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## Changing Power Relations in the Nile River Basin: Unilateralism vs. Cooperation?

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**ABSTRACT:** The aim of this article is to identify where and how power relations in the Nile river basin have changed over the past decade, and to analyse how these dynamics have influenced not only the political relations between upstream and downstream riparians but also the management and allocation of the shared Nile water resources. The article sheds light on the ongoing political and economic changes in the upstream countries (as well as in Sudan) and on how these dynamics might affect and challenge both the regional balance of power and the ongoing regional cooperation process. A critical analysis of the relationship between power shifts and the evolution of the Nile Basin Initiative (NBI) is then provided. Finally, the article questions how unilateralist and multilateralist hydro-political trends have co-existed in the Nile basin, and identifies possible future scenarios.

**KEYWORDS:** Nile river basin, power relations, change, unilateralism, cooperation, Egypt, Sudan, Ethiopia

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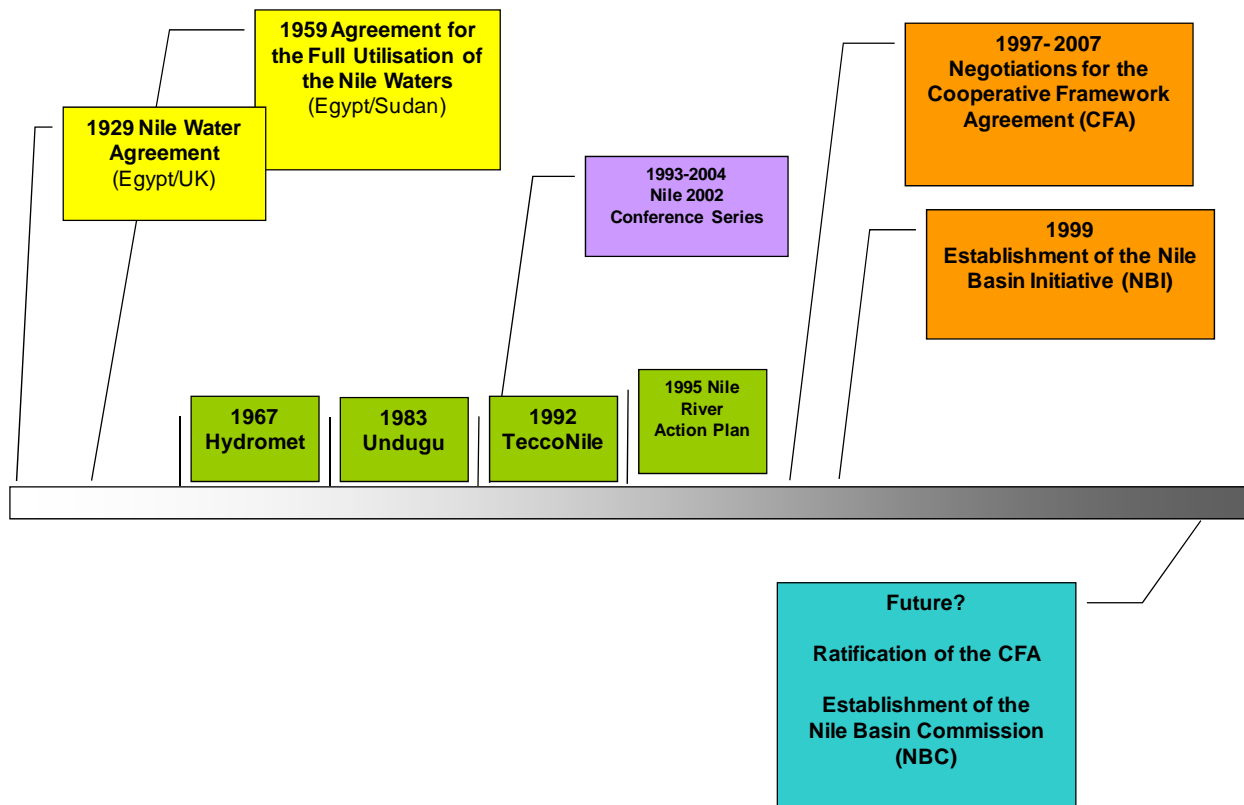
### INTRODUCTION

This first section aims to briefly introduce some key events in Nile basin hydro-politics, which will be important in order to frame the analysis of ongoing power dynamics. Figure 1 shows a time line displaying major events with regional implications, such as agreements, creation of regional water institutions and negotiations. The years 1929, 1959 and 1999 represent key tipping points in the hydro-political relations between riparian countries in the Nile basin.

1929: Eighty years ago, the first *Nile Water Agreement* was signed between Egypt and Great Britain on behalf of Sudan and other British colonies in the basin (Uganda, Kenya, Tanzania). The Agreement included specific volumetric water allocations – 48 billion m<sup>3</sup> (Bm<sup>3</sup>)/year (yr) to Egypt and 4 Bm<sup>3</sup>/yr to Sudan – and helped to institutionalise the belief that Egypt and Sudan had "natural and historic rights" to the Nile water. Ethiopia was not part of the Agreement and refused to acknowledge it. With the Independence in the 1960s, Uganda, Tanzania and Kenya contested the validity of the Agreement and refused to be bound by what they considered to be a colonial agreement, the so-called Nyerere Doctrine (see Godana, 1985; Okidi, 1994).

1959: Fifty years ago, the 1929 Agreement was replaced by the *1959 Agreement for the Full Utilisation of the Nile Waters*. After the Independence of Sudan in 1956, Egypt's plans to build the High Aswan Dam and the need to renegotiate existing water allocations under the 1929 Agreement prompted the two countries to come up with new volumetric water allocations – 55.5 Bm<sup>3</sup>/yr to Egypt and 18.5 Bm<sup>3</sup>/yr to Sudan under a new agreement. The 1959 Agreement reinforced downstream claims of "natural and historic rights" to the Nile waters, and became both Sudan and Egypt's 'redline' for future negotiations in the basin. The upstream riparians were not included in the Agreement, and have continuously criticised its bilateral nature. The 1959 Agreement represents the backbone of the hydro-political dilemma in the Nile basin – downstream riparians want to maintain it, while upstream riparians want to replace it with a multilateral agreement based on equitable sharing (see Waterbury, 1979, 2002).

Figure 1. Time line of hydropolitical relations in the Nile basin.



Despite the contentions surrounding the 1959 Agreement, Nile riparians have attempted to establish cooperative initiatives since the late 1960s. Examples include the *Hydromet* (1967), the *Undugu* (1983) and the *TeccoNile* (1992). The achievements of these institutions remained very limited; first, because they did not include all the Nile riparians and, second, because they merely focused on technical issues and avoided the legal challenges (Yacob, 2004). The Nile 2002 Conference Series (1993-2004) played a pioneering role in bringing together both political and academic representatives from the Nile riparians to debate hydropolitical cooperation. But it was only in the mid-1990s, that all Nile riparians were committed to develop a multilateral cooperative institution that would deal with technical, environmental, developmental and legal issues. The *Nile River Basin Action Plan* (1995), prepared by the Nile riparians, would be later reviewed and approved by the donors (World Bank, UNDP, CIDA) in 1997.

1999: Ten years ago, the ten riparian countries established the *Nile Basin Initiative* (NBI), the first cooperative institution in the basin to include all ten riparian states. Its goal is "to achieve sustainable socio-economic development through the equitable utilisation of, and benefit from, the common Nile basin water resources". The NBI includes two types of programmes: 1) the *Shared Vision Program*, comprising grant-based activities to foster trust and cooperation and build an enabling environment for investment; and 2) the *Subsidiary Actions Program*, comprising specific investment programmes (hydropower, irrigation, etc) for the two sub-basins – The eastern Nile basin (ENSAP) and the Nile equatorial lakes basin (NELSAP) (for details on the projects see NBI, n.d.). Over the last decade, the projects have been implemented on the ground although the progress and achievements of each project varies significantly.

