (lower and upper) middle classes. More right-wing, elitist Islamist movements, like in Sudan, emphasised private property, price liberalisation and finance (all sanctioned by the Quran, though usury is strictly forbidden) as ingredients of a more Islamic society. Islamic banking[12] especially was perfect for the purposes of conservative economics, as it doesn't intend to influence economic behaviour in society but merely guarantees the ethical character of the activities of individual agents. Islamic finance seldom directly funded Islamist movements –it's about creating profits while not violating Sharia- but offered credit to those groups in society historically excluded from financial activities, thus enabling processes of social mobility and the increased consumption that the lower middle class craved. Funded with the Gulf's petrodollars of the post-1973 world, they also let wealthier clients engage in high-risk short-term speculation, allowing them to claim –like the Protestant entrepreneurs of the 16th century- the mutual reinforcement of religious and commercial success.[13]

The 1980s marked Islamism's highpoint. Khomeini's Islamic Revolution inspired Shia and Sunni alike, while the Soviet Union lost Afghanistan, Hizbullah forced America's withdrawal from Lebanon and Zia ul-Haq Islamised Pakistani society. The social services of the Muslim Brotherhood, the growing financial activities of Al-Faisal Bank and Al-Baraka Group and the capture of students unions in universities seemed to galvanise a critical mass of support (devout capitalists and slum dwellers alike) for a grand Islamist project. Yet only in three countries –Iran, Afghanistan and Sudan- were Islamists

[12]Mohamed Ariff, 'Islamic Banking.' *Asian-Pacific Economic Literature*, Vol.2, 2, 1988, pp.48-64.

[13] Monzer Kahf, 'Islamic Banks. The Rise of a New Power Alliance of Wealth and Shari'a Scholarship.' Clement Henry, Rodney Wilson, (eds.), *The Politics of Islamic Finance*. Edinburgh: Edinburgh University Press, 2004, pp.17-36.

able to pursue their utopias through state power. The Al-Ingaz regime would turn out to be arguably the most modernist of the three and the one most obsessed with economic salvation, given how crucial this was to capturing political power in Khartoum.

The political and intellectual origins of Sudan's Al-Harakat Al-Islamiyyah

Islamism appeared in Sudan during the 1950s, amidst the expansion of public services and investments by the Condominium. While Sudanese society was in flux, the Al-Mahdi and Al-Mirghani dynasties and their politico-commercial networks inherited the state from the departing British. As they successfully defended the status-quo and the economic boom evaporated in the 1960s, two reactions to the Ansar-Khatmiyya duopoly emerged.

Communism and Islamism dominated student politics, seeking ways out of the political-economic impasse.[14] Both ideologies agreed that Sudan's economy was overly dependent on colonially established patterns of trade with the global system; that illiteracy and the alliance with the West locked in traditionalist hegemony; and that education and democratisation were essential to changing Sudan's predicament. Islamists and communists created affiliated social organisations and infiltrated the security services and administration to prepare for power and realise their transformational projects. They both relied on modernising vanguards that had to balance ideological pragmatism to help the movement grow with a radically distinct message that set them apart from the establishment. These were classic revolutionary trade-offs in a context of rapid modernisation and old elites stymieing social mobility and political reform.[15]

The leftist alternative was an alliance of labour, intellectuals, military officers and the strongest communist party in the Arab world. Inspired by Nasser's policies, they proposed a return to the active state of the late colonial period, with a strong bureaucracy to lead the masses and a foreign

[14] Mahmood Mamdani, *Saviors and Survivors*. London: Verso, 2009, pp.185-196.
[15] Crane Brinton, *The Anatomy of Revolution*. New York: Prentice-Hall, 1952.

policy oriented towards Sudan's needs, not those of the Sayyids or the Great Powers. Power was seized in 1969; the Breadbasket epitomised the fusion of the left's political and economic goals, an ambitious top-down strategy for building a new state and socialist society.

The second reaction to the disappointments after independence was equally modernist in its outlook and was also influenced by ideas developed in Egypt. A group of young Muslim intellectuals identified the Sufi sects and the networks through which they dominated political, social and commercial life as the enemy: Ansar and Khatmiyya brought Sudan neither an empowering form of Islam, nor political-economic progress. They collaborated with foreign overlords, kept their followers ignorant and rejected modernisation. Yet contrary to what Sudan's left propagated, the remedy was not to be found in nationalisations and secularism. *Sharia* ("the divine path", often narrowly understood as Islamic Law), Islamic economics and solidarity with the ummah would be truly emancipatory reforms. Founded as an offshoot of Egypt's *Ikhwan Al-Muslimoon*, Al-Harakat Al-Islamiyyah struggled in the 1950s, but from 1964 onwards, when Islamists participated in the protests against Abboud, this began to change. The arrival of a young leader was crucial in their rise to absolute power in the next 25 years.

Hassan Al-Turabi, son of an Islamic judge and himself dean of the Law Faculty of the University of Khartoum at the age of 32, combined academic brilliance with extraordinary rhetorical skills and an astute reading of politics. Turabi was among the first of a new generation of Sudanese to move to the political foreground, benefiting from educational opportunities in the late colonial and early post-independence period. Hailing from families that had historically not been part of Sudan's establishment, Turabi and many youngsters who followed in his footsteps began a process of social mobility that underlined both the potential for change in an elitist society but also the continuing limits to what newcomers could aspire to. These youth at the University of Khartoum developed ideological narratives that gave them the tools to challenge the traditionalist forces blocking the emergence of alternative elites in what remained a rural society.[16]

[16] El Affendi, *Turabi's Revolution*, pp.58-84.

Under Turabi's leadership, the HI transformed itself into an effective force that won parliamentary seats in the urban centres in Khartoum and Northern Province and put an Islamic constitution on the political agenda. "Islam is the answer" resonated with students, ulama and conservative merchants, traditionally Khatmiyya supporters.[17] Turabi's political skill allowed him to punch above his weight in parliament, but the elitist character of the HI limited its ability to win the battle for control over civil society. Nimeiri's coup seemed to herald the victory of the modernising leftists over the sectarian parties and the Islamist alternative, but in retrospect would turn out to be a blessing in disguise. While the communists appeared poised to triumph, a number of factors handed the long term advantage to the HI. Nimeiri confronted the Ansar and Khatmiyya and installed a planned economy, but the president turned on his allies in 1971 and dealt harsh blows to their organisational base from which the communists have never recovered. By contrast, the May regime unleashed repression against the Islamists from the start, including the arrest of Turabi, forcing his disciples underground in a complex organisation –*Al-Tanzim*- of Islamist cells which kept the HI alive. The years of clandestine politics led to a great degree of trust between the Islamist leaders, which would be key in propelling the movement to ultimate power.

The HI drew in new supporters thanks to Turabi's writings about modernising Sudan and Islam, and manoeuvred itself back into legal politics in the late 1970s, joining Nimeiri as the latter sought to strengthen his regime faced with growing economic failure.[18] Turabi preached patience to his lieutenants, using his first taste of power to intensify the strategies of infiltration and gradual mobilisation in women's organisations, trade unions, youth movements and professional associations. As Attorney-General, he began Islamising Sudan's legal code, developed a loyalist

[17] Gabriel Warburg, 'Mahdism and Islamism in Sudan', *International Journal of Middle East Studies*, Vol.27, 1995, pp.219-236.

[18] Abdallahi Ali Ibrahim, 'A Theology of Modernity. Hasan Al-Turabi and Islamic Renewal in Sudan', *Africa Today*, Vol.46, 3/4, 1999, pp.195-222.

network in the army and looked to two critical constituencies to support the Islamists: the lower middle class and new business elites.[19]

The Breadbasket, the Middle East and Islamic Finance

The definitive breakthrough of the HI was closely connected to Nimeiri's state-building project through 'free' land, labour and water. Its involvement in the grand development strategy of the 1970s and 1980s would later provide inspiration for the Islamists' own hydro-agricultural mission and yielded important immediate political gains at the time.

As noted in the previous chapter, the Breadbasket emerged in a context of Western worries about resource crunches and the rise of Gulf Arab states in world politics as the oil price exploded during the Yom Kippur conflict. Newfound Arab self-consciousness directly influenced developments in non-oil producing countries like Sudan. Saudi Arabia was determined to turn itself into the Islamic world's central diplomatic player. Billions of dollars were spent on propagating the Saudi establishment's Wahhabi interpretation of Islam, but Riyadh also invested in more economically productive ventures. A series of regional development initiatives were created, with the Islamic Development Bank as the flagship. Islamic transnational holding companies were generously capitalised with the goal of funding profitable 'Islamic' ventures in surrounding countries, simultaneously deepening the dependency of their economies on Saudi power.[20]

Sudan was for multiple reasons well placed to become a large-scale recipient of petrodollars.[21] Hundreds of thousands of Sudanese had migrated to the Middle-East to work as doctors, teachers and engineers and, through remittances of their soaring salaries, they fuelled a consumer and real-estate boom in Khartoum. Many of the Sudanese professionals working in the Gulf were HI members

[19] Mahaboub Abdel Salam, *Harakat al-Islamiya al-Sudaniya.* Cairo, 2010, p.23.
[20] Kepel, *Jihad*, pp.61-62.
[21] Jack Kaikati, 'The Economy of Sudan. A Potential Breadbasket of the Arab World?' *International Journal of Middle East Studies*, Vol.12, 1980, II, pp.99-123.

and, particularly following Turabi's entry in government, they acted as valuable go-betweens when Arab investors explored opportunities in Sudan. The HI presented investments as both commercially sound and Quranically sanctioned: this seduced large numbers of capitalists to bankroll 'development' in an 'Islamising' Sudan- a classic example of extraversion.[22] Saudi, Kuwaiti and Emirati funds poured into mechanised agriculture to supply the Arab world with grains and meat.

Many Breadbasket-related investments were handled by Islamic financial institutions that opened franchises in Sudan, most famously Al-Faisal Islamic Bank and the Al-Baraka group, the leadership of which had Islamist sympathies and strong personal links with Hassan Al-Turabi; one of the central figures in the nexus between Sudan's Islamists and petro-capital was Abdelrahim Hamdi, a banker with outstanding connections across the Gulf and a leading HI figure who would become Al-Ingaz' financial guru. Though the banks did not directly fund the HI, under the influence of the likes of Hamdi they piloted social change, allowing the Islamists to make inroads in key constituencies they had identified as critical in preparing an Islamic Revolution in Sudan. HI membership had been limited largely to an intellectual elite, but the banks offered employment opportunities to graduates and access to capital for shopkeepers, small entrepreneurs and merchants who were rejected by traditional financial institutions. Turabi, as attorney-general, designed legislation to underpin this financial revolution, tying the HI to the pious lower middle class of Khartoum and other urban centres who deposited and loaned large sums of money that in turn enabled the expansion of the Islamic banks.[23]

Islamic finance in Sudan also allied the HI to more established interests. Because of its prohibition on interest and the necessity to reward clients with higher than inflation yields, Islamic banking has always been inherently prone to large-scale speculation as financial institutions are forced to take risks through short-term adventurism. During the Breadbasket, it became the favourite source of

[22] Jean-François Bayart, *Politics of the Belly*. London: Longman, 1993.

[23] E. Shaeeldin, R. Brown, 'Towards an Understanding of Islamic banking in the Sudan. The case of the Faisal Islamic Bank', T. Barnett, A. Abdel Karim (eds.), *Sudan. State, Capital and Transformation*. London: Croom Helm, 1988.

capital for bureaucrats, army officers and political cronies of Nimeiri and Turabi.[24] By (il)legal means they sought maximal profits and dramatically intensified production- practices that had disastrous ecological consequences and caused conflict along the Tenth Parallel. As with other forms of speculative investment, it was economically unsustainable and a major cause of why the Breadbasket bubble burst and left Sudan with colossal debts, widening inequality and greater vulnerability to famine. However, the easy 'Islamic' money did facilitate Islamist penetration into the heart of the state apparatus and the higher middle classes, exactly as Turabi intended.

[24] Jay O'Brien, 'Sowing the Seeds of Famine', *Review of African Political Economy*, Vol.33, August 1985, pp.23–32.

Salvation for Sudan: the Revolution and its Vision

Democracy or a coup d'état?

By the time Nimeiri fell, Hassan Al-Turabi dominated the agenda of Sudanese politics. Thanks to the expansion of Islamic finance, his message of balancing progressivism (e.g. more women's rights) and conservatism (e.g. a return to Sudan's true values, not soulless Westernisation) could add a third attractive element to the mix: a vision of rising prosperity and social mobility that traditionalist forces lacked.

Nimeiri's land and governance reforms had undermined support for Ansar and Khatmiyya and the new power bloc –generals, bankers, bureaucrats and entrepreneurs who collided in the Breadbasket- was leaning closer to the HI than to anyone else. Turabi's Islamisation discourse put other political forces on the defensive, grudgingly echoing the HI's language about Sharia and Sudan as an Islamic state. Nimeiri's "September Laws", including a fundamentalist penal code, were the product of an obscurantist cabal around him, but cannot be understood separated from an (inter)national context in which religious radicalism was on the rise.[25] While the sectarian parties won the 1986 elections, Turabi's National Islamic Front (NIF) captured most of the votes in Khartoum and Northern region, wooing new constituencies. With a civil war in the South and difficult relations between Prime Minister Sadiq Al-Mahdi and his army officers, the latter were increasingly charmed by the NIF's unwavering support for war and the mobilising potential its radical discourse had. The inability of Sudan's third parliamentary regime to address the crisis added to the sense that the country needed 'salvation' lest it be thrown into the abyss.

[25]Warburg, 'Mahdism and Islamism in Sudan'.

The seizure of power on 30 June 1989 finally resolved the 'Kautsky vs Lenin'-dilemma of the Islamists: a gradual 'irresistible' rise or a vanguard coup to usher in the revolution?[26] In the first half of 1989, the HI's carefully planned ascendency suddenly lost momentum. The NIF was removed from government and negotiations between Sadiq and John Garang made substantial progress, with the Prime Minister announcing that he would freeze the September Laws and that a peace agreement was within reach. Simultaneously, HI spies indicated that three coup plots were being prepared, by Nimeiri loyalists, a coalition of Nuba and Darfurian officers and Baathists respectively.

Turabi feared that his 'Gramscian' long game was collapsing, either through repression following a putsch, or because Sadiq could claim the mantle of statesman-peacemaker. Turabi advocated the Leninist option before the Executive Committee of the HI's Shura Council, arguing that the civilian government risked conceding too much to the SPLA/M and that the Islamists could still count on solid support within the officer corps; a rival coup would undo the latter and the ensuing crackdown would succeed where Nimeiri failed- crushing Islamism. Only one prominent Shura Council member, Al-Tayib Zain Al-Abdin, protested against Turabi's plan for a coup, claiming violence would be un-Islamic and risked depriving the HI of the popular backing it had patiently accumulated. Turabi, however, carried the day: the HI decided to pre-empt the other coup plots.

The putsch that Turabi and his deputy, Ali Osman Taha, orchestrated, depended on officers who doubted the civilian government's ability to defeat the SPLA/M and feared a return to a leftwing dictatorship. Turabi had argued to the HI that a military front for the future regime was necessary, because the NIF lacked the means to take power itself but also because politically it would allow Sudan's new rulers to claim the army –symbol of national unity- was merely saving the nation from itself. Turabi emphasised the importance of hiding the coup's real nature from the Americans and Egyptians, who were concerned about a second Iranian Revolution if Islamists captured the state in Sudan, fearing it might in turn provoke a Muslim Brotherhood takeover in Cairo. He handpicked the Revolutionary Command Council for the Salvation of the Nation (RCC), including officers from all

[26] This section is based on interviews with key HI members, including Hassan Al-Turabi, and several military officers, between April 2010 and June 2011.

wings of the army and all parts of Sudan, some of them known Islamists, others from Khatmiyya families or even non-Muslims. The RCC leadership rested with Brigadier-General Omar Al-Bashir who was assumed to have no personal ambitions and was described to the Islamist inner circle by Turabi as *Hiba Allah"*(Allah's gift to the HI). Bashir immediately arrested communist and sectarian leaders, while Turabi himself and many advisors –with the exception of six strategists including Taha and Awad Al-Jaz, later the Islamists' economic strongman- went to jail too.[27] Egypt and America were mystified by the incarceration; the deception worked.

However, what initially seemed like a triumph was something that many Islamists would come to regret and would prove essential to understanding the Al-Ingaz regime and its outlook on power. The fact that a Leninist coup kick-started the revolution made it much harder to claim the popular legitimacy the HI had sought for decades. Though some Sudanese welcomed the replacement of the incompetent civilian government by a firm military hand, this was not a people's revolution built on democratic legitimacy and the comprehensive penetration of society as the Islamists had hoped.[28] It meant that, even though Turabi became Sudan's most powerful man, power –even if just nominally- had to be shared with the security services and groups of people whose alignments were more based on tribe (Ja'aliyyin, Shaigiyya) or institution (army, intelligence) than on a commitment to the Islamist transformation of Sudan. It set up tensions between the ideologues with political vision and the men with guns and more traditional ideas that would ultimately result, in 1999-2000, in a devastating split that removed Hassan Al-Turabi from the apex of the regime he himself created.

The Revolution's Priorities

[27] Abdel Salam, *Harakat al-Islamiya al-Sudaniya,* pp.90-102.
[28] Gallab, 'The Insecure Rendez-vous between Islam and Totalitarianism', pp.98-103.

The Al-Ingaz project had, according to its godfather[29], four grand objectives that would contribute to Islamist "new Sudan":

- The overhaul of Sudan's political system, a reform of its institutions and a redefined relationship between state and religion;
- A new foreign policy that would turn Khartoum from a "slave" of the West and Egypt into a lighthouse for the rejuvenation of the Islamic world;
- The rescue of the Sudanese economy through pro-market reforms and an altered relationship with the global economic system;
- An Islamic revival, or "profound ethical transformation" of relations between individuals and communities that brought both closer in line with the Quranic ideal of an Islamic society.

This was an assault on old Sudan on all fronts to remake society and offer it Salvation, not to merely manage it. Turabi sought to follow the examples of France, Russia, China and Iran, reaching far beyond regime change: "Social revolutions [are] more deep-going and violent than political revolutions, but they also harbour the goal of transforming human existence, in a redemptive fashion, thereby revealing an inspiration that can be characterized as utopian."[30] The HI's ambitious international agenda intended to turn Sudan into a beacon for an Islamic Renaissance in the rest of the world; its domestic economic and social programme became known as *Mashru Al-Hadhari* (the Civilisation Project).

As one of the leading global Islamist thinkers, Turabi's revolutionary state-building project was both conservative and radically modernist at once.[31] He played on ideas of a romanticised essence –a land of pure Islam, free from external interference, Arabic as the lingua franca- that Sudan would rediscover through Arabisation and a militant re-structuring of state-society-market relations.

[29] Interview with Hassan Al-Turabi in Khartoum, December 2010.
[30] Messay Kebede, *Ideology and Elite Conflicts.* Lanham: Lexington Books, 2011, p.48.
[31] El-Affendi, *Turabi's Revolution*, pp.145-173.

Simultaneously though, this was not the throwback to 7th century Arabia that the likes of Al-Qaeda, hosted by Khartoum between 1991 and 1996, advocated. Turabi offered a utopian vision of Sudan leading the Muslim world towards a higher level of Islamic civilisation, through economic modernisation, science and technology, and unprecedented freedoms.[32] Urbanisation would intensify, Sudanese agriculture would be revived, the Nile would be dammed and the respect of the world –not least of all the West- would be earned. To paraphrase Abel Alier: whether they liked it or not, the Sudanese people, so attached to their traditions, would be driven with sticks from their parochial Sufi villages to a globalising, 'Islamic' paradise.

Despite being at the heart of Al-Ingaz project for a new civilisation, the social engineering strategies implemented by Minister of Finance Abdelrahim Hamdi (economic salvation) and Turabi's deputy Ali Osman Taha (*Al-Dawa Al-Shamla*) have received less scholarly attention than the regime's controversial foreign policy or the *jihad* campaign in the South. Though Turabi was mainly focused on external affairs and domestic politics, modernisation was central to his vision, and, in the case of the economic transformation, also to that of 'Al-Ingaz 2.0' when it emerged under the leadership of Ali Osman and Bashir following the intra-regime split. The economic and social agenda furthered an enduring idea in the political imagination of Al-Ingaz cadres: a new Islamic middle class, arising from the ashes of the sectarian networks and acting as the backbone of the march towards progress. *"*[To] transfer economic assets and power, and social and political status and privileges, from one social group to another" is a classic revolutionary objective.[33] The civilisation project promised that economic and social salvation would go hand in hand, and hoped both would dovetail with permanent Islamist hegemony.

Turabi's ambitious agenda entailed a difficult balancing act. The HI feared that too much radicalism too quickly risked provoking a backlash in Cairo and Washington that would abort the Revolution: "It is easy to kill a baby before he can talk. So the baby does well to stay unnoticed. But when the child

[32] Ibrahim, 'A Theology of Modernity'.
[33] Allan Todd, *Revolutions, 1789-1917*. New York: Cambridge University Press, 1998, p.4.

grows and consolidates strength, it can take on its opponents.*"*[34] The Islamists organized a yearlong consolidation period that veiled the coup's real nature and gave them time to think about their key dilemma.

The fact that Al-Ingaz became a military-Islamist regime, instead of a popularly mandated NIF government, was important because it gave a central role to the security services, but also because of its broader political consequences. Ruling the country as a vanguard did not imply losing the focus on long-term political-economic strategy just because all the levers of power were concentrated in the hands of HI and its allies. The Islamists understood that 18% of the votes in the 1986 election was a long way off the dominance they craved. Enter a new key trade-off: the temptation to impose radical social engineering without tolerating opposition had to be weighed against the importance of embedding the Revolution and getting societal buy-in for wholesale transformation.[35] The implementation of Mashru Al-Hadhari and Al-Ingaz' political longevity would depend on how well they balanced these competing instincts.

To pursue the Revolution's four grand objectives, the new political system divided power between the formal military authority of the RCC and the HI's *Sheikh*, Hassan Al-Turabi who, like Khomeini, stood above politics and would arbitrate in disputes after charting the Salvation's strategic direction. Given Sudan's lack of a strong ulama establishment, an Iranian style *velayat-i-faqih* –with religious scholars vetting the Islamic character of laws- was impossible, nor did Sudan's Islamists want one.[36] Politics would be restructured, but it would be HI leaders who would supervise the reforms as self-appointed (but not religiously qualified) guardians of the straight path through *shura* (consultation). While the Shura Council was (formally) disbanded, Turabi counted on the HI's underground incarnation to function as a shadow government, taking all decisions of importance. Built on interpersonal trust, meritocratic intellectual principles and ideological cohesion, the movement appeared well equipped for revolutionising Sudan and establishing Islamist hegemony.

[34] Interview with Hassan Al-Turabi, December 2010
[35] Gallab, 'The Insecure Rendez-vous between Islam and Totalitarianism', pp.98-104.
[36] Mohamed Elhachmi Hamdi, *Conversations with Hassan al-Turabi*, Boulder: Westview Press, 1998.

With the backing of the military, the growing revolutionary hubris of HI cadres meant that the Civilisation Project would focus less on garnering support for transformation and more on the re-engineering of society and the economy itself. Bashir's RCC hunted down opposition politicians, trade unionists, rowdy academics and rebellious army officers[37]; torture in 'ghost houses' and public executions underlined Al-Ingaz' claims that things would be different. [38] Power was centralised within the HI where Turabi's Leadership Council controlled every policy decision and appointment.[39] The Islamists told each other that the results of the Revolution would speak for themselves: Al-Ingaz would acquire popular legitimacy when people would begin to notice they were being saved. Not for the first time in the history of Sudan did a regime assume that material transformation and modernisation would automatically lead to popular legitimacy and entrench it in power for generations.

[37] Human Rights Watch, *Behind the Red Line. Political Repression in Sudan*. New York: HRW, 1996.
[38] Adam M. Abdelmoula, 'The "Fundamentalist" Agenda for Human Rights. The Sudan and Algeria.' *Arab Studies Quarterly*, Vol.18, 1, 1996, pp.1-6.
[39] Abdel Salam, *Harakat al-Islamiya al-Sudaniya.*

Mashru Al-Hadhari: Building a new state, a new economy and a new society

The Economic Salvation Programme

"People accuse me of being tough. I am. You need to remind Sudanese people of things. You have to be extreme."

Abdelrahim Hamdi[40]

By 1989, the Sudanese economy was on its knees. GDP growth was virtually flat, inflation was rampant and the multibillion dollar debt was measured in double digits. The black market dominated the formal one; parallel exchange rates undermined government policy. Sudan's oil prospects – Chevron had struck black gold in 1979- were not being tapped due to the war and no major hydro-infrastructure, oft-cited as a potential new engine of growth, could be financed. Shortages of daily necessities led to long queues in Khartoum and the spectre of famine hung over Sudan: mass starvation was occurring in South Kordofan and Bahr al-Ghazal but fears emerged that even the riverain core might become deeply food insecure[41] as domestic production was declining and foreign exchange increasingly scarce. Pulling Sudan back from the brink was a *conditio sine qua non* if Al-Ingaz wanted popular support to realise its dreams of modernising and Islamising the country.

With Turabi mainly interested in foreign policy and politico-legal designs, the task of 'saving' Sudan fell to Abdelrahim Hamdi, the Islamist banker with strong connections in the Persian Gulf who was appointed Minister of Finance and given nigh-absolute authority to clean up the mess left by Nimeiri and Sadiq Al-Mahdi (in whose governments the NIF had participated). Hamdi believed that the root cause of the quagmire was Sudan's planned economy: a labyrinth of subsidies, parastatals and price

[40] Interview in Khartoum, April 2010.

[41] Simon Maxwell, 'Food Insecurity in North Sudan,' Institute of Development Studies, Sussex, Discussion Paper 262, 1989.

controls that discouraged production and distorted market signals.[42] The Economic Salvation Programme (ESP) wanted to stabilise, liberalise and modernise but in practice became a radical, unorthodox compromise resulting from a still statist bureaucracy, wartime conditions and Hamdi's own unusual blend of economics- mixing command-and-control, money printing and ultraliberal measures.

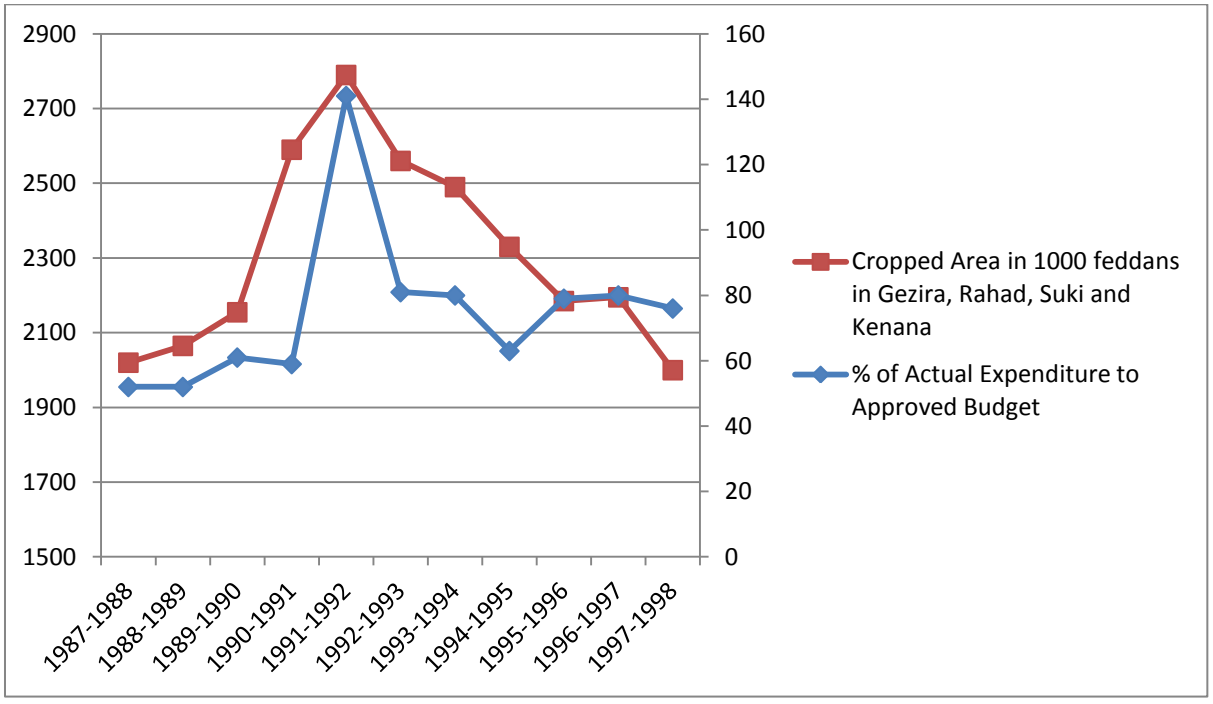
With revolutionary fervour (particularly after crushing the trade unions), Hamdi deregulated prices, scrapped subsidies and, in the name of austerity, had government ranks purged from employees deemed 'pro-opposition'. Yet this was no pure neo-liberalism, even if Hamdi fervently believed in the power of shock therapy, as implemented in Eastern Europe. An authoritarian, activist state was needed, in case the market didn't produce results quickly enough. Nowhere was a systemic shock more important than in irrigated agriculture, old Sudan's traditional power base and "always treated irrationally in Sudan", dixit the Minister of Finance.[43] Cotton production was seen as economically unwise and politically an impediment to the Revolution.

Thirsty for rapid success to demonstrate the material benefits of Islamist rule, Turabi, Hamdi and Minister of Agriculture Ali Geneif pushed extremely hard for higher food production. For years, Sudan had been depended on (often American) wheat imports and the Salvation made it a point of honour to break that dependency, despite Sudan's ongoing food crisis. Tenants in Gezira were instructed to cease irrigated cotton production and switch to wheat in Sudan's bid to become self-sufficient. This went against the advice of all technical specialists but the Islamist leadership insisted, unblocking huge resources and giving administrators *"*whatever we required to succeed*."*[44] Taxes were waived and Hamdi forced Islamic banks to put 50% of their loans and investment in agriculture; he persuaded Al-Baraka Group to transfer USD$200m to help Sudan buy vital inputs. As evident in

[42] Interviews with Abdelrahim Hamdi, April 2010-March 2011.
[43] Interviews in Khartoum, April 2010.
[44]Interview with Ahmed Adam, May 2011.

this graph[45], the recipe was simple: dramatically increase the real agricultural budget, substitute wheat for cotton, cultivate more land and irrigate with more water.

Figure 1. *The Economic Salvation Programme and Agriculture*



The Sheikh's politico-financial gamble and Hamdi's artificial increase of productive capacity paid off miraculously. Turabi announced in 1992 that the harvest had not just made Sudan self-sufficient, but that 100000 tons of wheat would be exported to Kenya. Productivity per feddan had tripled over night and no foreign help was needed, at least in those areas deemed worthy of reaping the bonanza's benefits. This was a tremendous political victory for Al-Ingaz, which had usurped power in between two famine years. The regime's propaganda proudly trumpeted that *"We eat what we grow and we wear what we make"*; economic salvation really did seem possible.

The 1992 triumph and subsequent market-induced economic growth were all the more remarkable, because the ESP was partly opposed by important factions of Al-Ingaz. Hardliner Nafi Ali Nafi co-organized the crackdown on the unions, but feared civil unrest amidst subsidy removals and price

[45] Data provided by Ahmed Adam during the May 2011 interview in Khartoum.

liberalisation; Taha and Minister of State Awad Al-Jaz were sceptical about Hamdi's free market proposals and proposed heavy state interference so that other aspects of the revolution would not be destabilised. Many in the military feared the war effort too could be jeopardised. Yet it was testament to Turabi's almost absolute power that the ESP was implemented so radically, despite this opposition. According to insiders, the Sheikh's unconditional support made the difference in policy debates, time and again.[46] Based on his interpretation of the Quran and the model of *Al-Andalus* (Muslim Spain), where "low taxation and freedom of enterprise brought Islamic civilisation to sublime heights"[47], Turabi's liberal economic views underpinned Hamdi's revolutionary strategy.

Unfortunately, as evident from figure 1 too, the 'wheat miracle' soon proved unsustainable and Al-Ingaz' broader economic track-record became a lot more muddled than the propaganda bulletins conceded. Inflation, scourge of the poor and the middle classes, remained in the triple digits and growth continued to be erratic. Inequality and poverty deepened –despite the HI's insistence on social justice- and foreign investment was virtually nihil, as were relations with the international financial institutions. Food production and productivity fell back from their peak in 1991-1993; Sudan was still an *"*economy of scarcity*".*[48]

Several factors explain why the intended transformation didn't materialise. Turabi was the ESP's biggest asset but also its greatest liability.[49] His understanding of economics and irrigated agriculture was questioned within the HI, though few openly accused him and Hamdi of incompetence. Printing money to fund the big push in agricultural production and the war effort against the SPLA/M had disastrous effects. It kept inflation dangerously high, especially in combination with price liberalisation, leading to extraordinary pressures on the poor who suffered from hunger, unemployment and further drops in the standard of living as their sons were recruited into Al-Ingaz' Popular Defence Forces. This tarnished the Sheikh's hopes of acquiring strong legitimacy after the

[46] Interviews with Yacoub AbuShora, Ali Geneif, Abdelrahim Hamdi, Mustafa Ismail, April 2010-October 2011.
[47] Interview with Hassan Al-Turabi, December 2010.
[48] Interview with Sabir Mohamed Hassan, May 2011.
[49] Interviews with leading political and economic figures of Al-Ingaz, September 2009-June 2011.

coup and building his permanent Islamist majority. The cause of reforms was also hurt when Turabi was incapacitated for 6 months in an assault in Canada in July 1992.[50] Deprived of his most important backer and with Ali Osman and Awad Al-Jaz in the ascendency, Hamdi had to downscale his radicalism and later quit as Minister. The regime's focus switched almost entirely to the conflict in Central and Southern Sudan; it wasn't until the millennium that economic salvation became Al-Ingaz' top priority once more, not coincidentally when Hamdi returned as Minister of Finance.

Another key inhibiting dimension to the political-economic transformation Sudan's Islamists proposed was Turabi's foreign policy, as will be discussed in chapter six.[51] Khartoum's attempts at exporting the revolution clashed with the requirements of Hamdi's ESP, making its objectives virtually unreachable. The HI had long wanted revised relations with Cairo and Washington, but this translated into mutual hostility and growing isolation of Sudan, not just vis-à-vis the West but in the Arab world and Africa too. Al-Ingaz opposed the American-led UN intervention to protect Riyadh's oil fields and oust Saddam Hussein from Kuwait, alienating Saudi Arabia, United Arab Emirates, Kuwait and Egypt.[52] The Sheikh saw himself as a Sunni equivalent of Khomeini –a political beacon for Muslims far beyond his borders- and formalised his contacts in the Islamist Internationale he headed, the Popular Arab-Islamic Congress (PAIC). Khartoum supported rebel movements in Ethiopia, Chad and Uganda and hosted Islamist dissidents of all backgrounds, including Osama Bin Laden's Al-Qaeda network, determined to overthrow the Al-Saud dynasty.[53]

While the PAIC raised Turabi's profile internationally and pleased regime hardliners, it resulted in a massive withdrawal of Gulf Arab development funds and loans for Sudan at a time when the IMF and World Bank also left Khartoum. Economic salvation *really* seemed to mean autarky, and while Al-Ingaz defiantly celebrated this 'opportunity', Hamdi's plans for reviving the economy had depended on influxes of cheap capital to reform agriculture and expand infrastructure. Several Islamists, Hamdi

[50] J. Milliard Burr, Robert O. Collins, *Sudan in Turmoil*. (American Edition) Princeton: Markus Wiener Publishers, 2010, p.99.
[51] Harvey Glickman, Emma Rodman, 'Islamism in Sudan.' *Middle Eastern Review of International Affairs*, Vol.12, 3, 2008.
[52] Burr, Collins, *Sudan in Turmoil*, pp.49-52.
[53] Lawrence Wright, *The Looming Tower. Al Qaeda's Road to 9/11*. London: Penguin Books, 2006, pp.164-169.

included, were eager to build new dams on the Nile to revive irrigated production and generate electricity as the economic foundations for political success. Turabi's foreign policy scuppered Al-Ingaz' chances of finding external funding for these grandiose plans.

The final reason for the disappointments after the 1992 self-sufficiency declaration was that the ESP drove fundamentally unsustainable policies.[54] The artificial surges in irrigated production were staggeringly expensive and could not be maintained by an impoverished Sudanese state, particularly not while isolated diplomatically and in the midst of civil conflict, which consumed perhaps 80% of the state's budget. The interest-free loans for agricultural producers were suspended, with private banks demanding much higher rates; the rushed liberalisation led to social dislocation, increasing rather than decreasing food security in many crop producing areas.

Moreover, the 1992 productivity jump turned out to be a climate-related freak occurrence instead of a durable increase; as money dried up and political attention was shifted away, irrigated agriculture languished, just like mechanised rain-fed agriculture (which was furthermore increasingly hampered by conflict). Switching from cotton to wheat might have resulted in a great political victory but inflicted long-term damage to Gezira's irrigation infrastructure, as predicted by career civil servants, and also hurt Sudan's cotton industry with its forward and backward linkages. Moreover, high yields could not be maintained, as ecologically it makes little sense to grow wheat in Sudan, particularly not south of Khartoum.[55] Just like under previous regimes, politics trumped economic and ecological considerations in setting water and agricultural policy, resulting in a painful boomerang effect.

[54] Interviews with experts at IFAD, the Ministry of Agriculture and Ministry of Water Resources and Irrigation, August 2009-June 2011.

[55] Interviews with Mohamed Abdelgadir, June 2011.

Islamising society and emancipating the new middle class

Mashru Al-Hadhari was the core of liquidating old Sudan and advancing the Islamist state-building project: Hamdi's reforms were about escaping the economic quagmire, eliminating bureaucratic loyalties to Nimeiri and popular support for sectarian forces, and forging new patronage networks to root Islamist power. Echoing previous ruling elites, Turabi and Hamdi hoped that the ESP and subsequent initiatives would produce a modernised agricultural sector that could propel the country to a higher stage of development, free from traditionalist shackles and with a more dynamic, export-oriented character. This was the Civilisation Project, not a romantic embrace of subsistence production.

The HI leadership posited that their new society needed direct intervention. Islamisation and Islamist hegemony would undoubtedly materialise gradually, but the process of restoring authenticity and bringing the blessings of modernisation to ignorant peasants and wayward urbanites alike should be accelerated.[56] The most sweeping transformation initiatives were successive *Al-Dawa al-Shamla* (comprehensive call to Islam) campaigns, waged under the leadership of Turabi's deputy and Minister of Social Affairs Ali Osman Taha and illustrative of the religious fervour with which social reforms are typically enacted in revolutions.[57] Gone were the cosmopolitan Khartoum days of the 1970s with liberal attitudes towards dress, religious diversity and alcohol consumption; militant conservatism ruled the streets.

The Revolution's educational reforms exemplify this.[58] Turabi and his lieutenants had benefited from an Anglophone system that educated the powerful as well as handful of accomplished students. They knew only too well what the political importance was of running the universities and regulating both the curriculum and student access. The Sheikh argued that illiteracy was a critical factor underpinning

[56] Interviews with Hassan Al-Turabi, Ghazi Salah-ud-Din, Hassan Makki and other HI leaders, April 2010-June 2011.
[57] Alexis de Tocqueville, *The Old Regime and the Revolution*. Chicago: University of Chicago Press, 1998, p.99.
[58] Interviews with Hassan Al-Turabi and vice-chancellors of four Sudanese universities, December 2010-June 2011.

the feudal grip the Al-Mahdis and Al-Mirghanis held over their sects; a radical democratisation effort could undermine this, provided the language of instruction would be Arabic (given the poor knowledge of English most ordinary Sudanese had).

Arabisation and broadening access were structural assaults on sectarian dominance, mixing population groups who had never mingled before and eliminating backward allegiances to Ansar and Khatmiyya through the light of (Islamic) education. But the Islamist monopoly on power also allowed Al-Ingaz to purge critical staff and reduce the political risks associated with unruly institutions. HI leaders would dominate the universities while indoctrinating a new generation with radical ideas, so that the ranks of the PDF could be swelled. Moreover, Islamisation and Arabisation cut off many youngsters' ways of engaging with the West, so that any future elites emerging out of the universities would not be counter-revolutionaries, but loyal Islamists.

The most controversial examples of social engineering included the 1991 Sharia-compliant Penal Code (personally beefed up by the Sheikh) and declaring the violence in the South and Nuba Mountains a jihad against unbelievers and 'apostate' Muslims. Morphing the conflict into a holy war drew on extremist "*takfiri*" arguments, which are eschewed by mainstream Islamists and evoked only by diehard jihadis like the assassins of Anwar Sadat and Al-Qaeda to justify the killing of Muslim civilians. This was Turabi at his most hypocritical and Mashru Al-Hadhari at its very worst: forcible conversions to Islam; a return of slave-raiding[59]; burning of churches and 'apostate' mosques; genocidal violence to destroy the 'backward' culture of the Nuba people.[60]

Al-Dawa al-Shamla was not merely mindless zeal but often a shockingly rational offensive that combined the self-confidence of a righteous modernising vanguard with the strategic instincts of battle-hardened politicians: development, progress and violence were closely linked.[61] Al-Ingaz' social policies dovetailed with the new economics pushed by Hamdi and the military operations led by President Al-Bashir and Vice-President Zubeir Mohamed Saleh. Just like in the 1980s, a political

[59] Richard Lobban, 'Slavery in the Sudan since 1989.' *Arab Studies Quarterly*, Vol.23, 2, 2001, pp.31-40.
[60] African Rights, *Facing Genocide. The Nuba of Sudan*. London: African Rights, 1995.
[61] Christopher Cramer, *Civil War is Not a Stupid Thing*. London: Hurst Publishers, 2006, pp.10-12.

economy of resources and conflict emerged on the killing fields of South Kordofan, Upper Nile and Equatoria in the 1990s with beneficiaries at the local level, military middlemen in Khartoum and high profits on regional food markets. Such processes of accumulation occurred, not coincidentally, in the midst of famine in 1991 and 1998; nor was it a coincidence that it was near the new hydro-agricultural zones of production eyed during the Breadbasket that jihad was fought most bitterly. Under the cover of war, extraordinary freedoms were available to generals, businessmen and Islamist fellow travellers from abroad who constituted a powerful bloc that enriched themselves and promoted aggressive proselytisation under the banner of 'Islamic' development, relief and security.[62] Education services, health care and food aid were provided by Islamic organisations –with the active support of Khartoum, funded with *zakat* taxes- in areas that had been marginalised and attacked by Al-Ingaz; these assistance programmes aimed to make use of the psychological and social dislocation in conflict and famine-stricken areas to erect a more 'Islamic' (and often more Arabised) edifice once *tabula rasa* had been made.[63] Chapter Seven, on Blue Nile's turbulent relationship with Khartoum as evident through the lens of water, civilisation and power, details the local impact of this offensive in one key hydro-agricultural zone.

These processes in Southern and Central Sudan were not isolated from initiatives by Al-Ingaz to elevate a new middle class as part of the economic salvation of Sudan and the restructuring of ties between communities and traditional elites. Described by Turabi himself as "tamkin", Islamist 'empowerment' of new social groups as part of state-building was seen by large swathes of the Sudanese population as blatant corruption.[64] Hamdi's liberalisation campaign boosted specific constituencies in the army, business community, Diaspora and wider Islamist network. Privatisations of public companies, purges of government employees (and replacement with loyal militants), confiscation of the best farmland and real-estate plots, deregulation of grain exports (handed to

[62] African Rights, *Food and Power in Sudan*. London: African Rights, 1997, Chapter Seven.
[63] Alex De Waal, A.H. Abdel Salam, 'Islamism, State Power and Jihad in Sudan.' Alex De Waal (ed.), *Islamism and its Enemies in the Horn of Africa*. London: Hurst & Company, 2004, pp.89-97.
[64] Abdel Salam Sidahmed, 'Islamism & the State', John Ryle et al (eds), *The Sudan Handbook*. Suffolk: James Currey, 2011, pp.103-104.

Islamic financial institutions), reforming Gezira and reviving the Military Economic Board (which controlled major corporate interests and import licences) all benefited distinct social (and often ethnic) groups who returned the favour by backing Al-Ingaz.

Tamkin was vital in broadening the support base for the Revolution, which remained weak, but also to balance the increasingly powerful interests who lent allegiance to the regime: the military; Islamic entrepreneurs; HI cadres; the security services; more traditional businessmen; and the remaining foreign capitalists, all of whom sought a place in Turabi's broad tent but hardly any of whom trusted each other. Repression was an important aspect of the Revolution, but only one. Tamkin through economic salvation was complimented by range of other tactics to build alliances and prevent the emergence of one salient power bloc inside Al-Ingaz: co-option of political networks (Kordofan, Kassala), tinkering with old tribal governance mechanisms (Darfur) and federalism (the creation of extra patronage opportunities) were all tactics employed to serve the goal of managing competing interests as the state-building effort intensified.

Conclusion

This chapter has analysed the rise to absolute power of Sudan's Islamists, highlighting the interplay between their sociological background, the Hi's intellectual heritage, the regional and national winds of change and the political-economic calculations of Turabi and his lieutenants throughout the decades. The state-building project that began in June 1989 was revolutionary in the radicalism of its political, social and economic policies, but not in the support from the public: the Al-Ingaz Revolution was kick-started by a Leninist vanguard coup that included Sudan's military, not by a popular revolt out of which Turabi could emerge as the new Khomeini. This is vital to understand the inherent tensions within the regime, as well as its continuous search for new allies and broader support through political-economic strategies, particularly those centred around water and land.

The chapter focused less on water policy per se and the geopolitics of the Nile, and more on broader political economy and the importance of social engineering and modernisation to the HI; the links between visions of civilisation, economic processes and power have been the core of this thesis-section. As Roy quipped: "Islamism is the Sharia plus electricity."[65] The belief that economic salvation equals political hegemony and a self-defined identity as a modern, enlightened elite that is justified in using violence to spread civilisation are two fundamental characteristics of the movement and its state-building mission. As will become clear in subsequent chapters, the Islamist ideology and the political developments of the 1990s are as crucial to understand the contemporary hydro-agricultural mission of Al-Ingaz as historically entrenched ideas about water, state-building and development that all modernising regimes in the Nile Basin have adopted in some shape or form.

The conflict with the SPLA/M torpedoed the Jonglei Canal and hampered rain-fed mechanised farming in the 1980s, but by no means destroyed the idea that water through irrigated agriculture is

[65] Roy, *The Failure of Political Islam*, p.50.

central to elevating the Sudanese nation and controlling the reins of power. The Salvation regime did not embark on dam building straight away in the 1990s, nor was its hold on government as dependent on control of riverain production systems as had been the case for traditionalist forces. But reforming irrigated agriculture was key to Hamdi's economic salvation and the 1992 wheat miracle, and all the political consequences this entailed. Islamist leaders, not least Turabi, discussed how taming the river via dams and canals would not just benefit them domestically, but could also trigger the revolution in foreign affairs they dreamed of, particularly with regards to Egypt. The Sheikh regularly rattled his Egyptian adversaries with threats of increasing Sudan's share of the Nile.[66] However, international isolation after the Gulf War highlighted the contradictions between Turabi's revolutionary foreign policy and economic salvation. Devoid of the external funds to build much craved hydro-infrastructure, Al-Ingaz was neither able to change the Basin's hydropolitical equilibrium nor to realise the transformation of Sudan's economy.

The next chapter explores how domestic changes reconstituted the options available to Al-Ingaz, including, most importantly, the development of a "hydro-agricultural mission" that is unprecedented in Sudanese history, even if it builds on historically embedded conceptions of what civilisation is and how the state should penetrate the peripheries. Chapter six then explains how rapprochement between Sudan, Egypt and Gulf Arab states, together with the fall of Turabi and the advent of the petro-era, created the political and financial space for an unprecedented push to leverage water for political power and economic salvation.

[66] Associated Press, 'Sudan Threatens to Withhold Nile's Waters from Egypt', 3 July 1995.

Chapter Five

The Hydro-Political Economy of Al-Ingaz: Economic Salvation through "Dams are Development"

"Why do we need dams? Because dams are development"

Chief Technical Advisor to the Minister of Water Resources and Irrigation[1]

"[The] Merowe Dam's contribution will be as great as the oil...It is the greatest developmental project in Sudan's modern history"

Awad Al-Jaz, one of Al-Ingaz economic 'czars'[2]

This chapter demonstrates how the Al-Ingaz regime, because of historically established patterns of thinking about state-building, water and power and because of strong current political and financial opportunities, has launched one of the most radical political-economic offensives in the Nile Basin's history. I discuss the economics and ideological strategy of this Islamist attempt at state-building through control over water as well as the intra-elite rivalry that shapes notions and patterns of development. Al-Ingaz' hydro-agricultural mission echoes utopian ideas and violent practices that have been dominant since Muhammad Ali, but also contains much contemporary specificity.

After the historical context of previous chapters, I here provide the analysis of internal regime battles and political calculations that explain how the Salvation came to reinvent itself through a renewed focus on the water-agriculture nexus. By the late 1990s, the revolution risked being consumed by its own flames. The liberalised economy was growing, but a regional coalition for regime change

[1] Interview in Khartoum, September 2009.
[2] Website of the Dam Implementation Unit, http://www.merowedam.gov.sd/en/testimonials.html

threatened existential consequences. Moreover, Hassan Al-Turabi fell out with Al-Ingaz' security wing and disgruntled Islamists who conspired to remove him.

Absolute authority became a duopoly of Omar Al-Bashir and Ali Osman Taha, who sensed that they had overreached. The 'new' leadership seized the opportunity to remould the regime and its state-building efforts, both in its external presentation but also in its internal logic. The Al-Ingaz leadership, or what remained of it after purges against the Sheikh's supporters, shifted its claims to be Sudan's legitimate rulers from the ideological realm to the economic, the so-called "competence agenda". The post-9/11 world was dangerous for Khartoum, but the availability of oil exports and the counter-terrorism narrative offered the opportunity to claim that this was no longer a radical regime but a responsible international partner that delivered economically.