The current hydropolitical cooperation in the Nile basin includes two parallel processes: a) the NBI, which is a transitional institutional mechanism, and b) the negotiations for a new legal and institutional Cooperative Framework Agreement (CFA) that, once concluded, will provide a permanent status to the

cooperative institution (NBI, 2002). The negotiation process was initiated in 1997 and concluded in 2007 (NBI, 2007). However, the draft agreement is still in the hands of heads of state for final decision-making. In case the agreement is ratified by Nile riparians, the transitional NBI is expected to be replaced by a permanent river basin organisation – the Nile Basin Commission (NBC). As discussed further in this article, these negotiations were extremely politicised and once again reflected the longstanding dilemma in the basin – downstream riparians wanting any new agreement to recognise past agreements, namely the 1959 Agreement and its water allocations; and upstream riparians pushing for a new agreement based on the principle of "equitable utilisation" that could eventually lead to a renegotiation of the volumetric water allocations in the basin.

As this article will show, the evolution of the hydropolitical relations in the Nile basin has been influenced greatly by asymmetric power relations between downstream and upstream riparians. Particular attention will be paid to the changing power relations over the last decade, wherein both unilateral and multilateral developments have taken place.

## **ASYMMETRIC CONTROL OVER THE NILE WATER RESOURCES: EGYPT, THE HYDRO-HEGEMONIC RIPARIAN**

### **Asymmetric control**

Control of the Nile basin's shared water resources is characterised by a high degree of asymmetry brought about by factors including the riparians' different capacities to technically control, utilise and allocate the water resources. In terms of their technical control, the ten riparians demonstrate varying capacities to harness the resource, based on their particular hydraulic infrastructural and storage capacity. Egypt began to develop its "hydraulic mission" in the 19th century and expanded it greatly during the 20th Century, under the British Condominium (Collins, 2002). The construction of the High Aswan Dam, in the late 1960s, determined Egypt's full technical control over the Nile resources. The dam has a total storage capacity of 169 Bm<sup>3</sup>/yr – more than enough to store a full flood of the Nile. Sudan's development of hydraulic infrastructure in the Nile was initiated under the Anglo-Egyptian Condominium and expanded in the post-independence period (1956-1965) (Tvedt, 2006). The dams built in these two periods – Sennar, Jebel Aulia, Khashm El-Girba and Roseires – have a limited storage capacity (total of 6.9 Bm<sup>3</sup>/yr) when compared with those of Egypt (Kundell 2008). No more storage dams were constructed in Sudan between 1965 and 2008. In contrast, the upstream riparians have only initiated their 'hydraulic missions' comparatively recently and their storage capacities remain extremely limited (Shapland, 1997; Waterbury, 2002). However, new projects are under construction in the upstream Nile region. In the second part of this article, special attention will be given to the ongoing projects.

The riparians also exhibit contrasting levels of water utilisation. Egypt is by far the main regional water user, withdrawing far higher levels of water from the basin than do its neighbours. According to official statistics, Egypt utilises around 55.5 Bm<sup>3</sup> of Nile water per year (MWRI, 2005). However, Egypt might have been using more than it declares: first, because 84 Bm<sup>3</sup>/yr measured at Aswan is an underestimation of average Nile flows, according to some observers (Waterbury, 1979); second, because Egypt has been benefiting from the unutilised quota of Sudan (El-Zain, 2007). The Government of Sudan declares a utilisation of around 12.5 Bm<sup>3</sup>/yr (MIWR, 1999) but, as will be shown later in this article, current utilisation might already be reaching 14.6 Bm<sup>3</sup>/yr (Mohieldeen, 2007). Withdrawals by Ethiopia and equatorial countries (Uganda, Tanzania, Kenya, Burundi, Rwanda, R.D. Congo) remain, by contrast, very limited. The situation is similarly asymmetric in terms of the riparians' water allocation as defined by the bilateral 1959 Agreement, as mentioned earlier.

### Asymmetric power relations

The asymmetric control of the Nile's water resources is partially explained by the existence and persistence of asymmetric power relations among the Nile riparians, which afforded Egypt a position of hegemony in the basin. Here we discuss three dimensions of power as defined by Zeitoun and Warner (2006). First, *material power* relates to the levels of economic development, military might, political stability, and access to external political and financial support. Second, *bargaining power* is determined by the ability to control and influence the agenda and the 'red lines' of negotiations. Third, *ideational power* is determined by the ability to influence knowledge and construct discourse. In relative terms, historically, Egypt has been the most powerful riparian in each of these dimensions.

Egypt is the "clear hegemon on the Nile in terms of economic strength" (Whittington, 2004): its economy is stronger, more diverse and further integrated in the global economy than those of other riparians. Due to its geostrategic location, Egypt has maintained both an important international position and good relations with international donors. It has benefited from close political and economic relations with the US and European and Middle Eastern countries, and it has been a recipient of major international financial support (Hira and Parfitt, 2004). Furthermore, it is a major regional military power and has the capacity to project and sustain this might (Cordesman, 2004).

Egypt has also been the strongest riparian in the basin in terms of bargaining power, i.e. in its "control over the agenda of politics and of the ways in which potential issues are kept out of the political process" (Lukes, 2005). Through discursive and bargaining tools, Egypt has developed a capacity to influence the basin's overall hydropolitical agenda including bilateral and multilateral political relations. Egypt has been able to define the 'red lines' of negotiations, and to dictate exactly what is 'on' and 'off' the agenda. As such, Egypt has been able to impose the 1959 Agreement and the perspective of its "historic and acquired rights" as the starting point for any negotiations in the basin. Because of comparatively weak bargaining tools, the ability of other riparians to frame agendas and negotiations has been less.

Egypt has been also the strongest riparian in the basin in ideational terms and has demonstrated an ability to sanction particular, favoured discourses in the basin (Allan, 1999). For example, Egypt has been able to successfully highlight its absolute dependency on Nile water, its "historic rights" to Nile water and to define water availability as a matter of "national security". As a well-known Egyptian political analyst stated in the 1970s, "the first consideration of any Egyptian government is to guarantee that Nile waters are not threatened" (Heikal, 1978). Boutros Ghali, the former Egyptian Minister of Foreign Affairs, has often highlighted that the "national security of Egypt is a question of water" (BBC, 10 June 2003). Recently, President Hosni Mubarak reaffirmed that "Egypt's national security is closely linked to water security in the Horn of Africa region and the Great Lakes region" (SIS, 2007). Through this securitisation process, Egypt has promoted a set of mainstream ideas favourable to its position. Simultaneously it has discarded any alternative sets of ideas, such as upstream water resource development. This self-reproducing Egyptian narrative has been, historically, a determining factor in the regional hydropolitical relations.

A combination of stronger material, bargaining and ideational power has allowed Egypt to develop a hydro-hegemonic status in the basin vis-à-vis the other riparians, and to maintain the regime that best served its national interests

That the status quo has remained unchallenged until recently has been a product of Egyptian hydro-hegemony. It is also related to the fact that Sudan and the equatorial Nile states only achieved independence in the late 1950s or early 1960s, thus giving Egypt the opportunity to be the first to exploit the Nile resources. Moreover, it is related to the internal structural weaknesses of upstream riparians and their inability to challenge the status quo due to their collective and individual scarcity of power resources, as discussed in the next section. However, the most recent power dynamics in the basin's upstream region suggest a changing balance of regional power under which upstream riparians

are increasingly contesting and challenging the current hydropolitical regime. These changes and their impacts on regional hydropolitical relations are analysed in the next section.

### **Egypt: Beyond the status quo**

Though Egypt's goal is the protection of its 'acquired rights', as enshrined in the 1959 Agreement, its position in the basin and its national water policies have changed. In past decades, Egypt faced challenges due to increasing population growth and growing pressure over "old" lands in the Nile valley and delta. As a result, Egyptian authorities have adopted a policy of moving people out of the 'old valley' towards new reclaimed lands in the desert, wherein new agricultural projects are being developed (Ayeb, 2002). Three major horizontal expansion projects have been ongoing since the late 1990s: the West Delta Irrigation Project, the North Sinai Agriculture Development Project, and the South Valley/Toshka Development Project, all of which aim to reclaim thousands of hectares of land (MWRI, 2005). Through new land reclamation projects, the Government of Egypt aims to develop around 1.8 million feddans<sup>1</sup> (870,000 in the Sinai region, and 997,000 in the south-western desert) before 2017 (MWRI, 2005). The water requirements of these projects are immense. Reused water and groundwater resources might be able to provide part of the needs. The other part is sought from the Nile, as Egypt's plans include substantially increasing the utilisation of Nile water.

The policy is extremely controversial at both a domestic and basin level. Internally, the projects, in particular Toshka, are criticised for being economically and financially infeasible, and considered as the 'pharaonic' monument building of President Mubarak (Al-Ahram, 27 January 2000; 23 March 2006; and 6 April 2006). Within the basin, the projects are understood as an Egyptian attempt to put more facts-on-the-ground, to cement its "historic rights" to the Nile water and to prevent other riparians making use of this water.

The South Valley/Toshka Project is of particular relevance in regional terms. This is an Egyptian unilateral project, started in 1997, which aims to reclaim one and a half million acres of land and is estimated to require over 5 Bm<sup>3</sup> of water annually (Collins, 2006). During the last decade, Egypt has started transferring water from lake Nasser to the Toshka depression area through a spillway and a huge pumping station (figure 2). The project was heavily criticised by neighbouring riparians, in particular Ethiopia (Mideast Mirror, 18 May 1998; BBC, 3 February 2005). In brief, by developing the Toshka project and other new land reclamation projects, Egypt is sending strong messages to the Nile neighbouring riparians that: a) existing water allocations are non-negotiable, and as such projects upstream that potentially decrease the Nile flows are considered unacceptable; b) Egypt is determined to utilise more Nile water than it is already utilising, by developing unilateral projects; and c) if possible, Egypt wants to go beyond the status quo, and to attain legal rights to additional water allocations.

### **DYNAMICS OF CHANGE IN THE NILE BASIN**

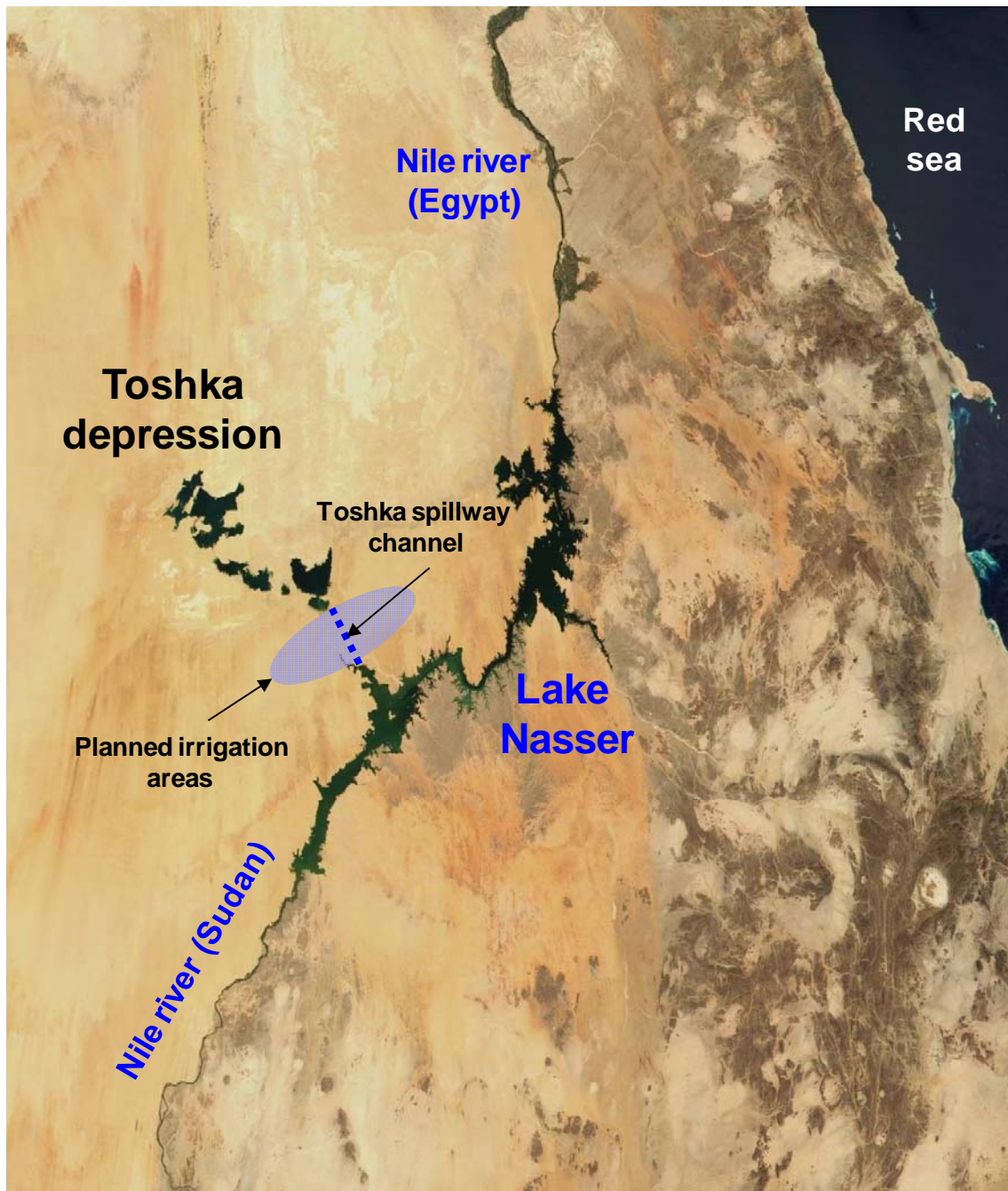
Over the last decade, the Nile basin region has experienced several political and economic changes that are expected to promote shifts in the current balance of power in the basin and bear on hydropolitical relations between Egypt and its upstream neighbours. Historically, upstream countries have been mainly characterised by colonial rule, economic underdevelopment, internal conflict and political instability, lack of external financial support, and an absence of concrete water policies or strong water institutions, combined with weak bargaining strategies. These structural weaknesses have undermined their position in the basin's hydropolitics and affected their utilisation of the Nile water. As result, until recently, the Nile's water upstream has remained mostly unutilised. But the last decade has witnessed significant changes. Currently, the Nile basin is characterised by a highly dynamic political environment which has the potential to impact upon regional hydropolitical relations. This section identifies and

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<sup>1</sup> 1 feddan= 0.42 hectares.

analyses, in power-relation terms, what the changes in the region during this period have been, how they have occurred and, furthermore, what the ramifications of these dynamics in overall hydropolitical terms are.

Figure 2. Location of the Toshka depression and new irrigated areas.



Adapted from NASA, 2006.

Two major changes can be identified. First, the upstream Nile region is currently more politically and economically stable than a decade ago, and riparians are increasingly willing to develop their water resources to meet national development needs. Second, upstream riparians currently have access to

alternative financial support – including their own resources, if the development of oil in Sudan is included. Most new financing comes mainly from China, a key external player in the basin. Such support was not available a decade ago. As a result of these two contextual changes, the upstream Nile countries have decided to move forward with unilateral hydraulic infrastructural development despite the ongoing multilateral cooperation processes. Such dynamics may significantly affect the relations between the Nile riparians and challenge Egypt's enduring hydro-hegemonic position in the basin. Several 'counter-hegemonic strategies' employed by the upstream riparians can already be observed in the current hydropolitical relations in the Nile basin (Cascão, 2008).