While it kept the Islamic rhetoric and continued to call itself Al-Ingaz, the message moved from jihad, Sharia and dawa to petrodollars, business partnerships and a return to riverain economics. The hydro-agricultural mission is intended to complete this transformation in the next years: billions in oil money have been spent on a hyper-ambitious Dam Programme that aims to use the Nile's waters to generate power and bring more land under irrigated cultivation to realise an Agricultural Revival and boost growth for an Islamist middle class. Under Usama Abdallah's aegis, the Dam Implementation Unit has developed into one of Sudan's most powerful institutions, controlling vast budgets and its own security service and shaping the political-economic agenda of the regime.

I argue that Khartoum's Dam Programme today sits at the heart of Al-Ingaz' new identity. It is central to the regime's attempt to stay in power for another 10-15 years: the bottom-line implies strategically recalibrating Sudan's political economy by once again pouring political capital and financial resources into the core of the Sudanese state, the "Hamdi Triangle", which encompasses the central riverain areas. This Islamist grand design is claimed to finally turn Sudan into the region's breadbasket in the post-oil era. Yet there are major economic and ecological concerns that suggest

that this might well be Sudan's most costly *fata morgana* ever and that, following Polanyi[3], 'development', through dispossession and destabilisation, is often a process that cannot be understood in separation from the violence that occurs alongside it.

[3]Karl Polanyi, *The Great Transformation.* Boston: Beacon Press, 1944.

The Salvation Overreaches: Al-Ingaz and its contradictions in the late 1990s

The Fall of the Sheikh

On 26 June 1995, gunmen of Ga'maa Islamiyyah, an Al-Qaeda affiliate, fired on the limousine of Hosni Mubarak who was visiting Addis Ababa for the annual summit of the Organisation for African Unity and narrowly escaped assassination.[4] Shock turned to intense anger as close ties between the militants and Sudanese intelligence operatives were uncovered.[5] With Al-Ingaz involvement undeniable, the Egyptian president and his Ethiopian hosts accused Turabi of personally masterminding the conspiracy and suspected him of trying to instigate an Islamist revolution in Egypt.

To this day, it remains unclear up to what extent the Sheikh himself knew of the operation; key witnesses contradict each other.[6] Yet regardless of Turabi's actual role, following this highpoint of revolutionary fervour cracks emerged inside the military-Islamist bloc. The assassination attempt sparked an internal crisis that led to the resignation of Nafi Ali Nafi as External Intelligence chief. Nafi and his collaborators felt they were being scapegoated to appease Egypt and exonerate Turabi; the Sheikh's authority was increasingly contested by the security services and disgruntled ideologues frustrated with his arrogance and autocratic leadership.[7]

The uncomfortable marriage between radical Islamists and conservative officers, sealed by the 1989 coup, came back to haunt him. Tensions had been present from the start; Turabi's "tamkin" was partly intended to manage the competition between different interest groups, but the contradictions were deepening. Turabi's absence following the 1992 Canada Incident had given his lieutenants a taste of power and his abusive style –publicly humiliating his companions and ignoring what

[4] 'Egypt's Leader Survives Assassination Attempt', *Los Angeles Times*, 27 June 1995.
[5] Interviews with senior TPLF officials and Sudanese diplomats, May 2010-June 2011.
[6] Interviews with Al-Ingaz diplomats, political leaders and security operatives, December 2010-June 2011.
[7] The section on the split is based on interviews with Hassan Al-Turabi, Ghazi Salah-ud-Din, Qutbi Al-Mahdi, Amin Hassan Omer, Mustafa Ismail and other protagonists as well as with Islamist youth leaders Ahmed Daak and Hajj Magid Siwar, April 2010-October 2011.

remained of the Shura Council with greater frequency- alienated increasing numbers of insiders who began organising.[8]

By 1997-1998 a confrontation became inevitable when a new constitution was being debated. Turabi knew the balance was shifting.[9] He seized the modernist high ground, proposing to liberalise the political system through multipartyism, in line with the HI's historical position on democracy; the Sheikh believed that the playing field had been significantly tilted in the years of absolute power, assuring Islamist hegemony. Turabi won the political battle but the hardliners were exasperated by his unique mixture of religious fanaticism and liberalism.[10] They had never shared the Sheikh's revolutionary plans for state-building, new forms of *shura* and a global Islamic Renaissance, prioritising more mundane goals like beating the SPLA/M and 'economic empowerment'.

Liberalisation was resisted by Bashir and the regime's security wing, who continued to distrust political freedoms and felt no need to give up power, particularly not in the midst of war. They questioned Turabi's "reckless" foreign policy: *"*I didn't appreciate it...There was an ideal, but not a plan…Posing as if we have to change the whole world is crazy, it's not a strategy.*"*[11] Their alliance with Islamists who wanted to reign in their supreme leader resulted in the "Memorandum of Ten", which effectively designated leadership of the National Congress Party (NCP; the successor to the NIF) to Bashir.[12] Turabi regained pre-eminence via the HI's Shura Council but the power struggle escalated: as the Sheikh eroded 'his' General's formal power as president, Bashir issued the Fourth of Ramadan decrees to suspend parliament in December 1999.

Because Turabi still controlled the national assembly and most of the HI, the army officers knew how difficult it would be to rule without political backing.[13] What ultimately gave the ex-figurehead Bashir

[8] Interviews in Khartoum with Islamists on both sides of the Bashir-Turabi divide, December 2010-June 2011.
[9] International Crisis Group, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*. Brussels: ICG, 2011, pp.11-12.
[10] Interviews with key HI figures in Khartoum, April 2010-May 2011.
[11] Interview with Amin Hassan Omer, September 2011.
[12] For the best account of the Al-Ingaz split and its consequences regarding the Darfur conflict in particular: Philip Roessler, *Internal Rivalry, Threat Substitution and Civil War: Darfur as a Theory-Building Case*. Manuscript, University of Oxford, 2010.
[13] Mahaboub Abdel Salam, *Harakat al-Islamiya al-Sudaniya.* Cairo, 2010.

the upper hand over the most powerful man in Sudan was the support of Ali Osman Taha[14], Turabi's deputy in the HI and since the death of Zubeir Mohamed Saleh also Vice-President of the Republic. In a set of events worthy of a Shakespearean drama, half a dozen trusted aides –Ghazi Salah-ud-Din, Mustafa Ismail, Amir Hassan Omer, Mutriff Siddig, Qutbi Al-Mahdi and, most tragically, Turabi's political son, Ali Osman- turned on the Philosopher-King and swung the balance.[15] Convinced that Al-Ingaz had manoeuvred itself into a corner with its radicalism, they organised the removal of their Sheikh, sacrificing the man whose image was inextricably linked to the most controversial aspects of the Revolution- destabilisation and terrorism abroad, the Civilisation Project at home. The HI would continue to support the regime, even dominate it. But the Salvation would never be the same again and function all the better for it, or so their argument went.

Sudan's Black Gold

The tensions stemming from foreign policy and the fight over political supremacy were reinforced by economic developments in the second half of the 1990s. As Abdelrahim Hamdi moved back into Islamic finance at Al-Baraka Group, his market reforms of the sort favoured by the IMF stabilised Sudan's currency and queues disappeared. After his 1992 triumph, Turabi was less involved in macro-economic affairs and handed the reins to the technocratic Abdelwahab Osman as Minister of Finance and Awad Al-Jaz as key strategist at the Council of Ministers and Ministry of Energy. Growth accelerated while inflation decreased –the central bank stopped printing money and Sabir Mohamed Hassan, a monetary hawk, became Sudan's central banker- and a growing services sector emerged from 15 years of deep crisis; even agriculture seemed to recover. This wasn't quite economic salvation, but it enabled more patronage, which suited both the Islamists and the Salvation's military wing.[16]

[14] Julie Flint, Alex De Waal, *Darfur. A New History of a Long War*. London: Zed Books, 2007, p.29.
[15] Interviews with Turabi and other Al-Ingaz leaders, April 2010-June 2011.
[16] Interviews with Hamdi, Sabir and other economic ideologues, April 2010-June 2011.

Al-Ingaz' fortunes were boosted by the excitement surrounding Sudan's emergence, from August 1999 onwards, as an oil exporter.[17] In the midst of civil war, the regime successfully approached non-traditional partners to bring the black gold on stream; China, Malaysia and India sank billions into the nascent petro-industry (including pipelines and refineries), putting an end to fuel shortages. However, the euphoria in Khartoum contrasted sharply with on-the-ground conditions in Upper Nile, South Kordofan and Unity States: in order to facilitate production, Al-Ingaz gave carte blanche to local militias to ethnically cleanse the areas around the oil fields, just as they had done to enable mechanised farming in the 1980s.[18] Despite improved non-oil growth, Turabi, Taha and Bashir accepted high-risk contracts with inexperienced foreign partners because the politico-military situation was becoming desperate.[19] Oil would have to save the Salvation.

The reason was that following the Mubarak assassination attempt, the partnership that had existed between Al-Ingaz and the Tigrayan People's Liberation Front (TPLF) had collapsed, leading to a resumption of Ethiopian support for John Garang's SPLA/M.[20] Washington urged Uganda to cooperate with Ethiopia's Meles Zenawi and Eritrea's Issaias Afewerki in arming the movement and fighting alongside them in the peripheries, while Egypt gave offices to the National Democratic Alliance, which united SPLA/M and Northern opposition parties.[21] The Salvation's victories of 1991-1994 were overturned and capturing Khartoum looked possible, particularly following advances in Blue Nile in 1997.[22] Even when the anti-Ingaz coalition fell apart in 1998 as a result of the Ethiopian-Eritrean 'war of brothers', important voices inside the regime argued that a change in policy was essential for survival, oil or no oil. America had imposed further sanctions in 1997 and bombed the Al-Shifa industrial complex in 1998, despite the departure of Bin Laden's Al-Qaeda network from

[17] Sherief El Tuhami, 'Oil in Sudan. Its discovery and industrial development', Peter Gwynvay Hopkins (ed.), *The Kenana Handbook of Sudan*. London: Kegan Paul, 2007.
[18] Human Rights Watch, *Sudan, Oil and Human Rights*. New York: HRW, 2003.
[19] J. Milliard Burr, Robert O. Collins, *Sudan in Turmoil*. Princeton: Markus Wiener Publishers, 2010, pp.231-252.
[20] Interviews with senior TPLF leaders in Addis and Ambassador Osman Al-Sayed in Khartoum, May 2010-June 2011.
[21] Lionel Cliffe, 'Regional dimensions of conflict in the Horn of Africa.' *Third World Quarterly*, Vol.20, No.1, 1999, pp.93-101.
[22] 'The countdown begins', *Africa Confidential*, Vol.38, 31 Jan.1997, pp.1-3; 'Garang manoeuvres', *Africa Confidential*, Vol.38, 28 Feb.1997, pp.3-4.

Sudan; isolation could no longer be maintained for long.[23] These reformists were joined by business interests and oil managers that Al-Ingaz had brought into its broad tent: they too demanded an end to ideological adventurism.

[23] Lawrence Wright, *The Looming Tower*. London: Penguin Books, 2006, pp.262-286.

The Hydro-Agricultural Mission: Al-Ingaz reinvents itself

The Taha-Bashir Partnership

Although the bottom-line remains a power struggle that through the "commitment problem" pitted co-conspirators against each other[24], it is a central argument of this thesis that the ideological and strategic dimensions of the split have not been correctly understood. My analysis draws in large part on the framework of elite politics and their impact on state-building advanced in the introduction, not least the work of North, Wallis and Weingast.

While the next chapter will investigate the U-turn in regional foreign policy, I focus here on the change in reasons Al-Ingaz cites for its continued legitimacy as Sudan's rulers in the post-Turabi era and how this is crucially linked with state-building and a paradigm that links control over water with power and development. Ostensible de-radicalisation of the Revolution was one aspect of the transformation, evident in external affairs, peace talks with the SPLA/M and less coercive social policies. However, in the economic realm, the Salvation maintained its ambitions and was finally able to pursue them at full speed, thanks to oil wealth and Arab support which would pay for the dams and the resuscitation of irrigated agriculture. The hydro-agricultural mission is one of the most far-reaching attempts ever at recalibrating Sudan's political economy.

Following Turabi's ouster, what remained of Al-Ingaz faced major doubts. Many inside and outside Sudan rejoiced at his departure, but it also begged the question what exactly the 'new' regime stood for; while for security hawks ideological justifications seemed unimportant, the Islamists who had sided with Bashir agonised over the possibility of being seen as just another military junta, without a

[24] James D. Fearon, 'Rationalist Explanations for War.' *International Organization,* Vol.49, 3, 1995, pp.379-414.

political project beyond remaining in power.[25] This dilemma was particularly acute for Ali Osman, the orchestrator of the palace coup and new leader of Al-Harakat Al-Islamiyyah, who anxiously sought legitimacy, signalling change but simultaneously continuity with the Revolution for which so many sacrifices were made.

Just like Turabi in 1989, Taha needed the President; especially after the death of Zubeir in 1998, Bashir was seen as the only general who could keep the armed forces together and wed them politically to a particular project. Given that Turabi still commanded the loyalty of the HI's rank and file, the Vice-President couldn't do without the security's coercive power to maintain his position, but this vulnerability was mutual, as Bashir needed political cover and only Ali Osman's Islamists could provide it. They were locked in interdependence, the foundation of a remarkable partnership that, despite regular rumours about its disintegration, continues to this day.[26]

Other key figures involved in this elite pact symbolise how different visions were merged by Taha and Bashir in a reformed agenda for a reformed regime, bringing together classic security hawks, ideologically motivated Islamists and nationalist technocrats but also carefully balancing tribal allegiances between the three dominant groups of the *Awlad Al-Bahr*. Bashir (Ja'ali) and his trusted hardliners Bakri Hassan Saleh (Danagla) and Abderrahim Hussein (Ja'ali) would continue to control the coercive apparatus, while Salah Gosh (Shaigi), head of the National Intelligence and Security Service (NISS), and old HI hand and Foreign Minister Mustafa Ismail (Danagla), would take the lead in the new foreign policy, backed by Ali Osman (Shaigi). Economic guru Abdelrahim Hamdi returned as Minister of Finance and security capo Nafi Ali Nafi (Ja'ali) as a key party figure, while HI ideologue Ghazi Salah-ud-Din took charge of negotiations with the SPLA/M, Awad Al-Jaz (Shaigi) assumed the energy portfolio and the young Usama Abdallah (Shaigi) would soon emerge as the head of the Dam Programme. Sabir Mohamed Hassan (Danagla), an inflation hawk, stayed on as Central Bank governor.

[25] Interviews with the post-Turabi HI leadership, Khartoum, September-October 2011.
[26] Interviews with close aides to Bashir & Taha in Khartoum, April 2010-November 2011.

Ali Osman, supported by Bashir, began to reinvent Al-Ingaz based on an astute understanding of the shifting political and economic sands. The split had resulted in a cautious improvement of relations with the outside world but was followed by the 9/11 attacks and George W. Bush's promise to target the sponsors of terrorism. The American threat rattled Khartoum but Ali Osman argued internally that it also offered an opportunity to come in from the cold and re-establish relations with the West. Passing on valuable information on Al-Qaeda might fend off the threat of new strikes on Sudan and the danger of a reconstituted anti-Ingaz regional coalition.[27] This would weaken the SPLA/M and possibly lead to the lifting of sanctions, a coveted price for the business constituencies and a trophy that he could manipulate politically showing how a reformed Salvation differed from Turabi's.

In 2001-2002, Taha also made the case to Bashir and other senior figures that peace talks with the SPLA/M were necessary and should be part of the changing identity of Al-Ingaz.[28] Discussions with Garang's envoys had been on and off since July 1989, but a serious push by the Vice-President himself –the chief executive of the notorious Mashru Al-Hadhari- could alter everything and help proposed *rapprochement* with the West; Sudan regaining IMF membership in 2000 was just the beginning. The image of the new Al-Ingaz as a peace-making government instead of a war mongering regime would undoubtedly prove popular with foreign partners and the Sudanese population, again underlining the difference with the 'bellicose' Sheikh who had opened his own discussions with the SPLA/M to jointly confront Khartoum in 2001.[29] For Ali Osman personally, the prospect of succeeding where his political father had always failed –a final solution for the Southern Question- was deeply appealing and might hand him the absolute power Turabi had held for years.

9/11 and the impasse in the war in the South were two critical elements for the Taha-Bashir team in reinventing Islamist nation-building; the petrodollars that poured in from 1999 constituted a third

[27] Hilda Johnson, *Waging Peace in Sudan*. Eastbourne: Sussex Academic Press, 2011, pp.18-21.
[28] Interviews with Dr Ghazi Salah-ud-Din and Amin Hassan Omer, September-October 2011.
[29] Julie Flint, Alex De Waal, *Darfur. A New History of a Long War*. London, Zed Books, 2007, pp.30-32.

one.[30] While some hoped that this would alter the conflict's military balance, others thought of the material benefits. After years of austerity and suffering, an investment spree in infrastructure and expanded consumption seemed like political gold. The Al-Ingaz leadership thus began shifting its main claims to be Sudan's legitimate rulers from the ideological realm to the economic. Increasingly, the bottom-line became that, in the words of one prominent Islamist, "you shouldn't like us because of our ideas, but because we put more food on your table than any other regime in Sudanese history."[31] The Salvation sensed that it had overreached in its social engineering and that a backlash risked washing away not just Turabi, but the military and Islamist cadres too.[32] While the decision was made to keep the Islamic rhetoric and the regime would continue to call itself Al-Ingaz, the message moved from jihad, Sharia and dawa to business partnerships and a rediscovery of Sudan's "hydro-agricultural mission".

Economic salvation had of course long been a priority, but had suffered in the first decade from a dearth of means and a clash between economic imperatives and Turabi's foreign policy.[33] Now, political necessity and oil-induced financial opportunity combined to allow the regime to reinvent itself. Hamdi's reforms and Abdelwahab's stabilisation had improved the economic outlook, but hadn't been sufficient to transform Sudan's material base and persuade the sectarian networks to join Al-Ingaz. The birth of the petroleum economy created the space Bashir and Taha needed to deliver on bread and butter issues.

Armed with abundant cash, the regime rewarded its core supporters in the army and security[34] and poured money into infrastructure across the country: roads, schools, dams, bridges, ministries. While the emphasis on Islamisation was downscaled –not withstanding rhetoric about 'defending' Sharia-, Al-Ingaz' message became that it offered Sudan unprecedented material progress. Petrodollars allowed it to bring more clients into the ever broader tent that Bashir's National Congress Party was

[30] International Crisis Group, *Sudan's Comprehensive Peace Agreement*. Brussels: ICG, 2006.
[31] Interview in Khartoum April 2010.
[32] Interviews with senior figures in the 'Bashir' camp of Al-Ingaz, April 2010-September 2011.
[33] Interview with Qutbi Al-Mahdi, September 2011.
[34] ICG, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*, pp.13-15.

becoming.[35] 'Islamic' business elites in particular were tied closely to Khartoum, through lucrative import-export schemes and rigged contracts for public infrastructure.

The shift in Al-Ingaz' claims to be Sudan's legitimate rulers away from religious radicalism to economic centrism was consolidated with the signing of the Comprehensive Peace Agreement in 2005.[36] The changing geopolitics after 11 September 2001 and the military stalemate provided important rationales for the regime to talk to John Garang, but might not have been sufficient conditions to force it to negotiate. However, taken together with the broader reinvention of the regime Bashir and Taha were pursuing, the incentives pointed to a negotiated compromise rather than an (elusive) battlefield victory. Too much emphasis has been attached to the negative push factors in the literature to explain the peace agreement[37], while too little attention has been paid to internal regime dynamics.

The CPA allowed Bashir, as the 'wise' statesman-president overseeing the agreement, and Taha, as the agreement's chief Sudanese architect, to contrast their pragmatism with the belligerence of the Turabi years. The NCP understood that people were exhausted after the war and that ideological mobilisation offered no way out of the stalemate.[38] It faced a politically sensitive insurgency in Darfur and gambled that remaking the image of its senior leadership as peacemakers, accompanied by a new nationalism Islamists elsewhere have espoused too[39], could yield dividends. Radicals were appeased with promises that either the agreement could be manipulated, or that the possible departure of the South (cf. the CPA's clause allowing self-determination) would spawn a 'purer' Islamic Sudan.[40] Signing the CPA was successfully sold as a tactical concession for strategic long-term gain to NCP supporters and as part of a broader regime transformation to the public.

[35] Abdullahi Gallab, *The First Islamist Republic*. London: Ashgate, 2008.
[36] Interview with Amin Hassan Omer, September 2011.
[37] For example: Johnson, *Waging Peace in Sudan*, pp.18-23.
[38] ICG, *Sudan's Comprehensive Peace Agreement.*
[39] Olivier Roy, *Globalised Islam.* London: Hurst & Co, 2004, pp.62-64.
[40] Interviews with some of the key negotiators of the CPA, September 2011-October 2011.

Peace also had an economic argument, dovetailing with the redefined identity of Al-Ingaz. While oil exploitation was technically possible in the midst of conflict, it could be expanded in a more stable environment. Investors could be drawn in, American sanctions might be lifted and debt relief might be forthcoming, all of which would boost the petroleum sector and the economy more broadly. Moreover, budgets devoted to the war effort could be shifted to other political-economic priorities[41]: not necessarily away from the control of the state's coercive instruments, but redeployed in new patterns of wealth accumulation for those loyal to the regime.[42] Or to quote Amin Hassan Omer, the NCP's top negotiator: *"Peace...is essential for our development agenda: our economic aims cannot be achieved whilst at war."*[43]

The Dam Programme and the Agricultural Revival

For two decades after the torpedoing of the Jonglei Canal, no Sudanese government had the foreign political space or the financial leeway to undertake any major initiatives in building hydro-infrastructure or scaling up the capacity of irrigated agriculture in Sudan, greatly frustrating successive regimes and the water-engineering establishment. Despite the dubious track-record of reforming Gezira after independence and the Breadbasket fiasco, large sections of the political class and bureaucracy continued to believe in the dominant paradigm of development in the Nile Basin: big, centralised infrastructure projects that would magically re-engineer the economy and usher in an era of progress. *Muhendis* (engineer) remains one of the most craved titles in Sudanese society, a marker of status and power, underlining the belief that water and modern knowledge should be instrumentalised to lift the Nile Basin from poverty.

The Al-Ingaz Revolution, with all its modernist aspirations, was no different: top-down hydro-development initiatives were on the Islamist mind from the start, as exemplified by the authoritarian

[41] Interviews with Al-Ingaz economic strategists: Hamdi, Sabir and Geneif, April 2010-May 2011.
[42] ICG, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*.
[43] Interview in Khartoum, September 2011.

Turabi-Hamdi push for self-sufficiency in wheat marshalling all the resources they could for a great leap forward. Yet the 1992 (political) triumph-turned-(economic) fiasco had also shown that the regime simply couldn't afford to maintain such resource-intensive production in the face of domestic conflict and international isolation. Sudan's improved foreign relations, the unwinding of the war with the SPLA/M and oil money finally made the funds available to launch an all-out economic transformation agenda. Given the ongoing reinvention of Al-Ingaz this was not just an old dream come true, but a political necessity.[44]

Economic salvation, when it could at last be funded properly, was always likely to take on the form of a new initiative regarding the water-agriculture nexus, given the long history of such projects in the Nile Basin and the mindset of the administrators the regime was going to rely on: "this is how development is done in this part of the world".[45] Yet what surprised many (and, surprisingly, remained off the radar of many seasoned Sudan watchers) was the huge scale of the programmes launched by Al-Ingaz: they constitute nothing less than a veritable hydro-agricultural mission.

Rising defence expenditure excluded, Sudan's Dam Programme, which officially began in 2003, has been the biggest recipient of petrodollars under Al-Ingaz rule. The Hamdab/Merowe Dam alone, of which the costs probably exceed the USD$3.5 billion the Ministry of Finance admits to and might well be closer to USD$5 billion, represented as much as 40% of total investment between 2005 and 2008, underlining just how critical the Dam Programme is to Khartoum.[46] Almost a dozen projects, whether new dams or the rehabilitation/heightening of old ones, are included in the plans to remake Sudan's political economy, most of them on the main Nile north of Khartoum, but also some on the Blue Nile and the Atbara River (see map on page 5).

[44] Interview with Rabie Hassan Ahmed, September 2011.
[45] Interview with a senior civil servant in the Ministry of Water Resources & Irrigation, Khartoum, August 2009.
[46] Finance Minister Ali Mahmood announced the $3.5 billion figure in Sudan's National Assembly in late 2010; other sources suggest even higher estimates, interviews at the Ministry of Water Resources and Irrigation, March 2011.

Led by the Dam Implementation Unit (DIU) of Usama Abdallah, the programme has two official objectives: to provide Sudan's farmers with more water for irrigation –since 1959, Sudan has never used up its entire quota of the Nile Treaty, with billions of m³ flowing to Egypt for 'free'- and to generate power to remedy the chronic shortages, with even urban centres like El-Obeid only having two or three hours of electricity per day before 2000. Prominent supporters of the Dam Programme - Ali Osman, Bashir, Hamdi, Al-Jaz- have publicly argued that it would stimulate agriculture, drive new industrial projects and embolden the growing services sector. Demand for electricity rises by about 10% annually; to maintain rapid economic expansion (average growth of 7% between 1999 and 2006) and a consumerist boom in Khartoum, Sudan needs lots of power, dixit Dr Ghazi: "Our ambition is above 3000 MW. We need more than 20000 MW. Sudan will emerge as a regional power."[47]

Table 1. Sudan's Dam Programme: main projects[48]

Name	Financial Cost	Status	Potential capacity for electricity generation
Merowe Dam	$1,8bn-$3,5bn-$5bn	Completed in 2009	1250MW-2000MW
Kajbar Dam	>$700m	Expected by 2016	300-360MW
Shreiq Dam	>$700m	Contracts signed	315-420MW
Dal Dam	Similar as Kajbar-Shreiq	Studies ongoing	340-600MW
Upper Atbara Project: Burdana Dam & Rumela Dam	>$830m	Expected by 2015	15MW (Burdana) & 120MW (Rumela)
Heightening of Roseires Dam	$396-$1bn	Expected by 2013-2014	200-275MW (and increase at Merowe)

Sudan was already home to the Sennar, Jebel Aulia, Khasm al-Girba and Roseires dams but under Al-Ingaz has embarked on the most ambitious infrastructure programme in Sudanese history. The

[47] Interview in Khartoum, April 2010.

[48] Source: Website of the Dam Implementation Unit, http://www.diu.gov.sd/en/admin-en/newspublish/home.viewdetails.php?news_id=192; cost estimates from sources in the Ministry of Water Resources & Irrigation.

enormous Merowe Dam was built between 2003 and 2009 at the fourth cataract on the Main Nile, in the impoverished Nubian heartlands. This adds 1250MW power generating capacity to the grid, which at current network consumption levels means supply outstrips demand.[49] Work is ongoing to heighten the Roseires Dam in Blue Nile State to increase power generation, but above all enabling the irrigation of a phenomenal 1,5-2 million feddans through an extension of the Rahad scheme and Kenana. Roseires' heightening is expensive; after an initial price tag of USD$400 million, USD$1 billion now seems more likely.[50] These are huge numbers for Sudan, where hunger and disease are omnipresent and more than half of the population lives on less than one dollar a day in the peripheries. Education, health care or famine relief have never received such political backing, or such massive financial injections.

Bashir, Taha and Usama Abdallah are pushing ahead with yet more dams. During the electoral campaign of April 2010, an USD$838 million contract was signed for the Siteit Dam and a dam on the Atbara River.[51] The Islamists are also excited about hydro-infrastructure on the second cataract (the Dal Dam) and third cataract, the Kajbar Dam. Kajbar is trumpeted as necessary to expand Sudan's power supply with several hundreds of megawatts and will cost USD$700 million according to conservative estimates; technical preparations have restarted after a pause. A deal was also concluded for the Shreik Dam on the fifth cataract, with a similar price as Kajbar, to generate an additional 420MW.[52] This is a hydro-agricultural mission unprecedented in scale, ambition and cost.

The Dam Programme is closely linked to another Al-Ingaz priority, the Agricultural Revival Programme (ARP; in Arabic: *Al-Nahda Al-Zira'ayah)* which was set up in 2006-2007 under the patronage of Ali Osman. The ARP's creation followed a post-CPA conference of the NCP in 2005 for which several papers on agriculture were prepared by politico-intellectual fellow travellers of Al-

[49] Interview with Hamad Karori, October 2011.
[50] Estimates provided by sources in the Ministry of Water Resources and Irrigation, December 2010.
[51] 'China signs $838 million hydro junction contract with Sudan', *China People's Daily Online*, 8 April 2011, http://english.peopledaily.com.cn/90001/90778/90861/6944255.html
[52] Dam Implementation Unit, 'Contract Signed to Implement Upper Atbara and Seteit Dams', 25 May 2010, Website of the DIU, http://www.diu.gov.sd/en/admin-en/newspublish/home.viewdetails.php?news_id=192

Ingaz[53], notably Professor Abdullah Ahmed Abdullah, Minister of Agriculture under Nimeiri; Turabi's Minister of Agriculture, Professor Ali Geneif; and Usama Daoud, CEO of Dal Group and assumed to be the richest man in Sudan. The papers -and the ARP- underline that agriculture, and not oil, is Sudan's true comparative advantage, its greatest source of wealth and number one employer. They identify low productivity as a key problem in stifling agricultural growth.

Al-Nahda Al-Zira'ayah[54] superficially recognises the harmful interaction between politics and agricultural policy in the past and aims to create an enabling environment for market forces. Despite paying lip service to subsistence producers, it renews the emphasis on large-scale irrigated production by the Nile, capital-intensive agriculture led by foreign investors and a booming domestic agro-industrial sector. The grand ambitions are reminiscent of the 1970s and 1980s, with exports driving growth, regional markets as partners and land reforms as inevitable: a re-launch of the Breadbasket is what Ali Geneif, head of the Supreme Council for Agricultural Revival, dreams of: "We need a transformation of our system. We must improve productivity. Modernisation is essential."[55] Or as Omar Al-Bashir put it at an African Union summit: "Sudan… is in a position to make a big contribution to achieving the food security in Africa. . . We are committed to provide all the guarantees needed for corporations and businessmen who possess a genuine interest in agricultural investment. "[56]

Echoing Nimeiri's era, rising global food prices and international fears about climate change are today propelling Gulf Arab and Asian countries to control the areas of food production of the future.[57] Africa is seen as harbouring large untapped potential, with Sudan once more rated a possible regional breadbasket. The recipe for the Revival, as seen by Geneif, Taha and Minister of

[53] Interviews with conference protagonists in Khartoum, December 2010.
[54] Supreme Council for Agricultural Revival, *The Executive Programme for the Agricultural Revival*. Khartoum: SCAR, 2008.
[55] Interview in Khartoum, December 2010.
[56] 'Sudan will put its agricultural resources at Africa's Disposal', *Sudan Tribune*, 2 July 2009.
[57] Lorenzo Cotula, Sonja Vermeulen, Rebeca Leonard, James Keeley, *Land grab or development opportunity? Agricultural investment and international land deals in Africa*. London: International Institute for Environment and Development, 2009.

Agriculture Al Muta'afi[58], remains largely unchanged from the 1970s: 'free' water; cheap labour; abundant land; and foreign capital and technology to break Sudan's dependence on 'backward' production-techniques. A nexus is developing in which Al-Ingaz affiliated agro-businesses, led by the Kenana Sugar Company, work closely with the DIU and foreign investors to make a big push on irrigated cash crops. Egyptian, Kuwaiti, Jordanian and Qatari sovereign wealth funds and private businesses have concluded agreements regarding hundreds of thousands of acres of land in River Nile State, Gezira, Sennar and, increasingly, also in South Sudan (Upper Nile and Unity).[59] According to Ministry of Agriculture Undersecretary Abdelatif Ijami, *"In 2 to 3 years you will see something different in Sudan: it will really begin emerging out of the developmental wilderness."*[60]

[58] Interview with Abdelhalim Al Muta'afi, March 2011.
[59] 'UAE has over 2,800 sq km in Sudan farms', *Emirates 24/7*, 13 October 2010; 'Sudan and China to focus on agriculture development', *Sudan Tribune*, 15 June 2009; 'How food and water are driving a 21st-century African land grab', *The Observer*, 7 March 2010; 'Saudis to invest $ 266m in Ethiopia and Sudan', *Sudan Tribune*, 18 February 2009.
[60] Interview in Khartoum, August 2009.

The Hamdi Triangle and Islamist Hegemony: the grand strategy behind the hydro-agricultural mission

Al-Ingaz' 'New' Political Economy

At the same NCP conference in September 2005 where the contours of Al-Nahda Al-Zira'ayah were drawn, another, even more important paper was presented. Contrary to the texts of Geneif and Abdullah, which were later officially declared part of the NCP political programme, the document drafted by Abdelrahim Hamdi (after another spell as Minister of Finance in 2001-2002 back in high finance but still a key Al-Ingaz strategist) was neither formally rejected nor endorsed. Despite its innocuous title –"*The Economic Paper for the ruling National Congress: Future of Foreign Investment in Sudan*"-, Hamdi's work was not another forgettable conference intervention: a true call to arms, it laid out a comprehensive vision on how to consolidate Islamist hegemony for the next 10-15 years and became Al-Ingaz' unofficial grand strategy. It gives the political-economic rationale behind the hydro-agricultural mission, beyond the technocratic reasons given for the Dam Programme and Agricultural Revival.

In the document, which was drafted at the request of Bashir himself, Hamdi clarifies from the start that the project he is about to propose is not about rescuing the unity of post-CPA Sudan, or taking a statesman's approach to state-building. His focus is on the interests of the party and regime survival; his recommendations openly seek to entrench the Islamist elite in power and waste no time on 'sentimental' notions such as solidarity or national interest. It's a Machiavellian dissection of the state of affairs in Northern Sudan and what needs to be done to counter existential challenges against the ruling class. Violence in the peripheries is seen as regrettable but probably inevitable; it is a price worth paying if this guarantees regime consolidation in the Sudanese state's riverain core. To quote the paper directly:

"The decisive voting bloc in the coming election resides in the geographical North –at least 25 million- in the Northern States, down to Sennar/Gezira and Blue Nile areas. Voters in this zone are election oriented, more educated and can be influenced. Due to their high level of education, they also have higher demand for services and employment opportunities. We must focus on this zone. Fortunately, this zone is nearer and well connected with transport networks –tarmac roads, communication facilities, etc. It is easier and faster to manage election campaigns in this zone…

The geopolitical body which I referred to earlier as the North, and which I call henceforth Dongola - Sinnar + Kordofan Axis or the Northern Axis is very homogeneous…It is to be noted that this Northern Axis financed the Sudan throughout its Turkish, colonial and Independent eras. Even if the others have separated, this Axis can continue as a viable state. This is true in case of separation of the South and it is equally so though in a different way in case of separation of Darfur."[61]

In effect, he proposes a radical programme of regime consolidation on the Dongola-Kordofan-Sennar axis –what is now referred to as the "Hamdi Triangle"-, a strategic redeployment of investment, government services and political capital in the central areas around the Nile plus Kordofan, Sudan's heartland region and, by 2005, solidly pro-Ingaz territory following the routing of the Ansar networks. Hamdi is sceptical about an international peace dividend and sees the Southern, Western and Eastern peripheries as costly ballast that cannot be co-opted in a long process of nation-building; moreover, they are politically quasi-irrelevant in the sense that the struggle over power will always be decided in Khartoum:

"Financial flows from…international and regional Institutions will be characterised by the following: They will be late; will be far less than promised; they will be surrounded by rules and bureaucracy of

[61] Abdelrahim Hamdi, *Al-waraqa al-iqtisādiyya li'l-mu'tamar alwatani al-hākim bi'l-Sudan*. Manuscript, Khartoum, 2005; a translation can be found here: http://lsb.scu.edu/~mkevane/sudan/ssanewsletter%20Nov%202005%20v1.pdf

the donors...Investment funds will go to areas that are already predetermined in the Peace Agreement; that is, to the geographical south with its defined borders, Nuba Mountains, Southern Blue Nile. Moreover, these investment funds will be supervised by certain Commissions which ensure that they go to the specified zones only. Due to these facts, foreign investment will remain out of our hands and will not benefit the North much. In a sharp contrast to that, Arab and Islamic investment, both official and private will go to the Geographical North." [62]

Therefore, he urges the NCP to chart the only available rational path: to re-launch with vigour the agenda of economic salvation, using petrodollars and Gulf Arab investment to build the new Islamic middle class in the Hamdi Triangle that will provide political support for Al-Ingaz in the 21st century. The hydro-agricultural mission –megadams, a resuscitated irrigated agriculture sector and export crops- as a sort of revamped Breadbasket is indispensable:

"If we are to win the populations of the Northern Axis and bring them into our political project, this reality calls for urgent and dramatic development of the traditional resources of the Northern Axis… What type of investment do we need? It must be very big and very fast. High return investment fields: This centres on promotion of agricultural and animal resources that are amenable for quick development. These are: animal resources in Kordofan, East of Sudan and the Blue Nile – for export and then for local consumption. Fruits and vegetables in all irrigated sectors, old and new – firstly for export and later for local consumption. Rain-fed cotton and oil seeds in the south of the Blue Nile area, Gedarif and Kordofan. Wheat and beans in the Northern Region. These fields are well known and are available. All what is needed is huge investment so that they can return to their golden age and more…

[62] Ibidem.

The aim of the policies specified above is to inject dramatic dynamism in the economy of the Northern Axis, in a short period and in an effective way. These ideas are not the end but the beginning of our project."[63]

In a series of personal interviews conducted over a period of 18 months, Hamdi defended and deepened these ideas, refusing to apologise for his *Realpolitik* position vis-à-vis the peripheries and strongly advocating the Agricultural Revival and the Dam Programme. For Al-Ingaz and for Hamdi, the Dam Programme is not just about building hydro-electric dams or bringing irrigation. The Dam Programme, which concentrates on the areas within the Hamdi Triangle, is really the spearhead of a wholesale political-economic transformation of Northern Sudan: the "associated projects" of constructing roads and bridges, building hospitals, giving contracts or employing key NCP clients,...are at least as important. Bringing electricity to villages, electrifying pump irrigation and powering the consumer boom in Khartoum is essential, as are the additional millions of feddans where export-crops can be grown. The impact of the dams is macro-economic, not just sectoral: Hamdi tellingly draws comparisons between the Tennessee Valley Authority -which is often credited with pulling America's impoverished rural areas out of the Great Depression- and the dams in Northern Sudan, downplaying the enormous price tag attached to Merowe, Roseires, Kajbar and Upper Atbara:

"I have no doubt that we're getting the best bang for our buck [with the dams]. We are getting huge returns on investment: ten times over in terms of added value, from Shendi to Halfa. Many places in the Merowe area are becoming very green."[64]

[63] Ibidem.
[64] Interview in Khartoum April 2010.

The Competence Agenda

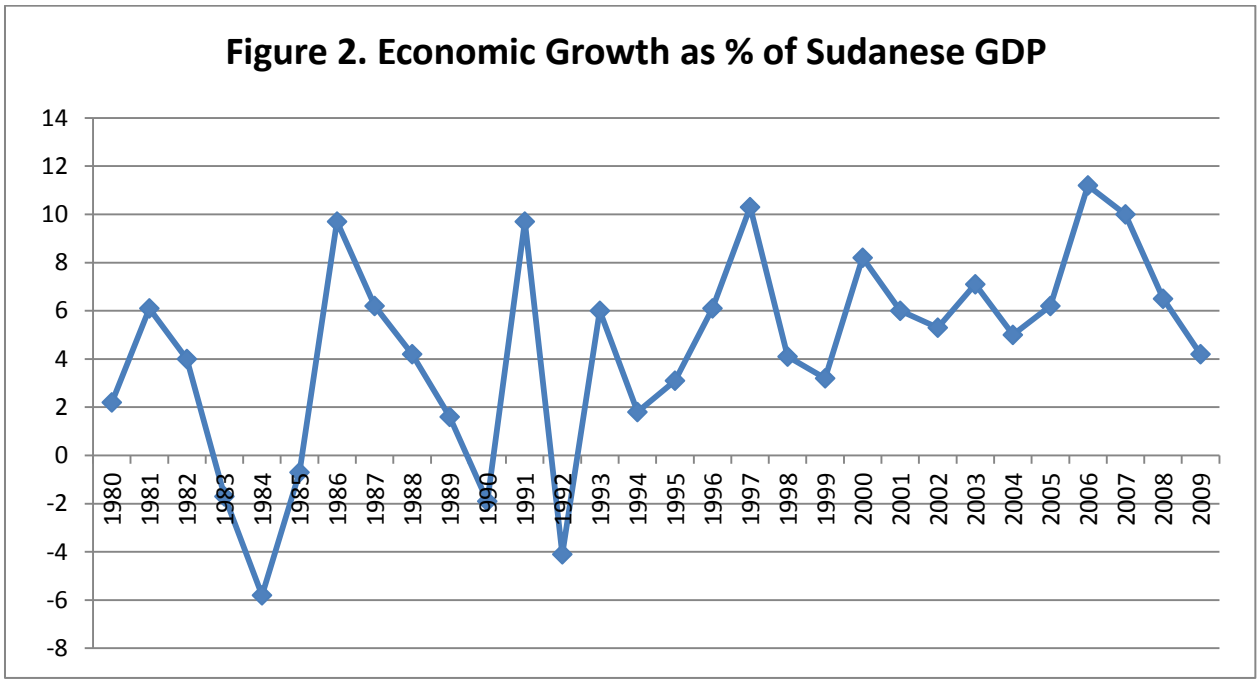
Hamdi formalised and radicalised the strategic calculations that Ali Osman and other senior Islamists had been converging towards when reinventing the regime after Turabi, 9/11 and the CPA. While it is assumed best not to talk too loudly about the Hamdi Triangle –an inflammatory idea with explosive potential in Sudan's peripheries-, the shift from ideological legitimacy to economic reasons for being accepted by the populace as Sudan's best (and only possible) rulers is highlighted: this is what I term the "competence agenda" of Al-Ingaz- *do not like us for our ideas, but for the economic results we deliver*. Sudan's technocrats and politicians propagate a well-rehearsed refrain about rising foreign investment, single digit inflation and high economic growth, as particularly evident between 1999 and 2006.

No document illustrates the switch from ideological to economic legitimacy better than the mammoth publication "*The Pages of Achievements in the March of National Salvation 1989-2005*" which contains hundreds of pages of statistics and prose on the milestones reached through the sacrifices of Al-Ingaz for the Sudanese nation. It is an exhausting –but, we are assured by the editors, not exhaustive- series of lists that detail the changes in Sudan after 1989, from rising tourist numbers, output gains in irrigated agriculture and international volleyball tournaments to visits by heads of state, expanded power production and breathtaking expansion of Sudan's infrastructure. The bottom-line is spreading civilisation through hard material development in an Islamic framework, with historically unprecedented results and utopian ambitions for the future:

"Before June 30th 1989, not only was there a rationing of food and fuel, but also there were long waiting queues for distributions....The National Salvation is rushing in determination and persistence in order to attain a pre-eminent position worldwide...Salvation Revolution with its record and

performance has relieved Sudan and released it of its renowned poor conditions and Sudan a unique model of business prosperity."[65]

"The Pages of Achievements" want to spread awareness of the competence agenda's blessings. It is graphs like this[66] –interesting, but rather simplistic as measures of broader welfare developments- that are central to its claims:



Though caution is required with statistics, the trend is unmistakable. Growth has never been as consistently high as since 1999-2000, a different world from the chaos of the 1980s, or the unstable 1990s. Oil has obviously been the main driver, with an extraordinary expansion of government spending –mainly spent on salaries, weapons and dams- and an associated consumer boom that has led to soaring real estate prices in Khartoum and a strong boost for a services economy that has

[65] National Media Production Center, "*The Pages of Achievements in the March of National Salvation 1989-2005.*" Khartoum, Al-Banna Publishing, 2005, pp.9-11.
[66] Laura James, 'From Slaves to Oil', John Ryle et al (eds), *The Sudan Handbook*. Suffolk: James Currey, 2011, p75.

never been so vigorous.[67] Yet oil is not the entire story, Hamdi highlights, accounting for about 15-20% of GDP, considerably less than agriculture or services (which also employ far more Sudanese).[68] Macro-economic stabilisation and liberalisation have made the economy more dynamic[69]; public expenditure, though often for patronage purposes, has boosted production and demand. Moreover, this growth and the CPA have helped bring back significant numbers of Sudanese Diaspora –many of them professionals with substantial purchasing power-, which in turn has further fuelled the services economy. Telecoms, construction and the financial sector are oft-cited eye-catching successes[70], with strong Gulf Arab investment and the presence of Al-Ingaz heavyweights like El-Fatih Erwa and several of the President's brothers on the boards of highflying companies.

Table 2. The Impact of Oil, 2000-2008[71]

GDP (1999)	$10bn	$53bn
GDP per Capita (constant 2000 USD)	$334	$532
Road Network	3358 km	6211 km
Children in Primary School	3,3million	5,3million

As illustrated by this World Bank data, it would be wrong to assume that all the economic growth has accrued to just a tiny elite. While it remains highly doubtful as to whether this really is economic salvation, there is some truth to Hamdi's claim that *"*We rebuilt the middle class*"*[72] in the sense that a substantial number of people in the urban centres have never had it so good, at least when measured in terms of disposable income. School enrolment rates have risen and spending on infrastructure –including the Dam Programme's "associated projects"- has led to better roads, more electricity connections and greater integration of local and regional markets. Sudan's "economy of scarcity" is no more.

[67] Economist Intelligence Unit, *Country Report Sudan*. London: EIU, September 2010, pp.5-11.
[68] Interview in Khartoum February 2011.
[69] International Monetary Fund, 'Sudan'. Country Report No. 10/256. Washington DC: IMF, 2010, p.6.
[70] NMPC, *The Pages of Achievements in the March of National Salvation 1989-2005*, pp.105-116, 210-221.
[71] World Bank*, The Road Towards Sustainable and Broad-Based Growth*, 2009.
[72] Interview in Khartoum February 2011.

For Taha, Hamdi and Al-Jaz, the three key Salvation leaders on economic affairs of the last decade, the competence agenda's bottom-line is this that even if Sudanese people don't like Sharia or political authoritarianism, they should appreciate AI-Ingaz' economic performance. This is what Ghazi Salah-ud-Din possibly meant too when he referred to a "Sino-Sudanese model of development"[73]: an authoritarian political system led by a powerful elite and competent economic mandarins that derives its legitimacy from delivering high growth and public services, with a big role for massive infrastructure projects and government spending. Concurrent with the intellectual roots of Sudan's Al-Harakat Al-Islamiyyah, the Islamist leadership is convinced that this output legitimacy is translating into enduring hegemony through the new middle class of pious businessmen and civil servants who owe their success to Al-Ingaz policies.

Turkey's Islamist AK party famously represents the rise of confidently Islamic entrepreneurs from the Anatolian heartland; the AK is both an exponent of the declining hold on power by Turkey's traditional secular elites in Istanbul and Ankara, and a factor in itself that has contributed to the surging influence of new 'Islamic' centres of political and economic power.[74] The mutual reinforcement of political and economic power is something Turabi has always been interested in, as evident from the previous chapter. The removal of the Sheikh from power hasn't altered the fascination of his former disciples with the mechanisms at work in places like Turkey and their belief in developing a Sudanese equivalent. The hydro-agricultural mission is indispensible for that.

[73]Interview in Khartoum April 2010.

[74] William Hale, Ergun Ozbudun, *Islamism, Democracy and Liberalism in Turkey*. Abingdon: Routledge, 2009.

Water and Power: Usama Abdallah's Dam Implementation Unit

No institution in Sudan better embodies the links between water, visions of civilisation and the logic of power than the DIU. Founded in 1999 to coordinate the implementation of Hamdab-Merowe[75], under the leadership of Usama Abdallah the Unit has soared at a stellar pace and today leads important swathes of development policy.[76] The DIU controls multibillion dollar budgets, has its own security service and is involved in activities ranging from dam building and irrigation works over hospital construction and agricultural regeneration to setting the price of electricity in Khartoum. Its special legal status means Usama Abdallah, who within the DIU wields absolute power, is only accountable to one man, the President of the Republic himself; according to a long-serving Minister in Khartoum: "Usama Abdallah is the man who does what he wants in this country."[77] For one of Sudan's captains of industry and an Al-Ingaz fellow traveller: "The only reason Usama can do what he does, is because he is so close to the president...The way he runs the DIU is typical for him: it is to be done in the harshest possible way."[78] The DIU and its activities are not discussed in parliament and despite a recent transformation of the Unit into a full-fledged Ministry of Electricity & Dams-Dam Implementation Unit, DIU operations do not fall under the usual parliamentary or administrative procedures: this underlines just how crucial the hydro-agricultural mission is.

The DIU's lightening ascent has triggered considerable opposition within Sudan's water-establishment and other ministries that usually execute tasks currently being usurped by the Unit, including agricultural development and public works.[79] While some of this is classic bureaucratic infighting, high-ranking administrators ask valid questions about the motives underpinning the marginalisation of the once mighty Ministry of Water Resources and Irrigation. Once in charge of

[75] For an overview of the formal legislation leading to the DIU's establishment: http://www.diu.gov.sd/en/founding_decisions.htm

[76] Interviews with key policy-makers regarding the economy, water and agriculture, August-September 2009.

[77] Interview with Joseph Malwal Dong, October 2011.

[78] Interview in Khartoum, June 2011.

[79] This section is based on extensive interviewing within several ministries, relying on innumerable discussions with politicians, technocrats, academics and consultants, August 2009-June 2011.

grand strategy, policy details and operating hydro-infrastructure, the Ministry today is in existential crisis after being ignored by the Presidency and the DIU, which together with the Ministry of Finance, has taken over most of its activities, just when the hydro-agricultural mission is (re-)launched on an unprecedented scale. One of the Ministry's top officials expressed the frustration of many colleagues: "Why was the DIU set up? I ask myself this question all the time."[80] For generations, the consensus in Sudan has been that the Ministry was a bulwark of technocratic excellence; it seemed ideally placed to spearhead major hydro-infrastructural projects when financial and foreign political space finally emerged. Yet what has happened is the opposite: top staff are demoralised as influence has shifted to the DIU. Turabi's long-serving Minister Yacoub AbuShora echoes the sentiment: "What is the Ministry of Water Resources and Irrigation still good for?"[81]

The composition of the DIU offers some clues, but also generates further questions. A strategic committee was formed in late 1999 under the aegis of Abdelrahim Hamdi, his cousin Munir Hakim (a well known HI businessman) and Taj El-Sir Mustafa (one of the regime's main organisers of its patronage networks) to assist Usama Abdallah in launching the hydro-agricultural mission, particularly through reaching out to the Gulf Arab states.[82] Together with Central Bank Governor Sabir Mohamed Hassan and Foreign Minister Mustafa Ismail, they took the lead in giving the Dam Programme its current form, though none of them had any background in water management.

The DIU is run on a day-to-day basis almost exclusively by engineers and employs hardly any economists, ecologists or anthropologists whose expertise is essential to manage the impact of DIU dams and associated projects. The dominance of engineers is no coincidence: generations of *muhendisun* have been socialized to believe that nature must be controlled and that big initiatives, of which dams are the ultimate exponent, can realize the kind of qualitative breakthrough in development that is needed for 'Sudanese greatness'. However, many of the DIU staff are not

[80] Interview in Khartoum, October 2011.
[81] Interview in Khartoum, December 2010.
[82] Dam Implementation Unit, *Merowe Dam Project: Funding*. Khartoum, DIU website, last consulted 7 November 2011, http://www.merowedam.gov.sd/en/funding.html

members of the water-establishment or experienced technocrats of the Ministry for Water Resources and Irrigation; they seem to have specifically been recruited, some straight out of university or the NCP, for the DIU's specific purposes.[83] Some of the most skilled people in Sudan, internationally recognised as water experts, have never even been approached by the DIU, which is strange to say the least given that the hydro-agricultural mission is heralded as a game-changer for Sudan's society, a national effort to alter the foundations of the economy. By contrast, party faithful, particularly those with the right (riverain) background, have assumed senior positions.

Usama Abdallah himself is perhaps the best case in point. A college drop-out from Taha's powerful Shaigiyya tribe, who never got his engineering degree from the University of Khartoum, Usama has gone from being practically unknown and having almost zero technical expertise to being named consistently by other regime leaders as one of the five most powerful men in Sudan.[84] He was parachuted at high level into the Ministry of Water Resources and Irrigation around the millennium, only to leave quickly and create the DIU with the President's support. Usama lacks credentials in engineering and economic or environmental sciences, but, crucially, was a highflying Islamist militant, both as an HI student leader in the 1980s (he was secretary-general when Nimeiri fell) and as the coordinator of the Popular Police Forces and General Military Service in the 1990s. His central role in the hydro-agricultural mission has turned him into Al-Ingaz' rising star, with funds and guns available to him in quantities that other regime figures lack.[85]

Usama Abdallah is notoriously reclusive, refusing to give interviews to newspapers or academic researchers. However, his well-resourced information department has waged a successful campaign to dazzle the public with images of how Sudan is being transformed. Though the Dam Programme is riddled with contradictions, this is not so much a case of conspiratorial deceit of the population, as a genuine belief that exists within the DIU, and within Al-Ingaz more broadly, that the hydro-

[83] Interviews with sources within Sudan's water establishment, April 2010-May 2011.
[84] Interviews with Ghazi Salah-ud-Din, Qutbi Al-Mahdi, Ahmed Daak and other Salvation leaders, March 2011-October 2011.
[85] Interviews with Hassan Makki, Tayed Zain Al-Abdin & Mustafa Idriss, April 2010-May 2011.

agricultural mission is 'finally' developing Sudan's water resources, delivering salvation through modernisation. The civilisation argument is self-evident to those leading the mission: *"Why do we need dams? Because dams are development."*[86]

Al-Ingaz is convinced that its mission is popular among ordinary Sudanese- a message out of which it can get considerable political mileage, even if there is resistance in 'backward' quarters. The "*Pages of Achievements in the March of National Salvation 1989-2005*" epitomise a strategically developed discourse that combines triumphalism with defiance and speaks of historic milestones in the spread of civilisation: "What has been achieved in the field of water in...the life of National Salvation exceeds what was achieved in a century."[87] It was no coincidence that Omar Al-Bashir campaigned for the Sudanese presidency in April 2010 with a picture of himself in front of the Merowe Dam, the symbol of civilisation delivered by Al-Ingaz, as his main electoral poster.

One of the Dam Programme's financial architects, Sabir Mohamed Hassan, described one of the reasons for prioritising Merowe as "the government needed something big to show to the people."[88] But Usama Abdallah, in a rare public appearance, reiterated the standard regime line about spreading civilisation, emphasising that the dams are about nation-building: "The Merowe Electricity Transmission Lines constitute a new vein that will bring together all the people of Sudan"[89], while for Awad Al-Jaz, "Merowe Dam's contribution will be as great as the oil...It is the greatest developmental project in Sudan's modern history". Similarly, the DIU explicitly refers to Kajbar Dam related projects as "mashru i-adat bina' al-hadhara" ("the mission of rebuilding civilisation").[90] In the words of Bashir, "Merowe Dam is considered the project of poverty elimination."[91]

There is a constant referring, just like under British rule with Gezira and during Nimeiri's Breadbasket, to deserts and wastelands becoming 'green', i.e. a transition from unproductive backwardness to

[86] Interview with the Chief Technical Advisor to the Sudanese Minister of Water Resources and Irrigation, September 2009.
[87] NMPC, *The Pages of Achievements in the March of National Salvation 1989-2005*, p.10.
[88] Interview in Khartoum, May 2011.
[89] See website of the Dam Implementation Unit: http://www.merowedam.gov.sd/en/testimonials.html
[90] Dam Implementation Unit, 'The Project of the Kajbar Dam: An Informative Summary. The Project of Re-building Civilization through Re-Settlement' [in Arabic]. Khartoum: DIU, 2008.
[91] See website of the Dam Implementation Unit: http://www.merowedam.gov.sd/en/testimonials.html

paradise-like lushness. Hamdi of course said that *"*I have no doubt that we're getting the best bang for our buck...Many places in the Merowe area are becoming very green*."* The ARP is also called the "Green Mobilisation", while images of greening the desert are continuously evoked in interviews with Al-Ingaz leaders about dams, the Nile and agriculture.

The public imagery has revolutionary high modernism written all over it: the taming of nature by specialists despite ignorant locals inhibiting progress; massive water infrastructure impressing a poorly educated population and other developing countries; a heroic, rational elite of politicians and engineers bringing the light of development to dark, unelectrified places across the country.[92] The theme of 'big is beautiful', combining a modernising zeal with an evocation of history, has been evident in much of the architecture of Sudan's petro-era: refurbished and expanded steel-glass ministries; new bridges across the Nile in the High North; state-of-the-art company headquarters that resemble Damascene medieval palaces; mega-mosques that combine neon lights with neo-traditional motives in Khartoum Bahri; and, most importantly, the dams, modern day "temples of modernity", to paraphrase Nehru. This really is the Salvation: "Sudan managed to regenerate itself – like Phoenix- from among demise and demolition...What were then [in 1989] fantasies have now become living realities."[93]

Moreover, the references to civilisation and revival as part of the hydro-agricultural mission carry strong religious undertones: the choice of the Arabic concept *Al-Nahda* -with all its connotations of resuscitating an Islamic golden era- to describe the Agricultural Revival is just one of many examples. This civilisation discourse integral to the mission indirectly highlights once again why Al-Ingaz is still Al-Ingaz and, despite downscaling some of its most visible social engineering schemes, retains important revolutionary ambitions of remaking Sudan. Mashru Al-Hadhari is very much alive.

[92] James C. Scott, *Seeing like a State*. London: Yale University Press, 1998, pp. 88-97.
[93] NMPC, *The Pages of Achievements in the March of National Salvation 1989-2005*, pp.10-11.

The Achilles Heel of the Hydro-Agricultural Mission: Islamist state-building and its contradictions

Usama's Dams: Sudan's most costly Fata Morgana?

Despite the dramatic ascendency of Al-Ingaz' hydro-agricultural mission, something seems deeply amiss with the Dam Programme and Agricultural Revival. The regime has systematically marginalised alternative views on the water-agriculture nexus and confronted opposition heavy-handedly, perhaps unsurprisingly given its authoritarian nature. A culture of silence pervades Sudan's ministries, with important administrators and politicians preferring not to say anything about the DIU's meteoric ascent, out of fear for reprisals.

Many of my anonymous citations and unnamed sources are testament to that. One senior Ministry of Finance official described in an interview how he had been instructed that whenever a DIU request came –no matter how tight budgetary space was- he should give the full amount to Usama's people, without asking questions.[94] Even some of the party's highest echelons are deliberately kept in the dark about the details of the hydro-agricultural mission. One administrator commented: "The DIU is a very unique unit. It's just the President and Usama. Free to do whatever they like."[95] According to one powerful former Undersecretary of a key ministry who reflected on the dams and Al-Nahda Al-Zira'ayah: "Most reports sent to the Council of Ministers are fictitious or useless, and sometimes both."[96]

The *cas célèbre* in the Sudanese bureaucracy is the removal of Nadir Awad, secretary-general of the Higher Council for the Environment and Natural Resources (HCENR), who tried to implement Sudanese law by insisting on a proper environmental and social impact assessment (ESIA) for the Merowe Dam. The DIU had begun construction without an ESIA, thereby violating the constitution, a

[94] Interview in Khartoum, June 2011.
[95] Interview in Khartoum, December 2010.
[96] Interview in Khartoum, May 2011.

situation Awad tried to rectify. Usama Abdallah personally visited the secretary-general in his office and exerted physical coercion so that he would drop the case. However, because Awad, one of Sudan's top civil servants, didn't succumb to the intimidation, he found himself removed within 24 hours by decree from his position at the HCENR; the president personally signed the order with highest priority, sending a signal not to be misunderstood by other possibly recalcitrant administrators. Awad's removal enabled the DIU to build the dam without any systematic examination of its potentially devastating impact on riverain ecology and people.[97] A positive ESIA for Merowe was eventually prepared by Lahmeyer International, heavily implicated in fraud surrounding dams in Lesotho and for that reason on the World Bank's corporate black list.[98] Lahmeyer's document was described by several of Sudan's leading scientists as "laughable and… short on nothing but science."[99]

The DIU is a highly secretive organisation that refuses almost all engagement with outside observers or Sudanese critics and shares preciously little relevant information, even with senior ministers[100] or formal collaborators. Consultants who worked with Usama Abdallah's team describe one-way data flows to the DIU. Information on the environmental, social or economic damage that DIU projects could cause to local communities' livelihoods and the ecosystems in which they live, was deemed classified and treated as irrelevant to DIU planning.[101] Both in the cases of Merowe and Roseires, systematic pressure was exerted on the DIU's international partners to adjust and sometimes fundamentally change their findings, with the threat of withdrawing the contract in case absolute silence vis-à-vis the outside world wasn't upheld. The head of one of the foreign consultancy teams summarised the problem: "The DIU has been taking over development projects across the country,

[97] Interviews with many of the protagonists involved in Awad's saga, April-December 2010.
[98] International Rivers, *German Company Brought to Justice over Abuses in Sudan Dam?* IR website, 5 July 2010, http://www.internationalrivers.org/en/blog/peter-bosshard/2010-5-7/german-company-brought-justice-over-abuses-sudan-dam
[99] Interview with Asim Al-Moghraby, April 2010.
[100] Interviews with several leading NCP figures and non-NCP Ministers, April 2010-October 2011.
[101] Interviews in Khartoum and Damazin, August 2009-December 2010.

no can touch them. They have the political backing. They are taking on tasks that they are totally unequipped for."[102]

The DIU's modus of operandi is all the more worrying because major questions also arise about the substance of the hydro-agricultural mission. Whose interests are being served by the dams and strategy of capital-intensive irrigated agriculture? Hamdi of course was frank about this: "The debate should address the following: interest of the Party; how the Party could benefit from this investment (…); use of investment to ensure continuation of the Party in power. To address these issues, we should not waste time in futile debate. We must make sure that our work will not go in vain and must distinguish between Party and State [general interest]."[103]

Even among those dazzled by the "greening the desert"-rhetoric, the question of opportunity cost emerges. Can Sudan afford to spend almost USD$10 billion –just Merowe might already amount to $USD5 billion- on one developmental priority, with more money going to dams than to education, health care, roads and social welfare combined? Is this really the best way of spending the petrodollars and using Sudan's one-off chance of rapidly escaping from the poverty quagmire (Northern oil reserves are limited and running out)? This is all the more pertinent because almost all water, energy and agriculture experts interviewed in the course of this thesis have consistently contradicted the utopian optimism of the DIU and the Supreme Council for Agricultural Revival, questioning the promised benefits of projects and highlighting huge costs. [104]

Some have even challenged the idea of dams in Sudan, arguing against the dominant development model in the Nile Basin of the past two centuries. It isn't just that due to bad engineering designs and sequencing problems, Merowe Dam continues to produce less electricity than the Sudanese public was promised (potential capacity stands at 1250 - not 2000- MW), leading to renewed power outages within months of being inaugurated. Sudanese scientists note that, due to the Nile's hydrology and

[102] Interview in Khartoum, April 2010
[103] Hamdi, *Al-waraqa al-iqtisādiyya li'l-mu'tamar alwatani al-hākim bi'l-Sudan*.
[104] Interviews with Ahmed Adam, Seif Hamad Abdalla, Salah Yousuf, Alemu Asfaw, Mohamed Abdelgader, August 2009-October 2011.

the Basin's topography, dams in Sudan face massive sedimentation problems, losing reservoir capacity much more quickly than on other rivers. As my field visits to Roseires, Khasm al-Girba and the Sennar Dam, where the problems are irremediable, made clear, this means that within a few decades of construction over half of a dam's capacity can vanish, rendering it ineffective at flood control or for power generation and distorting the river's chemistry.[105] Merowe is no different and will lose capacity rapidly as sediment accumulates, possibly as much as half of the reservoir within 30 years. Building dams further upstream slows down the process, but they face exactly the same problem.[106]

Dams in Sudan tend to be constructed in bad locations- hydro-infrastructure is not erected in steep gorges of cool mountain ranges, but on some of the hottest places on earth, on virtually flat terrain. This leads to the flooding of huge areas of fertile land –some excellent land is lost at Merowe and Kajbar for instance- but also to spectacular evaporation rates, with billions of m^3 of water lost for irrigation (an estimated 4bn m^3 at Merowe). Sudan's leading environmentalist estimates that evaporation at Merowe is seven times higher than in the Ethiopian highlands and that dams at Kajbar and Shreiq will be no better from an ecological perspective.[107] This is extremely problematic because of the legal cap on Sudan's use of the Nile and thus the importance of getting the most out of every single drop of water, but also because of the already worsening regional effects of climate change on the water cycle.

This push for big dams and return to irrigated agriculture has occurred without any serious reflection on ecological threats to Sudan's productive base; despite its importance for the future of Sudanese agriculture, the Agricultural Revival Programme contains not even a paragraph, one of Sudan's most

[105] Jamie C. Woodward, Mark G. Macklin, Michael D. Krom, Martin A.J. Williams, 'The Nile: Evolution, Quaternary River Environments and Material Fluxes', Akhil Gupta, *Large Rivers. Geomorphology and Management*. Chichester: John Wiley & Sons, 2007, p.284.

[106] Seif al-Din Hamad Abdalla. '*Al-qudra al-takhzīniyya l'il-sudūd ʿala al-nīl wa rawāfidihī dākhil al-Sudan*', Paper presented at a workshop of the Middle East and African Studies Centre, 'Towards a National Strategy of Water in the Sudan', Khartoum, 2007.

[107] Interview with Asim Al-Moghraby, March 2011.

senior technocrats lamented: "It has nothing on climate change".[108] Absent from the political panorama, the issue remains confined to occasional report writing by the HCENR's harmless technocrats.

Though characterised by a high degree of uncertainty and complex probability estimates, most climate models signal a bleak future for the region as a whole[109]: aggregate rainfall could rise, but this increase will be unevenly concentrated, in space and in time. With the intensity and frequency of extreme droughts and extreme rainfall soaring, the Horn of Africa risks a systemic crisis; agricultural cultivation as well as millions of pastoralists will be severely affected.[110] Desertification and decreasing precipitation in the Sahelian Belt could lead to sorghum production falling by 50-70% by 2060.[111] Darfur, North Kordofan, Sennar and Red Sea State will be impacted heavily by changing climatic conditions, having already suffered recent calamities; the drought that struck Sudan in 2009 caused mayhem across its Eastern flank, with 90% production losses in Gedarif and the reappearance of famine-like conditions in Jonglei.[112] Climate change is changing the agricultural base and water-ecology, systems already under pressure from human-induced resource degradation, failed top-down engineering and population growth. Climatic shifts might represent the final stage in a process of disempowerment of marginalised communities that pushes them to violent micro-conflicts and urban migration.[113]

Sudan cannot stop climate change, but agriculture, energy and water policies are critical in helping its population adapt by diversifying livelihoods, better managing scarce resources and insuring against

[108] Interview with Hamad Karori, October 2011.

[109] Intergovernmental Panel on Climate Change, [Martin L. Parry, Osvaldo F. Canziani, Jean P. Palutikof, Paul van der Linden, Clair E. Hanson (eds.)], *Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the IPCC*. Cambridge: Cambridge University Press, 2007; O. Brown, A. Crawford, *Climate Change and Security in Africa*. Manitoba: International Institute for Sustainable Development, 2009; J.C. Lovett, G.F.Midgely, P.B.Barnard, 'Climate change and ecology in Africa.' *African Journal of Ecology,* Vol.43, 2005, pp.279-281.

[110] Temesgen Tadesse Deressa, Rashid Hassan, 'Economic Impact of Climate Change on Crop Production in Ethiopia: Evidence from Cross-section Measures', *Journal of African Economies*, Vol.18, 4, 2009, pp.529–54.

[111] United Nations Environmental Programme, *Sudan: Post-Conflict Environmental Assessment*. Nairobi: UNEP, 2007.

[112] Interview with senior representative of the World Food Programme in Southern Sudan, April 2010.

[113]Oxfam International, *Band Aids and Beyond. Tackling Disasters in Ethiopia 25 Years after Famine*. Oxford: Oxfam, 2009.

increased risk.[114] Yet millions of farmers and pastoralists receive almost no assistance; energy policy hardly takes global warming into account; and Sudan's continued international isolation means it is not linked to climate finance schemes that could provide resources for more sustainable development.

No learning from the past, no water in the future

These criticisms are all the more important because Ali Osman and Hamdi have sold the Agricultural Revival and Dam Programme to the NCP leadership as critical in navigating the post-CPA situation. The hydro-agricultural mission helped to reinvent Al-Ingaz after the Turabi-Bashir split and to fulfil its long-held dreams of convincing a 'substantial minority' of the benefits of Islamist rule, but was also an offensive strategy to deal with the pressures of coalition government with the SPLA/M and the risk of Southern secession. Even though Taha personally believed, according to insiders, that conceding self-determination wouldn't result in dividing Sudan, capital-intensive agriculture and hydro-electric dams were presented as a second growth engine in an economy that was dangerously dependent on (mostly Southern) oil.[115]

Leading Islamists acknowledged that the petro-boom was unsustainable, because supplies are neither infinite nor always reliable. Oil exports, which boosted growth for nearly a decade, dropped spectacularly between 2008 and 2009 –by about USD$5bn, following international price fluctuations- leading to painful adjustments in government spending, after having risen spectacularly between 2006 (USD$5,2bn) and 2008 (USD$11,9bn).[116] The value of (united) Sudan's exports consisted for 90% of crude oil. Moreover, with about three quarters of proven reserves (6.3bn

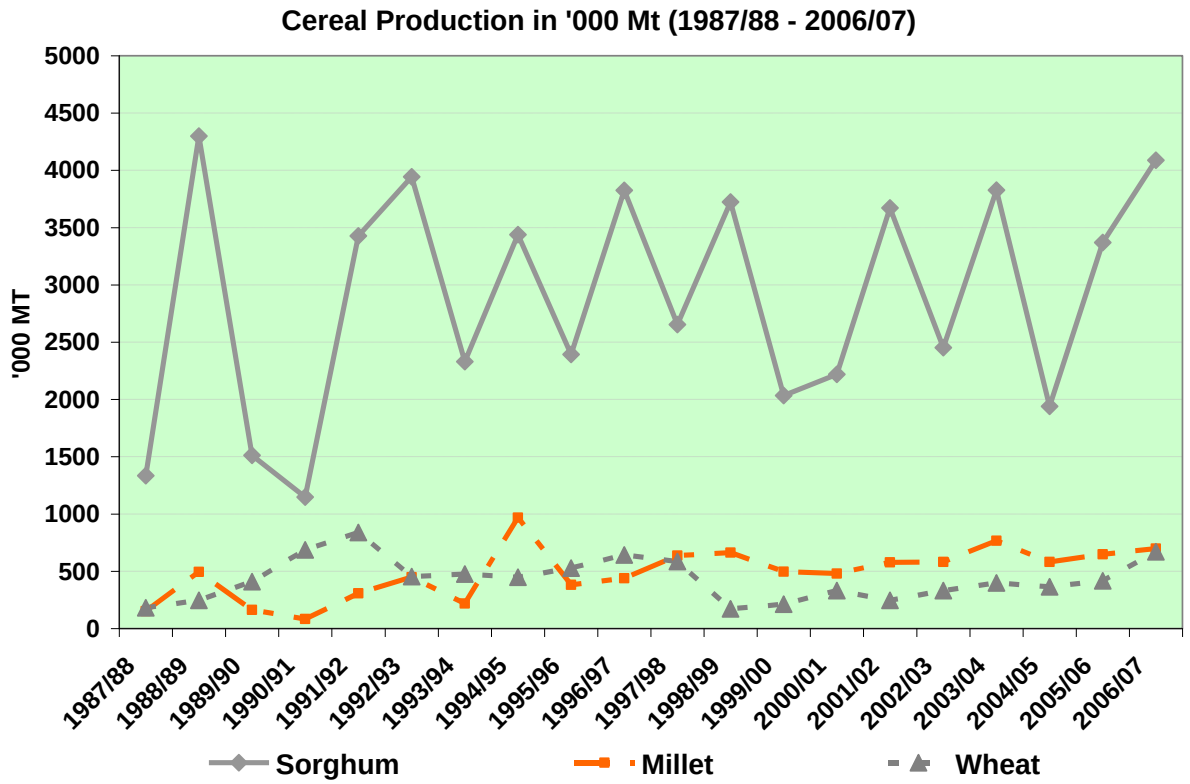
[114] Declan Conway, 'From headwater tributaries to international river. Observing and adapting to climate variability and change in the Nile basin', *Global Environmental Change*, 15, 2005, pp.99–114.
[115] Interviews with Hajj Magid Siwar, Ahmed Daak, Qutbi Al-Mahdi, August 2011-October 2011.
[116] IMF, 'Sudan', p.27.

barrels) situated in South Sudan[117], disappointing prospecting results in Northern exploration fields and the uncertainties surrounding 2011[118], it was argued that it was unwise to continue banking heavily on black gold. In recent years, Al-Ingaz personalities have been falling over each other to stress that 'Sudan is an agricultural country'.

However, the Achilles heel is that despite this strong rhetoric and massive investment in hydro-infrastructure, there are currently few signs that suggest an agricultural renaissance is underway, neither quantitatively nor qualitatively.[119] As figure 5[120] shows, Al-Ingaz track-record in agriculture is underwhelming; the regime's policies, despite the Turabi-Hamdi offensive of the early 1990s, have not enabled a sustained increase in the production of what Geneif and Hamdi consider "strategic crops" like wheat, millet and sorghum; occasional surges in output renew optimism, only to result in disappointment a year later.

[117] 'Country Analysis Briefs: Sudan,' Energy Information Administration, 2010, accessed on 30 November 2010, http://www.eia.doe.gov/emeu/cabs/Sudan/Oil.html
[118] Luke A. Patey, 'Crude Days Ahead? Oil in Sudan after the Comprehensive Peace Agreement,' *African Affairs*, Vol.109, 437, 2010.
[119] Interviews with experts at FAO and IFAD, September 2011.
[120] Alemu Asfaw, Chief Technical Advisor for several FAO projects, and his team provided the statistics.

Figure 3. *Sudanese Agriculture in Long-Term Perspective*.



Abdullah Ahmed Abdullah, one of Al-Nahda Al-Zira'ayah's ideologues, maintains that "Sudan is one of three exceptional countries in the world in terms of agricultural potential"[121], but little productive is being done to harness this comparative advantage. The ARP reads like a wish-list of policies, not as a well-integrated, strategic plan to boost production, reduce poverty, engage global markets and deal with climate change. Experts at IFAD, FAO and other international organisations working with the Sudanese government feel that in none of these four key areas progress is being made or is likely to be made in the next five years.

The ARP and the discourse of Abdullah, Geneif or Minister of Agriculture Abdelhalim Al-Muta'afi (an NCP businessman and former governor of Khartoum) demonstrate how little has been learned. According to one insider: "The ARP is copy and paste...[It] just popped up, without deliberations."[122] Famines are attributed to the weather; chronic malnutrition is not discussed at all; and the

[121] Interview in Khartoum, December 2010.
[122] Interview in Khartoum, September 2011.

Breadbasket's inability to deliver (hardly any senior Al-Ingaz leader dares call it a failure) is situated in Nimeiri's statism, not in political economy, a lack of peasant participation in the strategy or the deeply problematic relationship with Gulf Arab countries. Small-scale farmers and their 'backward' production-techniques and mindset are still more likely to be blamed than to be seen as part of the solution. Statements about 'idle land' and 'unproductive peasants', like those of the Undersecretary of the Ministry of Agriculture, are not encouraging: "We are using too little of our area, we have to put pressure on people to produce. If not, we as a government have a right to reclaim the land."[123]

Low productivity remains the central problem in Sudanese agriculture, but the Revival has little to offer to subsistence producers who constitute the bulk of Sudan's labour force. Meanwhile, research and extension services remain underfunded; there is currently a gap of factor 3 to 6 (depending on the crop) between yields in research labs/fields and yields produced by ordinary farmers.[124] The adoption of current technologies by small-scale farmers could transform productivity, but hardly any financial investment or political energy is devoted to this, as the focus is on mechanisation and large-scale irrigated production.

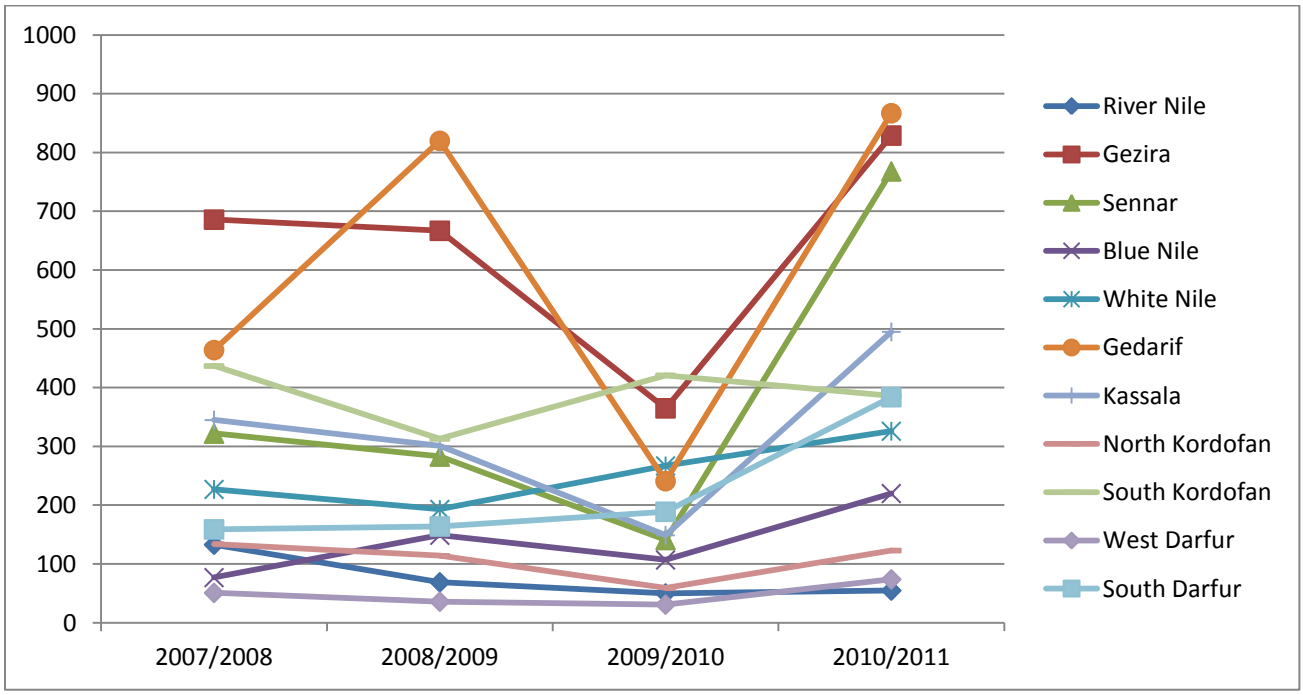
The following FAO statistics show how the Agricultural Revival's first results for "strategic crops" in the main agricultural states have been disappointing.[125] Sorghum production continues to be prone to climatic fluctuations –bad rainfall in 2009 depressed output, while extraordinarily good weather in 2010 bolstered production- which is a continuation of the traditional pattern of sorghum cultivation, not the intended transformation. For wheat, the numbers are even more unnerving, as production is through irrigation and not dependent on erratic rains.

It remains early days to assess Al-Nahda Al-Zira'ayah, but most observers are outright pessimistic about the prospects of a renaissance. The import bill for food items keeps rising and Sudan is –ironically- more than ever dependent on wheat for its food security; the bill for imported wheat from Argentina and Eastern Europe might have amounted to more than USD$2 billion in 2010. Despite

[123] Interview with Abdelatif Ijami, August 2009.
[124] Interview with Mohamed Abdelgader, June 2011.
[125] Alemu Asfaw, Chief Technical Advisor for several FAO projects, provided the data.

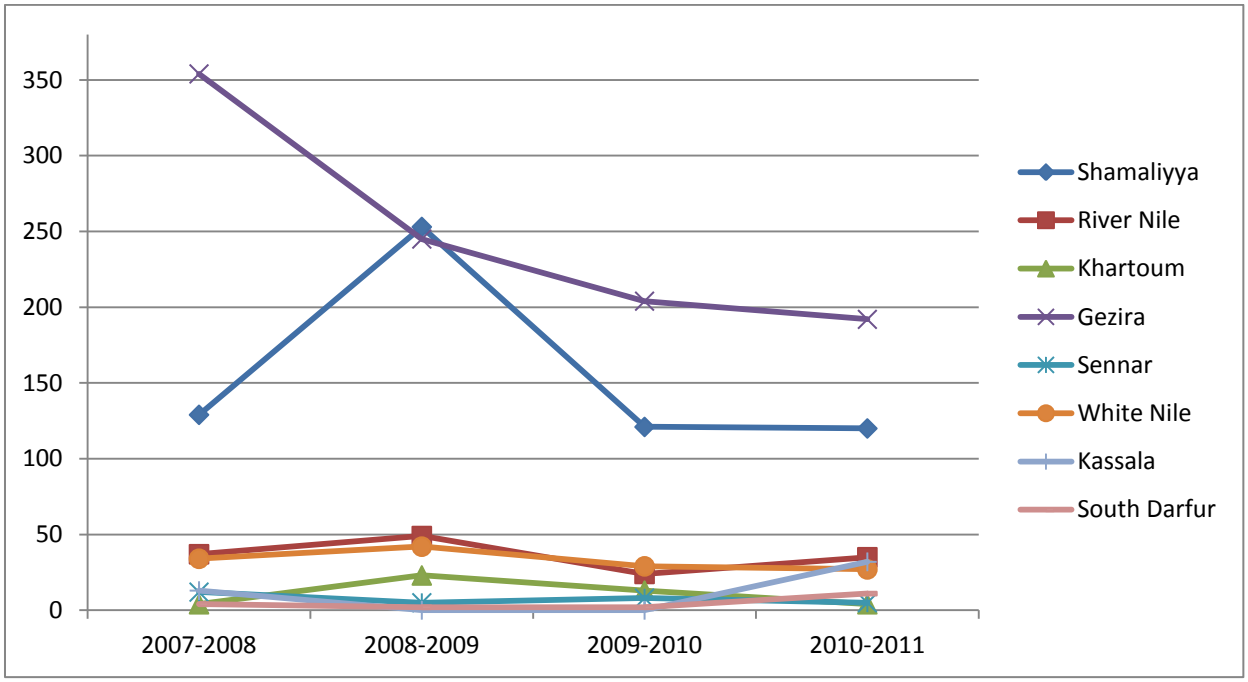
huge amounts of subsidised fertiliser and seeds, as well as financial support for producers, wheat output has continued to hover around 300000-400000 metric tons annually, while demand is currently at almost 3million tons. The story for sorghum is similarly depressing, as productivity is too low to supply the entire domestic market, let alone compete on international markets.[126]

Figure 4. *Sorghum Production (000 Metric Tons)*



[126] Interviews at IFAD and FAO offices in Khartoum, August 2009-September 2011.

Figure 5. *Wheat Production (000 Metric Tons)*



One of the reasons for pessimism is that within the ARP there is a lack of strategic thinking about the long-overdue shift for small farmers and big irrigated schemes to more water-sensitive crops. Ecological degradation due to mechanisation and unsustainable water and land use is still treated as a minor issue. Moreover, critics emphasise that prioritising irrigated agriculture is ecologically foolish and geopolitically probably impossible: while it is true that irrigated production is more reliable than rain-fed cultivation (particularly so in the climate change era[127]- cf. the worries about sorghum), the current plans for the expansion of big schemes simply cannot all be implemented as Sudan lacks the water to do so. The DIU claims that Usama's dams will help expand the schemes, but they lose almost as much Nile water in evaporation as they can steer to production fields. Moreover, the legal ceiling of 18,5bn m³ will be reached with the heightening of the Roseires Dam, the first time ever that Sudan will fill its quota under the 1959 agreement.[128] There is just not enough water for the DIU to implement all its plans for extra dams –Kajbar, Upper Atbara, Shreiq,...- given the immense

[127] Interview with Ismail Fadl El-Moula Mohamed, Sudan Meteorological Authority, September 2009.
[128] Interview with Hamad Karori, October 2011.

evaporation rates, let alone when dozen of new capital-intensive irrigated projects funded with Gulf Arab money are destined to consume huge quantities of Nile water for the cultivation of crops no longer grown on the Arabian Peninsula.

If water for increased agricultural production cannot come from the Nile, relying on groundwater is not a feasible strategy either. With such big schemes, user rates rapidly become unsustainable, inflicting long-term ecological damage, particularly when water-intensive crops are produced, like millet and cotton.[129] Sudan is one of the only countries in the world where sugar is cultivated through irrigation, instead of relying on rainfall, a short-sighted method that Ali Geneif and Al-Muta'afi hope to intensify further. Wheat is another priority for the Agricultural Revival –one that Hamdi is particularly fond of (cf. 1992)- even though Sudan's biggest private conglomerate, the Dal Group, believes that it's impossible to grow wheat sustainably and affordably in the country. According to CEO Usama Daoud, "Wheat is not viable in Northern Sudan. We have evidence from our own experience...It is being grown in the wrong places, for the wrong reasons."[130]

The list goes on. While the dams carry an excessive financial and ecological price tag with more limited economic benefits than assumed, the Agricultural Revival already looks like another fata morgana in the making, as it is neither comprehensive nor innovative, nor does it seem to provide answers to any of the long-term challenges that Sudan's economy, and its agricultural systems in particular, face in the climate change era. Sabir Hassan Mohamed, Governor of the Central Bank between 1998 and 2011, accepts that the regime has made major mistakes: "Agriculture is one of Al-Ingaz' main failures."[131] This casts a shadow over the civilisation imagery of the hydro-agricultural mission and over Al-Ingaz' strategy to consolidate long-term hegemony through economic success.

[129] Tony Allan, *Virtual Water*. London: IB Tauris, 2011, p.334.
[130] Interview in Khartoum, June 2011.
[131] Interview in Khartoum, May 2011.

The Islamist economy: competent managers?

The National Congress Party has worked hard to present itself as the centrist party in Sudanese politics, pandering to the masses through nationalism and services delivery, to business elites through economic growth and to religious radicals through the Sharia rhetoric. President Bashir has been cast as a 'father of the new nation'-figure, defiant vis-à-vis a hostile outside world, generous in his dealings with the poor and wise in his emphasis on peace and development following the CPA. This has reinforced Bashir's position -he has never been more powerful than in the post-2005 era[132]- but doubts persist about popular support for his regime. A failure of the hydro-agricultural mission threatens the foundations of its new identity and its ability to stay in power, not just because it risks robbing Al-Ingaz of its professed legitimacy to rule but also because the system might run out of the patronage opportunities that sustain it.

Though Islamists boast about their competence agenda, fluctuating oil prices and the secession of South Sudan have unleashed fears that such confidence was unwarranted. Khartoum is suffering from classic Dutch disease dynamics.[133] For all Al-Ingaz' claims that the economy has qualitatively changed after stabilisation and liberalisation, Sudan has been running huge budget and balance of payments deficits for a decade.[134] Oil money has augmented the import bill faster than exports are able to pay for, further increasing already colossal debts –just between 2006 and 2010 public debt grew by USD$10bn- and making Sudan reliant on expensive commercial loans as concessionary lending options are vanishing.[135] The consumer boom in Khartoum and infrastructure-related expenditure have strengthened pro-Ingaz loyalties of important constituencies but the economic cost has been massive and is unsustainable.

[132] ICG, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*.
[133] Michael L. Ross, 'The Political Economy of the Resource Curse', *World Politics*, Vol.51, 2, 1999, pp.297-324.
[134] IMF, *Sudan*, p.27.
[135] EIU, *Country Report Sudan*, pp.3-11.

Rent-seeking does not by definition have to be nefarious for economic growth and job creation[136]; how damaging rent-seeking is, depends primarily on the structure of corruption and associated power networks.[137] The evidence in Sudan suggests that after some initial optimism, the contradictions of Al-Ingaz' system are actively tarnishing growth, widening inequality and dangerously increasing the political stakes.

This is not a brave new Islamic economy as Turabi or Hamdi envisaged, but a messy patchwork of cartels, protected niches and liberalised spaces. The biggest distortion is undoubtedly the market power exerted by more than 700 companies with strong ties to the regime[138]: some of them are owned directly by the state, others by security agencies (the National Intelligence and Security Service (NISS) is particularly powerful) and still others by Al-Ingaz leaders and regime cronies. Import oligopolies on wheat top up already bulging budgets for the army and NISS. The sugar industry is built on subsidies and rents, which explains why domestic buyers pay prices far above world market rates despite Sudan being a major sugar producer. Sugar is both heavily taxed on the consumption side by the Sudanese government and heavily subsidised in production, while the 'sugar deficit' is met through imports that are (rather lucratively) controlled by the same companies that produce the 'white gold'. This 'sugar system' squeezes consumers, channelling rents to NCP controlled businesses and paramilitary groups, with the Kenana Sugar Company as its central node.[139]

Furthermore, public contracts are systematically rigged, with big foreign investors without any state ownership or ties to the HI forced to include regime insiders on their board of directors: Kuwaiti telecom operator Zain, for example, is headed by former security strongman El-Fatih Erwa while close relatives of the President, former NISS director Salah Gosh and Minister of Defence Abdelrahim

[136] Mushtaq Khan, Jomo Kwame Sundaram, *Rents, Rent-Seeking and Economic Development*. Cambridge: Cambridge University Press, 2000.
[137] Andrei Shleifer, Robert Vishny, 'Corruption'. *Quarterly Journal of Economics*, Vol.108, 3, 1993, pp.599-617.
[138] Interview with Abda Al-Mahdi, May 2011.
[139] Interview with several of Sudan's top civil servants in Khartoum, March 2011.

Hussein are commonly understood to occupy important positions in construction, real estate and agro-industry.[140]

The Dam Programme, as the biggest source of public investment in the economy, is riddled with nebulous deals and lucrative opportunities for sub-contracting, particularly for companies owned by the NCP, NISS or the army (Al-Qasr, Heglig Ltd, Ingaz,...).[141] The Dan Fodio conglomerate exemplifies the nexus: with its strong ties to the HI nationally and internationally (founded in 1981, it is owned by the Islamist social welfare organisation Al-Dawa Al-Islamiyyah), the group is a key beneficiary of DIU construction and runs agricultural schemes that are connected to the DIU and ARP. Through its more than 30 companies and its links with the oil industry, Dan Fodio penetrates all major sectors of Sudan's economy, private and public, and was, unsurprisingly, central to Merowe and its offshoots.[142] This highlights the importance of Usama Abdallah's "associated projects": roads to nowhere, bridges over the Nile where nobody would cross and ultra-expensive hospital equipment for medical conditions hardly prevalent in River Nile State are all examples of where the billions of dollars spent on Merowe went, as is an international airport for tourism that stands largely empty.[143] It is worth once more recalling that Hamdi insisted that the multibillion dollar Dam Programme isn't just about the dams, but about creating wider economic opportunities.

In 1989, the Al-Ingaz state-building project promised to eliminate old Sudan with its privileged elites, nepotism and incredible disparities between the riverain core and marginalised peripheries. According to Islam's radical egalitarianism and associated Islamist principles, it shouldn't matter what racial, ethnic or regional origins a person has. Economic salvation was meant to integrate the different parts of the country, with Al-Ingaz' modernising winds bringing civilisation –education, wage labour, electricity- to Sudan's villages. Corruption would be eradicated –Turabi's "ethical

[140] Interviews with Al-Tayib Zain Al-Abdin & Osman Al-Mirghani, February 2011.
[141] Interviews with several administrators privy to the Dam Programme's accounting, September 2009-March 2011.
[142] Interview with Joseph Malwal Dong, October 2011.
[143] Interviews with Ali Askouri, December 2010-January 2011.

transformation"- just like the old model of political power rooted in sectarian patronage and irrigated agriculture by the Nile.

Yet the Islamist state-building that was heralded as a fundamental rupture with Sudan's traditional political economy (and core-periphery tensions typical for African states more generally)[144], has radicalised those very cleavages and widened inequality between people as well as between regions. The hydro-agricultural mission has put the water-power-civilisation link back at the heart of politics and it's looking increasingly probable that the dams and Agricultural Revival will further divide Sudan, not unite it. The oil-induced economic transformations in Khartoum, Shendi and Wad Medani have barely raised living standards in the peripheries, as even Sabir Mohamed Hassan accepts[145]; in the West and East, the situation might well have worsened.

Even before the Hamdi Triangle strategy was formulated, the regime had been dominated by the *Awlad al-Balad*, bonding together to keep *gharaba* (Western) Islamists out of power.[146] The problematic relationship between Darfur and riverain Sudan goes back to the time of the Mahdi and Khalifa Abdullahi (chapter two), but worsened as the Turabi-Bashir split took on an ethnic dimension, with the Sheikh attempting to mobilise the peripheries and Bashir and Ali Osman heading a Ja'aliyyin-Shaigiyya coalition.[147] For Dr Ghazi: "One of the biggest failures of our regime is the re-tribalisation of society… It's a very sad trend."[148]

The marginalisation of Darfurian Islamists has been reflected in the entrenchment of Western Sudan's structural underdevelopment and exclusion from politico-military positions in Khartoum. A woman is more than twice as likely to give birth in the presence of medical personnel in Northern Sudan as in Darfur, and under Al-Ingaz, male literacy has decreased by 33%: "Northern region and Khartoum have much higher per capita expenditures and revenues than any other area, more than twice those of the West. . . . [In spite of] this large existing difference in the ability of regions to raise

[144] Catherine Boone, *Political Topographies of the African State*. Cambridge: Cambridge University Press, 2003, pp.240–82.
[145] Interview in Khartoum, June 2011.
[146] Flint, De Waal, *Darfur*, pp.16-30.
[147] Roessler, *Internal Rivalry, Threat Substitution and Civil War: Darfur as a Theory-Building Case*.
[148] Interview in Khartoum, April 2010.

their own revenues, per capita levels of government subsidy to states are biased in the same direction: the northern states enjoy a subsidy more than twice that offered to the West."[149]

While local factors and regional developments were important contributors to the scaling-up of the violence in the early 2000s[150], the main responsibility in causing –and later disastrously mishandling- rebellion in Darfur must rest squarely with the Salvation and the political-economic contradictions of its governance model. As acknowledged by Hamdi, the hydro-agricultural mission's recalibration of Sudan's political economy is likely to exacerbate the inequalities further and cause more, not less, violence in years to come.

Turabi's "Tamkin" (empowerment) has not translated into a 'competent' and 'ethical' economic model that produced an Islamist middle class, but is far closer to primitive accumulation and the chaos of a sprawling patronage machine that tries to stay balanced as greed for money and power pushes actors in all directions.[151] One Islamist fellow traveller admitted that "There is no grand plan. Everybody is acting on their own, creating their own empire."[152] This is a far cry from the civilisation rhetoric or the optimism of those IMF-officials who in the mid-2000s thought they had found a neoliberal success story.[153]

Corruption underpins Islamist rule, but simultaneously undermines it. Taha, Hamdi, Al-Jaz and others facilitated the loopholes and privileges that fuel patronage systems, a trend strongly reinforced when petrodollars became available.[154] This system, with its proven political effectiveness, is now under threat from two sides: on the one hand, there is popular rage over a series of corruption scandals involving senior regime figures and their relatives, against the background of the Arab Spring and the traumatic separation of South Sudan. This is particularly acute because, as Al-Ingaz pushes through

[149] Alex Cobham, 'Causes of Conflict in Sudan: Testing the Black Book'. Working Paper. University of Oxford, Department of International Development, 2005, pp.5-8.
[150] Flint, De Waal, *Darfur.*
[151] T.J. Byres, 'Neoliberalism and Primitive Accumulation in LDCs', Alfredo Saad-Fliho, Deborah Johnston (eds.), *Neoliberalism*. London: Pluto, 2004.
[152] Interview in Khartoum June 2011.
[153] 'Sudan. An Island unto Itself', *The Economist*, 3 August 2006
[154] ICG, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*.

an inescapable austerity programme to deal with reduced oil revenues after July 2011, ordinary citizens, who didn't benefit much from fast growth, face cuts in subsidies and public services.[155] This could morph into another *intifada*, like in 1964 and 1985: many believe that a promised privatisation campaign to relieve Sudan's debt and increase the economy's dynamism will once more result in a transfer of assets from the state to the oligarchs that have already done so well under Islamist rule. Not delivering on rising expectations while inequality continues to widen, is dangerous as history shows.[156]

A possibly even more serious threat emanates not from the squeezed masses and lower middle class, but from the elites themselves. The gathering economic storm is leading to profound discontent among business leaders and the globalised upper middle class, many of whom feel that the bonanza of the post-Turabi decade is over and that the government wasted a unique opportunity to strengthen the economy's productive base, mishandling education and labour market reform. The South's departure implies a significant fiscal crunch (a 25-30% loss in government revenue) and the disappearance of Khartoum's number one foreign exchange source. The central bank has been scrambling to contain the crisis, with foreign reserves only able to cover a handful of weeks of imports. Together with the prospect of years of austerity ahead, this is triggering a rethink about supporting Al-Ingaz. Dal Group CEO Usama Daoud, who admits having made huge profits since 1989 but believes the contradictions of the Salvation economy are now insurmountable, voiced the general disillusionment: "We have a lost a third of the country. Moral standards have gone down under Ingaz rule. And most people are poorer in real terms, despite economic growth. The Islamists have nothing to offer."[157] Given the equally profound doubts that many senior figures in (what remains of) the HI have about the state of Al-Ingaz, this leaves the regime increasingly, and dangerously, dependent on its security wing.

[155] 'Sudan's Finance Minister Paints Grim Picture After South's Separates,' *Sudan Tribune,* 18 October 2010.
[156] James C. Davies, 'Toward a Theory of Revolution', *American Sociological Review*, Vol.27, 1, 1962, pp.5-19.
[157] Interview in Khartoum, June 2011

Conclusion

This chapter began by explaining the genesis of the "hydro-agricultural mission"- how an unprecedented Dam Programme and an attempted revival of agriculture were the result of the convergence of political changes and oil exports. I showed how elite rivalries were key in (re-)shaping state-building, institutionalised violence and paradigms of riverain development. As Turabi's former lieutenants tried to reinvent Al-Ingaz, they shifted claims to legitimacy from an Islamic Revolution to peacemaking and economic salvation. Taha, Hamdi and others decided that the regime couldn't just be another petro-dictatorship relying on easy rents, but had to aim at creating a new society. The self-perception is still that of a "Revolution".

I detailed the instrumentalisation of water and agriculture in Islamist state-building in Sudan. An 'imminent' green revolution is yet again seen as the key to long-term political power: the guiding logic of the Agricultural Revival and the Dam Programme, as lead by Usama Abdallah's DIU, is to create the material basis for another generation of Islamist hegemony. The dams and Al-Nahda Al-Zira'ayah concentrate investment and energy on the Dongola-Kordofan-Sennar axis, the "Hamdi Triangle", where historically political and economic power has been rooted: the dams and irrigated agricultural projects consolidate rather than overhaul Sudan's political economy. Accompanying these large structural interventions is a high modernist discourse of civilisation that is both a tool in the hands of the revolutionary elites and an expression of how they see the world. The language about water, civilisation and power is remarkably similar to Muhammad Ali's agrarian reforms, Nimeiri's Breadbasket and the British designs for Gezira and King Cotton.

The big problem is that Al-Ingaz' master plan for long-term dominance might collapse under its own contradictions- cf. the fiascos of similar revolutionary civilisation projects discussed in the introduction. The Salvation has stifled discussion of its vision of the water-agriculture nexus, but

criticism about the DIU's modus operandi and the very idea of dams and capital-intensive agriculture is mounting. The more information is revealed, the less the hydro-agricultural mission looks visionary and the more it appears to be Sudan's costliest mirage in the desert: massive financial and ecological costs and highly questionable benefits.