### **The Nile basin region: Increasing political and economic stability**

For decades several of the upstream riparians were conflict-stricken and politically unstable; and large proportions of their national budgets were devoted to military expenditure. National economies were poorly developed and the development of major hydraulic projects was not a main political priority. The substantial potential for irrigation and hydropower in Sudan, Ethiopia and the other riparians was scarcely exploited; upstream water resources remained mostly untapped and unutilised. Since the mid-1990s, and despite the fact that some conflicts in the region remain unsolved, the upstream Nile countries have paved the way for peace negotiations, agreements and have achieved a greater degree of political stability (Kaiser and Okumu, 2004). Increased political stability has been followed by an improvement in national economic indicators, such as GDP growth, direct foreign investment and development assistance (table 1), although the figures in the table do still present a high degree of asymmetry when compared to Egypt. Nevertheless, upstream riparians, historically constrained by several structural weaknesses, now appear as stronger parties in the competition for the Nile water.

These factors have influenced the upstream Nile riparians to proceed with new development plans, new regional integration institutions, as well as unilateral projects to develop the Nile within their territories. More than ever before, upstream riparians, including Sudan, now stress an urgent need for the development of Nile water resources (mainly potential for hydropower and irrigation) and they increasingly demonstrate the new-found political and financial capacities that may allow for the implementation of these projects on the ground. Some of the recent political developments in the equatorial and eastern Nile basin, and their impacts on transboundary water management processes are analysed next.

### **The equatorial Nile basin: Towards integration**

In the equatorial Nile basin, the riparian states are progressing towards a more cooperative setting, in which efforts towards regional economic integration have been undertaken and issues pertaining to the development of water resources addressed. In 1999, Kenya, Uganda and Tanzania established the East African Community (EAC), a regional intergovernmental organisation which, in 2001, concluded a partnership agreement with various development goals. Burundi and Rwanda joined the organisation in 2006. The EAC "aims at widening and deepening co-operation among the partner states in, among others, political, economic and social fields for their mutual benefit" (EAC, 2008a). To more systematically develop the regional water resources is considered to be an important element of future regional economic development. The EAC's main water-related programme is the Lake Victoria Development Programme. In 2001, the EAC established the Lake Victoria Basin Commission, as a "mechanism for coordinating the various interventions on the lake and its basin and serving as a centre for promotion of investments and information sharing among the various stakeholders" (EAC, 2008b). These institutional goals include the development of hydraulic infrastructure – such as irrigated agriculture and hydropower energy – in the Lake Victoria basin. Similar water developments are planned for another Nile sub-basin, the Kagera river, which is shared by Rwanda, Burundi, Tanzania and Uganda (Phillips et al., 2006).

Table 1. Evolution of economic and population indicators in the Nile basin (1997-2007).

		GDP (current \$US) 1997	GDP (current \$US) 2007	GDP growth (annual %) 2007	Direct foreign investment, net inflows (current US\$) 1997	Direct foreign investment, net inflows (current US\$) 2007*	Official dev. assistance and official aid (current US\$) (millions) 2000	Official dev. assistance and official aid (current US\$) (millions) 2007*	Population total (millions) 1997	Population total (millions) 2007	Population growth (annual %) 2007
Eastern Nile Basin	Egypt	77.44	128.10	7.1	891	10,043	1,985	873	62.94	75.47	1.7
	Sudan	11.68	47.63	10.2	98	3,534	138	2,058	31.04	38.56	2.2
	Ethiopia	8.89	19.39	11.1	288	364	578	1,947	60.13	79.09	2.5
	Eritrea	0.68	1.20	0.8	41	4	123	129	3.34	4.84	3.1
	Uganda	6.27	11.21	6.5	175	392	813	1,551	22.58	30.93	3.4
Equatorial Nile basin	Kenya	13.03	29.51	6.9	197	51	448	943	28.91	37.53	2.6
	Tanzania	7.68	16.18	7.1	158	474	944	1,825	31.49	40.43	2.4
	Rwanda	1.85	3.32	6.0	3	11	228	585	6.36	9.74	2.8
	Burundi	0.97	0.97	3.6	0	0	56	415	6.38	8.50	3.9
	DR Congo	6.09	8.96	6.5	79	180	158	2,056	47.53	62.40	2.9

Source: World Bank, 2008a



The White Nile upstream riparians are currently more determined, organised and integrated than they were during previous decades. The EAC is considered a key element in the mitigation of internal divisions in East Africa, apparently enabling the organisation's members to forge unity in water policies. Ever since its formation, the equatorial countries have more vigorously asserted their rights to the utilisation of the Nile water resources (Kagwanja, 2007). Furthermore, although the White Nile system (to where the Lake Victoria and Kagera river basins belong) only contributes 14% to the total Nile flows, the potential for development of these projects in itself represents a challenge to the regional hydro-political configuration and the current Egyptian position in the Nile basin. The development of hydraulic projects in the equatorial region is not expected to significantly affect the total water inflow to Egypt, but it sends a strong message downstream: the equatorial upstream riparians are now ready to embark on their own 'hydraulic missions'.

Another important challenge related to the equatorial projects pertains to the basin's thorny legal issues. Several of the White Nile riparians recently revived their long-standing opposition to the colonial-era water treaties – including the 1929 and 1959 Agreements – which remain in force in the Nile basin. These countries have stated their refusal to be bound by colonial-era agreements (Knobelsdorf, 2006). This attitude has "strategic implications (...) as they form a fundamental element in the logic that underpins the contestation of the volumetric allocations in the Nile" (Phillips et al., 2006). Simultaneously, the water authorities from the equatorial Nile riparians have been some of the most vocal countries favouring the ratification of the new Nile Cooperative Framework Agreement (The New Vision, 9 November 2008). For the past two years, since the conclusion of the legal negotiations, media in the equatorial countries have also been the most critical of the positions of Egypt and Sudan, accusing the downstream riparians of blocking not only the conclusion of the multilateral agreement but also of deliberately preventing future water developments upstream (e.g. The Standard [Kenya], 29 June 2007; East African Business Week [Uganda], 20 August 2007; The New Times [Rwanda], 29 February 2008).

In brief, political and economic changes in the equatorial region have, to a certain extent, contributed to changes in the balance of power in the basin. The equatorial countries are currently stronger in terms of 'material power' through their increasingly stable and integrated economies, more foreign investment and better relations with international donors. These factors, taken together, facilitate the development of the planned water projects. These countries are also stronger in collective in terms of 'bargaining power': they are influentially involved in multilateral negotiations and they have some ability to influence the regional agenda and even to pressurise the downstream riparians over the legal issues.

Although the political and economic changes in the equatorial Nile basin represent significant challenges to the basin's current hydro-political regime and power relations, they are of only limited magnitude when compared with the ongoing major changes that are occurring in the eastern Nile basin. By its hydrological and political nature it is the most important sub-basin in geopolitical terms. The next sub-section analyses the changes occurring in Sudan and Ethiopia and their impacts on regional political relations.

### **The eastern Nile basin: Towards unilateral developments**

The eastern Nile basin is of critical geopolitical importance to the Nile's overall hydro-political configuration. Several factors explain this. The eastern Nile rivers (Blue Nile, Sobat, Atbara) contribute around 85% to the total Nile flows arriving at lake Nasser.

The potential for irrigation and hydropower development is higher here than in any other place across the basin. Ethiopia has the basin's most suitable locations for hydropower production due to its geographical characteristics (USBR, 1964; Block et al., 2007). Sudan has the basin's largest potential for agricultural development, including extensive irrigated agriculture (Knott and Hewitt, 1994). Because these potential projects could also have considerable knock-on effects on the Nile flows they are

enormously controversial. Both Ethiopia and Sudan have retained an enduring interest in the development of this potential but several internal (mentioned above) and external factors have blocked this in the past. The main external factors had been a lack of external financial support and persistent Egyptian opposition to projects upstream. For example, Egypt was often successful in preventing the securing of international funding for projects in Ethiopia (Shapland, 1997).