Even if, following James Ferguson, there is a clear logic to dysfunctionality, the hydro-agricultural mission risks fatally undermining itself, particularly as doubts about Al-Ingaz' management of Sudan's natural resources extend to the overall economy. Instead of supporting the Islamist "competence agenda", ordinary people and businessmen complain that tamkin means enrichment of a predatory elite that is widening inequality and sinking the economy. Chapter 7 details the local resistance against the Dam Programme and the violence it (re)produces; the next chapter concentrates on the emerging new geopolitics of the Nile and the roles of Egypt, the Gulf Arabs, China and Ethiopia in the international political economy of the hydro-agricultural mission.

Chapter Six

The Geopolitics of the Nile: Khartoum's Dam Programme and Agricultural Revival in a new Global Political Economy

The hydro-agricultural mission aims to consolidate long-term Islamist hegemony by reinforcing the traditional core of Sudan's hydropolitical economy. But the links between water, political power and visions of civilisation have been shaped by broader regional dynamics too; external forces help reproduce the violent politics surrounding Sudan's water-agriculture nexus. Patterns of state-building internally have always been linked to global politics and circuits of accumulation, as made clear in the introduction.[1] The Ottoman invasion of Sudan was the result of Egypt's reinsertion in the world economy and Muhammad Ali's geopolitical dreams; the British re-conquest in 1898 was linked to the Nile's role in preserving the stability of the imperial system of security and commerce; and Nimeiri's Breadbasket sought to make Sudan an agricultural superpower by feeding the world through Gulf Arab investment.

The complex, dynamic interaction with outside actors, which stems in important part from the state's relative weakness, continues to co-determine Sudan's hydropolitical economy.[2] This chapter analyses the geopolitical context in which Al-Ingaz has launched hydro-agricultural mission; it underlines the continued importance of extraversion to Islamist Khartoum but also shows how the mission has in turn begun to shape the region, as part of an emerging political-economic configuration. The regime's relations with the outside world first prevented progress on the economic salvation agenda, but have, since 2000, been a catalytic factor. The Dam Programme and Al-Nahda Zira'ayah are integral to a new international political economy of food, water and energy: Sudan's resource potential is once again being re-embedded in global and regional flows.

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[1] Theda Skocpol, *States and Social Revolutions*. Cambridge: Cambridge University Press, 1979.
[2] Christopher Clapham, *Africa and the International System*. Cambridge: Cambridge University Press, 1996.

After years of confrontation, post-Turabi rapprochement between Khartoum and Cairo created the political space to build the Merowe Dam. This led to a return of the Gulf Arabs who are the chief funders of Khartoum's dams an important beneficiaries of the revival of irrigated agriculture. The third crucial partner for the mission is China- as the main dam builder in the Nile Basin, as an importer of Sudanese oil and as a rising power seeking to produce food overseas, it plays a central role in a changing international political economy. I discuss these actors' motives and strategies and their relevance to Islamist state-building and politics.

The chapter concludes with a discussion of the changing regional geopolitics of the Nile and how they intersect with the triangular flows between Sudan, the Arabian Peninsula and East Asia. Al-Ingaz has been the key factor in eroding the old hydropolitical status-quo that locked in Egypt's hydro-hegemony, but the contradictions of its own hydro-agricultural mission are being exposed by the new regional dynamics, which represent a double-edged sword for Khartoum. The shift to a new global political economy strengthens the imperative of regional cooperation to meet massive economic and ecological challenges in the Horn of Africa. But it also destabilises long-established equilibriums and could lead to a new phase of upstream-downstream confrontation.

The Shadow of the Pharaohs: Egypt, Sudan and the Hydropolitical Status-Quo

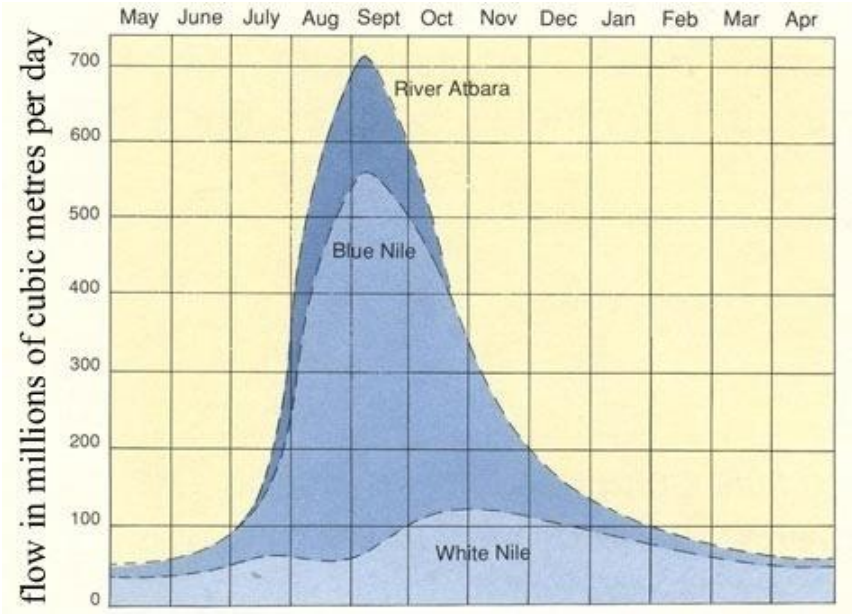
Egypt's security obsession and Sudanese agency

Sudan's water-agriculture nexus has historically been profoundly influenced by Egypt; today, the Salvation's state-building project cannot be discussed without analysing Al-Ingaz' turbulent relationship with Egypt. This section will assess the drivers behind Egyptian policies vis-à-vis Sudan and demonstrate how they have shaped the linkages between water, civilisation and power and limited the policy options available to successive Sudanese regimes.

Water has always been the central theme in Sudanese-Egyptian relations. As mentioned earlier, ever since Napoleon's invasion the Nile has been seen as the bedrock on which to build the modernising dreams of Egypt's rulers. Yet the river, which sustains 97% of renewable water resources[3], is also the country's lifeline. In the early 19th century, population hovered around 2,5m and labour –not land or water- constrained agricultural production.[4] However, by 1980 the population reached 40m while the area of cultivated land didn't even double; today, Egypt has more than 80m citizens. Producing food for the expanding population and creating jobs for millions of new entrants to the labour market has worried policy-makers since Muhammad Ali. The Nile is Egypt's number one national security interest: because the vast majority of water is contributed by the Blue Nile –almost three quarters of the total[5]-, relations with Sudan and Ethiopia are crucial.

[3] International Water Management Institute, *Institutional Settings and Livelihood Strategies in the Blue Nile Basin: Implications for Upstream/Downstream Linkages*. Addis Ababa: IWMI, Working Paper 132, 2008.
[4] Dale Whittington, *Water management in Egypt: A case Study of Aswan High Dam*. University of Texas, Austin, PhD thesis, 1980, pp.16-17.
[5] Table retrieved from http://www.mbarron.net/Nile/fctfl_nf.html

Figure 6 *Annual Nile Flow*



Egypt's strategy has since 1800 relied on consensus among political elites: ensuring regional dominance through assertive action, to sustain a political economy that favours a militarised aristocracy with a strong grip over the riverain lands that will be irrigated with Nile waters. Centralised control over water allocation –and associated zero-sum policies vis-à-vis competitors in the Nile Basin- is key to resurrecting Egyptian greatness and dealing with the enormous domestic challenges.[6] Since independence, the Nile and the Sudan dossier have been handled by *Al-Mukhabarat*, Egypt's powerful intelligence service.

This dominance of the security services has institutionalised a defensive outlook; Cairo has operated in unilateral fashion whenever possible and pre-empted alternative visions of Nile water resources development, including through coups and clandestine operations. The 1929 and 1959 treaties locked in its "hydro-hegemony"[7], as does the Aswan Dam, which ended the Nile flood that brought life for thousands of years, replacing it with year-round irrigation and central regulation by engineers

[6] Tareq Y. Ismael, *The UAR in Africa. Egypt's Policy under Nasser*. Evanston: Northwestern University Press, 1971, pp.112-122.

[7] Mark Zeitoun, Jeroen Warner, 'Hydro-Hegemony- a framework for analysis for transboundary water conflicts', *Water Policy*, Vol.8, 5, 2006, pp.435–460.

so Egypt could control its own destiny, Nasser argued.[8] Cairo has also worked through its American ally and by wielding considerable influence in international financial institutions against the construction of upstream hydro-infrastructure, threatening consequences if Ethiopia, Uganda or Sudan would 'tamper' with the White or Blue Nile. This is the background for Anwar Sadat's warning following the Camp David peace agreement with Israel: "The only matter that could take Egypt to war again is water."[9] These threats, a "sanctioned discourse"[10] invoking historical rights, has discouraged Western countries, Gulf Arab states and the World Bank from funding projects without Egypt's explicit approval.

This ruthless defence of the status-quo is recognised, in the Realist tradition, to be highly effective at securing Cairo's interests. However, the fundamental problem remains that Egypt's security paradigm rests on a geopolitical contradiction that explains why Cairo can never fully feel secure 'in charge of its own destiny'.[11] While reserving the bulk of Nile waters for consumption by Egypt and preventing the construction of hydro-infrastructure on the river seemingly prevents the nightmare of being taken 'hostage', it actually sets Cairo on a permanent collision course with upstream countries. Its unilateralism towards the basin and its interference in Sudan's internal politics explain the revanchist feelings of regional players and their determination to "smash the status-quo".[12] It has arguably made Egypt less, not more, water secure and doesn't offer a long-term solution to fears of running out of water, food and jobs.

Egypt's aspirations to greatness prompted it to colonise Sudan in the 19th century. This established it as the Nile's hydro-hegemon which, in turn, ensured that despite Sudan's independence in 1956, it has remained a key factor in Sudanese politics. Nasser was not able to persuade the Sudanese of the

[8] M.A. Abu-Zeid, F.Z. El-Shibini, 'Egypt's High Aswan Dam.' *Water Resources Development*, Vol.13, 2, 1997, pp.209-217.

[9] Shlomi Dinar, 'Water Wars? Conflict, Cooperation and Negotiation over Transboundary Water.' Velma Grover (ed.), *Water. A Source of Conflict or Cooperation?* Enfield: Science Publishers, 2007, p.23.

[10] John Anthony Allan, *The Middle East Water Question: Hydropolitics and the Global Economy.* London: IB Tauris, 2001.

[11] John Waterbury, *Hydropolitics of the Nile Valley*. Syracuse University Press: Syracuse, 1979.

[12] Interview with one of Ethiopia's most senior diplomats, Addis, May 2010.

necessity of the unity of the Nile Valley, but Egypt continued to define the policy space available to Sudan's rulers. Cairo relied on the Khatmiyya and the Al-Mirghani dynasty and actively supported General Abboud's takeover in 1958, who in turn managed the Nubian protests against Aswan.[13]

When after Abboud's fall a Mahdist government oversaw the completion of the Roseires Dam and was close to reaching an agreement on raising it with the World Bank in the late 1960s, Al-Mukhabarat intervened again. A heightened Roseires dam would imply Egypt losing 4bn m^3 of water that flowed to it for free, despite legally being part of Sudan's share under the 1959 treaty. A senior Egyptian intelligence asset confirmed to me that Nimeiri's putsch was backed by Cairo: a string of socialist coups across the Arab world between 1968 and 1970 gave Nasser renewed momentum after the devastating 1967 war, but Nimeiri's was the most critical of all of them.[14] The idea of heightening Roseires was shelved, with Khartoum's leftist rulers instead focusing on the Breadbasket and irrigated agriculture in Rahad, underwriting the hydropolitical status-quo.

Cairo served as a gatekeeper in Sudan's dealings with the Arab world and the West while retaining a de facto veto right over who in Sudan could be appointed Foreign Minister and Minister of Water Resources and Irrigation.[15] Just how loyal Sudan was to Egypt became clear during the Jonglei Canal saga: Nimeiri imposed the project, which would free up billions of cubic metres of water for Egyptian agriculture, even though it increasingly alienated Southerners and became a *casus belli*. To local communities, the Canal symbolised how Nimeiri would rather please his Egyptian 'overlords' than consider the livelihoods of Southerners.[16]

The link between Jonglei and the SPLA/M rebellion was one of several reasons for Cairo's opposition to the latter, which was seen as proxy for Mengistu's Ethiopia –and therefore a mortal enemy- and a threat to the hydropolitical status-quo. In case Garang ever conquered Khartoum, the concern was that he would support upstream countries' demands to revise the 1959 agreement; in case of peace with the SPLA/M, Egypt feared the South would insist on self-determination, again leading to a

[13] Ismael, *The UAR in Africa*, pp.176-193.
[14] Series of interviews in September 2011, Khartoum.
[15] Interviews with several veteran leaders of Nimeiri's regime, April 2010-May 2011.
[16] Douglas Johnson, *The Root Causes of Sudan's Civil Wars*. Oxford: James Currey, 2003, pp.47-48.

destabilisation of the equilibrium in the Nile Basin. Neither was acceptable: Cairo backed Khartoum's insistence on the unity of Sudan and confrontation with Marxist-Leninist Ethiopia and its allies.[17]

Hosni Mubarak versus Turabi's Salvation Revolution

Egypt's traditional policy was destabilised by Omar Al-Bashir's coup and the emergence of militant Islamism in Khartoum. Egyptian intelligence had been monitoring the unrest in the army and had tacitly signalled its approval, but completely misread the putsch. Al-Mukhabarat was caught unprepared, but quickly endorsed the new regime, thinking it was a traditional military coup that would guarantee Egypt's interests. Hassan Al-Turabi's deception, necessary because Cairo would never tolerate an Islamist government in Khartoum given its obsession with the Muslim Brotherhood, worked superbly: Hosni Mubarak recognised Bashir's RCC and even introduced the regime's figureheads to Arab and Western leaders after June 1989, showering praise on Sudan's new order. In the words of one Egyptian intelligence asset, *"We thought they were our boys."*[18]

The realisation that Al-Harakat Al-Islamiyyah dominated Al-Ingaz and was launching an Islamic Revolution, humiliated Cairo. Disbelief turned into anger, as Turabi began implementing his independent foreign policy -for the HI, Sudan's role as Egypt's "slave" was one of the main reasons for the broken dreams of independence- and backed Saddam Hussein's invasion of Kuwait while Egyptian forces joined the American-led coalition. Mustafa Ismail later reflected on how Sudan paid a high price for Turabi's gamble-*"*We suffered a lot for our independence from Egypt*"*[19]-, as 1990-1991 marked the start of his country's pariah status in the international community. Inside Egypt, the religious establishment of Al-Azhar demanded a confrontation, threatened by Turabi's openly Pan-Islamic discourse including calls for a revolutionary revival from Algeria to Indonesia. The Sheikh's

[17] Gérard Prunier, 'Sudan's Regional Relations', John Ryle et al (eds), *The Sudan Handbook*. Suffolk: James Currey, 2011, pp.153-154.
[18] Interview in Khartoum, September 2011.
[19] Interview in Khartoum, March 2011.

dreams of becoming a "Sunni Khomeini" through his idiosyncratic fusion of modernisation and fanaticism represented an existential threat to the "Sultanic clergy" and the "Pharaoh" alike.[20]

Despite Cairo's anger, it could do little to reverse Khartoum's assertiveness. Islamists and generals were, like in Egypt, supposed to be enemies, but their alliance in Sudan and subsequent repression of other political forces, meant that Al-Mukhabarat had few options to reverse its intelligence blunder; apart from John Garang and the Southern secessionist Riek Machar, there was hardly anyone left to work with. Egypt chose to contain Sudan, endorsing the isolation of Al-Ingaz the West and Gulf Arabs helped organise and threatening consequences if Turabi tampered with the Nile waters. Cairo ruled out backing the SPLA/M or other drastic policy reversals.

The failure of Egyptian containment became visible in 1995, the highpoint of the Salvation's revolutionary fervour. The Mubarak assassination attempt brought Khartoum and Cairo to the brink of war; Egyptian forces moved into the disputed Halayeb Triangle on the Sudanese-Egyptian border and Egyptian and Ethiopian diplomats urged UN sanctions against Sudan. Islamist extremists hoped that murdering Mubarak would trigger the *intifada* that did not take place when they killed Sadat in 1981, with Sudanese intelligence operatives providing assistance in the Addis Ababa plot in the context of exporting the revolution.[21] Mubarak and Omar Suleiman, Al-Mukhabarat spymaster between 1993 and 2011, personally blamed Turabi for the conspiracy –despite, allegedly, receiving evidence that mostly implicated Taha[22]-, not least when the Al-Ingaz godfather suggested in July 1995 that Sudan might withhold Nile water. The Egyptian President responded that "those who play with fire in Khartoum ... will push us to confrontation and to defend our rights and our lives."[23]

[20] Interview with Mudawi Al-Turabi, September 2011.
[21] Interview with Hassan Al-Turabi, September 2011.
[22] Interview with key players in Al-Ingaz, May 2011-September 2011.
[23] Hosni Mubarak interview with Al-Ahram in July 1995, quoted on http://www.africa.upenn.edu/Newsletters/SDate611.html, last checked on 6 December 2011.

Egypt and Sudan ultimately pulled back from the abyss- they had little to win from open war.[24] Despite Turabi's provocations, Al-Ingaz knew that military confrontation would probably spell its own demise. Cairo hesitated to invade Sudan, realising that occupation would be costly, and instead backed the American agenda of regime change through regional proxies. Al-Mukhabarat supported the National Democratic Alliance, which aimed to unite the SPLA/M and the Northern opposition. However, while the outrage following the Mubarak assassination attempt had pushed Egypt to reverse decades of foreign policy and join forces with its old Ethiopian enemy and upstream countries like Kenya and Uganda[25], by 1997 the SPLA/M advance was giving Cairo cold feet. Growing pressures on Khartoum contributed to rising tensions within the Salvation over Turabi's "reckless" policies; in Cairo, in turn, worries grew about what would happen if the SPLA/M actually won and whether it would 'compensate' its African allies by demanding a new hydropolitical architecture.[26]

Isolation meant that Al-Ingaz was cut off from international funds necessary to build hydro-infrastructure that could potentially threaten Egypt's national interest- the disappearance of rents drawn from global economic flows can be crippling for African states.[27] According to Water Minister Yacoub AbuShora, Turabi ordered the heightening of the Roseires Dam in 1993, but lacked the USD$300m needed to complete the project[28]; similarly, a contract was signed to build a dam at Kajbar with the Russian firm Hydroprojekt in 1995 to generate 300MW in power and irrigate 400000feddans[29] but financial difficulties doomed the project- similar problems haunted Hamdi's reforms and the push for permanent self-sufficiency in wheat. The constraints on Turabi's space to execute his threats eased Egypt's anxiety. However, Cairo still lacked the policy tools and creativity to

[24] Interview with Osman Al-Sayed, May 2011.
[25] Gérard Prunier, 'Rebel Movements and Proxy Warfare. Uganda, Sudan and the Congo (1986-1999).' *African Affairs*, Vol.103, 2004, pp.359-383.
[26] Interview with Mustafa Ismail, March 2011.
[27] Jean-François Bayart, 'Africa in the World: A History of Extraversion', *African Affairs*, Vol.99, 2000, pp.217-267.
[28] Interview in Khartoum, September 2011.
[29] 'Kajbar Dam Figures', *PanaPress*, 2 May 1995, http://www.africa.upenn.edu/Newsletters/SDate611.html, last checked 6 December 2011.

influence Al-Ingaz beyond containing it. Ultimately the stalemate was broken by an internal power struggle in Khartoum, for which Al-Mukhabarat's support, though important, was not decisive.[30] The emergence of the Bashir-Taha duopoly led to re-engagement between Egypt and Sudan- and ended the hydropolitical status-quo in the Nile Basin with a hyper-ambitious Dam Programme.

Sudanese-Egyptian Rapprochement: the deal that enabled the hydro-agricultural mission

The removal of Hassan Al-Turabi as supreme leader fundamentally altered Sudanese-Egyptian relations once again. This rapprochement between Khartoum and Cairo happened with remarkable speed and was critical in allowing the Salvation's 'new' leaders to consolidate their rule. I argue that without this diplomatic breakthrough it would have been virtually impossible for the military-Islamist regime to launch its hydro-agricultural mission. The successful reinvention of Al-Ingaz depended on improving its foreign relations, particularly with the Arab world, to re-open patterns of extraversion and allow it to launch its grand plans.

One of the central puzzles that scholars have so far overlooked is how Khartoum succeeded in obtaining Egyptian permission for starting a hyper-ambitious Dam Programme and building the Merowe Dam –the biggest infrastructure project on the Nile since Aswan- within eighteen months of Hassan Al-Turabi's demise. For decades, no Sudanese government had the money or the Egyptian authorisation required to build major dams on the Nile; the democratically elected Hizb al-Umma government was ousted in 1969, pre-empting the heightening of Roseires. Relations between Sudan and Egypt reached an all-time low during the first ten years of the Salvation. The last thing one would thus expect is an Egyptian green light for a series of controversial projects on what for centuries has been identified as its key national interest by a regime it thoroughly hated. Yet that is exactly what transpired: Egypt's U-turn was implicit in the signing of the funding agreement for the Merowe Dam

[30] Interviews with Hassan Al-Turabi, Qutbi Al-Mahdi, Amin Hassan Omer, Mustafa Ismail and other protagonists, April 2010-October 2011.

in 2001 between Sudan and several Gulf Arab partners. According to Ghazi Salah-ud-Din, "Something happened".[31] What does that mean and how can this volte face be explained?

The previous chapter detailed the growing tensions within Al-Ingaz following the Mubarak assassination attempt- rising doubts about Turabi's foreign policy became entangled in a power struggle. The split's bottom-line was control over the regime, but this shouldn't obscure differences in vision. The Turabi camp continued to believe in the Salvation as a comprehensive project, with a slightly toned down foreign policy and a democratisation effort (on Al-Ingaz' terms) that would empower Islamists from the peripheries. The security wing demanded normalisation by reaching out to Egypt and the Arab world, abandoning Islamic social engineering and concentrating on Sudan's traditional riverain core.[32] The disgruntled HI leaders under the aegis of Ali Osman Taha swung the balance by throwing their weight behind Bashir: Generals and Islamists found a compromise in the competence agenda and the hydro-agricultural mission, not quite the Thermidor many Sudan analysts have assumed. The regime made important concessions to the conservative-traditionalist agenda of Sudan's old power elite, but would still be called Al-Ingaz and more than ever pursued economic salvation.

The new collective leadership acted with great speed to make the switch from ideological claims to legitimacy to economic ones. A foreign policy driven by Realpolitik instead of Pan-Islamic fantasies was essential[33]; Taha and his allies agreed that if Khartoum could persuade Egypt to normalise relations, the rest of the Arab world would follow and even the West might be persuaded to end its "siege" of Sudan. Cairo was seen as a test case, but was also critical in its own right. The Al-Ingaz leadership wanted the dams to become the icons of the Salvation's state-building project, both as a symbol of civilisation and through the associated material benefits. But building dams was impossible without Egypt's consent, if only because the Gulf Arab development funds and bilateral aid flows

[31] Interview in Khartoum, October 2011.
[32] Interviews in Khartoum, December 2010-October 2011.
[33] Interview with Amin Hassan Omer, September 2011.

were conditional on improved relations with Cairo.[34] Reconciliation was critical if the hydro-agricultural mission was to take off.

Immediately after Bashir's Fourth of Ramadan decrees, Egypt was wooed in order to re-establish working relations with the Mubarak regime.[35] Bashir visited Cairo less than 14 days after the Sheikh's removal to underline the regime's new outlook on the world, while Mubarak endorsed the presidential decrees to restore order in Sudan.[36] The charm offensive was led by Ali Osman, Salah Gosh and Mustafa Ismail who represented different factions –the religious radicals, the security apparatus and the pragmatic, evolving Islamists- but together underlined the importance of getting rid of Hassan Al-Turabi who was blamed for all evils. Abdelrahman Al-Khalifa, a Taha confidante, captured the message his boss brought to Cairo: "He [Turabi] was such a stumbling block before 1999...Whenever the government wanted to mend fences with the Egyptians, he made a statement the next morning to torpedo our efforts...For Turabi it was not a question of peace or war, but power."[37]

While Al-Mukhabarat initially doubted a co-conspirator rupture had taken place[38] (the humiliation of misreading 1989 still fresh in their minds), the bitter exchanges between Turabi and his ex-lieutenants confirmed that the Salvation had indeed split. The Al-Ingaz representatives were warmly received in Cairo, not least because Hosni Mubarak personally hated Turabi and believed that his fall would deal a lethal blow to Islamism internationally: consolidating the post-Turabi regime had to be a top priority to capitalise on the defeat of the 'extremists'. Mubarak tended to read Sudan in dichotomous terms- Dr Ghazi later observed that "Egypt never understood the delicate chemistry between the army and the Islamists."[39]

[34] Interviews with Abdelrahim Hamdi & Egyptian intelligence sources, February-September 2011.
[35] 'Sudan woos world after Turabi sidelined', Reuters, Khartoum, 12 March 2000.
[36] 'Egypt and Sudan repair relations', *BBC*, 23 December 1999, http://news.bbc.co.uk/1/hi/world/africa/576380.stm
[37] Interview in Khartoum, September 2011.
[38] Interviews with Egyptian intelligence sources in Khartoum, September 2011.
[39] Interview in Khartoum, October 2011.

Moreover, with containment and the regime change agenda in the doldrums, rapprochement appealed to Cairo, eager as it was to regain some influence –Khartoum had established an unprecedented degree of independence- and to prevent it from making amends with Ethiopia first and possibly redrawing the regional map after the Meles-Issayas war of brothers (1998-2000).[40] Qaddafi's Libya and Moi's Kenya were already exploiting Cairo's absence by positioning themselves as mediators in the Khartoum-SPLA conflict. Under Mubarak, Egypt had lost much of the influence it enjoyed in both Africa and the Middle East, but Al-Mukhabarat believed that pulling Sudan out of the radical Islamist camp would represent a major diplomatic coup for Egypt.[41] The alternative might be that, armed with petrodollars, Khartoum would continue to export the revolution and possibly use its cash to build dams on the Nile, perhaps in tandem with Ethiopia. One of Egypt's senior Sudan policy-makers summarised the bottom-line: "We cannot afford to lose them again."[42]

Taha, Gosh and Ismail were treated with more enthusiasm than they expected, as they sold the message of internal regime change. Between December 1999 and mid-2001, a series of breakthroughs reshaped the regional political landscape, with Hosni Mubarak's April 2003 visit to Sudan as the capstone of successful rapprochement. Within a year and a half after the Sheikh was removed, the contours of a pragmatic, more or less comprehensive settlement of the main differences between secular-militarist Cairo and military-Islamist Khartoum became identifiable, but remained relatively well hidden from the public; the details were never publicised.

Egypt and Sudan agreed to normalise diplomatic relations and let the issue of the disputed Halayeb Triangle rest, which implied a de facto admission by Sudan that Egypt's control over the area would not be challenged. Sudan would also cease its destabilisation efforts –both the Pan-Islamic rhetoric and possible support for an uprising in Egypt- and expel or arrest the remaining militants of Al-Jihad Al-Islami Al-Masri and Al-Gama'a Al-Islamiyyah, as well as compensate some of the Egyptian business

[40] Interview with Lam Akol, May 2011.
[41] Interviews with Egyptian intelligence sources, September 2011.
[42] Interview in Khartoum, June 2011.

interests that had been harmed after the 1989 Revolution. In a symbolic move on 10 February 2000, Bashir closed the offices of the PAIC, the "Islamist Internationale" that represented Al-Ingaz' export of the revolution.[43] In exchange, Egypt was willing to put in a good word with Washington and help Sudan end its pariah status among the Arab countries, brokering another rapprochement.[44] It also asked the UN Security Council to lift diplomatic sanctions, considering the Addis Ababa incident "closed" without ever putting on trial a Sudanese national for involvement in the plot, though it made clear it knew who was involved.[45] Finally, Cairo indicated its readiness to accept an ambitious Sudanese Dam Programme, knowing that it would lead to almost a doubling of Sudan's use of the Nile waters and vastly decrease the water Egyptian farmers had been using for free for decades.

It must be underlined that though this represented a fundamental policy reversal by Cairo, it was not just a major concession aimed at building a new relationship with Khartoum and consolidating 'pragmatic' forces there; Egypt itself stood to benefit in a strategic sense from a switch in approach, or so it thought.[46] Dams in Sudan reduce the sedimentation problem that is eroding Aswan's capacity (and help prevent acute problems with salinity facing Egyptian farmers) by transferring the issue to Sudanese territory where Merowe, Kajbar and Shreiq will lose capacity due to alluvial sediment, thus prolonging the lifespan of the High Dam.[47]

Moreover, accepting a Sudanese Dam Programme was the price Egypt was willing to pay to buttress the hydropolitical status-quo, tying Sudan's interests close to its own: a strengthened alliance of the two downstream countries has helped Cairo prevent isolation in the renegotiation of the 1959 treaty following the creation of the Nile Basin Initiative (NBI) in 1999 as a multilateral platform for discussion.[48] Egypt and Sudan have cited historically acquired water rights to oppose fundamental

[43] 'Khartoum drops support for Turabi's international Islamic movement', AFP, 11 February 2000.
[44] Interviews with Hassan Al-Turabi, December 2010-September 2011 .
[45] Interview with Qutbi Al-Mahdi, September 2011.
[46] Interview with Ahmed Adam, May 2011.
[47] Jamie C. Woodward, Mark G. Macklin, Michael D. Krom, Martin A.J. Williams, 'The Nile: Evolution, Quaternary River Environments and Material Fluxes', Akhil Gupta, *Large Rivers. Geomorphology and Management*. Chichester: John Wiley & Sons, 2007, p.284.
[48] Harry Verhoeven, 'Black Gold for Blue Gold? Sudan's Oil, Ethiopia's Water and Regional Integration', London: Royal Institute for International Affairs/Chatham House, 2011.

change, arguing that they both have expensive infrastructure that they have to use for irrigation, given how little rainfall their agriculture gets; Merowe and the heightened Roseires Dam will allow Sudan to use its full quota of 18.5 billion m³ of Nile water. This gives Al-Ingaz a major interest in defending the current equilibrium: reductions in their water quota would lead to economic adjustments that are too painful, according to Cairo and Khartoum.

A final area of renewed Sudano-Egyptian cooperation as part of the comprehensive reset of relations concerned migration, labour and agriculture. Between 2002 and 2004, Mustafa Ismail and Interior Minister Abdelrahim Hussein lobbied for a treaty that would allow Egyptians and Sudanese to move freely between both countries, own property and work without restrictions.[49] According to one of Bashir's cousins, "The Four Freedoms Agreement was meant to seal the dark episode of the 1990s"[50], but the document is controversial. Many Sudanese consider it a sell-out and denounce continued visa requirements for Sudanese travelling to Egypt; none exist for Egyptians, who have come to Khartoum, Nubia and Gezira and settled there in large numbers (possibly exceeding one million), which helps ease Egypt's population surplus. It is claimed that some of the best (irrigated) farmland by the Nile has been given to Egyptian agro-interests as part of Al-Nahda Zira'ayah- possibly up to 1m acres; protests against Minister of Agriculture Al-Muta'afi's designs have led to a retraction of the most far reaching plans, though ideas about bringing more productive Egyptian farmers to Sudan still linger among the Al-Ingaz elite.[51] The Agricultural Revival and the Dam Programme are from this perspective not in Sudan's interest, as the main benefits from using the extra water and prime land accrue to foreign entrepreneurs. Critical Sudanese citizens feel punished twice: once by Al-Ingaz' export of the revolution and the economic isolation this brought, and once by the price Sudan has had to pay to atone for the Islamists' sins.

[49] Interview in Khartoum, March 2011.
[50] Interview with Mohamed Yousef in Khartoum, May 2011.
[51] Ali Abdalla Ali, Egypt's Takeover of Sudan's Gezira. Khartoum, 19 December 2010, http://www.sudantribune.com/Egypt-s-takeover-of-Sudan-s-Gezira,37336; 'Sudan to bring in foreign farmers', *Sudan Tribune*, 28 October 2011.

In sum, rapprochement between Sudan and Egypt was essential in enabling Al-Ingaz' Dam Programme, though today relations between Khartoum and Cairo still cannot be called cordial; there is a considerable degree of mutual disappointment and the demise of Hosni Mubarak is unlikely to change that.[52] After 9/11, Salah Gosh's NISS strongly cooperated with the CIA and Al-Mukhabarat, sharing critical information on Al-Qaeda, which had found refuge in Sudan.[53] Al-Ingaz has been disappointed that this has neither led to a lifting of US sanctions (or a scrapping of Sudan off the terrorist sponsoring states list), nor to stronger pro-Khartoum advocacy by Cairo in Washington.[54] Moreover, Al-Ingaz leaders complain about too little Egyptian investment in Sudanese agriculture and services, not too much.

Cairo was disillusioned by the realisation that despite Turabi's departure and considerable de-radicalisation in Khartoum, Islamists continued to play a key role and maintained parallel relations with Hamas and other Palestinian radicals. Mubarak and Suleiman were convinced that Al-Ingaz' failure to completely break with its revolutionary past and its mishandling of the Darfur conflict should be blamed for botched re-engagement with the West, not Egypt. And finally, Cairo bemoaned the CPA, which conceded the right to self-determination. Egypt had virtually no impact on the design of the agreement and immediately feared the consequences of possible secession on the hydropolitical status-quo, urging Ali Osman and Bashir to abandon Sharia in exchange for John Garang and his successor Salva Kiir subscribing to a united Sudan.[55]

When by 2009-2010 it dawned that neither the NCP nor the SPLA/M was making unity attractive, Cairo switched tactics and grudgingly accepted what it had fought for over half a century- Southern Sudanese independence.[56] One senior Egyptian foreign policy advisor highlighted that "We had to show the North our power and flexibility by engaging unilaterally with the South."[57] Egyptian

[52] Interviews with Qutbi Al-Mahdi, May-September 2011.
[53] International Crisis Group, *Divisions in Sudan's Ruling Party and the Threat to the Country's Future Stability*. Brussels: ICG, 2011, p.12.
[54] Interview with Mustafa Ismail, March 2011.
[55] Interviews with CPA negotiators and key advisers for the SPLA/M and NCP, December 2010-October 2011.
[56] Interviews with Atim Garang, December 2010-March 2011.
[57] Interview in Khartoum, June 2011.

intelligence officers reached out to Juba, offering financial support for social and infrastructural projects, much to Al-Ingaz' dislike, according to former (SPLA/M) Foreign Minister Lam Akol.[58]

[58] Interview in Khartoum May 2011.

The New Global Political Economy of the Nile: the Gulf Arabs

The most important consequence of Sudanese-Egyptian rapprochement was that Cairo accepted a Sudanese Dam Programme. But another outcome was that it enabled improved relations with the Gulf Arab states, which, after the Egyptian green light, were willing to fund Usama Abdallah's dams. As the Arabian Peninsula became increasingly worried about its own food and water security, Gulf Arabs expressed strong interest in Sudan's Agricultural Revival, committing themselves to major investments in capital-intensive production in riverain zones. This section provides historical and political background to these trends and analyses the *quid pro quo* by which Sudan's water and agricultural resources are being inserted into a new global political economy in exchange for the funding that advances Al-Ingaz' hydro-agricultural mission. Theoretically, it builds on the literature on narratives and political economy discussed in the introductory chapter; I show how Sudan's re-embedding in patterns of extraversion was partly driven by a careful discursive manipulation, or what Bayart calls "trickery", through African agency.[59]

From Euphoria to Confrontation

As highlighted in chapter three, economic integration between Sudan and the dominant Gulf Arab states –Saudi Arabia, Kuwait, United Arab Emirates and Qatar- was central to Nimeiri's designs for restructuring the fabric of society and catapulting Sudan to regional greatness. Long-standing connections with the Arabian Peninsula go back to the Red Sea trade and Ottoman rule over the Hejaz, Egypt and Sudan; moreover, the main route for hajj from West and Central Africa to Mecca and Medina ran through Sudan. In the decades after independence, hundreds of thousands of Sudanese –some without many skills, others highly qualified professionals and intellectuals- migrated

[59] Bayart, 'Africa in the World', p.259.

to the Gulf. They became an important source of remittances for the Sudanese economy and facilitated political and economic exchanges.

In the 1970s, Saudi Arabia and its neighbours gained in prominence as oil prices soared and Egypt lost influence after Israel's triumph in 1967: the Gulf monarchies sought to simultaneously become regional leaders and secure their own long-term welfare. As global narratives of resource crunches leading to a collapse in world food production proliferated[60], the Gulf Arab states felt vulnerable because of domestic resource constraints but also sensed an opportunity to deploy capital in politically advantageous ways. While expats underlined Sudan's potential as a possible answer to Arab needs (from oilseeds and meat to wheat and millet), Gulf Arab diplomats tried to exploit Nasser's death in 1970. Their influence increased through economic partnerships and new regional organisations dominated by Riyadh and Kuwait City.[61]

Ja'afar Nimeiri intended to be part of the Arab resurgence, hoping to translate it into domestic political supremacy. The Breadbasket was the ideal instrument to achieve these ambitions, as it gave Sudan the opportunity to raise its international profile by appearing to be the answer to regional resource problems, while solving Khartoum's own weaknesses.[62] Nimeiri's regime had been influenced by the Nasserite revolution but knew that Cairo would not be able to bankroll his big push in agriculture.

The Arab Fund for Social and Economic Development (AFESD) was established in 1972-1974 by the Arab League, promoting regional integration and funding big investment projects from Kuwait. The AFESD became Khartoum's prime partner in the Breadbasket; its "Basic Programme" echoed the dominant ideas of the time, providing a rationale for a privileged partnership between Sudan as a resource supplier and the Arabian Peninsula as its main financier and consumer: the growing "food gap" in Gulf countries threatened to thwart the 'Arab resurgence'. The huge 'empty' lands that the

[60] Donella Meadows, Dennis Meadows, Jorgen Randers, W.W.Behrens, *The Limits to Growth*. London: Earth Island, 1972.
[61] Eckart Woertz, *Oil for Food. Middle East Food Security and International Agro-Investments*. Oxford: Oxford University Press: forthcoming, pp.141-148.
[62] Mansour Khalid, *Nimeiri and the Revolution of Dis-May*. London: KPI, 1985, pp.62-6, p.335.

AFESD identified –an often trumpeted (largely fictional) number was that of 200m acres that should be brought under cultivation with 'free' water, Western technology and Arab capital- could turn Sudan into an agricultural powerhouse within ten years, with the Arab Authority for Agricultural Investment and Development (AAAID) overseeing an investment injection of USD$6bn.[63]

The priority was irrigated production –and diversifying away from cotton into cereals- and mechanised farming in Kordofan, Blue Nile and the East, which dovetailed with Nimeiri's aggressive penetration of the rural bases of his opponents. The AFESD accepted the traditional pattern of development in Sudan and its assumptions about water and land and underwrote the regime's state-building strategy, packaged as economic empowerment of the rural poor. By the mid-1980s, more than 40% of the Arab world's edible oil import, 15% of its wheat demand and 20% of its sugar needs would come from riverain Sudan and previously 'idle' lands in the interior. Given ecological constraints on the Peninsula, the Sudanese breadbasket was essential for guaranteeing 'Arab' food self-sufficiency by the end of the century, which would break the Western stranglehold and give it foreign policy autonomy.[64]

As analysed previously, less than a decade after the dreams of Arabo-Sudanese integration, all partners had to conclude that the Breadbasket was a *fata morgana*. Everybody was disappointed: the Nimeiri regime, which noted that neither production nor productivity had been transformed and now confronted a rapidly rising debt mountain; the Sudanese water-agriculture establishment, which complained that the promised billions of dollars never made it to Sudan and that too many projects were abandoned too soon; the Gulf Arab investors, whose cornucopian dreams had been torpedoed by Sudan's bureaucracy, recurrent food production problems and broken promises of assistance; and, above all, the people of the peripheries who had been violently displaced and faced greater food insecurity –even famine- and ecological degradation of their lands. The reasons for the Breadbasket fiasco were plentiful and complex, but the chief cause was that power politics and

[63] Jack Kaikati, 'The Economy of Sudan. A Potential Breadbasket of the Arab World?', *International Journal of Middle Eastern Studies*, 11, 1, 1980, p.100.
[64] Woertz, *Oil for Food*.

deliberate enrichment of a class of crony bureaucrats and capitalists trumped any ecological or economic arguments, thereby removing the foundations of any successful agricultural transformation.

If the 1980s saw mutual disappointment, the 1990s were the decade of mutual hostility. The removal of the pro-Libyan Sadiq Al-Mahdi was initially welcomed, but when the Al-Ingaz Revolution's ambitions emerged and Turabi refused to support the Kuwaiti-Saudi front and their American protectors following Saddam's invasion, relations collapsed. Even before 1989, Turabi's idiosyncratic mix of liberalism, fanaticism and opportunism sat uncomfortably with archconservative Gulf royals. Al-Harakat Al-Islamiyyah's profile rose in the 1970s and 1980s through the emerging nexus between banking, agricultural entrepreneurs, the military and the Islamists, with Gulf capital as a key enabling factor, but this shouldn't be equated with unequivocal support from Arab capitals for Sudan's HI. While individual princes in Saudi Arabia and the Al-Thanis in Qatar sympathised with Turabi's proposed Islamic Revival, for many others he was too progressive, too autonomous and too unpredictable, already well before the Revolution.[65]

While in retrospect many Islamists regret Al-Ingaz' decision to oppose the UN-sanctioned intervention to liberate Kuwait, the Salvation believed it had strong popular support for its 'third way' in international relations, calling on solidarity between Arabs internally instead of bringing in 'neo-colonial' powers. Turabi had chosen the Gulf War as his big coming-out, deliberately taking a position diametrically opposed to that of Sudan's traditional partners to underline his revolution in foreign policy.[66] The ferocious Arab reaction to Khartoum's 'disloyalty' indicated that there would be no way back. Diplomatic relations were suspended by Kuwait, followed by a massive pull-out of investment by almost all Gulf Arab states.[67] Tens of thousands of Sudanese guest labourers were expelled from Saudi Arabia; Sudan's share of Gulf Arab overseas development assistance shrank by a

[65] Interviews with Hassan Al-Turabi, Al-Tayib Zain Al-Abdin, Ghazi Salah-ud-Din, December 2010-October 2011.
[66] Interview with Mohamed El-Amin Khalifa, February 2011.
[67] Gilles Kepel, *Jihad*. London: IB Tauris, 2002, pp.181-184.

factor 10 in the 1990s.[68] Al-Ingaz became an international pariah but Turabi hailed the rupture with countries that were still 'slaves' to the West. He sought support from Iraq and Iran, two other outcasts who established economic partnerships with Khartoum and provided military assistance. He provocatively invited dissidents from across the Muslim world to Sudan, including the core of Al-Qaeda, and challenged the clerical establishment in Al-Azhar and Saudi Arabia, positioning himself as a rival centre of authority in Sunni Islam.

While Turabi's export of the revolution earned him the nickname "the (black) Pope of Terrorism" in international media[69], the chief problem with Al-Ingaz' foreign policy lay, I argue, in the domestic realm. Economic Salvation had been a top priority but Hamdi's ESP depended on international funds to ease the shock that would come with moving from a socialist to a deregulated economy; to implement all the envisaged projects–including self-sufficiency in strategic crops through irrigated production and the heightening of the Roseires Dam-, huge capital influxes were required. Isolation made this impossible, particularly when the IMF and World Bank left and the Gulf Arabs, who were expected to provide the bulk, ended their cooperation: while Turabi kept underlining how Al-Ingaz' four grand objectives were mutually reinforcing, the reality was that his foreign policy clashed fundamentally with Hamdi's plans for the economy.[70] The Salvation tried to turn its pariah-status into a nationalist symbol of self-reliance with its signature slogan –*"We eat what we grow and we wear what we make"*- but key hydro-agricultural and infrastructural projects became unaffordable. Turabi ordered the heightening of Roseires on the Blue Nile to Egypt's fury, but due to lack of funds only small-scale preparatory works occurred. The choice gradually became clear: a radical, autonomous and strongly ideological foreign policy or progress on the Economic Salvation agenda.

[68] World Bank*, Arab Development Assistance. Four Decades of Cooperation*. Washington DC: World Bank, 2010.
[69] Thomas Joscelyn, 'The Pope of Terrorism', *The Weekly Standard*, Washington DC, 25 July 2005.
[70] Interview with Qutbi Al-Mahdi, September 2011.

The Return of the Gulf Arabs and Sudan's dams

The growing contradictions culminated in the power struggle that ended Turabi's hegemony. For Sudan's 'new' rulers, re-establishing relations with the Gulf Arab monarchies became a priority, part of the same logic that propelled them to seek rapprochement with Cairo. If Al-Ingaz was to successfully redefine itself through switching from ideological to economic legitimisation of its rule, foreign policy would be the key instrument at easing the external pressures and providing Khartoum with the funds to deliver for the constituencies identified as key to regime survival.

Historically, the contours of Sudan's interactions with the Gulf Arabs were defined by Egypt, with the states of the Arabian Peninsula relying on Cairo's judgement to assess Sudanese politics and only investing if it didn't harm Egyptian interests. The highpoint of Egypt's role as a gatekeeper was Nasser's reign, but even under Sadat and Mubarak it was considered unthinkable for Egypt and the Gulf states to pursue radically different policies. The absolute 'red line' was the Nile: whatever plans for water resources development the Sudanese had, Cairo held a de facto veto over possible Arab involvement, which in turn has always been a conditio sine qua non for the Sudanese to get their projects funded.

Thus, as Taha and Bashir launched their charm offensive vis-à-vis Egypt, they simultaneously reached out to Saudi Arabia, Kuwait and the Emirates, with most of the diplomatic legwork carried out by Foreign Minister Mustafa Ismail who headed Sudan's High Investment Council to symbolise the link between improved foreign relations and Al-Ingaz' competence agenda.[71] Using some of the old Islamist economic networks on the Peninsula, personal contacts between Al-Ingaz fellow travellers and Arab princes paved the way for a normalisation of ties once the informal package deal with Cairo had been confirmed. Although even the Sheikh, in his final years at the helm, had come to recognise that relations needed to be improved and had endorsed a symbolic re-opening of the Sudanese embassy in Kuwait in 1997 following Osama Bin Laden's departure to Afghanistan, Turabi's demise

[71] Interview in Khartoum, February 2011.

was received enthusiastically. UAE President Sheikh Zayed Bin Sultan Al-Nahyan had counselled Bashir and Hamdi to move against Turabi so that relations with Egypt and the Emirates could be restored- it was a precondition for re-engagement.[72] Al-Ingaz promised Zayed, the Al-Sabahs and the Al-Thanis to become a respectable partner, accepting that mistakes were made in the revolutionary 1990s. This admission, taken together with Khartoum's rapprochement with Cairo, opened the door for a return of the Gulf Arabs to Sudan on an impressive scale.

Embassies were reopened and expanded, private investors took another look at Sudan's agricultural potential and key individuals reaped handsome benefits after the diplomatic 'reset'. In 2002, Saudi Prince Walid Bin Talal was given a monopoly on sheep exports, estimated to be worth over USD$300m, handling the lucrative trade around the hajj pilgrimage as well as day-to-day business with Gulf Arab countries.[73] Another Al-Ingaz fellow traveller, Sudanese-Saudi entrepreneur Salah Idriss, acquired major stakes in the abattoirs of Omdurman, giving him a dominant position in the meat-processing industry.[74] Gulf Arabs also moved into Sudan's nascent oil industry, as the Al-Thani Investment Group of Sheikh Abdullah Bin Saeed Al-Thani (who controls crucial parts of the Sharjah and Dubai economy) became a partner in the Petrodar consortium that exploits Upper Nile's Block 3 and 7.[75]

The real prize for Al-Ingaz was the financial support it obtained for the hydro-agricultural mission. The Dam Programme required complex funding arrangements with bilateral and multilateral partners to pay the multibillion dollar projects over the next decades. The first petrodollars flowing into the Sudanese treasury helped to underwrite such arrangements, but in and by themselves wouldn't suffice, nor would normalised diplomatic relations guarantee the financial commitments the Bashir-Taha team was seeking. This was the context in which Abdelrahim Hamdi was brought back as Minister of Finance in 2001: Hamdi's return was of high symbolic value –although associated

[72] Interview with Abdelrahim Hamdi, February 2011.
[73] 'Saudi Billionaire Signs Agreement Worth US $330 Million in Sudan,' *Associated Press*, 29 September 2002.
[74] Coalition for International Justice, *Soil and Oil. Dirty Business in Sudan*. Washington DC: CIJ, 2006, p.72.
[75] UAE Firm Al-Thani Builds Assets in Africa, Targets Mideast', *International Oil Daily*, 3 March 2005.

with the most radical period of Al-Ingaz rule, he was also the architect of the landmark liberalisation and embodied the idea of economic salvation- and would be crucial in making the transition from ideological radicalism to output legitimacy. Hamdi, because of his decades-long experience in international finance and his historical role in the HI, was ideally placed to reach out to senior decision-makers on the Peninsula.[76] Moreover, he was one of the strongest proponents of Sudan's Dam Programme –and Merowe especially-, seeing it as the essential instrument to strategically recalibrate Sudan's (hydro)political economy in the Dongola-Kordofan-Sennar triangle.

While Bashir, Ali Osman and Mustafa Ismail concentrated on direct bilateral diplomacy, Hamdi privately contacted Abdellatif Youssef Al-Hamad, the Kuwaiti head of the AFESD and a personal friend who had lived in Sudan in the 1960s and worked with Hamdi in London in the 1980s. Al-Hamad was a confidante of the Emir of Kuwait, having served as Minister of Finance; he was -and is- one of the most important players in Gulf Arab high finance, with several Sudanese technocrats as his assistants.[77] Hamdi believed that if Al-Hamad and the AFESD –and thus, implicitly, Kuwait- could be persuaded of the Salvation's good intentions and the need to fund its competence agenda, other partners on the Arabian Peninsula would follow suit.

Hamdi and Sabir Mohamed Hassan, Central Bank Governor and another old friend of Al-Hamad, argued the case for Merowe emphasising how fragile the reform process of Al-Ingaz was and how desperately Sudan needed a developmental transformation. Following a final two hour meeting held in 2001 over Saudi and Sudanese airspace between Hamdi, President Bashir and Al-Hamad, the latter committed not just to AFESD funding Merowe, but to ten huge infrastructural projects in the Hamdi Triangle of which the lion's share would go to the Dam Programme. The deal ended "the lost decade" between Sudan and the Gulf Arab states, a personal triumph for Abdelrahim Hamdi whose return

[76] Interviews with leading HI members, December 2010-May 2011.

[77] Arab Thought Foundation, 'Curriculum Vitae of the Winners in the 2010'. Kuwait, http://www.arabthought.org/en/taxonomy/term/478

was a key factor in allowing Al-Ingaz to shift from being an international pariah in 1999 to getting its most ambitious developmental project funded within a period of eighteen months.[78]

Table 3. Main Funders of the Merowe Dam[79]	
Sudanese Government	USD$924m
People's Republic of China	USD$520m
Arad Fund for Economic and Social Development	USD$520m
Saudi Development Fund	USD$210m
Kuwaiti Development Fund	USD$200m
Sultanate of Oman	USD$200m
Government of Qatar	USD$16m

Further diplomacy by Hamdi, Ismail, Awad Al-Jaz and Zubeir Ahmed Al-Hassan (long-time Minister of Finance and Energy) yielded substantial results. The official numbers highlight the important role of Gulf Arab funding –about half of the cost of Merowe- but there is reason to believe this understates the contribution made by Kuwait in particular to the Dam Programme. The DIU and Ministry of Finance keep changing the official price-tag and, off the record, technocrats estimate that the cost of Merowe might be double the official DIU figure- in the region of USD$5bn, Usama Abdallah's "associated projects" probably included. The real cost has almost certainly been funded in the short term by Gulf Arab lending and oil exports (in the case of China), which means that even the official USD$924m the Sudanese government has supposedly paid for Merowe has really come from external (often Kuwaiti) sources. A lot of this money, however, has not been channelled to Sudan as a grant or concessional funding (which the numbers above refer to) but at commercial rates. The long-

[78] This entire section is based on interviews with Abdelrahim Hamdi, Sabir Mohamed Hassan and high ranking civil servants, April 2010-May 2011.

[79] Dam Implementation Unit, *Merowe Dam Project: A Battle of Dignity and Independence of Decision*. Khartoum: DIU, 2010, p.5.

term financial burden of Merowe on the Sudanese treasury will be substantially higher than is publicly admitted by the DIU.[80]

The heightening of Roseires is entirely funded by the AFESD, the Islamic Bank for Development, the OPEC fund, the Abu Dhabi Development Bank and the Kuwaiti Fund for Arab Economic Development (KFAED)[81], which, through a concessional loan, is financing half of the official cost (USD$212m)[82]; while the KFAED estimates the final tally will be USD$800m[83], insiders expect the total cost to be closer to USD$1bn rather than the DIU figure of USD$400m. The KFAED, which is run by Kuwait's Deputy Prime Minister, is also a major funding partner for the Upper Atbara and Siteit Project and has total official funding commitments in Sudan that exceed USD$600m.[84]

The New Global Politics of Agriculture

The Dam Programme is not the only key element of the hydro-agricultural mission that relies heavily on Gulf Arab capital. Al-Nahda Zira'ayah aims to turn Sudan into an agricultural superpower, realising its 'historic mission' as the Breadbasket of the Middle East. The ARP is sold as a wiser update of Nimeiri's plans to Gulf Arab investors: a return to, not rejection of, his model, with adjustments here and there. Over the past five years, Saudi, Kuwaiti and Emirati investors have re-embraced Sudan, seduced by Al-Ingaz' cornucopian discourse that has accompanied its hydro-agricultural mission and

[80] The section on funding the dams is based on interviews with Ahmed Adam, Seif Hamed Abdalla, Hamad Karori and Abdelrahim Hamdi, September 2009-May 2011.
[81] Dam Implementation Unit, *The Heightening Project*. DIU website, last checked on 3 November 2011, http://diu.gov.sd/roseires/en/raising_project.htm
[82] 'Kuwait extends 212m loan for Sudan's Roseires Dam', *Sudan Tribune*, 7 January 2008.
[83] Kuwait Fund for Arab Economic Development, *Signing a Loan Agreement in the Republic of Sudan*. 4 May 2009, http://www.kuwait-fund.org/index.php?option=com_content&task=view&id=299&Itemid=90
[84] Kuwait Fund for Arab Economic Development, *Signing a Loan Agreement in the Republic of Sudan*. 22 December 2010, http://www.kuwait-fund.org/index.php?option=com_content&task=view&id=474&Itemid=90&lang=en

argued the necessity of building dams and re-launching irrigated agriculture even before the post-oil era. As Hamdi put it: "The areas around us would like to eat wheat, not drink petroleum."[85]

This then seems to be the other side of the comprehensive rapprochement between Sudan, Egypt and the Gulf Arabs after 2000- Khartoum putting its agricultural potential at the disposal of capital-intensive projects that are closely linked to a new global political economy of food and water. Since the start of the 21st century multiple factors have converged, raising concerns about a Malthusian crunch, associated violent conflict and a destabilisation of the world economy. The growing impact of climate change; Asia's rising demand for resources; speculation on global markets; under-investment in food supply expansion; the marginalisation of millions not benefiting from globalisation; and Western interest in bio-fuels have all contributed to soaring commodity prices and pushing water and food security up the international agenda.[86] In 2008, prices broke records, pulling 50 million people back into absolute poverty[87]; the rising cost of staple food and youth unemployment have been named as a prominent factor in triggering the Egyptian Revolution. Asian, Arab and European investors, often with close links to their governments, have bought massive tracts of land in developing countries to reduce their dependency on volatile markets and gain direct control over the 'ever scarcer' areas of production in the future.[88]

These fears are particularly acute on the Arabian Peninsula, where major food and water deficits are already experienced. This can only be remedied through massive imports (at ever higher costs) of agricultural produce and virtual water (i.e. goods with a lot of water embedded in their production-process), or extremely expensive desalinisation techniques and domestic irrigation.[89] After years of criticism, several Gulf Arab states, including Saudi Arabia[90], have made progress on phasing out

[85] Interview in Khartoum April 2010.
[86] Olivier De Schutter, *Access to Land and the Right to Food. Report presented to the 65th General Assembly of the United Nations*. New York: Office of the UN Special Rapporteur on the Right to Food, 2010; Frederik Kaufman, 'How Goldman Sachs Created the Food Crisis.' *Foreign Policy*, 27 April 2011, http://www.foreignpolicy.com/articles/2011/04/27/how_goldman_sachs_created_the_food_crisis?page=full
[87] Ban Ki-Moon *Millennium Development Goals Report*. New York: United Nations, 2008.
[88] Lorenzo Cotula, Sonia Vermeulen, Rebeca Leonard, James Keeley, *Land Grab or Development Opportunity?* London: International Institute for Environment and Development, 2009.
[89] Tony Allan, *Virtual Water*. London: IB Tauris, 2011, pp.239-268.
[90] 'Saudi Arabia scraps wheat growing to save water', *Reuters*, 8 Jan 2008.

controversial schemes like growing wheat in the desert. While widely hailed as a step forward, it did little to reassure those concerned about safeguarding Middle-Eastern food and water security.[91] Amidst the Malthusian frenzy, sovereign wealth-funds and private companies are willing to spend billions on securing vital nodes in the food chain: Sudan, because of historical memories about the Breadbasket narrative, because of geographic proximity and cultural similarities, and because the Sudanese government has been so keen on re-engagement, has become an obvious destination of Gulf Arab money.

Gulf states and their government-backed corporate entities spent USD$15bin in FDI in sub-Saharan Africa just in 2007-2008, much of it on water and agriculture-related projects.[92] Over the past five years, spectacular deals between Arab investors and the Al-Ingaz regime have proliferated. Saudi, Jordanian, Iranian, Egyptian, Qatari and Kuwaiti consortia have invested in hundreds of thousands of acres of land for irrigated farming, mainly in the riverain core of Sudan –Sennar, Gezira, River Nile State- as well as in Gedarif, Shamaliyya and White Nile State. Emirati organisations are said to already control 2800km² of farmland[93] (to grow Sudanese sorghum for Emirati camels), while Saudi farms outside Ad-Damer produce wheat for Saudi consumption and the Jordanian army has its own huge plots of land for beans and tomato cultivation by the Nile. Al-Nahda Zira'ayah foresees a stampede of Gulf Arab capital in the next couple of years: Khartoum's offer of free land, cheap labour and free water –and plentiful tax exemptions- hopes to attract an average of USD$1bn per year in foreign direct investment.[94]

Al-Ingaz' hydro-agricultural mission is once more inserting Sudanese agriculture and water resources in the global economy, reconfirming a pattern of interaction that goes back to Muhammad Ali's era and that is illustrative of Africa's role more broadly as commodity provider for the global economic

[91] Food and Agriculture Organisation, *GIEWS Country Brief on Saudi Arabia*. FAO/GIEWS, 17 October 2011, http://www.fao.org/giews/countrybrief/country.jsp?code=SAU
[92] 'Persian Gulf States Bet on Africa Despite Downturn', *Wall Street Journal*, 23 February 2009.
[93] 'UAE has over 2,800 sq km in Sudan farms', *Emirates 24/7,* 13 October 2010.
[94] 'Sudan seeks to attract $1bn for agriculture projects', *Sudan Tribune*, 17 August 2008.

system in the last five centuries through conscious agency of its elites.[95] State-building in Sudan has always followed contractions and expansions of its engagement with regional and global capital circuit; all regimes that have ruled over Egypt and Sudan have believed that 'civilisation' is only possible through a project of leveraging Arab-African natural wealth on international markets for grand development. The international political economy of the dams makes in that respect perfect sense- it's hard not to see a *quid pro quo* when bilateral and multilateral partners from the Arabian Peninsula are funding Al-Ingaz' Dam Programme but stand to benefit from the new irrigation potential that is created through their investments.

The Upper Atbara and Siteit projects will dramatically expand the possibilities for irrigated agriculture in Eastern Sudan, a region that has long been eyed by Arab investors.[96] The Abu Dhabi Fund contributed USD$200m to Merowe in soft loans (while also acquiring a big share in the company that owns many of Sudan's Presidential villas), probably with an eye to developing 70000 feddans for corn, alfalfa and wheat cultivation, together with the AAAID.[97] The most important example is the new reservoir of the heightened Roseires Dam, which should irrigate 1,5 to 2m feddan on the Western and Eastern shore of the Blue Nile, as respective extensions of Rahad and Kenana. Due to DIU reluctance to publicise who will cultivate these immense areas and what crops will be grown, rumours circulate that Kuwaiti and Emirati entrepreneurs will benefit from the heightening- not coincidentally often linked to the Kuwait and Emirati entities that are funding the infrastructural upgrade.[98]

The fact that Kenana especially stands to benefit from the Roseires project is indicative of the strengthening of a nexus between the DIU, foreign investors and Sudanese-led agro-businesses, with the Kenana Sugar Company (KSC) emerging as the industry's leader. Founded back in the 1970s as a joint venture between European expertise, Gulf Arab finance and socialist Khartoum, KSC symbolised

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[95] Jean-François Bayart, *The State in Africa*. London: Longman, 1993, pp.21-24.

[96] Kuwait Fund for Arab Economic Development, *Signing a Loan Agreement in the Republic of Sudan*. 22 December 2010, http://www.kuwait-fund.org/index.php?option=com_content&task=view&id=474&Itemid=90&lang=en

[97] 'Abu Dhabi looks to Sudan to secure food supply', *Financial Times*, 3 June 2008.

[98] Fieldwork and interviews in Khartoum, Blue Nile State, White Nile State and Sennar, August-September 2009.

the partnership underpinning the Breadbasket, relying on the Nile's blue gold to produce 'white gold' and 'green gold' in the barren plains of White Nile State on the world's largest sugar plantation.[99] KSC, which is jointly owned by the Sudanese state, Kuwait (30%) and Saudi Arabia (10%) and a number of Arab investment companies (20-25%), survived both the collapse of the Breadbasket and the freeze in diplomatic relations after the Gulf War and is considered by the ARP's architects as the model firm for Sudanese agriculture.[100] It exports to the Middle East and Indian Subcontinent and employs more than 16000 people while using 7000m litres a day on an estate of 100000 acres of irrigated cane fields.

Built through subsidies accruing to billions of dollars over the years, extensive tax exemptions and all-out political support, Kenana is a high-modernist enclave of development in the desert, with its own electricity generators (the third biggest in the country before Usama's Dam Programme), schools, security service and state-of-the-art hospital amidst dire poverty in the region.[101] Its recently opened ethanol plant aims to tap into the bio-fuel hype, supplying European markets, while in October 2009 CEO Mohamed Al-Mardi announced the signing of an agreement to create a USD$1bn private equity enterprise to finance KSC's Grand Sugar Plan on which Al-Nahda Al-Zira'ayah relies to further develop Sudan's agro-industrial complex with Egyptians and Gulf Arabs as privileged partners.[102] Unsurprisingly, the main partner in the Muhaseel Fund for Financing Agriculture is the Al-Ingaz regime which is injecting far more into highflying capital-intensive production than is being spent on supporting the millions of smallholders around the country.

No company better exemplifies the links between water, civilisation and power in Sudan and the international political-economic lock-in of the breadbasket, yesterday and today. KSC's board of directors consists of prominent fellow travellers of the Salvation. Al-Ingaz ministers refer to Kenana

[99] Kenana Sugar Company, 'History', KSC website last consulted on 3 November 2011, https://www.kenana.com/pagecontents.aspx?pageid=1

[100] Interview with Abdallah Ahmed Abdallah, December 2010.

[101] Fieldwork and interviews in White Nile State, September 2009 & December 2010.

[102] Institute of Developing Economies, *Kenana Sugar Company*. Japan External Trade Organisation, website last consulted on 4 November 2011, http://www.ide.go.jp/English/Data/Africa_file/Company/sudan04.html

as "a bit of Europe and Dubai in Sudan"[103], a civilisational milestone that should serve as an inspiration to the Sudanese people. It has in recent years been asked to expand into irrigated schemes and various sectors outside sugar in White Nile, in the belief that the "Kenana magic" can spearhead the Agricultural Revival. Many of these interventions in Suki and Rahad have been controversial, where KSC was effectively asked to run the schemes, replacing government administrators. Kenana's initiatives have been chaotic, costly and inefficient, leading to a further deterioration of already faltering efforts at increasing productivity and reducing water consumption, according to international and domestic experts.[104] KSC lacks the knowhow to successfully grow cotton, wheat, sorghum or other key crops, one critic says: "[In Rahad] everything went wrong…You are very impressed by someone in his engineering capacities but you are now asking him to do a surgeon's job."[105]

Moreover, they contest its claims to be a model even in the sugar industry: despite disproportionate fiscal advantages and huge market power, profit margins remain relatively thin and productivity disappointingly low. The underlying reasons are not just inefficiencies in production, but the central role Kenana plays in Sudan's 'sugar system' and its labyrinth of subsidies, taxes and import monopolies, which means that a ton of 'white gold' in Khartoum costs double what it costs on the world market (despite Sudan annually producing 800000tons), squeezing consumers and channelling surplus to NCP controlled businesses and paramilitary groups: the sugar industry brings little real development to Sudan.[106] Ahmed Adam, the long-serving Undersecretary of the Ministry of Water Resources and Irrigation, had no hesitation in describing the idea of KSC as a model for the Agricultural Revival as "the Kenana Illusion".[107]

[103] Interview with Abdelhalim Al-Muta'afi, March 2011.
[104] Interviews with Mohamed Abdelgadir, Alemu Asfaw, Mekki Mirghani and Abda Al-Mahdi, September 2009-September 2011.
[105] Interview with Ahmed Kabaj, September 2011.
[106] Interview with several of Sudan's top civil servants in Khartoum, March 2011.
[107] Interview in Khartoum, May 2011.

Gulf Arab investment in the dams and irrigated agriculture is critical to the new global political economy of the Nile and Al-Ingaz' hydro-agricultural mission, a 21st century reinvention of the Breadbasket. Worryingly, the Salvation's Agricultural Revival is resembling Nimeiri's fantasy in its conceptual framework and illusory assumptions about rural development, but also in its problematic implementation and widespread disappointment among all stakeholders. On the one hand, big tracts of agricultural land are put at the disposal of wealthy investors to produce food for Middle Eastern markets with little benefits for Sudan (given the extensive tax waivers and long-term leases); supposedly empty lands along the River Nile are cleared of local people (often triggering conflict, like in Sennar where Qatari business practices infuriated traditional farmers[108]) and huge amounts of water have to be reserved for cereal production for Emirati animals, while Sudan suffers from an increasingly costly food imports bill and widespread malnutrition.

On the other hand, disappointment already seems to be setting in among investors. Despite the plethora of advantages offered to capital-intensive schemes, the reality is more complex than a simplistic 'land grab'.[109] While it is undeniable that many high profile deals regarding land acquisitions, water use and agricultural investment have been signed, it remains unclear how many have actually materialised into productive enterprise. Statistics at the Ministry of Investment are patchy and often classified, though I have been shown data for Khartoum State, a major FDI destination, and projects of national interest, which nuances the euphoria of eye-catching media-announcements: especially for agriculture a big implementation gap exists.

[108] Interviews with IFAD staff monitoring the conflict, June-September 2011.

[109] Michael Kugelman (ed.), *Land Grab? The Race for the World's Farmland*. Washington DC: Woodrow Wilson Center for Scholars, 2009.

Table 4. Approved versus Implemented Foreign Investments for Khartoum State and National Projects[110]			
Sector	***Number of Projects***		***Percentage of Approved to Implemented***
	Approved	Implemented	
Industry	1001	300	30%
Services	865	188	18%
Agriculture	100	17	17%
Total	1966	505	20%

Other statistics show that Egypt, Saudi Arabia, Jordan, Morocco, Kuwait, Qatar, Syria and the Emirates have been the top investors in Sudanese agriculture in the past five years but that the amounts of funds injected into Sudan fall short of the projected USD$1bn annually; 25% of that seems more realistic.[111] Moreover, there are indications that even on existing projects the intended transformation of Sudanese agriculture through free water, free land and foreign capital is not happening. The Hashemite Kingdom of Jordan, which was the first Arab country to reconcile with Sudan, signed an extremely advantageous (and recently confirmed) agreement with Al-Ingaz in 1998[112], which allows cultivation of 2,5m feddan north of Khartoum for cereals and animal fodder along the banks of the Main Nile for a 70 year period. The deal enables full capital mobility and the right to export all end products of Jordanian agricultural investments. Firms may employ only Jordanian staff and are there are no domestic content requirements regarding machinery or tools used on the projects. However, due to bureaucratic red tape and hidden taxes, unexpected financial constraints and doubts about the productivity gains feasible on the lands allocated, the planned mega-investment has not fully materialised.[113]

Government-to-government discussions in 2010 have led to additional concessions; Al-Ingaz seems desperate for the deal to go through. Yet according to many internal critics, the dossier exemplifies

[110] The Research & Information Department of the Ministry of Investment shared this data in March 2011.
[111] Data shown in March 2011 in Khartoum at the Ministry of Investment.
[112] 'Jordan to move forward on agricultural investments in Sudan', *Sudan Tribune*, 11 April 2009.
[113] 'Sudan mega-project hits new snag', *Jordan Times*, 7 July 2010.

why Al-Nahda Al-Zira'ayah is probably a misguided idea in its current conception (were the investment to happen, the gains for Sudan would be pitiful) and unlikely to live up to its utopian promises- yet another fata morgana that leaves everybody disappointed: the Khartoum government; the foreign investors; their Sudanese partners; and local populations.[114]

[114] Interviews in the Ministry of Agriculture, International Cooperation, Investment and Water Resources & Irrigation, September 2009-September 2011.

The New Global Political Economy of the Nile: China

Beijing as an emerging dam superpower

The interaction between Al-Ingaz, Egypt and the Gulf Arabs is critical to understanding the origins of the hydro-agricultural mission and the shape it has taken on. Yet the new hydropolitical landscape in Sudan and the wider region is also the product of China's growing presence. This section discusses Beijing's catalytic role in the hydro-agricultural mission and its key position in a triangular flow of funds and goods between Sudan, the Arabian Peninsula and East Asia.

Much has been made of China's 'petro-partnership' with Sudan and the criticism levelled at Beijing for supporting Khartoum during the Darfur conflict but far less attention has been paid, by scholars or activists, to China's dam building in the Nile Basin (with the exception of the International Rivers Network). Just as analysing Al-Ingaz necessitates a discussion of economic salvation and the hydro-agricultural mission, so any discussion of the new hydropolitics is incomplete without contextualising China's extraordinary exports of hydro-infrastructure.

The early 21st century has witnessed a remarkable reversal of fortunes for big hydro-electric dams, which are regaining their place as one of the favourite development tools of elites in large swathes of the world. Once considered economic masterstrokes that were essential to a country's growth, opposition steadily grew in the developed world in the late 20th century. The industry overcame the loss of OECD-markets by migrating to the Global South, with Western donors financing dams as aid, under the banner of sustainable development and apolitical poverty alleviation.[115] Yet particularly from the 1980s onwards, local communities contested the costs of "dam megalomania", including

[115] Ann Danaiya Usher, *Dams as Aid: a political anatomy of Nordic development thinking.* London: Routledge, 1997.

the displacement of millions, destruction of ecosystems, lack of democratic debate and corruption. Dams went out of development fashion and in 2000 the World Commission on Dams called for fundamental reforms of the practices of international organisations and national governments.[116]

However, dams have staged a comeback. Whereas the World Bank remains cautious in funding projects, China has emerged as the world's 'dam superpower'. Home to the record-breaking Three Gorges Dam as well as thousands of smaller ones, Beijing sees hydro-infrastructure as essential to its growth miracle. The flood control and irrigation that dams enable, as well as the thousands of megawatts of power they generate, have been critical inputs for industry's and agriculture's breathtaking expansion. It is not a coincidence that the Chinese Communist Party's politburo is dominated by engineers: the combination of Marxist-Leninism and engineering science leads to deeply held beliefs about social transformation through top-down interventions and micro-managing water flows.[117] Beijing acknowledges the 'unpleasant' side-effects and has improved compensation schemes for displaced populations (one million people alone due to the Three Gorges Dam).[118] There is no question, however, that the benefits far outweigh the costs: dams are development.

As China has intensified its economic interactions with Latin America, Asia and Africa, its dam building has often been overlooked; petro-dollars and the import of copper, uranium and food crops attract more attention.[119] Chinese companies are now involved in more than 250 different foreign dam projects[120], leading an energy and agriculture revolution by working in the world's most challenging locations and accepting contracts rejected by traditional partners.[121] Chinese banks emerge as a veritable alternative to IFI conditionality and lavishly fund African hydro-infrastructure

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[116] World Commission on Dams, *Dams and Development: a New Framework for Decision Making.* Virginia: Earthscan, 2000.
[117] Richard McGregor, *The Party: The Secret World of China's Communist Rulers.* London: Allen Lane, 2010.
[118] Michael M. Cernea, Hari Mohan Mathur (eds.), *Can Compensation Prevent Impoverishment? Reforming Resettlement through Investments and Benefit-Sharing.* Oxford, Oxford University Press, 2008, pp.82-90.
[119] Chris Alden, Daniel Large, Ricardo Soares de Oliveira (eds.), *China Returns to Africa*. London: Hurst & Co, 2008.
[120] International Rivers, 'China Overseas Dam List'; http://www.internationalrivers.org/en/node/3110
[121] Ana Maria Cascão, 'Changing Power Relations in the Nile River Basin: Unilateralism vs. Cooperation?' *Water Alternatives,* Vol.2, 2, 2009, p.260.

through cheap loans, raising fears about the growth of a new debt mountain just when Western countries have finally cancelled longstanding arrears.

Beijing's export of its dam model is led by Sinohydro Corporation, the world's number one hydroelectric company. It has a self-declared market share of over 50% of new dams being built worldwide. Sinohydro, headed by the powerful party loyalist Fan Jixiang, is a state-owned conglomerate dominating the entire spectrum of dam-related activities, from building and engineering consultancy over investment and maintenance to R&D. As part of the Chinese government's preference for multi-year package deals, Sinohydro, through its myriad subsidiaries, is Beijing's privileged company to rehabilitate hospitals in Angola, execute Libyan housing schemes, implement Algerian irrigation projects and construct railways in Congo. Dams remain the jewels in its crown: Sinohydro claims to have installed 130000MW in hydropower capacity -20000MW just in 2009- and has broken records in terms of size, construction speed and cost of dams. Sinohydro's African operations account for 42% of its non-Chinese profits.[122] It has built –or is building- dams in 25 African countries.

Sinohydro is also the leading partner for Al-Ingaz' Dam Programme. The conglomerate sees its activities as a model for its 'go-out' strategy in other developing countries: if Sudanese oil was once CNPC's trophy project, then the Merowe Dam is Sinohydro's shining example. Beijing spares no costs to back this bold push into new markets; Sinohydro's AAA credit-rating is underpinned by the China EXIM Bank, China Development Bank and Construction Bank of China. Unsurprisingly then, in Sudan and elsewhere in Africa, Sinohydro has been both celebrated and vilified because of its game changing role in hydropower development.

[122] Sinohydro Company presentation, via http://eng.sinohydro.com/en/; last checked 23 January 2012.

"The Sino-Sudanese Model of Development"

Plans for a big expansion of hydro-infrastructure are not new in Sudan, as this thesis has consistently argued, but foreign technical expertise, political support and financial backing has always been necessary to translate them into physical realities; despite the independentist Islamist discourse, extraversion is an enduring reality. Al-Ingaz has worked hard to turn dependence on external partners into an advantage, using its resources to tie itself closer to vital allies as it remains isolated from the West. Oil and dams have been the key ingredients of a Sino-Sudanese partnership that has always held mutual disappointments for both Khartoum and Beijing –one diplomat described it as "a marriage of convenience with our only alternative"[123]-, but overall is considered a remarkable success.[124]

The relationship, as Sudanese and Chinese officials never fail to recall, goes back to the post-independence period with health, education and infrastructure projects; Khartoum's Friendship Hall is testament to that. Yet it was only under Al-Ingaz rule that both countries developed what has now morphed into one of Sudan's most crucial bilateral relations. Conversely, Khartoum is of limited geopolitical importance to Beijing -only 6% of Chinese petro-imports is Sudanese oil[125]- but China's experiences in Sudan have been key in shaping its gradual penetration of Africa; many milestones were reached on Sudanese soil (in the oil sector but also the construction of Merowe). Sudan has important political-symbolic value, beyond the significant economic lessons Chinese enterprises and diplomats have learned there.[126]

It was Omar Al-Bashir's 1995 visit to Beijing that helped Sudan escape its diplomatic isolation. Preparatory diplomacy by Minister of Presidential Affairs Al-Jaz in 1992-1993[127] paid off: following the American withdrawal from the oil sector amidst the civil war, Al-Ingaz had few prospects of

[123] Interview with Khalid Musa, February 2011.
[124] Dan Large, Luke A. Patey, *Sudan Looks East.* Oxford: James Currey, 2011, pp.2-4.
[125] Interview with Fan Kun, Head of Political Section Chinese embassy in Sudan, May 2011.
[126] Series of interviews at the Chinese embassy's political section, May 2011.
[127] 'Bashir Sends Message to Chinese Leader,' *Sudan News Agency*, BBC Summary of World Broadcasts, 14 September 1993.

obtaining a lifeline, but in China it found a willing petro-partner, given the domestic problems Chinese oil companies had and the energy thirst of their rapidly growing economy.[128] Although there was little ideological love lost between Deng Xiaoping's Communist Party and Hassan Al-Turabi's Islamist Salvation, cordial ties date back to a long trip the Sheikh organised with Al-Harakat Al-Islamiyyah to China in 1987. Pragmatism –and dire necessity on Al-Ingaz' side- opened the door for a rapid build-up of an oil industry in Sudan by the Chinese from 1997 onwards, a process that happened in parallel to ethnic cleansing of oil-rich regions by pro-Khartoum militia.[129] Sudan highly valued China's emphasis on non-interference in internal affairs, eagerly bought weapons from Chinese manufacturers and gained an invaluable ally on the UN Security Council with veto power; China learned from its first African petro-adventure, established a reliable supply of oil and signed lucrative contracts.

Without China's investments in the nascent industry and its willingness to take risks in a controversial and dangerous situation, Sudan would have never emerged as an oil exporter in 1999. It would have lacked the petrodollars that have been so instrumental in redefining Al-Ingaz after the devastating Turabi-Bashir-Taha split. Hassan Makki, one of the intellectual forces behind the HI, acknowledged the Chinese role: "*Without them, we would have been dead*, *unable to do anything.*"[130] Crude oil accounts for 90 % of the value of Sudan's total exports, close to 65% of which went to China in 2009.[131] Egypt cleared the diplomatic path for the hydro-agricultural mission, but China and the Gulf Arabs provided the material basis for the competence agenda. Sudan's petro-exports to East Asia not only generated valuable cash for infrastructure development, but also provided investors in the Arabian Peninsula with the guarantees that Khartoum would be able to assume extensive loan commitments required to sign the complex financial arrangements for funding the dams.[132]

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[128] Dan Large, 'Sudan's Foreign Relations with Asia. China and the policy of 'looking east',' Pretoria: Institute for Security Studies, ISS Paper 158, 2008.
[129] Human Rights Watch, *Sudan, Oil and Human Rights*. New York: HRW, 2003.
[130] Interview in Khartoum, December 2010.
[131] 'Country Analysis Briefs: Sudan,' Energy Information Administration, 2010, accessed on 30 November 2010, http://www.eia.doe.gov/emeu/cabs/Sudan/Oil.html
[132] Interview with Mudawi Al-Turabi, September 2011.

China's physical input in the Dam Programme is critical. Several Chinese state-owned enterprises have signed huge deals to build Sudan's dams. Sinohydro is the DIU's leading technical partner, flanked by the China International Water and Electrical Corporation, China National Water Resources Hydropower Engineering Corporation and Harbin-Jilin. Sinohydro took the lead in building Merowe; insiders claim that the contract amounted to much more than the official USD$500 million.[133] It has also been at the forefront of heightening Roseires, after a USD$396m contract was endorsed in 2008 by Bashir, Usama Abdallah, Sinohydro CEO Fan Jixiang and Lu Guojun, General Manager of Chinese Water Electricity, another key company for China's dam exports and partner in almost all DIU projects.[134] Chinese engineers and labourers have moved in large numbers to construct the dams; local communities in Merowe reported up to 5000 Chinese in the area.[135]

China's Exim Bank is one of the main financiers of rapidly expanding Sudan's power sector, which includes fossil fuel plants in Rabak and Port Sudan, but more importantly the hydro-electric dams. Beijing, through Exim Bank, provided a critical USD$520m in concessional funding for Merowe[136], in effect subsidising some of Sinohydro's economic expansion, a classic ingredient of China's "go global"-strategy. Sinohydro also got the USD$700 million Kajbar Dam contract in November 2010, while other Chinese consortia clinched deals of close to US$1 billion each for the Upper Atbara/Siteit Project and the Shreik Dam in April 2010.[137] Less is known about China's involvement in Al-Nahda Al-Zira'ayah, but agricultural investment is rising, in Gedarif and along the Nile, albeit from a low base. According to Sudan's Ministry of Investment, China does not yet rank in the top 5 of Khartoum's agro-partners, though cooperation and commercial agreements have been signed[138] and Awad Al-Jaz and Abdelhalim Al-Muta'afi have tried to persuade Beijing of Sudan's agricultural potential.

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[133] Interviews in the Ministry of Water Resources & Irrigation, December 2010-February 2011.
[134] 'China, Sudan sign $396mln contract to heighten Roseires Dam,' *Xinhua*, 28 April 2008.
[135] Interview with Ali Askouri, December 2010.
[136] Dam Implementation Unit, *Merowe Dam Project*, p.5.
[137] 'China signs $838 million hydro junction contract with Sudan', *China People's Daily Online*, 8 April 2011, http://english.peopledaily.com.cn/90001/90778/90861/6944255.html
[138] 'Sudan and China to focus on agricultural development', *Sudan Tribune*, 15 June 2009.

China's physical role in the hydro-agricultural mission is one dimension of Africa's new politics of water and agriculture. There is also the subtle "soft power"[139] that the rising economic giant and dam superpower is exerting on African elites, not least Al-Ingaz. The high modernist idea of 'economic growth through big infrastructure' is staging a comeback, particularly among so-called post-liberation regimes. Sinohydro's engineering prowess and readiness to accept even the most questionable dam projects matter to Beijing: it underscores that China's engagement with Africa is about more than dumping second class goods on a secondary market. Complex technical achievements, such as Sinohydro's dams, boost Chinese confidence and impress African partners who often equate 'progress/civilisation' with big projects of the dam variety.

In this context, it is worth recalling Dr Ghazi's description of a "Sino-Sudanese model of development"[140], which mixes limited political space, economic growth through infrastructure expansion and privileged diplomatic ties. Fed up with decades of (post-)Washington Consensus policies, Luanda, Addis, Kigali and military-Islamist Khartoum (to name but a few) find the idea of an authoritarian order that adopts selective economic liberalisation and gradually moves away from its compromised ideological past attractive. This new model of governance crucially depends on creating a growing middle class: Al-Ingaz' competence agenda and the links with the hydro-agricultural mission have clearly been influenced by this idea. As leading Islamists indicate, the Chinese Communist Party might not be immensely popular, but its claims to be China's legitimate rulers are closely linked to its continued ability to reduce poverty, create jobs and meet rising expectations. Bashir, Taha and other regime protagonists fantasise that Sudan has entered a similar scenario since 2000.[141]

[139] Joseph Nye, *Soft Power.* New York: Public Affairs, 2004.
[140] Interview in Khartoum April 2010.
[141] Interviews with Mustafa Ismail, Abdelrahim Hamdi, Abdelrahman Al-Khalifa, Amin Hassan Omer and other regime protagonists, April 2010-October 2011.

The New Global Political Economy of the Nile: the changing regional politics and the erosion of the hydropolitical status-quo

Ethiopian-Sudanese rivalry

The final building block of the emerging new global political economy of the Nile constitutes the unmistakeable erosion of the hydropolitical status-quo that has dominated the Basin since 1959. This final section focuses on the region's zero-sum hydropolitics and the confrontation between upstream and downstream riparians produced by the 1959 Nile Waters Agreement. After analysing the system that fuelled regional proxy wars and locked in Egypt's hydro-hegemony, I show how Al-Ingaz has played a critical role in undermining the hydropolitical status-quo, first through Turabi's rupture of the alliance with Cairo and then through the Dam Programme, which is inspiring other riparians to develop their own hydro-infrastructure and has brought China into the region.

Al-Ingaz has been key in leading the integration of the Basin's water and land into a new international political economy, as part of its own state-building project. Simultaneously however, fast-moving regional developments -South Sudan's secession, Ethiopia's new dams and the Egyptian Revolution- are in turn shaping the hydro-agricultural mission and exposing its contradictions.

For centuries, the Horn of Africa has been scarred by confrontations between ambitious rulers, hoping to establish control over the Nile and the prosperous lands and trade routes linked to it. Polities in "Egypt", "Sudan" and "Ethiopia" have contested for pre-eminence in the Basin through shifting alliances against the backdrop of global politics and local resource realities. Political and economic objectives of conquest were always nigh-inseparable: the domestic struggle to centralise resources and power by asymmetrically integrating their empire's peripheries found a corollary in the foreign policies of Emperor Tewodros, Muhammad Ali Pasha and the Mahdi. The thirst for lands, slaves, water and prestige was the driving force behind the turbulent state-formation in the 19th

century and the colonisation of Sudan by the Ottoman-Egyptians and the British.[142] This historical proximity of politics and economics is vital background to the contemporary links between water, civilisation and power of Al-Ingaz' state-building project. The mindsets of generations have been shaped by mutual suspicion, the politicisation of natural resources and the threat of confrontation with other riparians.[143]

Ethiopia has always been central to the geopolitical chess-game. Following the disastrous Nile flood of 1888, fears in London and Cairo about Emperor Menelik blocking the waters in conjunction with the French and/or the Mahdist state, became part of the rationale for invading Sudan; a 1902 treaty committed Addis to respecting the flow of the Blue Nile.[144] Despite a pause in hostilities during British supremacy over the Basin, the Egyptian-Sudanese-Ethiopian rivalry manifested itself again when Nasser and the Northern Sudanese elite fought the Southern Sudanese Anyanya, who drew support from Haile Selassie and Israel until the 1972 peace agreement. However, within a decade of Mengistu Haile Mariam's rise to power in Addis, renewed war in Sudan and uprisings in Ethiopia led to interlocking conflicts with millions of refugees and fighters crossing borders. The Derg battled a multitude of rebellions, which Sudan provided with weapons and rear bases. Marxist Ethiopia retaliated by helping to create the SPLA/M and supporting its liberation struggle against Khartoum.[145] Egypt's uncompromising security obsession and the resulting hydropolitical status-quo have underpinned these proxy wars: Ethiopia has been frustrated since imperialist days, having been kept out of the negotiations of successive Nile Waters Agreements. It regards the 1929 and 1959 treaties as illegitimate neo-colonial creatures holding back 'Africa's potential', not least because 75-80% of all Nile waters come from the Ethiopian Blue Nile. Addis was historically reluctant to encourage Southern Sudanese secessionism –the quickest route to weakening Egypt- for fear of encouraging separatism inside Ethiopia, but hoped for the removal of Khartoum's 'pro-Arab' regimes which sided with Egypt on the Nile issue. These confrontation-dynamics entered a new phase in 1989: the Derg

[142] Bahru Zewde, *A History of Modern Ethiopia, 1855-1991*. Oxford, James Currey, 2001.
[143] Peter Woodward, *The Horn of Africa. Politics and International Relations*. London: IB Tauris, 1996.
[144] Robert Collins, *The Waters of the Nile*. Oxford, Oxford University Press, 1990, p.38.
[145] Johnson, *The Root Causes of Sudan's Civil Wars*, pp.36-37, pp.61-88.

and Al-Ingaz "fought a fight to death and the central question was whether Addis or Khartoum would fall first".[146] The military-Islamist coup led to a radicalisation of the Sudanese conflict, and, partially thanks to Khartoum's support, the victory of the Tigrayan People's Liberation Front (TPLF) and allied guerrilla-movements in Ethiopia on 28 May 1991. Mengistu's fall gravely weakened the SPLA/M and had the unintended effect of securing the hydropolitical status-quo for Egypt, despite worsening Cairo-Khartoum relations. Meles Zenawi became the strongman of the new Ethiopia and focused on internal consolidation, not external revolution.[147]

Between 1991 and 1995, Sudan-Ethiopia relations were the best they had been for decades. Turabi and Meles developed a personal relationship, engaging in late-night intellectual discussions and strategically aligning with each other, as well as intensifying Sudanese-Ethiopian economic interactions.[148] The shock was thus all the greater when Al-Ingaz involvement in the Mubarak assassination attempt was uncovered; the sense of betrayal inside the TPLF was enormous: "You cannot believe how furious they were."[149] Ethiopia took the matter to the UN Security Council and reopened support for the SPLA/M as part of the American regime change agenda vis-à-vis Sudan. Together with Eritrean military efforts, this might well have led to the collapse of Al-Ingaz as the anti-Khartoum coalition gained momentum in Eastern Sudan and Blue Nile, were it not for the Meles-Issayas confrontation from 1998 onwards. This reshuffled the regional alliance structure again, as Egypt grew closer to post-Turabi Sudan and Addis was consumed by internal struggles and bitter conflict with Asmara.[150]

For years, shifting fortunes and partnerships in war made it impossible for any country to pursue large-scale hydro-infrastructure projects. The hydropolitical status-quo was one of several factors shaping conflict and the configuration of alliances, but remained remarkably unaltered; no bilateral or multilateral institution dared wade into the violent chaos of Nile Basin politics. Yet while Al-Ingaz'

[146] Interview with Osman Al-Sayed, May 2011.
[147] Interview with TPLF leaders in Addis, May 2010.
[148] Interviews with Sebhat Nega, Hiruy Amanuel, Hassan Al-Turabi and others, April 2010-September 2011.
[149] Interview with Osman Al-Sayed, May 2011.
[150] Sally Healy, *Lost Opportunities in the Horn of Africa*. London: Royal Institute of International Affairs, 2008, pp.11-13.

revolutionary foreign policy seemed to contribute to the continuation of the same hydropolitics that had dominated the region for decades, in reality it fatally undermined the old model that suited Cairo so well.

Al-Ingaz and the Unravelling of the Status-Quo on the Nile

Much has been made in this thesis of the "hydropolitical status-quo": the 1959 politico-legal architecture and associated discourse that buttress Egyptian hydro-hegemony over the Nile, making serious water resources development de facto impossible without Egyptian consent. Driven by a narrow definition of its national security and a *Realpolitik* analysis of potential threats to a country extremely dependent on the river, Cairo has skilfully instrumentalised the treaty to defend its "historically acquired user rights"- attempts at upstream use of the waters through hydro-infrastructure have been interpreted as undermining Egypt's right to exist. Sudan has been the cornerstone of Egypt's grand strategy, stemming from the belief that it is invaluable in maintaining the equilibrium.[151] Cairo has done everything short of actual military invasion to keep Khartoum on its side and simultaneously limit Sudan's consumption of Nile waters.

For decades, this strategy functioned perfectly, at least from the perspectives of the large landowners, business circles and the military aristocracy, who have dominated Egypt since the 19th century.[152] Population and unemployment grew spectacularly, as did the frustration of other riparians, but together with the Camp David peace agreement with Israel (and the resulting alliance with America), the 1959 architecture essentially dissolved the two biggest external threats to Cairo and yielded major benefits for its elites. While the partnership with Washington resulted in lucrative aid for the army and wheat imports to manage the chronic food deficit, the Nile treaty sustained the model of cultivating several crops through irrigated agriculture that would under normal

[151] Stephen A. Cook, *The Struggle for Egypt*. Oxford: Oxford University Press, 2012, p.42.
[152] Anouar Abdel-Malek, *Egypt. Military Society*. New York, Random House, 1968.

circumstances not be grown in Egypt for economic and ecological reasons. The outcome of these systems was domestic stability (including containment of a dangerous Islamist opposition) through low food prices, or so the rationale presented to the middle class and international community sounded.[153]

This remarkably effective system of political control of the Nile[154] began being undermined from June 1989 onwards. Multiple developments eroded Egypt's hegemony over the river until in the watershed year 2011 the proverbial dam broke on three fronts: the overthrow of Hosni Mubarak, the main defender of the hydropolitical status-quo since 1981; the start of the construction of Ethiopia's Grand Millennium Dam, the first time hydro-infrastructure has been erected on the Nile without an Egyptian green light; and the independence of South Sudan, a secession Egypt had fought since the end of the Condominium. Interestingly, the dynamics that eroded the old equilibrium can all be traced back to the Al-Ingaz regime: the geopolitics of the Nile are essential to understand the Salvation's hydro-agricultural mission, but, in turn, Al-Ingaz behaviour has been critical in shattering the status-quo that has constrained Sudan's own water resources development.

Hassan Al-Turabi's revolution departed from the premise that the Cairo-Khartoum relationship was one of the main factors holding back Sudan: Khartoum should establish its autonomy from Egypt for once and for all, building its own links with the outside world and having economic and water policies independent from Egyptian interests. While Mubarak and Turabi both cheered when archenemy Mengistu fell, Al-Mukhabarat worried about the emerging Sudanese-Ethiopian partnership between Al-Ingaz and the TPLF, particularly when Turabi instructed to heighten the Roseires Dam in 1993. The potential challenge to the hydropolitical status-quo that could have emerged didn't materialise due to the contradictions of Al-Ingaz: its adventurous foreign policy clashed with ambitions of economic

[153] Cook, *The Struggle for Egypt*, pp.215-271.
[154] John Waterbury, *The Nile basin: national determinants of collective action*. New Haven: Yale University Press, 2002.

salvation, so no Islamist dam programme could yet be launched. This left Egypt's hydro-hegemony intact, but a powerful signal had been given- Cairo could no longer be sure of its Sudanese buffer.

The re-invention of Al-Ingaz through the de-radicalisation of foreign policy, the competence agenda and the hydro-agricultural mission seemed to benefit Egypt, but heralded developments that would expose the fundamental cracks in the status-quo. Post-Turabi Sudan worked hard for rapprochement with Egypt between 2000 and 2003, so that it could get Cairo's green light for Merowe with the Gulf Arabs ready to fund much of the hydro-agricultural mission. Some Egyptian strategists understood that this was a shift from complete control to a form of dominance in which a tactical retreat might be necessary to maintain long-term leadership: Cairo accepted Taha's and Bashir's excuses, supported Merowe and cleared the way for the return of Kuwait, the Emirates and Saudi Arabia, believing this would lock-in Egyptian hegemony for several more decades.

What they hadn't considered, was how a number of trends structurally undermined the status-quo and provide the context of why today the Nile Basin is witnessing a highpoint in water resources development. First, the CPA ended the system of large scale conflicts that had dominated the Horn of Africa for more than two decades[155], facilitating international cooperation and channelling domestic energy and capital to agriculture and hydro-infrastructure. Granted, war continued inside Sudan (Darfur), Ethiopia (Ogaden) and Somalia but this has been, for almost a decade now, no longer a zone of catastrophic inter-regional violence. 9/11 had a substantial but limited impact, but the internal politics of Salvation was arguably the most important determinant in the unravelling of interlocking wars: in "regional security complexes", like the Horn, "outside powers cannot (even if heavily involved) usually define, de-securitize or re-organize the region".[156] Al-Ingaz, driven by the Bashir-Taha redefinition of the regime as a peacemaking instead of a belligerent one, ended regional destabilisation efforts and compromised with the SPLA/M, including conceding the right of self-determination to South Sudan. As the Salvation shifted its focus to the hydro-agricultural mission, other regimes in the region too looked inwards. The switch from exporting the revolution to

[155] Healy, *Lost Opportunities in the Horn of Africa*.
[156] Barry Buzan, Ole Waever, *Regions and Powers*. Cambridge: Cambridge University Press, 2003, p.47.

economic competence created unprecedented intra-Basin and extra-Basin diplomatic space for Khartoum, which it used to advance its Dam Programme and Al-Nahda Al-Zira'ayah.

This key development was reinforced by the Nile Basin Initiative –a technocratic enclave created in 1999 amidst geopolitical disputes and supported by the World Bank- which got traditional enemies talking again (all nine Nile Basin states participate, but the core is formed by Egypt-Ethiopia-Sudan discussions). Cairo's initial assessment was that NBI negotiations could be managed together with Khartoum by playing for time through endless technical studies, but conversations on Ethiopia's dreams of hydro-infrastructure development on the Nile became inevitable.[157] Egypt had failed to fully understand that having accepted Sudan's Dam Programme, it would be increasingly hard to deny upstream countries theirs on political or legal grounds.

Moreover, Sudan was the gate through which China arrived in the Nile Basin: Beijing's desire for the region's oil and its clear interest in aiding the lucrative exploitation of African hydro-potential, meant that Egypt's tactics of influencing the traditional financial institutions were simultaneously becoming increasingly ineffective.[158] Chinese technical and financial prowess, but also its interest in developing strong relations with Sudan and Ethiopia[159], especially through infrastructure and oil, meant Beijing would remain largely deaf to Egyptian efforts at dissuading it from participating in regional dam programmes. Finally, the region's increased geopolitical importance –food (in)security, oil, climate change, the Darfur 'genocide', international terrorism- meant that it would be increasingly difficult to keep a whole range of outside actors out of the Nile Basin, whose interests could be leveraged for domestic purposes by riparians. Egypt's hydro-hegemony was coming to an end, even if few appeared to notice until 2011.

[157] Dereje Zeleke Mekonnen, 'The Nile Basin Cooperative Framework Agreement Negotiations and the Adoption of a "Water Security" Paradigm: Flight into Obscurity or a Logical Cul-de-sac?' *European Journal of International Law*, Vol.21, 2, 2010, pp.421-440.

[158] Cascão, 'Changing Power Relations in the Nile River Basin', p.260.

[159] 'Ethiopia, China sign agreements for dams, wind farms', *Sudan Tribune*, 25 September 2009.

If Al-Ingaz' revolutionary foreign policy and its internal shift to the hydro-agricultural mission were the key factors that changed the strategic environment of Nile Basin politics, today the frontal assault on what remains of the hydropolitical status-quo is being led by Ethiopia. Meles Zenawi's determination to develop an Ethiopian Dam Programme even more ambitious than Sudan's has major implications for the future of Khartoum's hydro-agricultural mission and the wider geopolitics.

Since overthrowing the Derg, Meles' regime prides itself on three self-proclaimed achievements which it sees as legitimating its rule: the provision of security; settling Ethiopia's nationalities question; and economic growth and service delivery. The TPLF combines leftist principles with post-1989 pragmatism, with the "Agricultural Development Led Industrialisation"-strategy as the policy flagship: sensible economics but also a function of the regime's agenda of penetrating the countryside to maintain political control.[160] Addis boasts of six consecutive years of growth between 7 and 12%: opportunities are arising for an unprecedented number of Ethiopians.[161] Simultaneously, formidable challenges remain. The Human Development Index ranks Ethiopia 171st out of 182; millions of citizens still depend on outside relief when drought strikes; and concerns arise over the stagnation of agricultural productivity and environmental degradation of land, particularly given that population doubles every generation.

TPLF achievements mean people want a larger slice of the cake- following De Tocqueville, nothing is trickier for an authoritarian regime than managing rising expectations that risk remaining unmet.[162] For Meles, political hegemony rests on balancing coercion and legitimacy, not unlike Al-Ingaz' competence agenda: if the TPLF doesn't wish to resort solely to repression, it needs to continue to deliver growth, while ensuring it is more widely shared than in the past. Aid flows are above the

[160] Interview with one of Meles' senior advisors in Oxford, March 2010.
[161] World Bank, *Country Assistance Strategy for the Federal Democratic Republic of Ethiopia*. Washington DC: WB, 2008, p.8.
[162] Alexis de Tocqueville, *The Old Regime and the French Revolution*. Garden City: Doubleday, 1955.

African average, but remain insufficient to fuel the patronage system *and* accelerate growth.[163] The resulting thirst for foreign exchange has fused with the requirement of cheap power for industrial expansion and a steady supply of water for irrigated agriculture[164] to constitute the rationale for Addis' new developmental priority: an ambitious dam programme.