However, the current situation displays some changes: Sudan and Ethiopia, now with increased economic and political strength, are starting to implement unilateral projects, underscoring the challenges to the basin's hydropolitical regime that are now emerging.

### **Ethiopia: Exploiting its bargaining power**

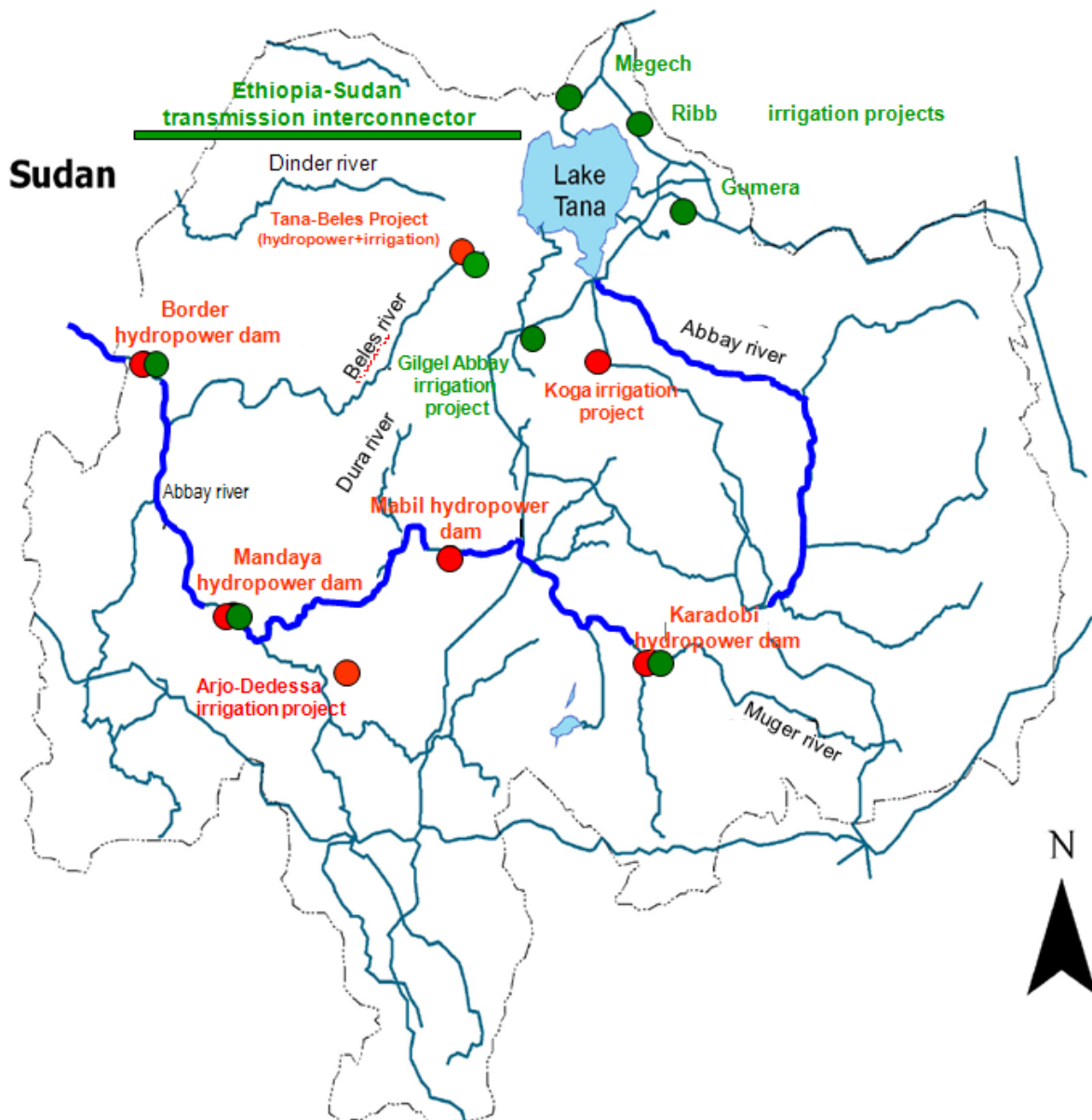
For a long period, Ethiopia was considered the 'silent partner' in Nile hydropolitics (Waterbury, 2002). Despite being the source of 85% of the total Nile water resources, Ethiopia has only developed a meagre amount of the Nile water resources available in its territory, and very few water control infrastructures have been constructed (Arsano and Tamrat, 2005). Several factors explain Ethiopia's absence from the race for utilisation of the Nile water. There have been protracted internal conflicts, a lack of financial resources, weak institutions, a lack of priority and strategy for the water sector, and dependence on rain-fed agriculture which has reduced the need for irrigation (Abate, 1994; Shapland, 1997). But Ethiopian authorities have always highlighted their will to develop those resources for both hydropower and irrigation purposes, regardless of the opposition from downstream riparians. Until the mid-1990s, few developments had taken place in the Nile basin in Ethiopia but in the last decade the country's political landscape has been reshaped which may have hydropolitical consequences for the region. As this section will analyse, Ethiopia has begun contesting and challenging Egyptian hegemony in the Nile basin (Cascão, 2008).

Political and economic changes in Ethiopia in the 1990s, namely the coming to power of Meles Zenawi in 1991, a move towards a market-oriented economic model, better relations with donors and a stabilisation of the economy, brought the Nile issue into the Ethiopian political arena. By this time national water master plans for all the Ethiopian river basins were conducted by international consultants. Many of these updated and extended previous studies were conducted in the 1960s by the United States Bureau of Reclamation (USBR, 1964). The new master plans included the identification (or confirmation) of several potential sites for hydropower dams and irrigation schemes. Furthermore, projects were initiated unilaterally in the mid-1990s. The construction/expansion of several hydraulic projects began outside the Nile including in the Awash and Omo rivers. In the Nile basin, the Government of Ethiopia gave priority to two kinds of projects: development of microdams in the highlands, in the Blue Nile and Atbara basins (Waterbury and Whittington, 1998); and construction of a large-scale hydropower dam, the Tekeze dam, on the Tekeze-Atbara river (Abraham, 2005). This was enabled not only through the financial engagement of the Government of Ethiopia but also through favourable construction contracts offered by China, a new external partner.

The Government of Ethiopia has further plans, in particular for the Blue Nile basin (see figure 3). On the one hand, Ethiopia expects Chinese investment and support for the implementation of hydropower dams and irrigation schemes in the Nile basin, including the long-lasting controversial project of the Tana-Beles Irrigation Scheme on the Blue Nile basin (Ethiopia, 2007) and, on the other, Ethiopia also expects to get financial support from the World Bank and other external donors for some of the other projects under NBI auspices. Figure 2 illustrates the ongoing and planned hydraulic infrastructures for the Blue Nile basin in Ethiopian territory, distinguishing between: a) *national projects* (in red), i.e. projects included in the national master plans that Ethiopia has decided to implement even if unilaterally (MoWR, n.d.); and b) *multilateral projects* (in green), i.e. projects that are already being supported, or expected to be supported by the NBI and the World Bank, through the ENSAP Integrated Development projects (ENSAP, n.d.).

It was in the mid-1990s that Ethiopia joined, for the first time, a multilateral cooperative institution in the Nile basin. It maintains its involvement in the NBI and the cooperation process, in the belief that negotiations will bring about a new legal agreement and the financial investment of external donors will facilitate the development of joint multipurpose infrastructure in the Ethiopian highlands (Arsano and Tamrat, 2005). Ethiopia’s expectations towards cooperation are backed by the World Bank’s keenness and commitment to support the development of hydraulic projects in Ethiopia (World Bank, 2006). As figure 3 shows there are already some projects being supported by the NBI/World Bank, namely the Lake Tana irrigation projects. Support by these institutions to the large-scale hydropower dams in the main Blue Nile and to the Tana-Beles project are still under discussion.