Table 5. Ethiopia's proposed dams on the Blue Nile[165]

Name of Project	Financial Cost	Status	Potential capacity for electricity generation
Grand Millennium (Renaissance) Dam	USD$4,7-5,5bn	Construction started April 2011, 2017 expected completion date	5250MW
Mabil Dam	USD$1,8bn	Studies ongoing	1200MW
Mandaya Dam	USD$2,1-3bn	Studies ongoing	1600-2000MW
Border Dam	USD$1,7bn	Studies ongoing	800-1400MW
Karadobi Dam	USD$2,4bn	Studies ongoing	1000-1600MW

With landlocked Ethiopia dependent on Sudan and Djibouti for oil imports and with only 15-20% of Ethiopians having access to electricity, dams are central to TPLF economic thinking and a cornerstone of Ethiopian foreign policy.[166] Climate change is already affecting Ethiopia, underlining the importance of strategic water resources development. With extreme droughts and instances of

[163] Interviews with senior TPLF leader, May 2010.
[164] International Water Management Institute, "Institutional Settings and Livelihood Strategies in the Blue Nile Basin".
[165] Ministry of Water Resources, *Dams and Hydropower*. Addis Ababa: MOWR, November 2010 .
[166] Interviews with TPLF leaders and officials in the Ethiopian Ministry of Water Resources and Foreign Affairs, May 2010.

extreme rainfall soaring, this is likely to lead to a systemic crisis, because 85% of Ethiopians live in rural areas, dependent on the seasons for their subsistence.[167]

What was a distant dream for decades, now appears a political necessity and a geopolitical opportunity, following the improvement in relations with Sudan and the arrival of new international partners, like China, on the scene. In Africa, Ethiopia's hydro-electric potential of 45000MW is surpassed only by Congo's. Even if current consumption would quadruple, this still leaves ample room to export power to neighbouring countries, generating cash to re-fund construction costs and fuelling economic expansion. Dams offer the possibility of re-engineering the Ethiopian political-economic landscape and the regional environment: Meles' vision is that of Ethiopia assuming its 'historical responsibility' as the Horn's natural leader. Former rivals can be tied to Addis through hydropower flows; at least 4000MW of hydropower is expected to be sold to Djibouti, Somaliland, Kenya, Uganda, and, why not, Sudan and Egypt.[168] This would transform perceptions of a country dependent on outside assistance into a leading state putting its natural wealth at the entire region's disposal, the opposite of Egypt's unilateral hydro-hegemony. According to the TPLF's former chairman Sebhat Nega: "Our internal peace gives us the chance to turn to the region. We can play a regional role because we've solved most of our internal contradictions."[169]

Four Ethiopian dams are under construction and 15 are being planning, on the Nile as well as (more domestically controversial) on rivers like the Gibe in Southern Ethiopia.[170] The TPLF is keen to insert its dams into the new global political economy of the Nile, just like Al-Ingaz. For Addis, the 1959 Nile Treaty and Egyptian-Sudanese opposition to changing the status-quo are directly responsible for the under-utilization of Ethiopia's irrigation potential- less than 5% of the total is currently being irrigated.[171] With Ethiopia expressing strong interest in attracting FDI in commercial agriculture,

[167] Temesgen Tadesse Deressa, Rashid Hassan, 'Economic Impact of Climate Change on Crop Production in Ethiopia', *Journal of African Economies*, Vol.18, 4, 2009, pp.529–54.
[168] Interviews with Bereket Simon, Negash Kibret and other Ethiopian government representatives, Addis Ababa, May 2010.
[169] Interview in Addis Ababa, May 2010.
[170] MoWR, *Dams and Hydropower*.
[171] Interviews with several of Ethiopia's most senior water civil servants, May 2010.

cheap water to increase the land's productivity could be an argument for overseas investors. Addis would like to sell itself as a victim of global warming *and* an opportunity to promote clean energy and rural development in Africa. Just like the Salvation has drawn on Chinese and Gulf Arab support to advance its hydro-agricultural mission, the EPRDF has leveraged its dams and developmental discourse to strengthen political ties with Washington, Beijing and Brussels; the hydro-infrastructure is designed, co-funded and constructed by a range of partners with the World Bank, Italy and China as protagonists. Close commercial links have significant diplomatic benefits as Ethiopia deals with its traditional rivals Sudan and Egypt.

Ethiopia's dams on the Blue Nile represent the hydropolitical equilibrium's biggest challenge since 1959. Egypt has witnessed the status-quo's gradual unravelling, realising that it could do little to stop upstream riparians from finally pushing ahead, with foreign support, with their hydro-infrastructure. The impasse in the NBI negotiations led Ethiopia, Rwanda, Tanzania and Uganda to sign the Nile River Basin Cooperative Framework Agreement in May 2010, later joined by Kenya and Burundi, intending to redraw the hydropolitical landscape and grant a bigger share of Nile waters to upstream countries by excluding the volumetric arrangements for water quota that Cairo considers to be its rock-solid guarantee to survival.[172] This is the background to the escalating war of words in 2010 between Addis and the Mubarak regime, with mutual accusations of destabilisation. Meles will no longer accept Cairo's 'dictates': "The Egyptians have yet to make up their minds as to whether they want to live in the 21st or the 19th century."[173]

Ethiopia's frustration with the hydropolitical status-quo[174] has been especially strong because experts across the region agree that dam building there is far more sensible than in Egypt and Sudan.[175]

[172] Ahmed Al-Mufti, *Minuted Facts about the Negotiations of the Cooperative Framework Agreement (CFA) Among the Nile Basin Countries. February 1995-15 February 2010*. Khartoum: Khartoum International Centre for Human Rights, 2010.
[173] Brian Malone, 'Ethiopian PM Warns Egypt of Nile War'. *Reuters*, 23 November 2010.
[174] Ana Maria Cascão, 'Ethiopia – Challenges to Egyptian hegemony in the Nile basin.' *Water Policy,* Vol.10, 2, 2008, pp.13-28.

While Aswan, Merowe and Roseires cause enormous evaporation and accumulate huge quantities of sediment –leading to rapid dam capacity loss[176]-, Ethiopian dams on the Blue Nile would cause less displacement and could generate thousands of megawatt of electricity that could be exported cheaply to neighbouring countries. A border dam in particular "has more benefits for Sudan than for Ethiopia," admit Sudanese technocrats.[177] Known as Africa's water tower with a potential for hydropower dwarfing that of any other regional country, Ethiopia is adamant that its dam programme is its inalienable right and the best way forward for the entire basin from a sustainable development perspective.

The latter point is particularly important in the context of three momentous changes in 2011 that are, possibly fatally, undermining the 50 year old hydropolitical equilibrium: Mubarak's demise, the Grand Millennium Dam and Southern Sudanese independence. While at the end of 2010 Egyptian-Ethiopian tensions and uncertainties regarding South Sudan's right to self-determination created an atmosphere of widespread pessimism, a remarkable degree of optimism emerged at the end of 2011.

The Egyptian Revolution was closely related to the regime's internal contradictions: a model based on the hydropolitical status-quo, peace with Israel, the alliance with America, patrimonialism and authoritarian control produced a series of inter-related outcomes –little political freedom, discontent about Egypt's foreign policy and increases in food prices, corruption and unemployment[178]- that ultimately led to Hosni Mubarak's fall. Civilian rule could remove some of the biggest obstacles to changing both the tone and substance of the Nile Basin negotiations: defensive notions of Egypt's water security are strongly internalised by foreign policy and security mandarins, but many have

[175] Interviews with technocrats, academics, representatives of international organisations and consultant engineers throughout the Basin, July 2009-March 2011.
[176] Woodward, Macklin, Krom, Williams, 'The Nile'.
[177] Interviews in the Ministry of Water Resources and Irrigation, April and December 2010.
[178] R Pelletreau, 'Transformation in the Middle East. Comparing the Uprisings in Tunisia, Egypt and Bahrain,' *Foreign Affairs*, 24 February 2011, http://www.foreignaffairs.com/articles/67546/robert-h-pelletreau/transformation-in-the-middle-east

come to understand the counterproductive nature of Cairo's zero-sum attitude and are demanding a change in strategy.[179] The key determinant will be whether the removal of the President is also followed by a broader social revolution, or whether the military aristocracy remains in power behind the scenes.

Ethiopia has lost no time in capitalising on Mubarak's departure. For Meles, the year 2011 was characterised by two grand objectives: peace in Sudan and the shattering of the 1959 architecture. [180] By starting the construction of the Grand Millennium Dam in April 2011, after having negotiated the Cooperative Framework Agreement a year earlier, Addis is determined to deliver on the latter. Many questions remain about the dam's funding but the TPLF's resolve is visible in the portrayals of the giant dam through the government information machine as the most important development project in Ethiopian history. Meles has invited Sudanese and Egyptian technocrats to be part of constructing the dam to assuage fears about blocking the Nile waters.[181] The Ethiopian Prime Minister has simultaneously also worked hard to assist with a peaceful secession of South Sudan after the January 2011 plebiscite, mediating talks between Al-Ingaz and the SPLA/M in Addis on post-referendum arrangements.

For decades Egypt tried to block Southern independence. However, after Ali Osman successfully persuaded other Salvation leaders to negotiate a peaceful solution to the conflict with the SPLA/M as part of the new identity of Al-Ingaz, Egypt could do little else than support peace in Sudan. Al-Mukhabarat urged Khartoum to do everything it could to make unity attractive –in the belief that the hydropolitical status-quo could be salvaged in case of a united Sudan- but from 2009-2010 onwards began hedging its bets by reaching out to the SPLA/M and no longer ignoring that South Sudan was on its way to independence. Egypt's acceptance of these realities might not in the future get it any support from an independent Juba –which is far more likely to side with the Ethiopia-led upstream

[179] Interviews with Egyptian diplomats and intelligence officers outside Egypt, June-September 2011.
[180] Interviews with Sebhat Nega, Negash Kibret and Hiruy Amanuel, April 2010-June 2011.
[181] 'Egypt has eased stance on Nile after revolution, Ethiopia says', *Sudan Tribune*, 23 April 2011.

camp- but it contributed to a separation that was more peaceful than many expected, at least in terms of North-South violence.

The remarkable developments of 2011 are renewing hopes that after centuries of confrontation Egypt, Sudan and Ethiopia will write a chapter of peaceful cooperation and regional integration[182] in light of the colossal challenges to reduce poverty, expand public services, counter ecological degradation and adapt to climate change. I have suggested a "grand bargain" in energy, a subject closely linked to security concerns and political sensitivities, sitting at the heart of the sustainable development challenge, internally and regionally: Sudanese oil for Ethiopian hydropower.[183] Such an agreement would boost integration dynamics and help turn the page on generations of proxy warfare, external manipulation and desperate poverty. Others have been even more optimistic and dream of full-scale regional integration to become a stronger link in the new global political economy: "Ethiopia provides the power, Sudan grows the food and Egypt brings the cash"[184] and, one might add, "South Sudan supplies the oil".

However, although water and oil have the potential to bring old rivals together, a grand bargain is still unlikely to be struck soon between Al-Ingaz, TPLF, SPLA/M and whatever government emerges out of post-revolution Egypt. The ghosts of history, discussed at length here, linger in the minds of policy-makers; Sudan's "new" Islamist political economy is antithetical to the idea of ceding hydro-political ground to Ethiopia; and the positive changes of 2011 are by no means consolidated. Zero-sum dynamics could quickly return. Ethiopia needs to fundamentally resolve the internal contradictions that constrain its regional dreams, while Sudan is too focused on its bid to stay at peace to engage in a qualitative, cooperative redrawing of the energy landscape in Africa's Horn at the moment. Most importantly, Al-Ingaz will never accept a regional integration strategy that would de facto force it to abandon its Dam Programme and/or Agricultural Revival, shifting the point of

[182] 'Ethiopia and Egypt working to boost economic ties as Nile row eases', *Sudan Tribune*, 30 May 2011.
[183] Verhoeven, *Black Gold for Blue Gold?*
[184] Interview with one of Meles' key foreign policy advisors, May 2010.

gravity to the Ethiopian Blue Nile- the hydro-agricultural mission is simply too critical to long-term Islamist hegemony.

Conclusion

This chapter has put the historical links between water, civilisation and power in Sudan in the geopolitical context that has always co-determined the pace and shape of state-building projects. State-formation was closely tied to the integration of water, land and labour into regional and global political economies and external actors have continued to play a vital role in Sudan's politics and resource management throughout the 20th century. On the one hand, the space for water and agricultural policies has been limited due to outside pressures and power politics. Egypt especially has interfered in Sudanese politics with as its main objective maintaining Sudanese support for the hydropolitical status-quo. Yet on the other hand, Sudanese elites have repeatedly drawn on external support for their own purposes, from Nimeiri feeding the Breadbasket fantasy to the Middle East to build a political-economic base, to the redefined Salvation which needs Gulf Arab and Chinese support for its dams an Agricultural Revival.

I underlined the critical importance of Sudan to the politico-legal architecture that has underpinned Egyptian hydro-hegemony, but also highlighted how Sudan's Al-Ingaz has been the central factor in eroding that dominance. The Salvation's autonomous foreign policy, and its proximity to Ethiopia's TPLF (with its own plans to dam the Nile), destabilised the equilibrium; rapprochement with Cairo restored the Sudanese-Egyptian partnership but also opened the doors to the regime's Dam Programme; the signing of the CPA ultimately led to self-determination for South Sudan, which Egypt had tried to block for 50 years; and Sudan's alliance with Beijing brought China into the Nile Basin, which gave riparians other options for water resources development than the reluctant traditional IFIs. I thus conclude that Al-Ingaz has been far more of a critical geopolitical factor than most scholars have recognised, but that, in turn, the internal (hydro)politics of the Salvation have been crucially dependent on the regime's regional relations.

The guiding logic of the hydro-agricultural mission is largely domestic, but its enabling factors, funding arrangements and many of its key beneficiaries need to be situated in an emerging global

political economy of oil, food and water in the Nile Basin. This is producing major benefits for the military-Islamist leadership and its allies in the Hamdi Triangle, but increasingly also violent resistance in Sudan's peripheries: not unsurprising in view of Africa's historical experience with extraversion dynamics.

Chapter Seven

The View from the Peripheries: the Local Impact of Islamist State-Building and its Hydropolitics

"*The dam is an instrument of greater rural development... Every dam in the world faces resistance. Merowe is like that too. Some people have to sacrifice for others"*

Hamad Karori, Director of Dams at the Ministry of Water Resources and Irrigation[1]

"We only have farming. We can't do anything else. We must continue this. City life will never suit us, it is not in our nature."

The sheikh of Al-Rudheba village, Blue Nile State[2]

In this chapter, the thesis moves from a regional analysis of the links between water, civilisation and power to the local level: state-building and its hydropolitics have often been a violent experience for the peoples of the peripheries. I concentrate on Sudanese Nubia and on Blue Nile[3], a strategic region bordering Sudan and Ethiopia on the one hand and North and South Sudan on the other. I demonstrate how Al-Ingaz' hydro-agricultural mission plays out sub-nationally, continuing structural and physical violence against peripheral populations. Complex local realities shed light on the nature of the Salvation and of state-building itself in Sudan. The emerging picture shows a fundamentally weak state, a regime with continued revolutionary ambitions and serial wars over identity and access to and control over resources. These are not Malthusian environmental conflicts triggered by scarcity, but sites of chronic insecurity where violence is reproduced by a political economy of water and land that benefits elites locally, nationally and globally.

[1] Interview in Khartoum, October 2011.
[2] Interview in Al-Rudheba, August 2009.
[3] "Blue Nile" here mostly refers to what is currently Blue Nile State and less to the historically important region Greater Blue Nile, which encompassed the current State, Sennar, White Nile State and Gezira.

Set against a background of marginalisation and historical distrust of the state's 'development' agenda, Sudan's Dam Programme and Al-Nahda Al-Zira'ayah are proving extremely unpopular in the Nubian heartland and Blue Nile. Nubians are still traumatised by the Aswan Dam and see contemporary hydro-infrastructure as an attack on Nubian culture. For many local communities, heightening Roseires, building Merowe and Kajbar and irrigating millions of feddan for food production for the Arabian Peninsula seem to be repeating disastrous previous experiences of extending the reach of the state into their areas through the water-agriculture-energy nexus.

As a consequence of Nimeiri's Breadbasket strategy, Blue Nile was sucked into the war between Khartoum and the SPLA/M, a conflict that worsened as Al-Ingaz declared Blue Nile a model province for Islamisation. The Civilisation Project introduced notions of "Islamic development" and "Islamic relief" to penetrate deep into communities under the cover of service delivery. After the Comprehensive Peace Agreement, Blue Nile was offered "popular consultation", part of Sudan's restructuring of wealth and political power that should also extend to the long-neglected High North. However, the hydro-agricultural mission and the focus on the Hamdi Triangle and the "substantial minority" of the "Islamic middle class" do the opposite: rather than strengthening livelihoods strategies to consolidate peace, the dams and capital-intensive agriculture further alienate the people of Blue Nile and were one of the key reasons behind the resumption of hostilities between Al-Ingaz and SPLA/M-North in August 2011 as well as ongoing violent protests in Nubia against dam-induced displacement.

State-Building in Blue Nile: Slaves, Agriculture and War

The Extractive State

As described in chapter two on state-building's historical incarnations in Sudan, "from the hinterlands came the manpower, wealth and food surpluses on which the states built their power".[4] For centuries, successive polities relied on slave-raiding for their army and agricultural and/or infrastructural labour force, with political power as a function of how far into the peripheries the rulers were able to extend their authority. Paraphrasing Tilly[5], war made the state and the state made war, but the crucial link was not taxation, like in Europe, but slavery.

In the 16th century, the Funj Kingdom of Sennar rose along the banks of the Blue Nile as a result of close ties between irrigated agriculture, the slave trade and military prowess, vying with the Darfur Sultanate for pre-eminence in what is today Sudan. Sennar gradually Islamised and centralised control over its sprawling hinterlands, from Kordofan and the Nuba Mountains to the Ethiopian hills and plains of the White Nile. Raiding was a state monopoly, with "Nuba", "Hamaj" and "Sudanese" omnipresent terms for slaves regardless of their geographic origins: blanket descriptions that veiled, and in some respects continue to veil, the multitude of socio-cultural groups with a strong sense of identity (and often their own language) who were subjects of state repression.[6]

Patterns of extractive state-building were radicalised by the Turkiyya after 1821, which swept away the Funj Kingdom and intensified the forced recruitment of labour that have long been trademarks of Sudanese 'states', often adopting the same military outposts as bases for the slave trade.[7] Given overwhelming Ottoman-Egyptian power and Cairo's skilful use of military-commercial allies in the Blue Nile –notably Rufa'a pastoralists-, the local response was mostly emigration: withdrawals into

[4] Douglas Johnson, *The Root Causes of Sudan's Civil Wars*. Oxford: James Currey, 2003, p.2.
[5] Charles Tilly, *Coercion, Capital, and European States, Ad 990-1990*. Cambridge, MA: Basil Blackwell, 1990.
[6] Wendy James, *War and Survival in Sudan's Frontierlands. Voices from the Blue Nile*. Oxford: Oxford University Press, 2009, p.1.
[7] Richard Hill (ed.), *On the Frontiers of Islam. The Sudan under Turco-Egyptian Rule 1822-1845*. Oxford: Clarendon Press, 1970.

the hills of the borderlands to escape the reach of the state. Frontier societies were formed and engaged in a violent game of cat and mouse, with central authority waxing and waning and the Ethiopian escarpment serving as a refuge for physical safety and preserving cultural identity. Death, displacement and enslavement at the hands of 'Khartoum' have been experienced for a long time in Blue Nile.

Under the Mahdiyya and the early Anglo-Egyptian Condominium, Blue Nile remained a distant and violent frontier, managed through indirect rule. Yet as Sudan's political economy evolved and its rulers sought to administer specific notions of top-down defined identity, Blue Nile underwent changes too. Its Southern part saw little infrastructure development and social services and was approached through a security lens, with Kurmuk as border stronghold with the Ethiopian Empire and military base during World War II; its peripheral status was confirmed by temporarily transferring several districts to Southern Sudan's Upper Nile Province because of its more 'African' identity compared to the more 'Arab' Northern part of Blue Nile. The latter was seen by the British as culturally closer to the Nile Valley and was integrated into the hydropolitical economy that expanded under Anglo-Egyptian rule. The fertile lands were irrigated through pump schemes, with a major role for Sudan's sectarian forces who benefited from colonial patronage and became a rural class in their own right, with control over land and water; simultaneously, Arabised *Jellaba*, often descendant from slaves or slave raiders, controlled most of the trading networks, both exploiting local populations and delivering much-needed goods to distant communities. Echoing the pattern of state-building in Sudan in general, proximity to the Nile typically indicated greater local political power and wealth in Blue Nile.[8]

[8] Tim Niblock, *Class and Power in Sudan*. Basingstoke: MacMillan Press, 1987, pp.11-36, 85-89, 143-147.

The Breadbasket in Blue Nile

Post-independence Blue Nile seemed to matter little to the power struggles in Khartoum between unionists and Mahdists, apart from producing a reliable income for the traditional elites and serving as a watch post to observe Ethiopia's support for the Southern Sudanese Anyanya. This began to change with the completion of the Roseires Dam which generated more than half of Sudan's energy production at the time (250MW by 1971), even without the planned heightening. The dam construction compelled thousands of subsistence farmers to move from some of their ancestral lands to new plots without much compensation. It also enabled the irrigation of almost one million feddan adjacent to Gezira -the Managil extension- deepening the existing economic patterns and associated sectarian and state patronage.[9]

Blue Nile's insertion into Sudan's modernisation drive and the global political economy moved into higher gear when Nimeiri embarked on his Green Revolution in an effort to simultaneously economically transform the country and create his own power base by demolishing the Ansar-Khatmiyya dominance of rural Sudan. Blue Nile with its fertile land, abundant rainfall and relatively weak political organisation was singled out by the President and his allies as a prime target for mechanised rain-fed agriculture –Egyptian support for Nimeiri's coup had led to the shelving of plans for heightening Roseires- and was enthusiastically marketed with Gulf Arab investors. As evident from an enclosed map (page 5 onwards)[10], Nimeiri allocated huge tracts of land –hundreds of thousands of feddan- to Arab-Sudanese partnerships, mainly in Roseires, Tadamun and Bau localities in Northern, Western and Central Blue Nile.

Most concessions were given to the Arab Authority for Agricultural Investment and Development and Saudi agro-businesses, like those of Prince Mohamed Al-Faisal, co-founder of Islamic banking in

[9] S. Kontos, 'Farmers and the Failure of Agro-Business in Sudan', J.O. Voll (ed.), *State and Society in Sudan.* Bloomington: Indiana University Press, 1991, p.139.

[10] United Nations Development Program- Threat and Risk Mapping Analysis, *Blue Nile State*. Khartoum: UNDP, 2009.

Sudan. These benefited from strong connections to the President and Al-Harakat Al-Islamiyyah, the rising political force thanks to its ties to Islamic finance, the army and the Sudanese Diaspora in the Peninsula. One million feddan south of Damazin were reserved for cattle grazing and cultivating oil seeds and animal fodder by 1985[11]; neighbouring Upper Nile too saw a substantial expansion of mechanised farming between Renk and Jebelain. Rangeland effectively disappeared as the share of agricultural (mainly mechanised) land rose to almost three-quarters of the Blue Nile territory.[12]

While Nimeiri promised development to local people –'partners' in a higher stage of civilisation-, subsistence farmers were driven from their lands and migration routes of pastoralists were blocked (see enclosed map- traditional corridors for nomads in yellow[13]), leading to growing poverty and inter-communitarian tensions; the allocation of much of the manual labour on the farms to Fellata and Hausa further fanned the flames. The privileging of foreign interests and elites from the Nile Valley through legal and extralegal means led to growing resentment of Khartoum, particularly in combination with long-standing distrust of the central state, its highly selective interest in the region and the ethno-cultural chauvinism of successive regimes.

This opposition initially found no outlet, allowing the Breadbasket to usurp most of Blue Nile's land without serious resistance, but the SPLA/M's rise gave local groups another option. Many of those marginalised in the Breadbasket reforms joined the SPLA/M in its war with Khartoum from the mid-1980s onwards, an alliance facilitated by the proximity of Garang's Ethiopian bases from where Blue Nile was infiltrated, leading to the fall of Kurmuk and Geissan in 1987. Sadiq Al-Mahdi's government, distrustful of its own armed forces and seeking to pre-empt a united front in Blue Nile, began arming many pastoralists who had seen their migration corridors blocked by the very elites they would end

[11] John Waterbury, *Hydropolitics of the Nile Valley*. Syracuse, NY: Syracuse University Press, 1979, pp.59-62.
[12] United Nations Environment Program, *Sudan: Post-Conflict Environmental Assessment*. Nairobi/Khartoum: UNEP, 2007, p.85.
[13] United Nations Development Program- Threat and Risk Mapping Analysis, *Blue Nile State. Land Use Map*. Khartoum: UNDP, 2009.

up fighting for.[14] The Rufa'a al-Hoi particularly became notorious for their raids on civilian populations across Southern Blue Nile, a counter-insurgency that pushed Ingessana, Uduk, Hamaj and other groups into the arms of the SPLA/M.[15]

[14] Abdel Ghaffar M. Ahmed, *Transforming Pastoralism. A Case Study of the Rufa'a Al Hoi Ethnic Group in Blue Nile State, Sudan*. Bergen: Christen Michelsen Institute, 2008, pp.3-12.
[15] Johnson, *The Root Causes of Sudan's Civil Wars,* pp.83-84.

Developing the model for Al-Ingaz' new Sudan: Blue Nile, Islamisation and the Roseires Dam

Al-Dawa Al-Shimla: Transformation and Assimilation

When Omar Al-Bashir's RCC took power in 1989, the situation evolved from bad to worse. Nimeiri's Breadbasket had turned Blue Nile and other long-ignored North-South border areas into strategic political-economic sites where the state tried to reorder social and economic relations. Moreover, the divisive manoeuvres Nimeiri undertook to build a base of his own fuelled the unravelling of the socio-cultural fabric of Blue Nile, a process accelerated by the use of irregular militia to crush the SPLA/M. The region, with its dozens of ethnic groups and indigenous languages and its history of migration and slavery, has always been a microcosm of Sudan, defying simplistic categorisations of 'African' or 'Arab' identities[16]; however, Khartoum's divide and rule meant that its diversity was increasingly seen as problematic and open to exploitation for politico-military ends, inter alia intensifying pressures to assimilate to a riverain Arab identity. [17]

Al-Ingaz' arrival on the scene further augmented the region's importance, leading to worsening violence. Blue Nile became the key 'frontline' state for Sudan's Islamists and Generals due to several factors: its proximity to the SPLA/M's military bases in Ethiopia and its role as cornerstone of Garang's "New Sudan"-vision; its geopolitical importance as the place where the Blue Nile entered Sudan and where the Roseires Dam –supplying Khartoum with electricity- stands; the fact that Turabi's National Islamic Front had won the Kurmuk seat in the 1986 elections; and its pivotal function as a cultural transition area. For the Al-Ingaz leadership, penetrating and moulding Blue Nile was a top priority, as this allowed it to simultaneously advance the agendas of winning the war,

[16] Wendy James, *Kwanim Pa. The Making of the Uduk People*. Oxford: Clarendon Press, 1979.
[17] H.R.J. Davies, 'Cultures Under Pressure in the Sudan: the Ingessana and the Uduk.' *GeoJournal*, Vol.36, 1995, 1, pp.65-70.

economic salvation and Islamising Sudan.[18] Accompanied by a propaganda machine that warned that SPLA/M-advances threatened to bring the uncivilised 'Zurga'(blacks) to power in the Nile Valley, a military offensive sought to annihilate any presence of the rebel forces in the border areas and zones of mechanised farming.[19]

From 1992 onwards, a "civilian jihad" was waged too under the aegis of Ali Osman Taha, Turabi's deputy in charge of Al-Ingaz' social agenda. Ali Osman headed Mashru Al-Hadhari, the Civilisation Project, and created an all powerful Ministry of Social Planning/Affairs that complemented the military efforts, the Sheikh's political vision and Hamdi's 'new economy' in the peripheries. Spearheading the efforts to turn Blue Nile into a model Islamic state was "*Al-Dawa Al-Shamla*" (Comprehensive Call to Islam) "involving the unification of education, proselytising, humanitarian, developmental, financial and counter-insurgency efforts".[20] Al-Ingaz hoped to reinvent notions of 'development' and 'relief', using not just classical state institutions but also a multitude of Islamic organisations and fellow travellers from inside and outside Sudan to fuse religious teaching, service delivery, economic growth and political control.

Turabi himself had written extensively about the need to take an expansive view of building an Islamic state[21] and emphasised the same revolutionary logic in personal interviews[22], relying on mass mobilisation to transform Sudan from the villages to Khartoum. Al-Mashru Al-Hadhari was specifically intended as a rupture with the historical pattern of state-building: elite politics at the centre; selective integration of the wealth of peripheral areas (human labour, water, land) into the national economy; patronage to co-opt local strongmen; and repression in case of resistance.[23] Instead, people from all over Sudan would become active participants in state-building, shaking off their

[18] Interviews with senior Al-Ingaz leaders, September 2009-July 2011.
[19] The best book on how ordinary people experienced the war is James' *War and Survival in Sudan's Frontierlands.*
[20] Alex De Waal, A.H. Abdelsalam, 'Islamism, State Power and Jihad in Sudan.' Alex De Waal (ed.), *Islamism and its Enemies in the Horn of Africa*. London: Hurst & Co, 2004, pp.89-90.
[21] Hassan Al-Turabi, 'The Islamic State,' John L. Esposito (ed.), *Voices of Resurgent Islam*. New York: Oxford University Press, 1983.
[22] Interviews in Khartoum, December 2010, September 2011.
[23] Justin Willis, 'The Ambitions of the State', John Ryle et al (eds), *The Sudan Handbook*. Suffolk: James Currey, 2011, pp.54-62.

sectarian and parochial socio-cultural identities, and bringing the light of Islamism to regions where neither it nor the state had penetrated deeply before. A new foreign policy would stop outsiders determining Sudan's options; following liberalisation and improved hydro-agricultural projects, economic salvation would put the country back on its feet; political reform and Sharia would crush sectarian dominance; and the Civilisation Project would underpin the "ethical transformation" of social relations. There was no better place to test this agenda than Blue Nile.

Led locally by Ibrahim Abdel Hafiz, Ahmed Koromino and other radical Islamists, Al-Dawa Al-Shamla began with extensive mosque and school building and food distributions. Islamisation also dovetailed with preparing thousands of youngsters –mainly Rufa'a, Fellata, Watawid and Hausa but also some non-Muslim Uduk and Ingessana- for the Popular Defence Forces (PDF), the 'Islamic' *encadrement* Al-Ingaz organised for the irregular militia created by Sadiq. Television broadcasts praised these 'martyrs' and the 'great work' of civilisation that they contributed to; it didn't mention the arbitrary terror; forceful proselytisation and destruction of mosques (legitimised through "*takfiri*"-logic[24] directed at 'apostate' Muslims) that the PDF and its 'civilian' companions engaged in. Sharia-compliant taxation and financial institutions were introduced to Islamise Blue Nile and helped fund military operations, blurring the lines between politics, religion and development/relief.[25] Osama Bin Laden, who owned a farm in the Northern Blue Nile and supported the military and civilian war effort as a fervent believer in takfiri reasoning (his Al-Gama'ah Al-Islamiyyah colleagues fought alongside the PDF[26]), is but one of many symbols of the merger of several agendas.

As evident from interviews carried out in Blue Nile in August-September 2009, memories of the Al-Dawa Al-Shamla campaign remain strong; Ali Osman is personally associated with much of the violence people experienced when the regime was it most revolutionary. While some interviewees

[24] R. Hrair Dekmejian, *Islam in Revolution, First Edition*. Syracuse: Syracuse University Press, 1985, pp.92-95.
[25] For the best discussion of Al-Dawa Al-Shimla- chapter nine of African Rights, *Food and Power in Sudan.* London: African Rights, 1997.
[26] 'Egyptian Islamist group admits sending fighters to South Sudan during civil war years', *Sudan Tribune*, 17 November 2011.

highlighted that the Civilisation Project was the first time *any* government took serious interest in them (whatever Al-Ingaz' reasons for doing so) and provided social services that had historically been absent, most people blamed the Salvation for imposing dress codes, riverain Arab/'Islamic' customs and political allegiances alien to the local population. Others highlighted their profound dislike of "Khartoum trying to force us to be like them"[27], but also indicated that it was possible to pretend to assimilate to the new norm and get access to the services Al-Ingaz supplied; the violence was almost universally abhorred.

By most accounts, friendly and hostile, Al-Dawa Al-Shimla was largely unsuccessful. Its peak coincided with the most feverish periods of Islamist rule, but ran out of steam by the late 1990s; Taha's assumption of the position of foreign minister after the Mubarak assassination attempt coincided with the downscaling of the Civilisation Project. Many revolutionary projects collapse as their leaders' universalist and utopian dreams clash with financial realities, administrative incompetence, pragmatic local politics and overzealousness of career-driven officials.[28] Blue Nile was no different.[29]

Al-Ingaz' rupture with Egypt, the West and the Gulf Arabs deprived it of the funds –public and private- that were needed to sustain the offensive in health care, Quranic teaching and humanitarian aid in Blue Nile. The imposition of a "neo-fundamentalist"[30] form of Islam and set of (mostly riverain Arab) cultural practices was highly unpopular; Salvation cadres and voluntarist fellow travellers lacked both the patience and socio-cultural sensitivity that were required to bring the peripheries into Hassan Al-Turabi's new Islamist Sudan, initially refusing to allow for local differentiation; later pragmatic politics were embraced again, reverting back in the direction of the "patronage and repression"-model historically associated with the Sudanese state. Most fundamentally, Al-Ingaz lacked the organisational capacity, policy coherence and sophisticated political operators and

[27] Interview in Damazin, August 2009.
[28] Forrest D. Colburn, *The Vogue of Revolutions in Poor Countries*. Princeton, Princeton University Press, 1994, p.77.
[29] De Waal, Abdelsalam, 'Islamism, State Power and Jihad in Sudan', pp.92-95.
[30] Olivier Roy, *Globalised Islam*. New York, Columbia University Press, 2004.

administrators[31] to see through the Civilisation Project in Blue Nile in the 1990s, the same factors that inhibited the Revolution in general throughout Sudan.

Despite Ali Osman's shift in focus and the fading role of Al-Dawa Al-Shamla in the rhetoric in Khartoum and the regime's Blue Nile strategy, the Salvation continued to be deeply invested there. The region remained strategic and the object of propaganda – in 1997, the third fall of Kurmuk into the hands of the SPLA/M and their Ethiopian-Eritrean allies and the threat to Damazin/Roseires Dam led to renewed calls for jihad to protect the Sudanese heartland- but the objective of wholesale transformation was, for now, given up. Ideologues like Abdelrahim Hamdi and Hassan Makki admitted that mistakes were made in the 1990s: "The social engineering of this government was very poor".[32] The same figures returned to the region ten years later to support a new development strategy that once more promised to build a new Sudanese state and develop the nation from the frontlines of Blue Nile.

The Dam Heightening and its Local Impact

As noted earlier, a dam was built in 1965 at Roseires, about 100km after the Blue Nile enters Sudan with the twin goals of helping downstream irrigation at Managil and generating electricity for the core of the Sudanese state- the Nile Valley. Even though the Nimeiri coup postponed the intended heightening of the dam, thousands of people had to be moved as their homelands were flooded. However, despite the unpopularity of the displacement, Blue Nile's people were too disorganised and politically irrelevant to contest their 'voluntary' sacrifice. No political factions took up their cause, no major local organisations existed to demand compensation for loss of assets or to question the presumed benefits of the dam for regional development. The population learned to live with this *fait accompli* and moved to the banks of the reservoir to begin anew there, or, in some cases, migrated to urban centres.

[31] Abdullahi Gallab, *The First Islamist Republic*. London: Ashgate, 2008, pp.142-143.
[32] Interview with Abdelrahim Hamdi, April 2010.

The dam heightening was intensely discussed by Khartoum's water establishment, but nothing happened for more than 20 years, leaving some to hope that it would never materialise. However, the rise to power of Al-Ingaz and its revolutionary ambitions, including in the hydro-agricultural realm, changed that. Following the 1991-1992 *annus mirabilis* of the Salvation –military victories in the South, the split of the SPLA/M, self-sufficiency in wheat-, Turabi ordered the heightening so as to consolidate the leap in agricultural production through more irrigation, a key part of the campaign to turn Blue Nile into a make-or-break state for the Revolution. Work started in 1993 with an estimated cost of USD$300m. However, the project soon had to be postponed indefinitely because of lack of funds;[33] the heightening of Roseires was, just like Al-Ingaz' agricultural reforms, a victim of the contradictions between the priorities of economic salvation and the export of the revolution.

After 1999-2000 and the shift to economic legitimacy rather than ideological experiments, heightening the dam was once more a regime priority, part of the hydro-agricultural mission, but now facilitated by petrodollars and the rapprochement with Egypt and the Gulf Arabs. After Merowe and its associated projects in the Hamdi Triangle, Roseires became the DIU's second objective, particularly because the dam had lost almost half of its capacity due to sedimentation: with massive funding from Kuwait, the Emirates and Arab multilateral funds, the heightening –"a national development project central for Sudan's future welfare"[34]- was started in 2008 with the twin goals of irrigating an additional 2m feddan of fertile land downstream and generating power for the central grid.

Despite Al-Ingaz' civilisation rhetoric and its efforts to impose the project without much contestation, the heightening of the Roseires Dam (see map[35]) has been mired in controversy from well before actual construction began. Following several weeks of fieldwork in Blue Nile in 2009, both in the areas affected by the heightening and other parts of the region, and follow-up interviews I've

[33] Interview with Yacoub AbuShora, September 2011.
[34] Interview with Hamad Karori, October 2011.
[35] United Nations Development Program- Threat and Risk Mapping Analysis, *Blue Nile State. Dam Heightening*. Khartoum: UNDP, 2009.

organised since, it is clear that the dam has intensified anti-Ingaz sentiment in Blue Nile and contributed to the re-eruption of armed conflict in 2011. The project is seen as yet another attempt to bring 'development' to the region- that is to say, a series of top-down projects of highly coercive nature, with the benefits accruing to specific groups close to the Nile Valley elites, as they have done for 200 years, and the costs falling on local communities, who are under strong pressure to assimilate to the ethno-cultural identity of Sudan's core.

Blue Nile is one of the poorest regions in one of the poorest countries in the world. The areas affected by the heightening are lush, but almost completely deprived of social services and basic infrastructure; until 2009, the only road in the state ended in Damazin and illiteracy rates exceed 70%.[36] Khalil Ibrahim, later a Darfurian rebel but at the time of Al-Dawa Al-Shamla a jihadi leader loyal to Al-Ingaz, was shocked by what he saw: "The Blue Nile State was indeed the most wretched place in Sudan...Darfur was a haven compared to [it]... Blue Nile State baffled me for I had never seen so many beggars as I saw in the Blue Nile towns. Every morning we woke up to a score of them besieging our house and those of our neighbours. We did our best to distribute remnants of food, grain, sugar, clothes and anything that we could part with. The scale of need around us dwarfed our capacity for help...The poverty I saw in the Blue Nile State haunted my mind and disturbed my sleep..."[37]

Moreover, apart from abject impoverishment, Blue Nile also faces several inter-related ecological crises, with the dam heightening more likely to do more damage than good, dixit Sudanese scientists. Deforestation, proneness to flooding and exhausted soils are the direct consequences of a model of development that focuses on rapid extraction on the one hand and marginalises people –by driving them off their land, blocking migration corridors and displacing them through wars and hydro-infrastructure- on the other.[38] Thirty years of being a 'frontline' state for Nimeiri's, Turabi's and

[36] United Nations Development Programme, *Blue Nile. Situation Analysis*. Khartoum: UNDP, 2010, pp.15-25.
[37] Abdullahi Osman El-Tom, *Darfur, JEM and the Khalil Ibrahim Story*. Trenton: Red Sea Press, 2011, pp.190-191.
[38] United Nations Environment Program, *Sudan: Post-Conflict Environmental Assessment*. Nairobi/Khartoum: UNEP, 2007, pp.165-168; Nile Basin Initiative, *Nile River Basin. Transboundary Environmental Analysis*. Entebbe: NBI, 2001, pp.26-31.

Taha's development initiatives has decreased human security and wreaked environmental havoc- this background is critically important to understand the resistance the dam heightening is producing.

Usama Abdallah's DIU is widely considered to be uninterested in local opinion and unsympathetic to the suffering it is causing for large numbers of people. To the head of the foreign consultants working with the DIU, the unresponsiveness to social, economic and ecological concerns was in retrospect not unsurprising: "If you employ only engineers, you get a very narrow perspective."[39] One of the biggest problems with the heightening is that nobody seems to know –or willing to share- just how many people will be displaced. While Usama Abdallah's staff has systematically refused to disclose information –the director of the Roseires Dam said "I don't know exactly how many people live there"[40]-, others have been more forthcoming. The head of the local Ministry of Physical Planning put forward the number of 21000 people, while the United Nation Mission in Sudan estimated that 50000 citizens have to move.[41] One of the DIU's Sudanese consultants went explicit beyond these numbers, arguing that at least 36000 people on the Nile's West Bank and 30000 on the East Bank will be moved[42], possibly even more than the 73000 displaced that well-informed local sources in Blue Nile suggested to me in September 2009. Even the (Islamist) Commissioner of Geissan's estimates were closer to the latter than to the semi-official data of his own government: he feared that 50000 people, in his district alone, would have to be relocated.[43] None of these numbers include migratory populations who shun all contact with the state but travel in areas bound to be flooded, like the (heavily armed) Umbararo, nor are they based on any reliable census data. This means that possibly up to 10% or more of Blue Nile's population might be displaced due to the dam heightening, an

[39] Interview in Khartoum, April 2010.
[40] Interview with Motaseem Al-Awad Mohamed, August 2009.
[41] Interviews with Mohamed Omar Kabir & Svetlana Pencheva in Damazin, August 2009.
[42] Interview in Khartoum, April 2010.
[43] Interview with Ali Zain Ali Hassan, August 2009.

extremely sizeable number in absolute terms and an extraordinarily high proportion by international standards.[44]

Furthermore, there is disagreement on which areas will be covered by the reservoir. The map attached of heightening-affected areas was based on projections by specialists at UNDP, but differs significantly from DIU data, at least according to official government communications because no documents showing the new reservoir have been released by Usama Abdallah's team. I was accidentally shown a classified map in Damazin in which the DIU assumes that a smaller area will be flooded and no Ethiopian land would be affected, nor would Fazughli, site of great symbolism given its importance in the Sennar Kingdom, be heavily hit. This led one key consultant for the DIU to claim that the Unit is deliberately misleading politicians about these politically sensitive questions by using fake maps[45], raising major questions concerning the competence and secrecy with which the project is undertaken and the potential for conflict if important groups are not included in post-heightening scenarios.

For many of the people concerned –mainly from the Watawid, Berta, Fellata, Jabalawin, Ingessana and Hamuk[46] ethnic groups- this is not the first time they are uprooted, but the second or third round of displacement due to dams, conflict and mechanised farming. Once more, they are being forced to leave in the 'national interest' and, like on previous occasions, communication is scarce and one-directional: when community leaders were interviewed in Al-Aradeba and Al-Rigeibah they indicated that well after the decision to start the heightening was taken they were informed that they would have to leave.[47] One local Sheikh reported that he was called to a meeting of one hour in Damazin where Usama Abdallah made a rare public appearance notifying leaders that their communities would be displaced but promising that compensation would be given (no time was allotted for

[44] World Commission on Dams, *Dams and Development.* London: Earthscan, 2000.
[45] Interview in Khartoum, April 2010.
[46] "Hamuk" refers to indigenous population groups in Blue Nile, known under different names: "there is an old term, 'Hameg' or Hamaj, applied to people living on the southern fringes of the former Kingdom of Sennar", James, *War and Survival in Sudan's Frontierlands,* p.1.
[47] Interviews in Blue Nile, August 2009.

questions); another Sheikh denied ever hearing of such a meeting and was told about the heightening when DIU staff came to his village. There was no major public information campaign in Blue Nile; the assumption was that people would merely accept the state's wisdom and move, although it became clear from my interviews that many respondents didn't even understand what the exact purpose was of the dam heightening.

Within weeks of Usama's appearances in Damazin and Kurmuk in 2008, DIU staff was sent into many but not all of the villages to start registering assets of households in the areas for compensation. The decision was that thousands of people would be moved to 13 "model villages" -7 on the Western shore, 6 on the Eastern shore- where they could be supplied with modern services (better housing, electricity, jobs training) and receive financial compensation for losing assets. While people complained in interviews about both the speed with which this registration of assets occurred and the fact that many possessions –trees, cattle,...- were not registered or undervalued, other community leaders, often those without much schooling, had clearly been manipulated by the DIU. Near Al-Amara Bella a Sheikh told me that he wanted what the people displaced due to the Merowe Dam got. I asked him whether he had been to Merowe, which he declined. I went on to inquire whether this idea was perhaps the consequence of speaking to community leaders, watching a television broadcast on Merowe or even a newspaper article. He shook his head- the DIU had given him a one page summary containing all the "blessings of civilisation" in the Merowe area.[48]

The DIU's conception of what compensation is and how it should be implemented, is riddled with problems and despite the reaction of the Sheikh near Al-Amara Bella, most dam-affected people in Blue Nile were outright angry when the issue was brought up. Many explained that they had not been asked about what kind of compensation they wanted and that were not in any way part of designing the model villages, nor of deciding with whom they would live (one interviewee insisted that "there is a reason why we and our farming neighbours don't live in the same village").[49] There was a strong distrust of the model villages and what would be encountered there; questions were

[48] Interviews in Blue Nile, August 2009.
[49] Interviews in Blue Nile, August 2009.

raised regarding whether the government would keep its promises and, even if it did, whether people would accept the settlement. Government sources indicate that if Usama Abdallah can be persuaded to follow the same international standards adhered to by countries like China in compensation for dam-induced displacement[50], "ultimately, the costs of [properly] relocating people and compensating them will be higher than the actual construction costs of elevating the dam"[51]*:* this is one of several reasons for why the heightening of Roseires will not require the foreseen USD$400m, but probably around USD$1bn for a project with a questionable cost-benefit ratio.

The further South and the closer to Ethiopia, the less well informed people were about what the dam heightening consisted of, who the DIU represented and what kind of compensation would be forthcoming; and the further away from Damazin-Roseires, the more intense the accusations that some groups would be better compensated than others. A group of 30 disaffected Hamuk youth argued that the Fellata, known for their service in the PDF and support for Al-Ingaz, would get fishing licences to take advantage of the new reservoir and could thus develop new livelihoods but that no opportunities were available to Hamuk.[52] The veracity of these claims was impossible to establish, but regardless of whether they are true or not, they reflect a profound hostility to yet another Khartoum-led scheme for development. As already indicated, neither the DIU staff nor my own research was able to establish contact with reclusive, strongly armed nomads like the Umbararo- their levels of distrust are likely to be even higher.

In such an environment of scepticism vis-à-vis the state and general uncertainty due to minimal communication by the DIU, rumours are difficult to control and easily manipulated by political operators on all sides; unfortunately the local administration sometimes makes things worse. In discussions with the secretary-general of the Ministry for Physical Planning, he suggested that the

[50] Michael Cernea, (ed.), *The Economics of Involuntary Resettlement*. Washington DC: World Bank, 1999; National Commission for Women, *Development Induced Displacement in India. Impact on Women*. New Delhi: NCW, 2004.
[51] Interview in Damazin, August 2009.
[52] Interviews in Blue Nile, August 2009.

dam-induced displacement could be part of a grander plan of moving up to 200000 inhabitants, mainly in the traditional SPLA/M strongholds of Bau, Geissan and Kurmuk localities, closer to the cities so service provision could be facilitated and local conflict could be controlled.[53] This plan was discussed at a technical and political level, but, to my knowledge, has not been executed (with cost considerations clearly being a much greater impediment than probable reluctance of citizens to cooperate in the eyes of the planners). It illustrates the continued disconnect between the modernising dreams of the regime –from Al-Dawa Al-Shimla to dam-led development- and the livelihoods and aspirations of Blue Nile's subsistence farmers and pastoralists. It is worth noting that the NCP's strongman in the state today is Ahmed Koromino, one of the Civilisation Project's most radical leaders in the 1990s and symbol for the Islamists' enduring transformational ambitions in Blue Nile.