Figure 3. Planned hydraulic infrastructure in the Blue Nile basin – Ethiopia (national and multilateral projects).



Map adapted from Geletu, 2008. Source of information: Ethiopian Ministry of Water Resources (MoWR) website.

But Ethiopia's involvement in the ongoing regional hydropolitical cooperation does not mean that its government has renounced unilateral development of hydraulic infrastructure. Signals have been given that in the absence of cooperation, Ethiopia will actually move forward with further unilateral projects. In 2005, the Ethiopian Prime Minister was explicit in his declaration that: "the current regime cannot be sustained. It's being sustained because of the diplomatic clout of Egypt. Now, there will come a time when the people of East Africa and Ethiopia will become too desperate to care about these diplomatic niceties. Then, they are going to act" (BBC, 3 February 2005). Ethiopia's national budget might be limited to finance massive hydraulic projects but the country now seems to be in a better position than in the past to bring alternative funding for these projects including from its current main external partner, China.

An analysis of the potential impact of unilateral Ethiopian strategies on both Nile water flows and the country's relations with the downstream countries reveals that while the hydrological impact of Ethiopia's projects might be modest, the political impact could be huge. Several scientific studies have shown that Ethiopian hydraulic projects may not significantly affect Nile flows, or may even bestow benefits on Egypt and Sudan (Guariso and Whittington, 1987; Whittington and McClelland, 1992; Block et al., 2007). The most important corollary of unilateral infrastructural development in Ethiopia is the strong political messages it sends downstream. First, these projects may represent the end of the enduring monopoly on Nile water by the downstream riparians and the current regime in the basin. Second, increasingly unilateralist trends demonstrate that Ethiopia may not wait for multilateral negotiations and agreements before it begins to develop its own hydraulic infrastructure.

It is in precisely this legal domain that Ethiopia's contestation of the status quo has been strongest over the last decade. Ethiopia has repeatedly claimed rights to the Nile water resources, and aims for a multilateral agreement to be negotiated by all riparians. Indeed, Ethiopia demands that the 1959 Agreement be superseded and that any new agreement should provide a clear definition of the volumetric water allocations of all Nile riparians. Over the last decade, Ethiopia has been determined to tackle such problematic legal issues and has been proactive in promoting multilateral legal negotiations. Accordingly, Ethiopia has employed, and increased, its bargaining power to influence hydropolitical relations. In 1997, Ethiopia was successful in its strategy to impose negotiations for a multilateral legal and institutional framework, which was a sine qua non for Ethiopia's participation in the NBI (Amare, 1997; Arsano and Tamrat, 2005). The negotiations for the Nile Cooperative Framework Agreement began in 1997 and were concluded in June 2007; the final document is now in the hands of political leaders for final decision making (NBI, 2007). In 2007, at the end of negotiations and as the result of a high-level political-diplomatic tour, Ethiopia's successful influence over the negotiations and the final document became clear. First, Ethiopia had convinced the six equatorial Nile riparians to vote unanimously in favour of a draft document that endorses the principle of "equitable utilisation" and downplays the past Nile water agreements (The New Vision, 30 July 2007; East Africa Business Week, 20 August 2007). Second, in doing so, the upstream riparian states isolated both Egypt and Sudan in their defence of "historic rights" and earlier water agreements (The New Times, 29 February 2008). This was the first time in the Nile basin hydropolitical history that all upstream riparians assumed a unified position against downstream riparians.

In sum, analysis of the evolution of the Ethiopian position in basin hydropolitics suggests that power relations are indeed changing and not only in material terms. Important shifts are occurring in terms of bargaining power too. Ethiopia, the 'silent partner', is no longer silent and is resolved to increasingly exert influence over regional hydropolitical relations and to contribute to a shift in the basin's regime. More than ever, Ethiopia is using the bargaining power derived through its position as the upstream riparian and provider of more than 80% of flows to exert pressure on Egypt and Sudan. The choices implicitly offered by Ethiopia to the downstream neighbours appear to be: (a) the achievement of a multilateral agreement which would grant Ethiopia specific volumetric allocations; or (b) the development of unilateral infrastructures with or without downstream consent.

### **Sudan: Increasing geopolitical position**

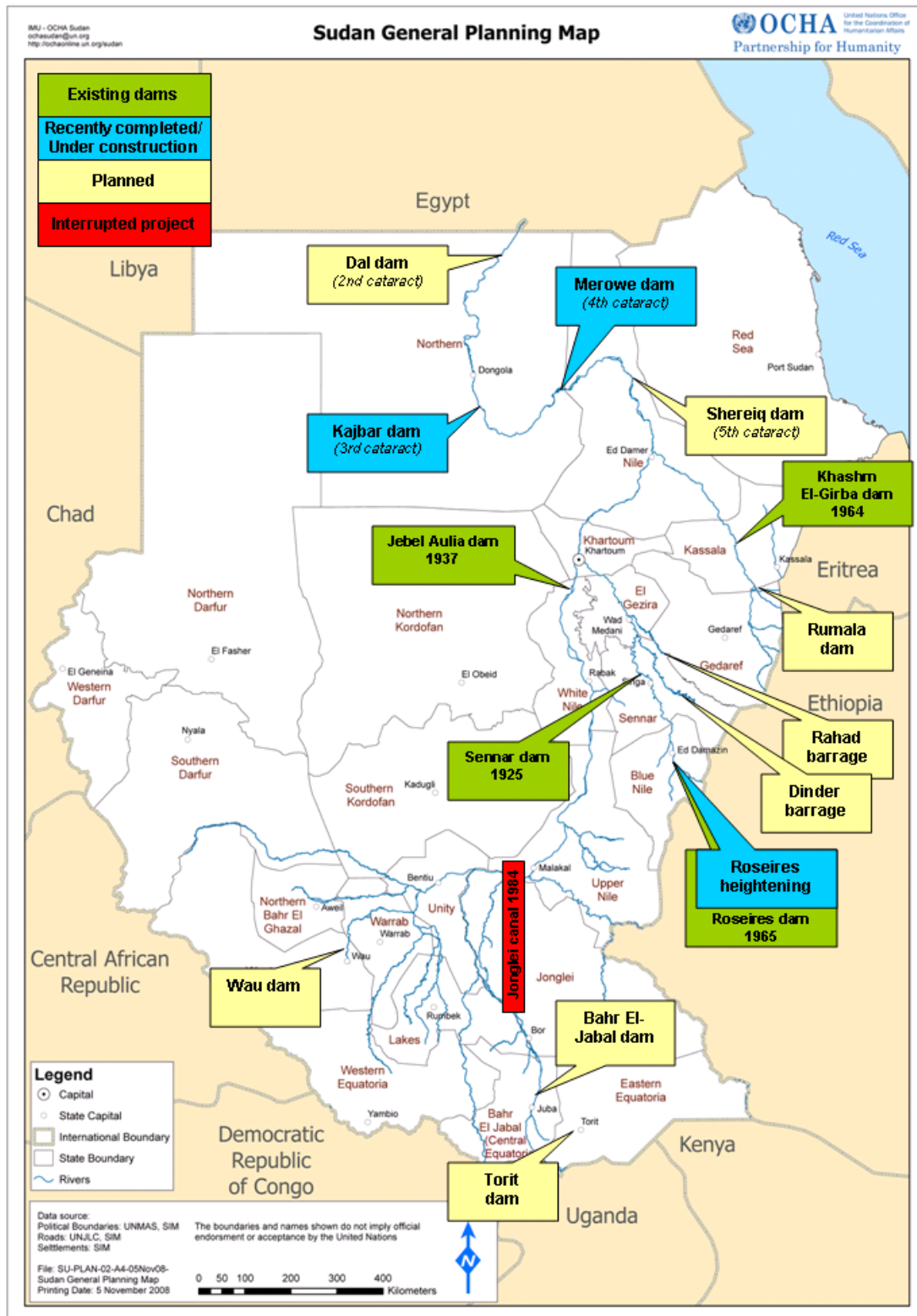
Although Ethiopia and its hydraulic projects were always considered the biggest challenge to the current Nile hydropolitical regime and status quo, the events that represent the greatest immediate challenges are those current in Sudan. Sudan has been historically aligned with Egypt's Nile policies through the force of the 1959 Agreement, its volumetric water allocations, and mandatorily unified position vis-à-vis the upstream countries. Yet policy shifts have occurred in the last decade and the development of the country's water resources have recently become a political priority of Bashir's regime. Sudan, the country with the greatest water development potential in the basin, currently seems determined to complete a comprehensive utilisation of the Nile water resources. New hydropower dams and irrigation schemes are being built, older ones extended, and other projects planned for the coming years (figure 4). As discussed next, Sudan, once Egypt's hydropolitical ally in the basin, may yet easily become the biggest challenger to the current hydropolitical regime and pose a threat to Egypt's hydro-hegemonic position.