The growing resistance against Al-Ingaz' hydro-agricultural mission has had increasingly severe political repercussions; not for the first time, state-building with its structural violence and asymmetric integration of the peripheries into the political-economic system is reproducing insecurity, dividing local people and generating violent opposition. The UN warned in 2010 that "The dam heightening will put pressure on resettlement operations in the state and will force a change in the social fabric of the affected areas. Some ethnic groups are likely to emerge as more dominant; some tribal and native administrates (such as Hamaj's Omodiaj) are likely to diminish in importance."[54] In a 2009 interview, Malik Agar, SPLA/M commander during the war and governor of the state since 2007, echoed the anger of the citizenry:

"I am completely against the heightening of the dam. There is nothing in it for the people of Blue Nile...The technical design of the irrigation canals prevents local people from using any new water, everything will go to [capital-intensive irrigated farming at] Kenana and Rahad. In terms of electricity,

[53] Interview with Mohamed Omar Kabir, August 2009.
[54] UNDP, *Blue Nile. Situation Analysis*, p.32.

just like before, most of it will go to Khartoum. We have only had electricity in this state in the past two years…The dam here will not be a repeat of Merowe. I am an armed governor, I have my own army…A huge difference."[55]

Under the Comprehensive Peace Agreement, Blue Nile was awarded "Popular Consultation", a vague mechanism of bottom-up recommendations to the Presidency of the Republic to address the socio-economic, cultural and political grievances that led to extended conflict.[56] After the turbulent April 2010 state elections, in which Malik was narrowly returned as Governor despite an Islamist majority in the state legislature, this included meetings of government representatives, (inter)national mediators and community spokesmen in 108 locations over a series of 20 days in early 2011 in which almost 70000 people participated. While the mechanism satisfied almost no one, the results of the first (and thus far only) round showed a deepening polarisation between a pro-Ingaz constituency, arguing for more service delivery and development, and a pro-SPLA/M camp, which complained bitterly about continued neglect since the signing of the CPA and demanded "self-rule".[57] The latter seemed unwilling to accept Salvation rule in any form any longer, citing, inter alia, the dam heightening and mechanised farming schemes as evidence of the continued marginalisation.[58]

Amidst rising tensions, Ali Osman Taha visited the state in February 2011 but was met with unprecedented hostility, forcing the security services to cancel a huge rally at the last minute.[59] The humiliation of Ali Osman, the driving force behind Al-Dawa Al-Shimla and political architect of the hydro-agricultural mission, was testament to the strong reactions the ideas and political practices he represents, evoke locally. In August, following the outbreak of violence in South Kordofan, conflict re-erupted in Blue Nile too, with Al-Ingaz seeking to disarm SPLA/M forces and dislodge Malik as

[55] Interview in Damazin, August 2009.
[56] Jason Gluck, *Why Sudan's Popular Consultation Matters*. Washington DC: United States Institute for Peace, 2010.
[57] Carter Center, *Statement on Citizen Hearings Phase of Blue Nile Popular Consultations*. Atlanta/Khartoum: Carter Center, 21 March 2011.
[58] Interviews with Sudanese consultants to the Popular Consultation, March-May 2011.
[59] 'VP Taha cuts short his visit to Sudan's Blue Nile state', *Sudan Tribune*, 23 February 2011.

governor. While the disarmament issue was the immediate trigger, there can be little doubt that this new round of large-scale violence needs to be understood against the background of historical and Islamist state-building projects and the local impact of the hydro-agricultural mission.

Hydro-development, Violence and Cultural Assimilation in Nubia

Blue Nile is not Sudan's only region where longstanding discontent with Khartoum's rulers intersects with state-sponsored violence and local opposition to Usama's Dam Programme. The projects along the Nile in Nubia (River Nile and Northern State) spearhead the hydro-agricultural mission as part of the Hamdi Triangle where Al-Ingaz concentrates the bulk of its funds and political capital to recalibrate Sudan's hydropolitical economy. Merowe is the jewel in the Islamist crown and looms large in the imagination of many Sudanese- cf. also the many references to its compensation scheme by dam-affected communities around Roseires. Yet, just like in the case of Blue Nile, resistance to the Salvation's plans has turned lethal. Contrary to what Khartoum alleges, local communities are not anti-developmental or, following Hyden[60] or Scott[61], trying to escape the reach of an administration with totalitarian leanings; in Sudan's High North, people have for years been clamouring for development, but of a different kind than historically has been associated with the relations between the state and the Nubians.

Home to some of Africa's oldest states and historically associated with Pharaonic Egypt, most of contemporary Sudanese Nubia is desperately poor with social indicators in many places almost as dramatic as those in the West, South and East of Sudan. The region between Ad-Damer and the Egyptian border didn't suffer from the same kind of physical violence, but the lack of investment and social services is glaring. In the Nubian mindset, enduring marginalisation is, like elsewhere in Sudan, closely associated with cultural chauvinism of the Khartoum elites: development is a privilege that is only bestowed by Sudan's rulers upon local communities if they assimilate to the Nile Valley's cultural-religious practices and abandon their sense of a distinct Nubian identity.[62]

[60] Goran Hyden, *Beyond Ujamaa in Tanzania. Underdevelopment and an uncaptured peasantry*. London: Heinemann, 1980.
[61] James C. Scott, *Weapons of the Weak.* New Haven: Yale University Press, 1985.
[62] Interviews in Khartoum and London with Nubian community leaders, December 2010-July 2011.

The great trauma in Sudan's Nubian communities remains the flooding of Wadi Halfa and the displacement of tens of thousands of people from their ancestral lands for the Aswan Dam in the 1960s. Relocated 700 km South to the semi-arid Butana plain in New Halfa in Eastern Sudan, this marked a huge blow to the socio-cultural fabric and traditional livelihoods of Nubian society.[63] Whereas the resistance and partial demise of riverain Nubian culture led to intense debates in Khartoum –ultimately squashed by Abboud's coup and his deal with Nasser-, the government's promises for compensation and alternative livelihoods were only half met. The 50000 Nubians in New Halfa have struggled to attain living standards comparable to their previous lives, facing problems with services and agricultural production, as well as malaria.[64] The Khasm Al-Girba irrigated scheme failed, as its canals were badly maintained and full of bilharzias snails, and cotton and wheat lost competitiveness, while downstream linkages disappeared by the mid-1980s. The wider economic and psychological fallout triggered accelerated migration of Nubian youngsters out of Nubia and New Halfa, to Khartoum, the West and the Arabian Peninsula.[65] While this led to a domestic cultural malaise and often (partial) assimilation to the identities of their hosts, it also provided a lifeline for many communities and turned Nubians into an economically successful Diaspora group, serving as doctors, engineers and scientists in host societies.

This history means that plans for megadams and grand agricultural projects in the Nubian homeland were received with great scepticism even before the details of the Merowe, Kajbar, Upper Atbara and Dal dams emerged. After construction started on Merowe in 2003, relations deteriorated rapidly, turning violent as civil protest against the hydro-agricultural mission was squashed by DIU security forces. Sudan's Dam Programme is focused on the areas where the three riverain groups live that have historically dominated Sudan's political economy –Ja'aliyyin, Shaigiyya and Danagla (a

[63] Mohamed Said Mohammed Elhassan, *The Story of the Drowning of the Most Beautiful Town in Sudan*. Damascus: Nadar Press, 1998.
[64] Muneera Salem-Murdoch, *Arabs and Nubians in New Halfa. A Study of Settlement and Irrigation*. Salt Lake City: University of Utah Press, 1989.
[65] Hassan Daffalla, *The Nubian Exodus*. London: Hurst & Company, 1975.

Nubian subgroup part of the power bloc, with heavily Arabised elites)- and that are the main beneficiaries of the DIU's "Associated Projects", in terms of employment, kickbacks and service delivery. Like in Blue Nile, the sentiment in Nubia is that the benefits accrue to the same old circles, while the costs fall on those historically excluded from services: the 1250MW generated by Merowe are sent to Dongola, Port Sudan, Shendi and Khartoum. Regime statements like the one which opened this chapter about how some have to sacrifice for others, infuriate Nubians.

The Hamdab/Merowe Dam is contested on several grounds, all of whom, according to local activists, demonstrate the violent contradictions of the hydro-agricultural mission and Nubia policy of Al-Ingaz more generally.[66] The first cause of anger is the forced relocation of over 60000 Nubians of the Amri, Hamdab and Manasir communities –a scale similar to Aswan- from the 174km long new reservoir area, following a decision-making procedure during which no Nubian voices were heard. The DIU didn't involve the displaced in designing the resettlement or the compensation mechanisms (though Khartoum claims that approval of tribal leaders was sought after an organised visit to the sites[67]), and none of the displaced are foreseen to participate in the planned irrigation schemes around the reservoir; new investors would assume responsibility for that. Activists complain that the monetary value of the assets far exceeded what Nubians got- another decision in which they had no say.[68]

The DIU underlines it is offering people improved lives –from "stone age conditions to modern accommodation" claims Hamdi[69]- and that life is much better in the resettlement villages, where access to education, electricity, irrigation and cheap credit is available. Captions for pictures of the displaced and their resettlement sites on the DIU website underline that "It's time to depart for a

[66] Interviews in Khartoum and London, December 2010-July 2011.

[67] Dam Implementation Unit, *Merowe Dam Project. Resettlement*. DIU website, http://www.merowedam.gov.sd/en/social.html, last checked on 3 December 2011.

[68] Peter Bosshard, Nicholas Hildyard, *A Critical Juncture for Peace, Democracy, and the Environment: Sudan and the Merowe/Hamadab Dam Project*. London, International Rivers Network and The Corner House, 2005.

[69] Interview in Khartoum, February 2011.

brighter future" and "With delighted hearts, the APs [affected persons] inspect their new homes."[70] The Unit is at pains to stress "the resettlement of the affected population in an environment similar to theirs…" and to "ensure that the affected people would be able to perform the same type of occupational, economical and social activity in his new location, in accordance with the international principles and laws in resettlement processes." While the latter claims seem to contradict Hamdi's and the DIU's own statements about the dam's transformative, civilizing impact –the point is exactly for them to be in a *new and different* environment-, the claims about resettling in accordance with international best practices are certainly falsehoods. As highlighted in chapter five, there was no serious environmental and social impact assessment executed for the Merowe Dam after HCENR secretary-general Nadir Awad's removal; the document produced by Lahmeyer International, recently convicted for dam-related corruption[71], systematically downplayed grave environmental issues and ignored the wider problems with dam building in Sudan, apart from appearing well after construction had begun.[72]

Community activists assert that the relocation sites in New Hamdab/Multaqa, New Manasir, Makabrab and Kaheela East are nothing but villages in the desert far away from their homelands with no future for bored youngsters or the older generations who are struggling to adapt- a new exodus with associated cultural disintegration appears inevitable.[73] Because the DIU doesn't allow social scientists or activists anywhere near the villages, it is impossible to conduct independent research on living conditions in resettlement areas. Government sources claim that harvests are successful and that the re-housing schemes are appreciated, not least because of DIU generosity: "People whose houses [were] drowned by the Dam's water are exempted from paying the difference that result from the value differences between their previous houses and the new houses that they [have been]

[70] Dam Implementation Unit, *Merowe Dam Project. Resettlement*. DIU website, http://www.merowedam.gov.sd/en/social.html, last checked on 3 December 2011.
[71] World Bank, 'World Bank Sanctions Lahmeyer International for Corrupt Activities in Bank-Financed Projects', November 2006, Pretoria.
[72] Cristian Teodoru, Alfred Wuest, Bernhard Wehrli, *Independent Review of the Environmental Impacts Assessment for the Merowe Dam Project*. EAWAG: Kastanienbaum, 2006.
[73] Interviews in Khartoum in December 2010 and London January 2011.

given at the resettlement sites. This exemption is considered as a token of appreciation for them for their sacrifices."[74] Resistance groups insist that reality is diametrically opposed to Al-Ingaz' wishful thinking, as evident in the outmigration of thousands of dam-affected people to the High North for gold digging: bad agricultural prospects; no maintenance of development schemes; and appalling social services. [75]

The worry of Nubians was always that the Aswan tragedy would be repeated; Usama's opponents argue that this is precisely what is happening, with the same long-term consequences: destruction of irreplaceable livelihoods, political invisibility and the dismantling of the cultural fabric of Nubian civilisation.[76] This is the context for the explosive claims that Sudan's Dam Programme is a genocide, a plot by the *Awlad al-Balad* elite to annihilate Nubian culture, just like some saw the Jonglei Canal as a genocidal assault on Nilotic peoples[77]; the dams, from this viewpoint, drown places of socio-cultural and archaeological significance and accelerate assimilation through urbanisation, as new generations are forced to look for menial jobs in Khartoum and substitute their rich heritage for deformed Arabism.[78]

The Salvation is deliberately inviting hundreds of thousands of Egyptian farmers to cultivate Nubian ancestral land under the Four Freedoms Agreement, activists claim; it is also committing structural violence ("demographic engineering"[79]) against people whose diversity its Arab-Islamist core cannot tolerate. 'Disaster' is about to be repeated with the Dal (second cataract), Kajbar (third cataract) and Shreik (fifth cataract) dams: once again, tens of thousands will be relocated to uncertain futures, and

[74] Dam Implementation Unit, *Merowe Dam Project. Resettlement*. DIU website, http://www.merowedam.gov.sd/en/social.html, last checked on 3 December 2011.

[75] Arif Gamal, *Kajbar and Nubian Lands. History, Case for Culture and Struggle*. Berkeley, Rescue Nubia, http://rescuenubia.org/pdf/Kajbar_Dam.pdf, last checked on 3 December 2011; Interviews in Khartoum in December 2010 and London January 2011.

[76] Thomas Schmedinger, 'Another Darfur in the North? Kajbar Dam, Dal Dam and the destruction of Nubia.' Conference Paper, International Sudan Studies Conference in Pretoria, 2009.

[77] John W. Burton, 'Development and Cultural Genocide in the Sudan.' *Journal of Modern African Studies*, Vol.29, 3, 1991, pp. 511—520.

[78] Committee of Anti Dal-Kajbar Dams, *The Sudanese Government Plan of Demographic Engineering of Nubia & the Chinese & Egyptian Connection to it. A Letter of Protest & Resistance*. Khartoum, 2011.

[79] Muhammad Jalal Hashim, 'The dams of Northern Sudan and the policy of demographic engineering.' Conference Paper, International Sudan Studies Conference in Pretoria, 2009.

without adequate consultation or compensation, to make way for electricity production for metropolitan centres and Al-Ingaz' tribal heartlands.[80]

While there is little evidence to sustain the hypothesis of genocidal "demographic engineering" – where are the Egyptian farmers, for instance?-, DIU official communications have often further fanned the flames, seemingly trivialising the concerns of Nubians about the loss of their ancestral lands: "First we have to note that Merowe most famous archaeological heritage…[is] not affected in any way by its structure. On the contrary, the Dam will have a positive effect on these sites, as the Dam by itself, is an area of attraction, and is expected to bring more tourists to the area."[81] Similarly, the DIU's description of the Kajbar Dam, associated projects and envisaged resettlement schemes as *"mashru i-adat bina' al-hadhara"* ("the mission of rebuilding civilisation") is considered a provocation given what happened with Aswan and Merowe.[82] It is statements like these that have led to ever more radical counterclaims by the resistance groups who have warned of violent conflict if Al-Ingaz continues its Dam Programme.

The DIU has responded furiously to the protests the dam construction and resettlement programmes have triggered over the past decade.[83] Hundreds of people have been detained, wounded or killed by the police and a separate DIU security force. Few attempts have been made to address the fears of large segments of the Nubian population; regime officials call those who question the hydro-agricultural mission 'ungrateful'. Four years after the creation of the reservoir and 2,5 years after the inauguration of Merowe, community activists still protest in regional urban centres, in Khartoum and in Diaspora communities to demand better compensation for the displaced and to oppose any further dam building in Nubia. Resistance groups also ask justice for incidents like the attacks by security forces on a public protest in Amri in 2006 when dozens were shot without warning, or the

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[80] Gamal, *Kajbar and Nubian Lands.*

[81] Dam Implementation Unit, *Merowe Dam Project. Archaeological Salvage*. DIU website, http://www.merowedam.gov.sd/en/archaeological.html, last checked on 3 December 2011.

[82] Dam Implementation Unit, *Mashrūʿ sadd Kajbar: maʿlūmāt muwjaza: mashrūʿ iʿādat binā' al-ḥadāra bi-iʿādat al-*tawṭ īn. DIU, Khartoum, 2008.

[83] Organisation Mondiale Contre la Torture, *Sudan. Ongoing Violence Against Communities Resisting Dam Construction in the Northern Nile Valley*. Geneva: OMCT, 2007.

killings near the Nubian village Sebo during demonstrations in 2007 against the Kajbar Dam which is described by local communities as *"*300 Mega Watts for 50,000 years of Civilization*"*.[84]

It remains unclear where the omnipresent discontent in Nubia is heading, with Al-Ingaz unwilling to make concessions and the communities unwilling to accept expanded compensation packages and new dams which are essential to the Salvation's new identity and its political-economic grand strategy. Observers and activists have raised the possibility of a violent uprising, but most of the key enabling factors identified in the conflict literature seem to be absent: contrary to South Sudan, Darfur or Blue Nile, there is no obvious foreign sponsor for a rebellion, nor does the flat terrain lend itself to the organisation of insurgency, nor is a split within the ruling elite likely to lead to societal mobilisation for war in Nubia.[85] The security services have a tight grip on the region that makes it unlikely that the disgruntled local population could organise effectively against them. The current situation of structural violence, irregular outbursts of demonstrations and repression, and mass emigration is likely to persist: Nubians don't have the option of fleeing an alien, oppressive state by moving into the forest or the hills and organise their resistance from there, like the people of Blue Nile and marginalised communities elsewhere in developing countries have historically done.[86] Thus, while some will stay and continue to protest, many others will leave, indirectly contributing to the fears of cultural extinction that are so salient among Nubians.

[84]'Four Killed Over Nile Dam Project That Threatens Nubian Towns', *National Geographic News*, 15 June 2007, http://news.nationalgeographic.com/news/2007/06/070615-sudan-nubian.html; Gamal, *Kajbar and Nubian Lands*.

[85] James Fearon, David Laitin, 'Ethnicity, Insurgency, and Civil War.' *American Political Science Review,* Vol.97, 1, 2003, pp.75-90; Stathis Kalyvas, 'Fear, Preemption, Retaliation: An Empirical Test of the Security Dilemma', Stephen M. Saideman, Marie-Joëlle Zahar (ed)*, Intra-State Conflict, Governments and Security: Dilemmas of Deterrence and Assurance*. New York: Routledge, 2008, pp.20-32.

[86] Scott, *Weapons of the Weak.*

Conclusion

By drawing on two case studies on the 'frontline' of Sudan's hydro-agricultural mission, this chapter showed how the civilisation discourse of the DIU and Al-Ingaz' grand political-economic strategy play out at the sub-national level where the mission's burdensome 'details' that most regime cadres have no time for, matter enormously for local communities. The economic salvation agenda on the one hand claims to be part of deeply historical processes –hydro-infrastructure and irrigated agriculture is how you do development in the Nile Valley- but on the other hand Al-Ingaz implements its Dam Programme and Agricultural Revival in ways that are insensitive to painful local memories. DIU officials and Khartoum-based ideologues are genuinely surprised by the degree of resistance they encounter in Blue Nile and Nubia, remaining oblivious to the deeply problematic engagement of Sudan's historical core with these regions in the past 200 years.

In the perceptions of many in Sudan's peripheries, the dams are the latest incarnation of a project of elite-led state-building in which there is a selective integration of a region's assets into the (inter)national political economy and an expectation to either assimilate to the prevailing ethno-cultural identity of the state's centre and to submit to its economic designs, or to leave for the rugged terrain of neighbouring countries, the slums of Khartoum or overseas labour markets. For successive regimes, 'development' has been the crowbar used to legitimise interventions in the peripheries and to seemingly give their peoples a stake in the modern state.

The ideological language that accompanies the march of civilisation into the peripheries changes over time –the Breadbasket, Al-Dawa Al-Shamla, Al-Nahda Al-Zira'ayah-, but is almost always alien to the moral economies of these region, generating ever more distrust as the plans unfold. Not in all cases is rebellion against the processes of expropriation, accumulation and exclusion feasible; while in Blue Nile many local communities have once more picked up arms to fight Khartoum with support from the SPLA/M in Juba, Nubians are likely to have to choose between a continuation of the current

stalemate of dam building and civilian protests, or exodus from their ancestral zones to urban environments where the survival of their culture is doubtful.

More broadly, the regional case studies teach us about those peripheral areas on the receiving end of state-building and the ugly realities of translating the rhetoric and strategic logic of the hydro-agricultural mission into on-the-ground policies. Seen through the angle of Nubia and Blue Nile, the state, whether socialist, nationalist or, in its most ambitious mutation, Islamist, appears not as an omnipotent body that completely controls the forces it sets in motion and reduces its subjects to mere slaves by further concentrating power through imposing its modernising project. To the contrary, these regional experiences show the limits of what is a relatively weak state in shaping both the material foundations on which that state is built and the frameworks of identity its citizens consider important.[87] While this state excels at allowing the same elites to consolidate power, its ethno-cultural chauvinism is not an effective nation-building tool and its ambitions of social engineering and wholesale revolution never translate into successful transformation. Equipped with neither the societal buy-in to achieve this through consent, nor the sheer material power to impose the hydro-agricultural mission, a chaotic mix of semi-effective coercion, continuing resistance and parochial corruption (fuelled by extraversion) is what emerges.

Dams are about political power; they are material expressions of power as well as symbols of the state's ability to 'tame' nature and, some would argue, the bodies of its citizens.[88] However, neither their construction nor the impact of displacement and modernising 'development' –including 'civilising' resettlement like in Merowe or Kajbar- should in the Sudanese context be understood as signs of the kind of totalitarian state Bauman, in an influential work on modernity and violence, identified: "Development-induced resettlement is...the ultimate expression of a state with its monopoly on the management of violence and its ambitious engineering projects, freed from all

[87] Joel Migdal, *Strong Societies and Weak States*. Princeton: Princeton University Press, 1988.
[88] Smitu Kothari, Wendy Harcourt, (eds.) 'The Violence of Development', Special Issue of *Development*, Vol.47, 1, 2004.

other non-political power or institutions of social self-management, and able to exert ultimate control over the location of people and things within its territory."[89] As the examples of Nubia and Blue Nile demonstrate, the state-building project of Al-Ingaz is indeed profoundly modern and modernising, but by no means synonymous with ultimate control. To the contrary, riddled as it is with contradictions, it illustrates the very limits of what it can achieve in terms of transformation in the peripheries of its Hamdi Triangle.

[89] Zygmunt Bauman, *Modernity and the Holocaust*. Ithaca: Cornell University Press, 1989, p.xiii.

Conclusion: Water, Civilisation and Power

This thesis has focused on a powerful, enduring idea in the history of Sudan and the Nile Basin more broadly that has shaped patterns of cooperation and violence: state-building through water and agricultural policies, as advanced by successive colonial and Sudanese regimes and by today's Al-Ingaz Revolution. This interplay between water, civilisation and power is critical to reading the past, but also analysing the present and future. I argue that Sudan's hydropolitical economy is essential to understanding how the Islamist Salvation regime functions and sees itself, how it has managed to stay in power since 1989 and how it hopes to entrench its political hegemony for another generation. While ostensibly ideological messages like Sharia, dawa and jihad have lost some of their prominence, "economic salvation" has been a constant leitmotif in the imagination and politics of Sudan's Al-Harakat Al-Islamiyyah.

Al-Ingaz' 21st century hydro-agricultural mission fuses the Islamist idea of economic salvation –that is, the creation of a 'pious' middle class that will lead the wider 'Islamic' restructuring of economy and society- with a model of riverain development that has been embraced by all ruling elites in Sudan since Muhammad Ali. Spearheaded by the water-agriculture nexus, the hydro-agricultural mission's objectives are simultaneously also transformative in that Al-Ingaz is seeking the definitive destruction of the old political networks of its enemies and the redrawing of Sudan's political-economic landscape through petrodollars, big dams and irrigated agriculture. The Al-Ingaz state-building project is at once revolutionary, modernising and innovative as well as historically embedded, predictable and weakened by the same contradictions previous regimes found irresolvable.

This conclusion ties the insights of previous chapters together, links them back to broader theoretical frameworks and adds a comparative dimension to the interaction of particular understandings of water, civilisation and power, which sit at the heart of Sudanese state-building projects. The links between water, civilisation and power in Sudan's history –and their specific configuration under the

Salvation Revolution- are unique, but important lessons that might well apply to other African and developing world experiences emerge from this thesis. This conclusion is therefore broken down into four subsections where, I argue, this research project makes substantial contributions: paradigms and physical processes of state-building; the power of discourse; dams as nation-building instruments; and the nature of Sudanese Islamism.

Finally, I sketch the contours of future research agendas, comparing "illiberal state-building" by post-liberation regimes in Ethiopia, Angola and Rwanda with Sudan, and the emergence of a new geopolitics of water in Africa in this era of climate change, global food insecurity and the rise of new, non-Western centres of power. The saliency of these issues leads me to conclude that the importance of hydropolitics in state-building and other hegemonic projects is unlikely to decline in Sudan and elsewhere, quite the contrary. The next century might well be even more interesting than the previous one, though hopefully less violent.

Water and Power: state-building's violent contradictions and Sudan's hydropolitical economy

Dystopian analyses have linked ecological calamities, underdevelopment and state-failure, either as quasi-inevitable scenarios or as incentives for comprehensive cooperation. As concerns over planetary ecosystems have mounted, both Neo-Malthusians, emphasising how population growth induced resource scarcity causes conflict, and liberal voices, believing that markets, science and institutions can reconcile economic and ecological objectives, have competed by offering theoretical models and policy prescriptions for various 'crises'.

This debate has coincided with a profound pessimism regarding Africa 50 years after independence and the fiascos of nation-building, structural adjustment and democratisation: state-failure has since the 1990s been a popular paradigm to approach the continent, following ineffective –sometimes disastrous- UN interventions in Somalia, Rwanda, Congo and Sudan. The likes of Kaplan warn about "*The Coming Anarchy*" and other Hobbesian scenarios, worsened by growing environmental degradation and climate change, that overwhelm states; others have claimed that African states have never had the chance to develop solid foundations, given the key role played by external designers in their genesis: "Let them Fail" is a corollary[1], a harsh recommendation suggesting that more effective new states will be made through conflict, perhaps of the environmental sort, at their borders and internally after successive rounds of struggles over (scarce) resources.[2]

This thesis proposed a different conceptualisation of the environment-development-politics linkages, drawing on political-ecological approaches to recognise the importance (often omnipresence) of violence and competition over resources in the lives of elites and ordinary people in Africa but to reject the mechanistic connections between poverty, insecurity and environmental degradation. I

[1] Jeffrey Herbst, 'Let Them Fail: State Failure in Theory and Practice', Robert Rotberg (ed.), *When States Fail*. Princeton: Princeton University Press, 2003, pp.302-318.

[2] Miguel Angel Centeno, 'Limited War and Limited States', Diane Davis, Anthony Pereira, *Irregular Armed Forces and Their Role in Politics and State Formation*. Cambridge: Cambridge University Press, 2003, pp.82-95.

underlined the central importance of politics and thus of the state (which is largely under-theorised in liberal and Neo-Malthusian paradigms), to argue that water scarcity is endogenous to power dynamics: environmental changes, both as material processes and in our perceptions of them, are quintessentially political.[3]

I investigated the beneficiaries –and not just the victims- of 'dysfunctionality'[4], demonstrating how the Sudanese state, in its development of the water-agriculture nexus and assertion of sovereignty, has been the main source of insecurity for local communities; the state is centralised, weak and violent, but performs its function of serving as an instrument for elite accumulation and control well. Thus rather than taking violence or cooperation over 'scarcity' or 'abundance' as axiomatic, I argue for a conception of environmental processes as consequences and often functions of deeper lying material and discursive struggles over power producing winners as well as losers: state-building emerges as a key process through which these struggles take shape.[5]

In such a framework, physical violence surrounding the production, distribution and consumption of resources is often an integral part of politics, but only one of several strategies available to elites as they seek to consolidate political power and wealth through the state, or contest the dominance of others.[6] Exclusion and marginalisation from resource use can lead to conflict, but is not a sufficient condition: structural violence is all too often an 'ecological' equilibrium too, which despite its extremes remains remarkably bearable from a systemic perspective. The corollary is that the breakdown of institutions, livelihood systems and societal arrangements is often not an unfortunate failure due to an external environmental shock, but a deliberate strategy of elites in wider processes of power and wealth accumulation and contestation.

[3] David Anderson, *Eroding the Commons. The Politics of Ecology In Baringo Kenya 1890-1963*. Oxford: James Currey, 2002, p.10.

[4] Patrick Chabal, Jean-Pascal Daloz, *Africa Works. Disorder as Political Instrument*. Bloomington: Indian University Press, 1999.

[5] Messay Kebede, *Ideology and Elite Conflicts*. Lanham: Lexington Books, 2011.

[6] David Keen, *The Benefits of Famine*. Oxford: James Currey, 2008.

My historical and empirical chapters have fleshed out this alternative conceptualisation, demonstrating the importance of approaching water politically and, conversely, understanding state-building in Sudan through a 'water lens'. The complex, violent processes leading to the creation of the state were a far cry from environmental determinist hypotheses, as espoused by Wittfogel's "hydraulic civilisations", with Oriental despotism being the result of water scarcity. Rather than a particular kind of state emerging from a specific environment –an authoritarian, centralising Leviathan as the product of riverain ecology in drylands-, both Pharaonic civilisation and the modern Egyptian and Sudanese states were the result of power struggles and processes of accumulation, but also of a specific environmental paradigm.

I explored how ideas about water abundance and water scarcity in Sudan are produced through elite rivalry, how these paradigms become tools for material accumulation and political legitimacy but also give rise to real world social, economic and ecological problems; these distorted realities, in turn, produce new conflicts of interest that can turn violent. What emerges is a picture where water scarcity does not cause conflict, 'development' does not mean 'progress' and 'civilisation' does not imply conquering nature. Links do exist between violence, ecological scarcity and poverty, but a multi-scalar analysis shows how these are a function of the logic of water, civilisation and power in Sudan.

I showed how Ancient Egypt modified its institutions in the face of political and ecological upheaval by giving local autonomy to agricultural actors to flexibly adapt to changing environmental circumstances; Egyptians tried to understand the Nile flood but harboured few illusions about controlling it and this co-determined the kind of institutions the Pharaonic state built. By contrast, Muhammad Ali's revolution relied on a paradigm that posited that subduing the river through an omnipotent technocracy of savants was the key to political power. A highly repressive Egyptian –and, from 1821 onwards, Sudanese- state was built on the assumption that the flood could be tamed by engineering and that water scarcity could be remedied through permanent storage and canals; an agricultural revolution would form the basis of re-established regional hegemony.

Sudan differed from Western Europe, where competition between polities led to close links between war, taxation and growing organisational complexity, and most of Africa where state-formation was linked to its integration into global economic networks and Western colonialism transplanted a state and fixed its boundaries[7], easily quashing possible rivals so that conflict played a relatively minor role in shaping modern institutions.[8] In Sudan, *"*the state made war and war made the state*"*[9], but, unlike in Europe, it had no real challenger in terms of political pre-eminence (i.e. other states or cities) and slavery, rather than simply taxation, was critical; the experience was one whereby the Khartoum-based state continually exerted violence against rebellious subjects and its power could be measured by the extent to which it managed to project authority into distant regions to asymmetrically integrate their surplus and labour into the (inter)national political economy. A specific understanding of water was central to state-building and institutional development: Muhammad Ali and the British Empire were drawn to Sudan because of the importance of the Nile to Egypt's own hydropolitical economy of irrigated (export) agriculture and developed the Sudanese state, in conjunction with an emerging riverain power bloc, in function of that overriding geopolitical objective.

External invasion aimed to 'secure' the Nile, 'prevent' scarcity and destroy rival centres of authority, shifting power away from its historical centres in Darfur and Sennar to the Nile Valley as a result of the new paradigm's conceptualisation of water, civilisation and power. The main fault-line pitted a core heavily dependent on a hydro-agricultural economic basis and slave/migrant labour against the peripheries where people sought to escape the reach of the state. Unlike in Ethiopia, there was no "manifest destiny" by which the peripheral regions were drawn ever closer to the enlightened centre but an integration of only those resources useful to the central elites.[10] State-building efforts were concentrated in the riverain heartland by the Nile; resources from the peripheries were selectively extracted through coercion and control over them was centralised, even if production and

[7] John Iliffe, *Africans*. *The History of a Continent*. Cambridge: Cambridge University Press, 1995 .
[8] Mohamed Ayoob, 'The Security Problematic of the Third World', *World Politics*, Vol.43, 2, 1991, pp.257-283.
[9] Charles Tilly, 'Reflections on the History of European State-Making,' Charles Tilly (ed.), *The Formation of National States in Western Europe*. Princeton: Princeton University Press, 1975, p.42.
[10] Christopher Clapham, 'Controlling Space in Ethiopia', Wendy James, Donald Donham, Eisei Kurimoto, Alessandro Triulzi, *Remapping Ethiopia*. Oxford: James Currey, 2002, p.11.

productivity were never as high as the generals and engineers foresaw. The contrast with Ancient Egypt shows how a radically different approach to similar environmental factors can not only result in a different political-institutional landscape, but thus also defines the meaning of scarcity- the importance of endogeneity.

The key institutions of the modern Sudanese state were designed to defend and expand a hydro-agricultural model of production strongly integrated into the global economic system. This explains to a large extent the salient characteristics of the state, evident throughout the thesis, including under Islamist rule: extractive vis-à-vis its own people, as an instrument for local, national and global wealth accumulation especially via the mechanism of export agriculture; mediating, as a gatekeeper between local populations and powerful external interests interested in its resources, with elites obtaining financial and political advantages from this role; authoritarian and disinterested in Sudan outside the core riverain areas, with ethno-cultural chauvinism legitimising physical and structural violence against its citizens; and weak, with a chronic mismatch between the ambitions of Sudan's rulers and the actual ability of the state to bring about the agricultural revolution that rulers –Cairo, London, Nimeiri and Al-Ingaz- promise every 25-30 years.

As shown through Nimeiri's Breadbasket and the in depth analysis of the power struggles inside Al-Ingaz, the Sudanese state is by no means monolithic. Its complex, shifting and heterogeneous character has defined natural resources management and the violent experiences of peripheral regions and communities with the state- cf. the split in Al-Ingaz leading to the launch of the hydro-agricultural mission. The state in Sudan, like elsewhere in the developing world, is a battleground, the key resource to be captured for accumulation and it is shaped and reshaped by the coalescing and fragmenting of elites trying to maximise economic power and resolve the question of violence discussed in the introduction.[11] In Venezuela, the interplay of elite politics and petroleum rents produced a "magical state" that came to see itself as the universalising agent of modernity, trapping

[11] Douglass North, John Joseph Wallis, Barry R. Weingast, *Violence and Social Orders*. Cambridge: Cambridge University Press, 2009.

the country in a myth of abundance and progress[12]; similarly, the Sudanese state, shaped by elite fantasies and its hydropolitical economy, has always been the 'enlightened' protagonist in the water-agriculture nexus, promising an irrigated utopia in the desert: a green revolution as the road to civilisation.

Thus state-building in Sudan has been a function of power games between elites and the paradigm of water as power; power as manifested through hydro-infrastructure; and development as export agriculture and big dams. British administrators encouraged pump schemes by the Nile to co-opt the sectarian forces, distracting them from alternative nationalist departures and pulling them into the colonial state; they designed the world's largest irrigated scheme in Gezira and the canals and dams to produce cheap cotton for Lancashire and revenue to maintain the imperial bureaucracy, neglecting the rest of the country. Nimeiri launched his Breadbasket to penetrate rural Sudan via mechanised rain-fed agriculture and build his own network of loyal clients, dismantling rival centres of influence. The dream of becoming an agricultural superpower was above all an instrument to establish political dominance rather than a goal in and by itself, dramatically extending the ambitions and reach of the state.

The Salvation Revolution's Dam Programme and Al-Nahda Al-Zira'ayah are no different. Stripped of technocratic rhetoric, they are projects through which Sudan's hydro-political economy is recalibrated, as Islamist elites seek permanent hegemony and the dismantling of the sectarian forces that survived Nimeiri's onslaught. Moreover, Al-Ingaz, after the CPA and the secession of the South, has rethought its Islamist state-building concept and is falling back on the traditional riverain core of the Hamdi Triangle for support; the enduring Islamist idea of needing a "substantial minority" (Hamdi's Islamic middle class) dovetails with an investment offensive in dams and irrigated agriculture between Dongola, Kordofan and Sennar. This is the Sudanese state returning to its founding paradigm and historical core, geographically and economically: state-building is still

[12] Fernando Coronil, *The Magical State. Nature, Money and Modernity in Venezuela*. Chicago: University of Chicago Press, 1997.

unfinished business and the violence, intrusion and exclusion generated by the hydro-agricultural mission is typical for 'imperial' states that struggle to become nation-states, like Sudan and Ethiopia.[13]

While Turabi and Nimeiri tried to take their state-building projects to South Kordofan, Blue Nile, Darfur and the South through Al-Mashru Al-Hadhari and the Breadbasket, the Bashir-Taha regime has de-prioritised this. The peripheries will once more be managed through a mix of patronage and violence, largely devoid of social services and investment. This is one of the major contradictions of modernist state-building in Sudan from the Turkiyya to Al-Ingaz: universalist visions of power and hydro-agricultural development clash with limited political, financial and organisational capacity of state institutions and the unwillingness of regimes to compromise and build a more inclusive coalition. The Salvation's recent retreat to the Nile Valley and historically dominant core-periphery relations reflects the state's continued relative weakness: while the state itself lacks the resources and bureaucratic *savoir-faire* to fulfil its revolutionary promises, Sudan's elites, whether nationalist, socialist or Islamist, remain reluctant to open up the political and economic system to outsiders who could reinforce the state -and a sense of nationhood- if they were given a fair stake in it and a less ethno-chauvinist identity was adopted.

This thesis is fundamentally about elite projects and elite politics but I found it crucial to also explore the local fallout of Al-Ingaz' hydro-agricultural mission, showing how communities in Nubia and Blue Nile perceive the dams as merely another incarnation of state-building from Khartoum which seeks to integrate regional assets into the (inter)national political economy. They are forced to submit to macro-economic designs and the dominant ethno-cultural identity, or to face brutal repression and go into exile. The 'model villages' in the Nubian desert and the makeshift habitations of the Hamaj on

[13] John Markakis, *Ethiopia. The Last Two Frontiers*. Suffolk: James Currey, 2011.

the banks of the Blue Nile show another face to the modernist regime that calls itself the Salvation: "Testimonies of civilisation are simultaneously testimonies of barbarism."[14]

This experience of state-building and its links with water and agriculture was illustrated by an interview in Blue Nile with the Sheikh of Al-Aradeba whose village will be flooded by the heightened Roseires Dam. After an hour of discussing local livelihoods and Usama's DIU I asked him what the "state" meant to his people: "Once every two years, two men from Khartoum come to our village with a car, driving over our land. One of them is a tax collector who asks to be paid- only Allah knows why we give him something for which we get nothing in return. We have no schools, no health care, no roads, no electricity. The other person is from the army and he comes to take our sons to fight in one of their wars in the South. That is what the state means to us."[15]

The state, as seen from the peripheries, is an alien, intrusive force, with "progress" and "civilisation" almost always spelling trouble, as they indicate a heightened interest in local resources. But it also appears as a relatively weak entity that is dependent on decentralised real world processes it doesn't fully control.[16] It is only very partially successful at advancing its modernising ambitions of social engineering and relies on extraversion for another big push of hydro-agricultural "development". I demonstrated how the state excels at enabling elites to stay in power in Khartoum but how its water-civilisation-power paradigm is riddled with contradictions: Al-Ingaz has had to compromise on its fantasies in the peripheries, leaving behind a chaotic mix of failed agricultural schemes, ineffective control mechanisms and rising discontent that often leads to insurgencies which weaken the state further even if individual interests benefit from lucrative political economies of conflict.

[14] Walter Benjamin, *Illuminations*. New York: Schocken Books, 1969, p.256.
[15] Interview August 2009.
[16] Akhil Gupta, 'Blurred Boundaries: The Discourse of Corruption, the Culture of Politics, and the Imagined State', *American Ethnologist*, Vol.22, 2, 1995, pp.375-402.

Water and Civilisation: the Power of Discourse and its Dangers

Studying Sudan's hydropolitical economy teaches us about state-building, the politics of the environment and processes of accumulation at the local, national and global level across the developing world, even if the Sudanese experience was quite exceptional. But it also sheds light on important dynamics regarding the power of discourse in shaping material realities and political processes and the dangers of 'enlightened' technocracy, both for marginalised populations and for regime stability.

Following Gramscian traditions of analysing hegemony, I argued that visions of abundance and scarcity are not innocent, but become weapons in their own right as they get reshaped at various levels in function of the purposes of those setting the discourse. Global Malthusian narratives about resource crunches and famine –but also modernist storylines about technology and capital driven Green Revolutions- are dangerously susceptible to manipulations by broad discourse coalitions of various elite interests; the outcomes of policies guided by such framings historically decrease rather than increase human security for many local communities.[17]

I showed how state-building in Sudan has been dominated by brute force and overwhelming development initiatives, but also by powerful narratives that have revolved around the concept of "civilisation"- the catapulting of Sudan to a higher stage of progress, reconnecting the Nile Valley with its 'glorious' past through a fusion of technology and political determination. This discourse was introduced by the *savants* who postulated mutually reinforcing links between economic growth, state capacity and sacred knowledge: Egypt should reclaim its heritage and resurrect its politico-military powers by transferring decision-making to an intellectual elite –cf. Plato's Philosopher-Kings- working in tandem with the Pharaoh, who would implement universalist designs through a centralised state. Egypt was not mainly colonised through overt imperialism but via internalising

[17] Melissa Leach, Robin Mearns (eds.), *The Lie of the Land*. Oxford: James Currey, 1996, pp.1-28.

ideas about power, knowledge and universalism[18]- what some have called the "very core of the myth of the modern state".[19] Opposition was likely, the savants predicted, but fundamentally irrational and subjective: given the objectivity of scientific truth, backward resistance could be ignored.

Muhammad Ali brought these ideas to Sudan, though more as a legitimisation of the Turkiyya's ferocity –reviving Egyptian greatness required sacrifices- than as an attempt to govern in any enlightened way. This legacy didn't influence the Mahdiyya (which had its own universalist ideas, but those didn't revolve around science and power) but shaped the Condominium and post-independence governments. While British officials administered through indirect rule and never tried to turn the Sudanese into Europeans, the Sudan Political Service, like the Indian one, portrayed itself as a wise technocratic elite that laid the foundations for modernity (Gezira scheme, the railway, Gordon College) and kept a lid on the atavistic violence that threatened to erupt between the tribes. The leaders of Sudan's sectarian forces inherited the same paternalist rhetoric, even if they knew that too much modernisation and the spread of knowledge would destroy their sources of power: exactly the reason why Nimeiri and the HI were so keen on embracing respectively planning, socialism and centralisation and revolutionary Islam, democratisation and education.

The Breadbasket disaster demonstrated how misguided this 'sacred knowledge' and its enlightened proponents can be, but also how what seems like an utter developmental fiasco from the perspective of most citizens can actually serve important functions for those in power.[20] Nimeiri proposed to turn Sudan into an agricultural superpower, with destroying sectarian patronage as the underlying objective; Sudan's potential was exaggerated to seduce foreign investors, yet over time Nimeiri began to believe his own megalomaniac discourse. Surrounded by some of Sudan's most accomplished academics who saw mechanised rain-fed farming as a silver bullet, he became blinded to dissonant information and to the on-the-ground contradictions that his modernist paradigm was producing. Famine and war returned to Sudan, but not everybody lost, as evident in processes of

[18] Timothy Mitchell, *Colonising Egypt*. Berkeley: University of California Press, 1988.
[19] Thomas Blom Hansen, Finn Stepputat, (eds.), *States of Imagination*. Durham: Duke University Press, 2001, p.15.
[20] James Ferguson, *The Anti-Politics Machine*. Minneapolis: University of Minneapolis, 1994.

accumulation that enriched an emerging class of generals, riverain bureaucrats, Islamic bankers and Islamists: development's "instrument-effects" can be as important, if not more, as its failure in its primary objectives. [21]

The Al-Ingaz regime's hydro-agricultural mission too offers plenty of examples of the depoliticising use of discourse and the veil of development as a state instrument to penetrate deeper into society to maintain and expand power.[22] The Dam Programme was ostensibly founded to bypass ministries, allowing a technocratic dream team to defeat nature and the bureaucratic enemy and 'get things done'. The DIU has used its extraordinary funds and political support to radically reshape Sudan's political economy, reinforcing the state's grip over resources and people. This required a narrative that was both historically recognisable and modernist, obfuscating the mission's real goals but demonstrating the 'unstoppable' power of civilisation advancing: Al-Ingaz mixes its own technocratic instincts –progress, growth, control- with Neo-Malthusian warnings of impending collapse and impoverishment in case the Islamist project for water and agriculture would be opposed.

The hydro-agricultural mission, according to its supporters, is a brilliant but 'natural' economic strategy, built on Sudan's 'ancient' comparative advantage in irrigated agriculture. Ali Osman Taha, Ali Geneif and Abdelrahim Hamdi maintain a narrative that stresses both the enlightened, universalist character of their project and its objective, apolitical nature.[23] They exploit the interaction between opposing but inter-related visions: on the one hand, cornucopian vistas of bringing the desert to life through a Green Revolution; and on the other, prospects of environmental upheaval and famine should the 'right path' not be followed.[24] This discourse is meant for both internal use –to squash any possible opposition- and for external purposes- to attract funds for the dams and irrigated agriculture, just like Nimeiri's Breadbasket.

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[21] Michel Foucault, *Discipline and Punish. The Birth of the Prison.* New York: Vintage, 1979.
[22] Geoffrey Wood, (ed.), *Labelling in Development Policy*. London: Sage, 1985.
[23] Emery Roe, 'Development narratives, or making the best of blueprint development', *World Development,* Vol.19, 4, 1991: pp.287-300.
[24] Allan Hoben, 'The Cultural Construction of Environmental Policy', Melissa Leach, Robin Mearns (eds.), *The Lie of the Land*. Oxford: James Currey, 1996, pp.199-207.

Yet, as demonstrated in chapters four to six, the hydro-agricultural mission's genesis is deeply political –with long-term influences like the water-agriculture nexus' historical role in state-building in Sudan and more proximate ones like petrodollars and the removal of Hassan Al-Turabi- and so are its ambitions. By advancing a specific image of environment and development in Sudan and casting an equally subjective solution to a self-declared crisis of scarcity as 'brilliant but natural', Al-Ingaz manages to hide what Hamdi's secret strategy paper makes perfectly clear: the hydro-agricultural mission is about long-term hegemony and a fallback on the traditional core of the Sudanese polity to survive today's perfect storm. It helped to reinvent the post-Turabi regime and (re)build foreign alliances, while advancing the "tamkin" agenda for the new Islamic middle class.

However, these strategies have an Achilles heel: the hydro-agricultural mission highlights how high-modernist visions can 'trap' and undermine audacious state-building and social engineering projects as internal contradictions and distortions of environmental change remain veiled until catastrophe is virtually inescapable.[25] The fundamental contradiction underlying the discourse is that this is not an ingenious plan at all, as both illiterate villagers in Blue Nile and Sudan's top civil servants know all too well. The Al-Ingaz elite has always been at least subconsciously aware of the fact that the associated projects that accompany the Dam Programme and the primitive accumulation integral to the hydro-agricultural mission and petro-economy are not optimal economic strategy. Yet as with many other centralising, authoritarian regimes who think the combination of magical scientific knowledge and ideological legitimacy will irreversibly propel them forward, the adoption of this paradigm gradually blinds insiders to the growing disfunctionalities that the model produces.[26] Discourse can trap a regime's enemies, but can, eventually, also explode the internal contradictions of the powerful interests which produced the narrative in the first place.

Usama Abdallah's DIU illustrates this. Equipped with unprecedented political, financial and bureaucratic power, the DIU portrays itself as the enlightened guardian of Sudan's water-agriculture

[25] James C. Scott, *Seeing like a State*. London: Yale University Press, 1998, pp.1-5.
[26] Judith Shapiro, *Mao's War against Nature*. Cambridge: Cambridge University Press, 2001, pp.3-19.

nexus, embarking on a historical mission to dam the Nile and support the grand take-off of Al-Nahda Al-Zira'ayah. It produces a discourse that is misleading but impressively self-confident and universalising, successfully forestalling debate through its depoliticising message of "dams are development". The combination of Neo-Malthusian warnings with technocratic fixes neutralises alternative, decentralised policy options that rely on smallholders and local knowledge.[27] Al-Ingaz propaganda shows water flowing in the desert, green shoots in Sahelian drylands and Pharaonic architecture by the Nile: the DIU thinks in classically linear ways, suggesting that in its zones of operation nothing of value existed prior to its intervention (Rostow's classically modernist *tabula rasa* assumption[28]), but that its developmental magic is bringing civilisation even to the most inhospitable and distant places, like the Nubian desert or the Blue Nile borderlands. The DIU's engineers are a heroic, nation-building vanguard, succeeding against the odds.

However, as argued in chapter five, the DIU is not the technocratic super-elite it would have the Sudanese public believe it is and misses even basic administrative capacity to execute its own designs. It lacks qualified staff and comprehensive expertise given its reliance on cronies and political appointees and the marginalisation of most of Sudan's top academics and the Ministry of Water Resources and Irrigation. Its rhetoric and dreams are solidly high-modernist –rationally reshaping social order and Sudan's ecology through the power of technology- but its implementation of those plans is riddled with inconsistencies, parochial considerations and blatant politicking; as the DIU radically simplifies complex natural and development processes, it crucially ignores local differences, the resilience and adaptability that come with diversity and the informal factors that always sustain formal dynamics.[29] The DIU's authoritarian, violent modus operandi stems more from the immense political power of its chief executive and his commitment to the Al-Ingaz grand strategy in the Hamdi Triangle than from any genuine belief in the blessings of science. Most importantly, as the

[27] Mary Tiffen, Michael Mortimore, Francis Gichuki, *More People, Less Erosion. Environmental Recovery in Kenya.* Chichester: Wiley, 1994.
[28] Walt Rostow, *The Stages of Economic Growth*. Cambridge: Cambridge University Press, 1960.
[29] Thomas J. Bassett, Donald Crummey (eds.), *African Savannas. Global Narratives & Local Knowledge of Environmental Change.* Oxford: James Currey, 2003.

disappointing results of the Agricultural Revival demonstrate, the joke is really on the Islamists and their engineers: the hydro-agricultural mission, despite its triumphant discourse, increasingly looks like a developmental fata morgana.

Dams as "Temples of Modernity" and "Veins of the Nation"

Big dams incarnate many of the points this thesis has raised regarding the political economy of water and the power of discourse. The prominent place that dams occupy in the imagination of state-builders and high-modernist technocrats in Egypt and Sudan -bending the course of rivers to put them at the disposal of 'development'- is not a phenomenon unique to the Nile Valley. Whether intended for electricity generation, irrigating land and/or flood control, dams have long symbolised the fusion between water, civilisation and power, with a material dimension through their impact on the economy and a discursive component related to their portrayal as icons of taming nature and integrating nations.

Multi-purpose dams are a product of modernity, related to a growing desire to re-engineer whole societies and environments and a belief that science –and "The Plan" especially- made this possible. As the ideology of modernisation washed over different parts of the world, it merged with state projects seeking to affirm national identity through conquering nature: economic growth went hand in hand with triumphant expressions of what the nation could achieve. 19th century Britain housed more than half of the world's big dams and the Empire's engineers were sent to Asia and Africa to dam rivers, underlining imperial superiority through building monuments of civilisation. Dams also played a critical role in the rise of Stalin's Soviet Union and the United States Bureau of Reclamation built 50 dams to lead America's Keynesian recovery from the Great Depression.[30] Drawing inspiration from the Hoover Dam and Tennessee Valley Authority, dams were credited with magical revivalist powers in areas considered 'backward'.[31] From the 1950s to 1970s, development ideology, as embodied by McNamara's World Bank, prioritised big infrastructure, embracing the idea of megadams as capable of reversing poor countries' economic fortunes with one masterstroke.

[30] Nicolas Schnitter, *A History of Dams. The Useful Pyramids*. Rotterdam: Balkania, 1994.
[31] David Lilienthal*, TVA: Democracy on the March.* New York: Harper and Brothers, 1944.

This thesis has argued that dams and hydropolitics more generally continue to be essential to understanding the strategies and self-identification of regimes today and tell us about the violent nature and recurrent illusions of modernist state-building in se. Fascist Spain and socialist India, for example, appear extremely different from Islamist Sudan, yet their embrace of dams as the midwifes of a new economy and a new nation shares important parallels with Al-Ingaz today, even if the violence produced by the latter's pathologies has been more extreme and more destabilising for national unity and macro-economic development.

Under Franco, like under Bashir and Taha, dams became an integral component of post civil war nation-building and modernisation processes.[32] More than 600 dams gave Spain the world's highest per capita number of dams by 1975. Accompanying this expansion was an ideology that tied building hydro-infrastructure to 'resurrecting' Spain, with engineers cast as nation-builders in government propaganda, much like the DIU in Khartoum. Franco, like Usama Abdallah, saw the dam programme as a combat against 'nature's injustice', pulling the nation from pre-capitalist conditions into 20th modernity, but Spain needed external support to fund its mission, supplied by America from the 1950s onwards. The bottom-line was equally political: control over water was shifted from leftist local and regional authorities to powerful national planners spearheading Franco's regime consolidation through centralisation. Many modernisation-minded technocrats were graduates from Spain's conservative catholic universities and combined a militarised nationalism with fervent beliefs in diverting rivers for development, like in Sudan. The main beneficiaries of irrigation and hydro-electricity were the latifundias of large landowners, bolstering the regime's key constituencies.[33] While Spain's Corps of Engineers embodied the new nationalism, a corporatist economy, with close ties between political, military and economic elites, flourished.

[32] Erik Swyngedouw, 'Technonatural revolutions. The scalar politics of Franco's hydro-social dream for Spain, 1939-1975', *Transactions of the Institute of British Geographers*, Vol.32, 1, 2007, pp.9-28.
[33] A. Gil Olcina, 'Perduración de los planes hidráulicos en España', P. Arrojo Agudo, L. del Moral Ituarte (eds.), *La Directiva Marco del agua.* Zaragoza: Institución Fernando el Católico, 2003, pp.29–61.

Perhaps the most powerful combination of nation-building, civilisation rhetoric and structural violence against those outside the main political-economic and discursive networks is found in the politics of dams in India, where remarkably similar dreams and political questions have emerged as in Sudan. Nehru referred to dams as the "temples of modern India"[34] and believed in state-led investment in infrastructure and its multiplier effects to lift hundreds of millions of Indians out of poverty, clashing with more Gandhian visions of rural village development. The high-modernist Zeitgeist tilted the balance in favour of Nehru's Fabianism: a self-confident bureaucracy of central planners was mandated to run the Indian economy according to 'scientific insights' and built dams across the territory, replacing more localised systems of water management and boosting irrigation and electricity generation.

The mission to erect dams –more than 3300 have been constructed since 1947[35]- went beyond feeding the masses and power centralisation: dam building would put newly independent India in the category of 'advanced' countries able to muster the expertise to build these icons of progress, just like Muhammad Ali's canals, Nasser's Aswan and Bashir's Merowe.[36] Nehru hoped to simultaneously impress global and local audiences with spectacular irrigation systems, canals and dams. His "temples of modern India"-speech was integrated into the national curriculum, underlining how closely hydro-infrastructure was associated with the ideology of Indians embracing rationality, progress and development.[37] In Sudan, the DIU has organised visits to Merowe for every secondary school and university faculty and the Dam Programme features daily in television commercials and government publications. This too is what Usama Abdallah means when speaking of dams as the "veins" of a new Sudanese nation.

Dam building in India didn't cease with Nehru's death, drawing on an elite consensus- like in Khartoum, there is a deeper history of ideas about water, civilisation and power. Yet resistance against Subcontinental temples of modernity was gradually articulated. Critics allege that far from

[34] C.V.J. Sharma (ed.), *Modern Temples of India*. Delhi, Central Board of Irrigation and Power, 1989, p.40.
[35] Indian Water Resources Society, *Five Decades of Water Resources Development in India*. Delhi, 1998, p.7.
[36] Edward Luce, *In Spite of the Gods. The Strange Rise of Modern India*. London: Abacus, 2006, pp.27-28.
[37] Arundhati Roy, *The Algebra of Infinite Justice*, London: Flamingo, 2002, p.51.

solving India's agricultural crisis, dams have disempowered thousands of communities and led to more flood-prone and drought-prone areas, not less. Estimates put the number of relocated Indians between 16 and 38 million.[38] Big dams have contributed to food insecurity by disproportionately favouring mechanised agriculture and harming subsistence producers, just like in Sudan. GDP and food production have soared, but the reality for smallholders has been the loss of fertile land, the destruction of many community-based irrigation systems and the integration into urban production systems as manual labourers in the informal sector. Even Nehru, near the end of his life, questioned his own dam-based nation-building and development strategy, a reflection that might be useful for Al-Ingaz to ponder:

"For some time past, however, I have been beginning to think that we are suffering from what we may call 'the disease of gigantism'... This is a dangerous outlook development in India...the idea of big –having big undertakings and doing big things for the sake of showing that we can do big things- is not a big outlook at all. (...) It is...the small irrigation projects, the small industries and the small plants for electric power, which will change the face of the country far more than half-a-dozen big projects in half-a-dozen places."[39]

The political economy of India's dams explains why, despite colossal costs, Delhi keeps signing construction orders for hydro-infrastructure from Gujarat to Bengal: the alliance between a hydraulic bureaucracy, which derives its prestige, power and budget from the dams-as-development ideology, and powerful economic interests, ranging from capital-intensive farming interests and construction conglomerates to international financial institutions, has maintained the momentum.[40] The victims of dam-induced displacement are mostly politically marginalised and economically vulnerable: while

[38] World Commission on Dams, *Dams and Development*. London: Earthscan, 2000, p.17.
[39] Nehru's 1958 speech quoted in Sharma (ed.), *Modern Temples of India*, pp.40-49.
[40] Satyajit Singh, *The Taming of the Waters. The Political Economy of Large Dams*. Oxford: Oxford University Press, 1997; David Mosse, *The Rule of Water. Statecraft, Ecology and Collective Action in South India*. Oxford: Oxford University Press, 2003.

benefits accrue to urban middle classes and rural elites, adivasis and Dalits are disproportionately affected in terms of number of displaced, faltering compensation mechanisms and receiving few of the dams' fabled positive externalities. This has unleashed nation-wide discussions about the developmental model Delhi has pursued after independence[41]: some have situated dams within the broader context of a utopian attempt to forcibly modernise the countryside and favour politically privileged constituencies.

These debates resonate in Sudan, where the people of Blue Nile and Nubia face collective action problems and lack political support in Khartoum, having long had a relationship with the central state that is as problematic as that of India's marginalised people. Forging transnational alliances with activists and a re-conceptualisation of the New Sudan vision of the late John Garang might offer political ways forward beyond unsuccessful local protests and exile.

Dams in India, Sudan and many other places –Ethiopia, Myanmar, Brazil- symbolise wider core-periphery tensions, state-building ambitions and sprawling, often globalised rent seeking networks. They demonstrate a modernising state's hostility vis-à-vis ethno-cultural minorities and deepen a mode of governance in marginalised areas based on patronage, neglect and coercion, with elite projects aiming at the integration of key resources like land and water into domestic and global flows. Development-induced displacement is seen by the savants as an opportunity to rapidly advance social change in backward regions and to strengthen the state's core.[42] Resistance against these designs and the centre's reaction have been extremely violent, historically as well as contemporarily. For many communities, resisting dams is not just about the social, ecological and economic problems associated with hydro-infrastructure in situ; it means opposing primitive accumulation posing as hydraulic technocracy in general.[43]

[41] Jean Drèze, Meera Samson, Satyajit Singh, (eds.), *The Dam and the Nation.* Oxford: Oxford University Press, 1997.
[42] Robert Chambers, *Settlement Schemes in Tropical Africa*. New York: Praeger, 1969, p.258.
[43] Sanjeev Khagram, *Dams and Development*. Ithaca: Cornell University Press, 2004, p.4.

Islamism, Illiberal State-Building and the New Geopolitics of Water: Sudan's Salvation Experiment as a Model?

The lion share of this thesis has tackled water, civilisation and power under the Al-Ingaz regime which, since 1989, has undertaken a controversial experiment in Islamist state-building. Sudan's HI and its Salvation Revolution illuminate the dynamic nature of Islamist political thought and praxis as well as the dilemmas that Islamist ideologues face once in power. While most of the literature and public debate has focused on the legal aspects of Islamism –the Sharia question- and on the many wars Al-Ingaz has waged, the focus on water, civilisation and power has enabled me to highlight an understudied aspect of Islamism in Sudan and elsewhere: the idea of economic salvation and its links to capturing and maintaining power.

I have argued against the notion of Al-Ingaz as an absolutely exceptional regime, emphasising the similarities between its grand strategy and political calculus and other state-building projects in Sudanese history. I have shown how every regime since colonial times has sought to capture the key groups in society needed to maintain dominance, at the centre but also, up to some extent, in the peripheries where brokers[44] are vital to maintain societal control. The HI has been no different in its ambitions and strategies, but perhaps more sophisticated and effective than other political forces.
Above all, I have underlined how the Salvation, like earlier regimes, has placed water at the heart of its state-building project and control mechanisms. Following Guha's work on social revolts[45], a key conclusion of this thesis is thus that revolutionary modernisation of the kind pursued by Al-Ingaz is seldom a negation of the historical character of the state –though that is what the ideological

[44] Alex De Waal, 'Mission without end? Peacekeeping in the African Political Marketplace.' *International Affairs*, Vol.85, 1, 2009, pp.102-106.
[45] Ranajit Guha, *Elementary Aspects of Peasant Insurgency in Colonial India*. Durham: Duke University Press, 1999.

rhetoric portrays- but reproduces deeply entrenched ideas about resources, development and authority- in the Sudanese case, water, civilisation and power.

The similarities between Nimeiri's leftism and the Islamism of Turabi, Taha and Hamdi illustrate this best. Socialists and Islamists, peers at university, were convinced that the sectarian grip on Sudanese politics stemmed not just from elite pacting in Khartoum but also from their extensive rural patronage networks; they proposed a triple, modernising assault on Ansar-Khatmiyya dominance: education, against the illiteracy that tied the masses to the sectarian Sayyids; democratisation, to loosen local links to paternalist patrons; and economic reform through a powerful state, to weaken vested interests in agriculture. Nimeiri sought to build a coalition of rural clients and loyal administrators; Al-Ingaz has pushed tamkin to create a new Islamic middle class, combining religious piety and commercial success, to achieve hegemony.

Islamists and communists also shared the importance of modernisation, both as a factor in creating the environment in which the ideologies thrived and as a major ideological influence on policies in government.[46] The HI is a classic example of how the forces of modernity produced Islamic Movements all around the Muslim world in the 1960s and 1970s and attracted educated youngsters to contest the monopoly of traditional elites, foreign overlords and socialist rivals. Most of these movements didn't oppose modernisation as much as they sought to harness its potential to challenge a problematic status-quo: Turabi's and Taha's HI has always been profoundly modern in both its analysis of society and the solutions put forward for real world contemporary problems. It is not coincidental that Al-Ingaz has always claimed the mantle of Revolution and continues to emphasise its transformational character- because of the centrality of notions of tabula rasa and a brave new world of new ideas, new elites, new structures and new technologies, "there is perhaps no concept more central to modernism than revolution."[47] While Al-Ingaz brought perhaps too little

[46] James H. Billington, *Fire in the Minds of Men. Origins of the Revolutionary Faith*. New York: Basic Books, 1980.
[47] Donald L. Donham, *Marxist Modern. An Ethnographic History of the Ethiopian Revolution*. Oxford: James Curry, 1999, p.1.

change in Khartoum's elite structure to be considered a social as well as a political revolution – tamkin was not carried by popular participation and was relatively moderate in terms of class conflict-, it nevertheless changed the organisation of the state and some of the means by which social inequality is structured and legitimated.[48]

The hydro-agricultural mission illustrates how ideology, modernisation and institutionalised patterns of power and development have all shaped Al-Ingaz' hegemonic project since 2000. Staking its survival on big hydro-infrastructure and irrigated agriculture is on the one hand testament to how Al-Ingaz has internalised the enduring paradigm of state-building and development in Egypt and Sudan; for all their ideological differences, socialists, nationalists and Islamists in Sudan all consistently rally around the same conception of why water is crucial, how power works, what civilisation is and who the main beneficiaries (the riverain power bloc) should be. On the other hand, the hydro-agricultural mission is also very much a product of Islamism (in Sudan, but also more broadly) and its engagement with modernity[49]: the mission's lead actor –the DIU- is a vanguard ushering in enlightenment; the mission's physical outputs are symbols of modernisation, intended to awe domestic and international audiences alike as concentrations of knowledge, capital and power; the mission's financial inflows and food outflows are exponents of globalisation, reflecting shifts in the international economic system; the mission's central purpose is economic salvation for carefully chosen groups, which should translate into long-term hegemony; and the mission's rhetoric, the public face of early 21st century Islamism, combines high-modernist visions of civilisation with strong religious imagery and symbolism, a phenomenon echoed on the Arabian Peninsula, Malaysia and Iran.[50] The bottom-line is that Sudan, thanks to Al-Ingaz, can be modern, powerful and pious at the same time.

[48] Theda Skocpol, *States and Social Revolutions*. Cambridge: Cambridge University Press, 1979, pp.4-5.
[49] Timothy Mitchell, *Rule of Experts*. Berkeley, University of California Press, 2002.
[50] Vali Nasr, *Meccanomics. The March of the New Muslim Middle Class*. Oxford: Oneworld, 2009.

Taken together, Al-Ingaz' hydro-agricultural mission echoes historical links between water, civilisation and power in Sudan but it also stems from a specific Islamist outlook on state-building in the modern era; it further radicalises long-entrenched notions of development and power politics. Weberian sociology tells us to expect strong links between a modern economy and its associated religious beliefs and *Weltanschauung*.[51] For the first ten years of Salvation rule, the mission was not pursued, not because economic salvation was far less of an Islamist priority than political reform or social engineering –cf. Hamdi's push for self-sufficiency in wheat in 1992- but because neither the political nor the financial space existed to pursue it. The regime's reinvention after 2000 and its improved foreign relations meant de-radicalisation externally but allowed it to be more radical in terms of Sudan's domestic political economy. This is why it makes little sense to characterise the Turabi decade as the 'revolutionary' period and the Bashir-Taha duopoly as that of 'post-Islamism': key Islamist goals have been pursued with revolutionary fervour in both decades. That the emphasis has shifted tells us less about a presumed ideological softening than it does about the pragmatic character of an Islamist regime in power for almost a quarter of a century, the inherent importance of economics to Islamism as an ideology and the influence of modernist thinking on the Salvation's political praxis.

Sudan's Al-Ingaz experiment has for 23 years operated on remarkably different assumptions than the ones posited by liberal orthodoxy. It has followed a state-building trajectory that is neither converging towards the End of History path –democracy and a well-functioning free-market are not around the corner- nor is it resulting in a faltering state in the classic sense, with a central government overwhelmed by the internal transition problems that orthodox narratives claim boosts terrorism and organised crime.[52] The Sudanese state fails many of its citizens, but does so consciously; it is not overwhelmed and doesn't suffer from a massive human resources deficit that the international community needs to remedy through capacity building, but chooses its own path. The military-Islamist elite has selectively embraced globalisation where it has suited it and its fellow

[51] Ernest Gellner, *Postmodernism, Reason and Religion*. London: Routledge, 1992, p.21.
[52] Robert Rotberg (ed.), *When States Fail*. Princeton: Princeton University Press, 2003.

travellers in the middle class[53]: business deals with East Asia, British or Indian postgraduate degrees, holidays in Malaysia and international funding from the Gulf Arab states. Modernisation, not westernisation, remains the imperative in 2011.[54] To quote Dr Ghazi:

"Al-Harakat Al-Islamiyyah has believed in modernisation since we came to power in 1989...The material and spiritual component are inseparable in Islam and in Islamism. The idea of modernisation is part and parcel of the self-image of Al-Ingaz… Merowe was not a turning point, but a continuation of the same objective."[55]

Interestingly, the Al-Ingaz state-building agenda shares important parallels with previous Sudanese orders but also with other African regimes, especially those who have come to power through force with a Marxist-Leninist inspired programme like Ethiopia's TPLF-EPRDF[56], Angola's MPLA[57], Uganda's NRM or Rwanda's RPF.[58] Al-Ingaz undoubtedly has the closest personal ties and shares the most important characteristics with Meles Zenawi's TPLF, particularly now that Ethiopia has launched its own dam programme and that Meles is trying to make Ethiopia's emerging hydropolitical prowess the core of both Ethiopian foreign policy and the TPLF's long-term strategy. The TPLF has its own competence agenda and sees its dams as essential in nation-building and state-building in the peripheries- echoes of Sudan's civilisation discourse are audible in Ethiopia.

Sudan's Salvation doesn't share the water dimension with most leftist post-liberation regimes, but there are important other commonalities. There is a common belief in a powerful central state that ensures that the sense of entitlement these movements exude because of their sacrifices during the clandestine struggle is translated into total control over society. Like Al-Ingaz, the TPLF, MPLA and

[53] Olivier Roy, *Globalised Islam.* London: Hurst & Co, 2004.
[54] Ali Mazrui, *Cultural Forces in World Politics*. London: James Currey, 1990.
[55] Interview in Khartoum, October 2011.
[56] Aregawi Berhe, *A Political History of the Tigray People's Liberation Front*. Los Angeles: Tsehai Publishers, 2009.
[57] Ricardo Soares De Oliveira, 'Illiberal peacebuilding in Angola.' *Journal of Modern African Studies*, Vol.49, 2, 2011, pp.287-314.
[58] An Ansoms, 'Re-engineering rural society: the visions and ambitions of the Rwanda elite.' *African Affairs,* Vol.108, 431, 2009, pp.289–309.

RPF have analysed the sources of societal power with sophistication; their projects, undone of the ideological language in which they are still couched, should above all be understood as a penetration of those constituencies deemed critical in guaranteeing long-term hegemony: all of them echo the idea of Hamdi's "substantial minority", unsurprising given that most regimes have been dominated by ethnic minorities who would probably never be able to obtain the backing of an electoral majority. Moreover, their leaderships, like the Salvation's, have always longed to be seen as more than either an ordinary African (authoritarian) regime or than a revolutionary vanguard preaching to the ignorant, uninterested masses: getting societal buy-in has been important from the start and output legitimacy –the idea of delivering through economic growth and service provision-, particularly for the new middle class, has been the central strategy to achieve this.

These close links between the idea of economic growth through big infrastructure, civilising discourses and political power have been reinforced by China's rise. Khartoum and Luanda especially have fallen in love with a simplistic interpretation of Beijing's success that stresses selective political and economic liberalisation, massive infrastructure development, 'overwhelming' architecture and government guidance for key investment projects: cf. Ghazi's "Sino-Sudanese model of development" and its focus on developmental masterstrokes –dams- and developmental vanguards- often engineers. African elites are reproducing a high modernism that is often obsessed with the material products of modernity but engages in shallow ways with the 'software' (institutions) that really drives systemic social change. Big hydro-infrastructure symbolises the rapid intensification of ties between China and African countries as well as the growing 'ideological' influence of Beijing on the political-economic vision of African elites: "dams are development".

Important future research is to be pursued on this emerging 'model' of illiberal state-building, even if there is no coordinated agenda and major differences remain in terms of the ideology, political praxis and sources of power that characterise movements in Angola, Ethiopia, Rwanda and Sudan. Neither "End of History" nor state-failure or classic neo-patrimonialism are suitable lenses to understand the

changes their politics, economies and societies are undergoing, nor do they capture the highly ambitious and sophisticated domestic and foreign policies that the likes of Al-Ingaz are pursuing.

Similarly, more work in years to come should analyse the emerging new geopolitics of water in East Africa- the integration of Sudan's hydropolitical economy in wider global trends discussed in chapter six is emblematic for altering resource flows and power dynamics. The global system is undergoing seismic changes, as power shifts from the West to new rising powers, whose breathtaking growth is altering patterns of supply and demand and eroding the notion of a common destiny of the Global South. China, India, Brazil, Saudi Arabia, the Emirates, Kuwait and Qatar are pumping billions of dollars in hydro-infrastructure, bio-fuels, food crops and irrigation schemes, with Sudan a prime example of the far-reaching effects these partnerships are having on national politics and local livelihoods.[59] As the reshaping of commodity prices and commercial networks by rising powers leads to optimism in some circles, others warn about the worsening impact of climate change, persisting (growing?) food insecurity and chronic energy supply problems as well as increasing local resistance against this new economic order: water takes central stage in all these debates.

The new geopolitics of water is shaking countries like Kenya, Uganda and Sudan individually and the region as a whole. As emphasised in this thesis, history is critical to grasp the enduring power of ideas, institutions and practices, but also helps highlight where genuine transformations are happening. Does the new politics of water merely recalibrate regional, national and local political economies, or do fundamental shifts occur? Sustainable development challenges take on various forms in Cairo, Juba and Kampala, and perceptions of threat or opportunity related to the "water crisis" lead to the production of very different framings about what is happening and what should be done about it by donors, governments and local communities. Nevertheless, they also seem subject to similar logics of political control: comprehensive *political* study is required of investments based on comparative advantage; the calculations of regimes getting financial-political mileage out of 'idle

[59] Eckard Woertz, *Oil for Food.* Oxford: Oxford University Press, forthcoming.

land' and 'free water' in peripheral regions; and the sub-national impact of absorption into the global economy.

How will different ways of framing sustainable development map onto each other and how will actors instrumentalise the gaps between varying definitions of 'problems' and 'opportunities'? Sudan's Breadbasket and Al-Nahda Al-Zira'ayah should serve as warnings about the disconnect between global narratives about water scarcity and agricultural potential on the one hand and local appropriations of these discourses to legitimise state-led violence and interventions in peripheral communities on the other.

Epilogue: Al-Ingaz' perfect storm and the future of water, civilisation and power in Sudan

At the time of writing, new power struggles and soul searching are rocking Al-Ingaz. The removal of long-time spymaster Salah Gosh in early 2011 following confrontations with Bashir confidante Nafi Ali Nafie is only one illustration of the unrest within the Salvation, as it deals with the impact of the Arab Spring on Sudan, negotiates the modalities of Southern secession and braces for an uncertain future. No other regime in Sudanese history has been in power for this long, but the chaotic communications are not the usual subtle manoeuvres of Al-Ingaz intended to confuse friends and foes alike; they signal profound internal division as it becomes ever harder to deliver on rising expectations.

The contours of post-secession Sudan might well resemble those of the 2005-2010 order. This scenario is almost certainly preferred by Bashir and Taha, whose partnership is under pressure, but continues to hold, despite many predictions to the contrary. Stability and a focus on the Hamdi Triangle, not democratisation or outreach to the peripheries, is seen as essential to regime survival. Yet growing signs of failure of Al-Ingaz' economic agenda –and the hydro-agricultural mission especially- could leave the leadership with two options it circumvented in the past seven years: to return to a more repressive system in the face of economic adversity and crack down on rising opposition, or to undertake fundamental reforms, including genuine power-sharing and dismantling the institutionalised system of corruption. If the former seems untenable and likely to hasten the regime's demise by damaging the competence agenda, the latter could either lead to a mildly Islamist government à la Turkey's AK Party that stays in power for another decade (as younger party members demand) or to a collapse if Al-Ingaz' brand proves to be toxic beyond repair. Large-scale violence would undo progress in re-engaging with the outside world, torpedo the competence agenda, cause investors to flee Sudan and undermine the NCP's powerful political machine, including its ability to win elections.

Regardless of what happens in the short term, the deeply entrenched pattern of authoritarian governance and core-periphery resource flows will continue to shape the Sudanese state –and the violence it reproduces- for the foreseeable future. Hydropower has given the Nile an additional strategic dimension, which was non-existent before the 20th century, and is likely to constitute a major axis of economic policies and political struggles in the 21st century. Water will remain power and power will continue to be expressed through a civilising discourse and hydro-infrastructure. The Salvation has followed the classical Sudanese strategy of consolidation in the riverain core and administering the peripheries through repression and patronage. It has used petrodollars and foreign investment to strengthen the hydropolitical economy around the Nile that has developed over the past two centuries; the hydro-agricultural mission has made riverain Sudan economically more relevant than ever before, dixit Hamdi.

Nevertheless, Sudan's second civil war, the radicalism of Al-Ingaz and the independence of the South have also changed the country forever. The contrast between core and periphery has perhaps never been greater and, most importantly, has never been so glaringly obvious to the communities that have been the victims of an iron logic of state-building, with 'development' –as exploitative material process and as disempowering discourse- as crowbar for Khartoum. This has ushered in a dangerous but also possibly creative new politics: South Sudan's secession coincided with the re-emergence of conflicts in the Nuba Mountains and Blue Nile and the continuation of violence in Darfur, raising the spectre of possible disintegration of the entire country. Collective action problems and internal divisions continue to hamper a united anti-Khartoum front but the return to the Hamdi Triangle and the wider regional and economic malaise provoke uprisings and counter-imaginations of a Sudan with a radically different relationship between elites and masses. In order to get to such a "New/new Sudan", the statesmen of the future will, through multi-level dialogue with their people, need to fundamentally rethink the links between water, civilisation and power that have violently created scarcity for so many and produced wealth for so few in past centuries.

Appendix: The Method of Elite Interviewing and Overview of In-Depth Testimonies

The thesis relies partly on extensive, in-depth interviews with Sudan's political leaders (past and present), people affected by the hydro-agricultural mission and a range of technical experts, scholars from various disciplines, representatives of international organisations, diplomats and ordinary people. The interview method became more prominent in my doctorate as my research efforts progressed and I acquired a deeper appreciation of the importance of personalities, individual power politics and Sudanese agency in a complex international context; face-to-face exchanges became a sources of many questions and ideas, many of whom are integrated in the thesis. The interviews were critical in sharpening my research question and enabled me to separate more clearly those political-economic dynamics and imaginations that really mattered (and are salient in the minds of the Al-Ingaz regime's leadership) from those that are mostly found important by outsiders rather than Sudanese decision-makers.

These interviews were conducted in Sudan during several prolonged periods of fieldwork between August 2009 and October 2011, including the critical period of the elections (April 2010), the run-up to the South's self-determination referendum (December 2010) and the period before and after Southern secession (May-June 2011 and September-October 2011). This appendix aims to balance confidentiality of the interviewees with academic credibility- while individuals are seldom quoted directly in the main body of the thesis, this appendix aims to back up some of the claims and evidence provided therein. The claims made about the intentions, actions and thoughts of Sudan's elites are based on many hours of in-depth discussions with a variety of actors.

Many important meetings, typically lasting one to two hours, took place in confidential settings with high-ranking officials from the Ministry of Water Resources and Irrigation, the Ministry of Agriculture,

the DIU and the Ministry of Foreign Affairs. None of these interviews was recorded to encourage a freer discussion of sensitive issues, but almost always permission was granted to take notes during the exchanges. While some individuals were interviewed once, a strong connection was forged with several key sources whose insights have proven invaluable as I visited them during almost every research trip to Sudan and thus up to a half a dozen conversations took place over the course of two to three years in government ministries, party offices or private homes. Several wish to remain anonymous because of security concerns or politico-administrative sensitivities, but others like Sudan's leading environmentalist Professor Asim Al-Moghraby, Chief Technical Advisor to Ministry of Water Resources and Irrigation Profesor Seif Al-Din Hamad Abdalla or former Undersecretary for Water Resources and Irrigation Ahmed Adam are openly quoted. Many of these people have been in academia and/or the policy world for decades and have built up a formidable expertise in highly technical (and highly politicised) matters.

Contacts in the University of Khartoum, the Sudan Environment-Conservation Society, half a dozen think tanks (Centre for Middle Eastern and African Studies, Future Trends Foundation, Peace Research Institute...), the Higher Council for the Environment and Natural Resources and the Ministries of Finance, Petroleum, Investment and International Cooperation have helped construct my argument. Ditto for people in UN organisations –notably IFAD and UNDP, who have been of help regarding practical matters such as travel- and diplomatic personnel, with the delegations in Sudan of the United Kingdom, the Republic of Egypt and the People's Republic of China being particularly useful. Interviews with ministers, party cadres and activists from Sudan's opposition parties, particularly the SPLA/M and several radical Islamist groups, have been essential too.

Furthermore, this research has benefited from discussions with senior political figures, intelligence operatives and civil servants from neighbouring countries. Important field research took place in Ethiopia in May 2010, both in Addis and along the Blue Nile. Leading figures of the ruling Tigrayan People's Liberation Front and of the Ethiopian water establishment were interviewed inside and

outside Ethiopia in 2010 and 2011, both to better understand the Nile's hydropolitics from an upstream, non-Sudanese perspective but also to dig deeper into the intricacies of Al-Ingaz foreign policy, which are critical to my argument about the rise of the Salvation's hydro-agricultural mission and its questionable future. Key discussions also took place with Egyptian foreign policy insiders and intelligence operatives, mainly in 2011 outside Egypt in confidential settings.

Last but not least, I have been granted extensive access to Al-Ingaz itself which has been critical in substantiating the important claims I make regarding the Salvation's trajectory, its identity and its internal politics. Many of the regime's most senior representatives appreciate the importance of the doctorate's research question and have been remarkably frank as relations of trust were built up through extensive, in-depth meetings that carried on for many hours by the side of the Nile: high ranking government officials, including Ministers, Presidential Advisers and Ambassadors; leading members of *Al-Harakat Al-Islamiyyah*; fellow travellers in universities, business and civil society; and officials of the National Congress Party and security officers.

Many in the Al-Ingaz leadership feel deeply misunderstood by the outside world and by Sudanese people but also personally frustrated with what has happened to the Salvation Revolution and were surprisingly open to free-flowing discussions on extremely sensitive topics. Whilst some undoubtedly sought to shape the conclusions of this research by an "involved outsider"[1] and to highlight or downplay their own role at critical junctures by engaging intensely with me, many of them also genuinely believe in the importance of objective social science research and history writing. The degree of personal bitterness and broken optimism that I discovered in their testimonies, but also the razor-sharp self-analysis and the continued pride in being part of a revolutionary project, have only served to underline the importance of Sudanese agency, Islamist ideology and personal power struggles as salient themes of the thesis. They also highlight many of the internal contradictions that

[1] Tamar Hermann, 'The impermeable identity wall: The study of violent conflicts by "insiders" and "outsiders" ', G. Robinson, M. Smyth (eds.), *Researching violently divided societies: Ethical and methodological issues*. Tokyo: United Nations University Press, 2001, pp. 77-92

are so crucial in understanding the often devastating outcomes that are produced by the logic of water, civilisation and power in Sudan.

Some of these elites spoke on condition of (partial) anonymity, while others were happy to be cited for research purposes, including Hassan Al-Turabi himself. The list below contains most of the senior sources interviewed for this doctorate- some informants couldn't be quoted directly, but gave permission for their names to be part of a comprehensive list to ensure academic credibility. The names of a few sources who insisted that even being part of a general overview of interviewees was too sensitive, were submitted to the examiners on the day of the viva, 17 April 2012, but are not a part of the thesis.

The selection process for these elite interviews relied on two methods, as part of a "structural analysis of power".[2] The first, equivalent to Mills' classic analysis[3], consisted of identifying Sudan's "power elite" and the formal key positions of authority for policy-making regarding water, agriculture, foreign relations, economy and the overall political trajectory of Al-Ingaz. The second, akin to the "reputational method"[4], builds on the assumption that power in Sudan is up to a large extent exercised informally; some of the most powerful people are not in formal positions of authority. Key interviewees were asked about other valuable sources and well-informed protagonists, often personally facilitating the contact on the basis of trust and occasionally hosting the initial meeting with a third party in their office or home. This is a highly rewarding strategy, though with the risk of only accessing certain 'wings' and being oblivious to others; I tried to remedy this problem of self-selection by obtaining as many independent entry points to Al-Ingaz and its bureaucracy as possible to ensure that no regime-cliques were missed.

[2] John Scott, 'Studying Power', Kate Nash, Alan Scott (eds.), *The Blackwell Companion to Political Sociology*. Blackwell Publishing, 2004, p.84.
[3] Charles Wright Mills, *The Power Elite*. New York: Oxford University Press, 1956.
[4] Robert Putnam, *The Comparative Study of Political Elites*. Englewood Cliffs, Prentice-Hall, 1976.

The material from these interviews is an invaluable complement to the abstract theorising and analysis of literature and primary sources. It has been critical in establishing the deeper thinking behind Al-Ingaz' hydro-agricultural mission and its strategy for long-term political hegemony; in understanding the real drivers of policy and the key networks that govern the Salvation regime; and in getting under the skin of the Islamist vision of water, civilisation and power. These were "focused interviews"[5], adopting a flexible style of discussion with the elites in question with prepared themes and interview strategies, but allowing a free-flowing conversation.

The in-depth interview method can allow one to obtain vital factual information, with its main merits situated in being able to begin to come to grips with informal decision-making procedures and the often invisible realities of power (instead of relying on formal hierarchies), to engage with powerful narratives (and experience how they are produced, which associations are made, which telling examples are used,...) and to directly press protagonists on the rationale behind their judgements.[6] It can enable the researcher to obtain valuable details on specific game-changing manoeuvres (e.g. the Turabi-Bashir fall-out, the rapprochement with Egypt and the Gulf Arabs and the financing of the Dam Programme) and to get a sense of the personalities shaping policy.[7]

The interview method also harbours risks and information gathered should be treated with care.[8] Interviews are sources of data, but also themselves constructions of truths surrounding historical events and 'facts', which tend to be particularly hard to establish in authoritarian systems and/or amidst the fog of war. Misinterpretation on the interviewer's part is possible due to lack of knowledge, biases or a tendency to look for hypothesis supporting statements or build narrative coherence. Engaging with elites especially requires striking a careful balance: on the one hand, the researcher needs to gain their trust and empathise with their points of view and particular logics. Moreover, it is important that confidentiality is maintained, if this was agreed during the meeting,

[5] Johnson, Joslyn, Reynolds, *Political Science Research Methods*, p.274.
[6] Cris Shore, Stephen Nugent, *Elite Cultures.* Abingdon: Routledge, 2002, pp.9-12.
[7] Harriet Zuckerman, 'Interviewing an Ultra-Elite.' *Public Opinion Quarterly*, Vol.36, 1972, pp.159-172; Raymond Gordon, *Interviewing. Strategy, Techniques and Tactics*. Homewood: Dorsey, 1969, pp.18-50.
[8] Roger Pierce, *Research Methods in Politics*. London: Sage, 2008, pp.114-127.

and to engage, up to some extent, in a give and take if the conversation is to move beyond official positions and superficial analyses. On the other hand, elites engage in these conversations with their own agendas and can be influenced by interactions with interviewers, seeking information for their own purposes, while interviewers can develop personal sympathies for the elites they are studying. Other common problems with interviews include post-factum rationalisation of actions by individuals, faulty memory and deliberate misrepresentation of one's own role and the role of others at critical historical junctures. This again points to the importance of maintaining a critical, self-reflective disposition throughout the research and the importance of cross-checking, both within the interview dataset (triangulating the statements of various actors, trying to get as many observers as possible to independently verify a certain event,...) and between the elite-interviews, the primary data analysis and the secondary literature.

Interviews function best as a source in an accumulative sense.[9] In this project, they were used to better grasp Al-Ingaz decision-making and those dynamics outside the literature's remit, but also in turn generated new ideas that forced me to return to the theory and secondary data to make sense of what was said. Rather than further muddying the waters, this multi-method approach has enabled me to map uncharted terrain in Sudan studies and to bring to life many conceptual (often untested) ideas found in theoretical arguments.

The names below do not constitute an exhaustive list of all these interviews. A number of key interviewees asked not be included on any list of sources; their wishes are respected, as mentioned earlier. And secondly, the list gives an overview of most of the in-depth interviews conducted with Sudan's political and economic elites, not those informal conversations with many Sudanese citizens.

[9] Lewis Anthony Dexter, *Elite and Specialized Interviewing*. Evanston: Northwestern University Press, 1970, p.12.

Interviews with Leading Figures of the Al-Ingaz Regime and Al-Harakat Al-Islamiyyah (HI)

*__Prof Abdallah Ahmed Abdallah__, Co-author of the Agricultural Revival Programme, Minister of Agriculture under Nimeiri and Vice-Chancellor of the University of Khartoum

*__Abdelhalim Al Muta'afi__, Minister of Agriculture (2009-2012)

*__Abdelrahim Hamdi__, Minister of Finance (1990-1993 & 2001-2002) and Chairman of Al-Baraka Bank (HI)

*__Prof Abdelrahman Khalifa__, Attorney-General and key negotiator of the NCP for the CPA (HI)

*__Dr Ahmed Daak__, leader of the youth wing of Al-Harakat Al-Islamiyyah (HI)

*__Dr Ahmed Al-Mufti__, Chief Negotiator for the Sudanese government in the Nile Basin negotiations

*__Prof Ali Geneif__, Minister of Agriculture (1989-1996) and Co-Author of the Agricultural Revival Programme (HI)

*__Dr Amin Hassan Omer__, State Minister to the Presidency (1995-2012) and Chief Negotiator for Al-Ingaz for the CPA and peace negotiations in Darfur

*__Ambassador Anas Elgallani__, Office of the Vice-President of the Republic of Sudan and Deputy Head of Mission in Ethiopia (2008-2010)

*__Prof Al-Tayib Zain Al-Abdin__, member of the Executive Committee of the HI's Shura Council in the 1980s (HI)

*__Dr Bakri Osman Said__, Vice-Chancellor of Sudan International University (HI)

*__Dr Ghazi Salah-ud-Din Atabani__, State Minister for Foreign Affairs, leader of the NCP in the National Assembly and Chief Negotiator of the Al-Ingaz regime for the CPA and Darfur (2002-2011) (HI)

*__Prof Hassan Makki__, Vice-Chancellor of Africa International University and member of the Executive Committee of the HI's Shura Council in the 1980s (HI)

*__**Sheikh** Dr Hassan Al-Turabi__, mastermind behind Sudan's Al-Harakat Al-Islamiyyah and political leader of the Al-Ingaz regime until 1999 (HI)

*__Haj Magid Siwar__, Minister of Youth and head of NCP Party Mobilisation (HI)

*__Kamal Hassan Ali,__ State Minister of Foreign Affairs (2008-2011) (HI)

*__Khalid Musa__, Spokesman Ministry of Foreign Affairs (2009-2011) (HI)

*__Colonel Mohamed El-Amin Khalifa__, former Speaker of Parliament (1991-1996) and one of the coup plotters in 1989 (HI)

*__Dr Mohamed Mahjoub Haroon__, Negotiator for the post-secession arrangements between NCP and SPLA/M (2010-2012; HI)

*__Mubarak Sadiq Amin Issa,__ National Intelligence and Security Service Officer

*__Munir Hakim__, Director Islamic Development Corporation (HI)

*__Prof Mustafa Idriss__, member of the Executive Committee of the HI's Shura Council in the 1980s and Vice-Chancellor of University of Khartoum until 2011 (HI)

*__Dr Mustafa Osman Ismail__, Minister of Foreign Affairs (1998-2004) & Presidential Advisor (2005-2011) (HI)

*__Ambassador Osman Al-Sayed__, Head of Mission for Sudan in Ethiopia (1991-2004) and Presidential Special Envoy to Ethiopia (2004-2011); Head of Security under Nimeiri

*__Dr Qutbi Al-Mahdi__, Head of External Intelligence (1998), Ambassador to Iran in the 1990s & Head of the Political Secretariat NCP (HI)

*__Dr Sabir Mohamed Hassan__, Governor of the Central Bank (1998-2011)

*__Dr Salah Yousef__, State Minister for Water Resources and Irrigation (2008-2009)

*__Ambassador Siddig Hamid__, senior diplomat at Government of Sudan missions in Addis Ababa and New York and liaison officer with the NISS and the Office of the President

*__Yacoub AbuShora__, Minister of Water Resources and Irrigation (1989-1997)

Interviews with Sudanese Technocrats, Academic Experts, Civil Society Leaders & Leading Business Figures

*__Dr Abdalla Zakaria__, chair of the International Centre for African Studies in Khartoum; ghostwriter of Muammar Qaddafi's Green Book

*__Abdelatif Ijaimi__, Undersecretary Ministry of Agriculture (2008-2011)

*__Abdelazim El-Gizouli Nasser__, Director Agricultural Bank of Sudan

*__Abdelrahman Khalil Ahmed__, Minister plenipotentiary, Water & Natural Resources Department, Ministry of Foreign Affairs

*__Abdulla Abu Al-Kayum__, Nubian dam activist leader

*__Dr Ahmed Adam__, Undersecretary Ministry of Water Resources and Irrigation (1990-2001)

*__Ahmed El Hag__, United Nations Development Programme Sudan

*__Ahmed Kabaj__, Economist at the Governance Bureau

*__Prof Ali Abdullah Ali__, Advisor Khartoum Stock Exchange

*__Asim Ali__, Higher Council for the Environment and Natural Resources

*__Prof Asim Al-Moghraby__, Sudanese National Academy of Sciences

*__Dr Balghis Osman Elasha__, Higher Council for the Environment and Natural Resources

*__Fadul Bashir__, Blue Nile Coordinator Adventist Development and Relief Agency

*__Prof Gasim Bedri__, Vice-Chancellor Al-Ahfad University for Women

*__Hussein Kambal__, FAO Blue Nile State

*__Huzaifa Al-Sayed__, FAO team leader in Blue Nile State

*__Ibrahim Balila__, ENSAP Coordinator, Ministry of Water Resources and Irrigation

*__Ismail Abdalla__, Director of Muslim Hands Sudan

*__Dr Ismail Fadl Moula Mohamed__, Sudan Meteorological Authority

*__Dr Karoori Hamad__, Director of Dams, Ministry of Water Resources and Irrigation

*__Khaled Osman__, Director of Information of the Dam Implementation Unit

*__Dr Khalil Medani__, Lecturer in Anthropology at Nilain University & UNMIS Consultant for the Popular Consultation in Blue Nile State

*__Mahjoub Mohamed Salah__, Editor-in-Chief of Al-Ayam newspaper

*__Mahmood Ibrahim__, Director of the Sennar Dam

*__Mekki Mirghani__, Director-General at the Ministry of International Cooperation

*__Dr Moawia H. Shaddad__, Chairman of the Sudan Environment & Conservation Society

*__Dr Mohamed Abdelgader__, Technical Advisor to IFAD Sudan

*__Dr Mohamed Alfatih Braima__, Deputy Director of the Peace Research Institute, University of Khartoum

*__Mohamed Ali__, Coordinator CFCI of Sudan's Ministry of Finance and UNICEF

*__Mohamed Omar Khabir__, Director-General Ministry of Physical Planning Blue Nile State

*__Mohamed Al-Tuhami__, Independent consultant and Nubian dam activist

*__Mohammed Bakheit__, Director-General of External Relations at the Ministry of Petroleum

*__Dr Motaseem Al-Awad Mohamed__, Director of the Roseires Dam

*__Muhammad Jalal Hashim__, Nubian dam activist and TV journalist

*__Dr Nadir Awad__, Secretary-General Higher Council for the Environment and Natural Resources (2004-2005)

*__Osman Al-Mirghani__, Editor-in-Chief Al-Tayyar newspaper

*__Ambassador Rabie Hassan Ahmed__, Director Future Studies Centre

*__Salah Ali Mohamed Nur__, Senior Advisor Ministry of Energy/National Electricity Corporation

*__Dr. Seif Al-Din Hamad Abdalla__, Chief Technical Advisor Ministry of Water Resources and Irrigation

*__Sunia Al-Sayed__, Sudan Environment & Conservation Society

*__Usama Daoud Latif__, CEO of Dal Group

*__Waleed Madibo__, Chairman of the Governance Bureau

Senior Leaders from Other Political Formations and Local Politicians

*__Abda Al-Mahdi__, State Minister of Finance (2003-2005) for Hizb-al-Umma

*__Ahmed Badawi__, Advisor to the Government of National Unity, Global Resource Centre

*__Ali Abdellatif__, Chief of Staff of the Secretary-General of SPLA/M-Northern Sector

*__Ali Askouri__, leader of the Nubian civil society protesting against the Merowe Dam in Northern Sudan and SPLA/M gubernatorial candidate in 2010 in River Nile State

*__Ali Zain Ali Hassan__, Commissioner of Geissan District, National Congress Party

*__Arop Deng Kuol__, former private secretary of Dr John Garang de Mabior until 2005

*__Atim Garang__, Chairman of the SPLA/M parliamentary bloc in the National Assembly (2005-2011)

*__David Chand__, Advisor to the President of Sudan and Chairman of the South Sudan Democratic Front (SSDF)

*__*Sheikh* Ja'afar Idriss__, leader of several Salafiyya groups in Khartoum

*__*Sheikh* Ismail__, secretary-general of Jama'at Ansar Al-Sunna Muhammadia

*__Joseph Malwal Dong__, a decade of Ministerial posts in Khartoum (Environment, Electricity, Tourism,...1998-2011) and Chairman of the United Democratic Salvation Front (USDF)

*__Dr Lam Akol__, Minister of Foreign Affairs (2005-2007) and Chairman of SPLM-DC

*__Lual Deng__, Minister of Petroleum (2009-2011) for SPLA/M in Government of National Unity

*__Malik Agar__, Governor of Blue Nile State (2007-2011) for SPLA/M and Chairman of SPLA/M-Northern Sector

*__Mohamed Ibrahim Nugud__, Secretary-General of the Sudanese Communist Party (1971-2012)

*__Dr Mudawi Al-Turabi__, Co-Chairman Transitional Leadership Council of the Democratic Unionist Party (DUP)

*__Yahia Magid__, Minister of Water Resources and Irrigation under Nimeiri and Assistant UN Secretary-General

*__Yassir Arman__, Secretary-General of SPLA/M-Northern Sector

Non-Sudanese Sources

*Leading figures of the Tigrayan People's Liberation Front/Ethiopian People's Revolutionary Democratic Front (TPLF/EPRDF) and key Ethiopian civil servants

- **Ambassador Abdeta Beyene**, Director-General of Neighbouring Countries at the Ministry of Foreign Affairs
- **Minister Bereket Simon**, Ethiopia's long serving Minister of Information
- **Ambassador Hiruy Amanuel**, former right hand of Seyoum Mesfin (the regime's no2 for almost 15 years)
- **Minelik Alemu,** Director General for International Law, Ministry of Foreign Affairs
- **Ambassador Negash Kebret**, Director-General of African Affairs and in charge of the Sudan file at the Ministry of Foreign Affairs
- **Sebhat Nega**, Chairman of the TPLF (1979-1989) and still part of the Ethiopian ruling elite
- **Dr Teferra Beyene**, Head of Transboundary Water Resources at the Ministry of Water Resources
- **General Tsadkan Tensae**, former Chief of Staff of the Ethiopian Armed Forces

*__Dr Abdelkader Haireche__, Head of the UN-DPKO African Union Peacekeeping Support Team

*__Alemu Asfaw__, Chief Technical Advisor to FAO Sudan

*__Alyson King__, Head Political Section at the British Embassy in Khartoum

*__Brendan Bromwich__, United Nations Environmental Programme Sudan

*__Dawit Toga,__ Peace and Security Division African Union

*__Fan Kun__, Head of Political Section at the Chinese Embassy in Khartoum

*__Gideon Asfaw__, Project Manager for the Nile Transboundary Environmental Action project of the Nile Basin Initiative

*__Jason Matus__, European Commission/USAID Coordinator for the Three Areas

*__Jon Bennett__, Head of the Joint Assessment Mission in Sudan of the UN (2004-2005)

*__Laura James__, Economist at the Assessment and Evaluation Commission (AEC) for the CPA

*__Dr Mahedevan Ramachandran__, CETA Coordinator World Food Programme Sudan

*__Ambassador Mull Sebujja Katende__, Head of Mission of Uganda to Ethiopia & Djibouti, Permanent Representative to the AU, IGAD & UNECA; ex-Head of Mission in Khartoum

*__Ambassador Nicholas Kay__, Ambassador of the United Kingdom to Sudan (2009-2012)

*__Nile Basin Initiative Office__ in Addis Ababa (ENTRA/ENSAP; group interview with entire team)

*__Oliver Blake,__ DFID Senior Governance Advisor in Ethiopia

*__Opheera McDoom__, Reuters Sudan correspondent

*__Piers Craven__, Political Officer at the British Embassy in Khartoum

*__Radio Save__, DFID Advisor in infrastructure in Ethiopia & Sudan

*__Rasha Omar__, Country Director IFAD Sudan

*__Ambassador Richard Makepeace__, Ambassador of the United Kingdom to Sudan (1999-2002)

*__Lt-Col Sandy Wade__, defence attaché at the British Embassy in Ethiopia

*__Seleshi Bekele__, Director of the International Water Management Institute (Addis Ababa)

*__Soenke Ziesche__, Resident Coordinator for the United Nations in Blue Nile State

*__Svetlana Pencheva__, Head of Civil Affairs for Blue Nile State, United Nations Mission in Sudan

*__Tom Stephenson__, General Manager Dal Group

*__Consul-General Tony Brennan__, Deputy Ambassador of the United Kingdom to Sudan

*__Umberto Tavolino__, EU Delegation to the African Union

*__Zhang Jiaxin__, First Secretary at the Chinese Embassy in Khartoum

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