Until the mid-1990s, Sudan had only a limited capacity to develop coherent water policies. A protracted civil war between North and South Sudan, political instability, economic and political isolation, incoherent water and agricultural policies, and a lack of external investment represented some of the constraints (Hamad and El-Battahani, 2005). But over the last decade the situation has changed dramatically and Sudan's increasing geopolitical importance is already impacting on Nile hydropolitics. The signing of the Comprehensive Peace Agreement with Southern Sudan in 2005 created conditions favourable to the facilitation of important economic and political changes. The Peace Agreement partially contributed to Sudan's extensive exploitation of its oil resources – mainly by Chinese companies – and it is expected that 'petro-politics' will have major developmental implications for the Nile hydropolitics (Large, 2007). Increased foreign investment in several Sudanese sectors (see table 1), substantial oil revenues, and favourable contracts for infrastructural construction have combined to raise Sudan's economic profile (and GDP) and consequently contributed to its re-emergence as a competitor for Nile water resources (El-Zain, 2007; Saleh, 2008). Three major changes in the Sudanese water sector can be identified: the unilateral construction and planning of new hydraulic infrastructures; the establishment of a powerful new water institution; and the recent expansion of irrigation schemes. All three raise serious concerns in Egypt.

The Sudanese political authorities are determined to construct numerous hydraulic infrastructural projects in the country. According to its politicians the goal is to satisfy the country's increasing energy demands that result from rapid national economic growth (Sudan Tribune, 20 March 2005) and because the hydropower generated by existing, older dams (around 300 MW) is very limited and insufficient to meet current demands (Hamad and El-Battahani, 2005). Sudan had received funding pledges not only from its new external partner, China, but also from Arab regional institutions and the Gulf states (DIU, 2008a). These investors have, so far, supported two major projects. The first, initiated in 2002 and inaugurated in March 2009, was the large-scale Merowe dam. Located at the fourth Nile cataract, the dam is mostly a hydropower project. In future, the Merowe Dam Project may also include irrigation projects, as planned initially, which would lose more water from the Nile system (EAWAG, 2006). The second project is the heightening of the old Roseires dam, started at the end of 2008. The project will increase both the dam's hydropower production and its storage capacity, availing more water for irrigation (Sudan Tribune, 28 April 2008). The implementation of these projects does not take the Sudanese water utilisation above 18.5 Bm<sup>3</sup>/yr but they have generated high levels of concern in Egypt, in particular when the Sudanese projects involve irrigation schemes, as Egypt has been used to receiving Sudan's unutilised share. Additional Egyptian apprehension is derived from Sudan's plans for more projects, especially given its actual economic and financial capacity for implementation. Egyptian concerns are related to the impacts of Sudanese projects on water availability in lake Nasser, the functioning of the High dam and the Toshka project. Ultimately, an increased utilisation of water by

Sudan could result in less water available for pumping to the Toshka lakes, and the potential financial failure of the project.

Figure 4. Existing and planned hydraulic infrastructure in Sudan.



The development of new infrastructures in Sudan is also intimately linked to new institutional developments in the country, namely a strong new water institution – the Dams Implementation Unit (DIU). The DIU is a parastatal institution, a separate entity from the Ministry of Irrigation and Water Resources, and supervised directly by President Bashir himself and a selective "High Political Committee" (DIU, 2008b). It was established in 2001 to manage the construction of the Merowe dam, but its mandate was later extended to deal with *all* future hydraulic projects that would be constructed in Sudan (DIU, 2008b), reducing a substantial part of the MIWR's activities. The Unit appears to have privileged relations with China, the Gulf donors, international consultants and construction companies. Its portfolio includes several ongoing and future hydraulic projects: heightening of the Roseires dam; the Kajbar and Dal dams (in the fifth and sixth Nile cataracts, respectively); and several projects in Southern Sudan. To Egypt this institution may represent an additional political-institutional challenge; it is not clear if Egyptian authorities have the same power of leverage over the DIU as was exercised over the Sudanese Ministry of Irrigation and Water Resources.

Other recent developments in Sudan suggest not only promotion of hydropower infrastructure but also the extension of irrigated agriculture and rapid increases in water abstractions from the Nile. If the former is considered benign by Egypt, the same cannot be said about irrigation. In Sudan, several thousand hectares of land on the White Nile and Blue Nile banks are currently under irrigation whether through governmental or private-owned schemes (Kundell, 2008). Whilst the scale of the recent irrigation extension in Sudan is not yet completely clear, there are indications that the irrigation schemes are utilising increasing volumes of water, a dynamic that will continue into the future. A recent study (Mohieldeen, 2007) provides data challenging official figures. Table 2 (below) shows the current Sudanese water consumption (official and unofficial figures); and estimations of future water requirements (25.9 Bm<sup>3</sup>/year), a figure that considers both the White Nile irrigation schemes and the Merowe irrigation project. The study did not include data for the Blue Nile and Atbara basins, although the government has also made public its intention to increase pump schemes in these two basins for the extension of Rahad, Kenana, Suki, and Setit irrigation projects (MIWR, 2006). The implementation of these projects would, presumably, increase the previous estimates even further.

Table 2. Sudan's current and future water requirements.

River basin	Total consumption (MIWR, 1999)	Estimation (Mohieldeen, 2007)	Comment
Blue Nile	10	10	Sudan currently utilising more water than officially declared
White Nile	2.5	4.6	
Current utilisation	12.5	14.6	
White Nile (additional requirement)	no official estimate	2.1	Irrigation projects under construction
Merowe dam (additional requirement)	No official estimate	9.2	Irrigation, seepage and evaporation losses
Future utilisation	No official estimate	25.9	

Adapted from Mohieldeen, 2007.

Nevertheless, Mohieldeen (2007) highlights that Sudan's future water requirements will clearly exceed its water quota as defined in the 1959 Agreement. This represents a major challenge to the basin's current hydro-political regime and status quo, as it may drive Sudan to call for the renegotiation of the current water allocations in the near future. Sudan, until now Egypt's closest ally, is increasingly becoming its main challenger.

The highly dynamic political environment in Sudan has demonstrated that the country is currently decreasing its comparative weakness vis-à-vis its northern neighbour, Egypt. Sudan is benefiting from the massive revenues derived from its oil production, and foreign investment in the country, which has been recently growing, is expected to grow more over the coming decades. Funding for infrastructure is available from China and the Gulf region; these countries have been interested not only in supporting the hydropower projects that have been pushed by the Government of Sudan but also in buying land and developing the agricultural production of several hundred thousand hectares of Sudanese land to meet its own food needs (Sudan Tribune, 5 May 2008; Sudan Tribune, 23 May 2008; Sudan Online, 25 May 2008; Sudan Tribune, 7 June 2008). Sudan's regional geopolitical power is increasing, and may also soon become a crucial centre of Nile basin hydropolitics.

### **China: Alternative financial support in the Nile river basin**

Another major change to Nile basin hydropolitics has emerged with the recent arrival of a new external partner in the region, China, and its extensive involvement, since 2000, in water development projects in the basin. This fact represents an emblematic shift in terms of access to funding and construction contracts for hydraulic infrastructure in the basin.

In the past, a main factor in the Nile basin's asymmetric power relations and a major constraint to the development of upstream infrastructure has been the lack of external financial support for hydraulic projects. Not only international and regional financial institutions, such as the World Bank, but also the bilateral donors, have been reluctant to support projects and provide loans for projects in both Ethiopia and the equatorial countries. This reluctance may be partially explained both by a lack of political stability needed to secure investment in these countries and by international donors' unwillingness to support controversial projects with the potential to effect the water availability to other countries. Funds from the World Bank, for example, have been unavailable for projects in upstream riparians, because the Bank's Operational Directives require the consent of all downstream neighbours for a project to be financed (World Bank, 1994). Regional banks, such as the African Development Bank, adopted similar directives. As a result, these directives have afforded Egypt a "veto power" often used to prevent the project development in the upstream Nile catchments (Waterbury, 2002).

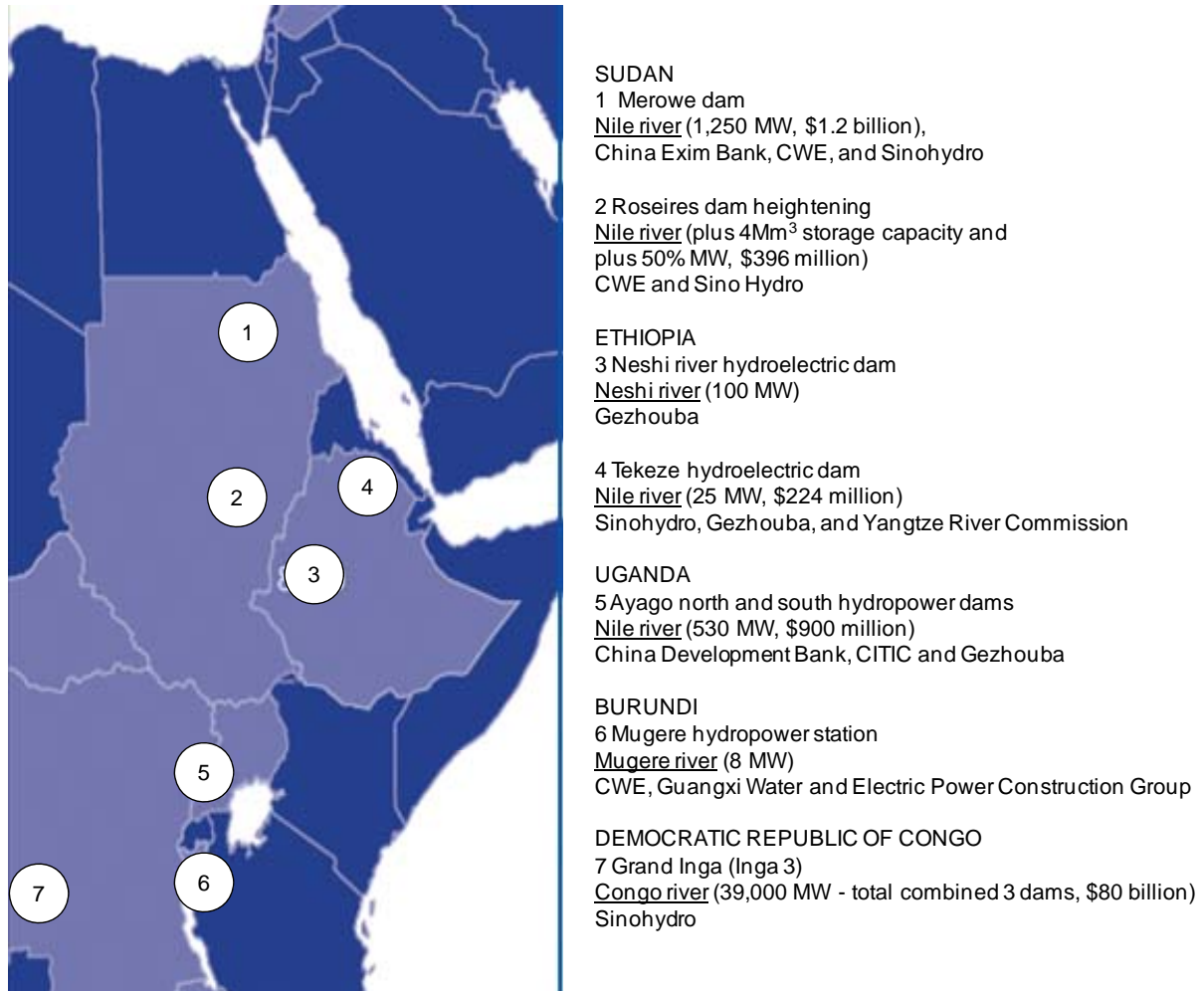
The emergence of China in the 'global dams industry' over the last decade represents a seismic shift for international funding of hydraulic infrastructure, especially with regard to the African continent (International Rivers, 2008). The Nile basin region is a clear case of such representation. Chinese policy towards Africa involves massive infrastructural construction (including hydraulic infrastructure) and Sudan and Ethiopia have been among the major recipients of such aid (World Bank, 2008b). China, a new external trading partner to several of the Nile riparians and a country unencumbered with international water and environmental regulations in its financing approach, has brought not only new opportunities for dam construction in the Nile region but also new challenges for hydropolitical relations.

Figure 5 shows the extent of the Chinese presence in the dam construction sector in the Nile basin region. Chinese companies are currently involved in seven hydraulic projects in the Nile basin riparians: two projects in Sudan, two in Ethiopia, and three others in Uganda, Burundi and Democratic Republic of Congo (International Rivers, 2008). Additional projects are also being considered and negotiated. The information available about the current projects indicates that construction companies involved in these projects are frequently the same, leaping from project to project. Chinese construction materials, workers and engineers are stationed in the region, and the companies have national offices, which make it easier to start a new project when an earlier one is completed. This is exactly what took place in Sudan: once the Merowe dam project was completed in 2008, the same companies signed a contract with the Government of Sudan for the Roseires dam heightening project (CWE, 2008; Sudan Tribune, 28



April 2008). With a growing portfolio of work, their influence will spread throughout the region – much as an earlier generation of mainly European consulting engineers did in the 1970s and 1980s.

Figure 5. Chinese support to hydraulic projects in the Nile basin region.



Source: adapted from International Rivers, 2008.

Although some of the seven ongoing projects in the region (identified in figure 1) are located in river basins other than the Nile, China's recent presence in the region has demonstrated the potential for challenging the Nile basin's established hydropolitical regime. China's favourable financial contracts with national governments have provided unprecedented opportunities for governments of the equatorial and eastern Nile basins to move forward with unilateral projects. A decade ago this would have been almost impossible: no donor would have supported such projects and, furthermore, prior consultation with neighbouring riparians would have been deemed essential. Now the capacity to build dams is potentially available to all Nile riparians; moreover Chinese companies do not require notification or consultation with downstream riparians. So, in one key aspect, Egypt has lost its veto power to block upstream projects.

China's involvement in the Nile basin's dam construction programmes indicates several important features that should be considered when analysis of the linkages between global factors and regional hydropolitics is undertaken. First, the traditional multilateral institutions and bilateral donors are no

longer the only partners in the race for hydraulic development in the Nile basin which, to a great extent, remains 'undammed' and replete with potential for infrastructural development. Second, China provides more affordable contracts and speedier execution of projects than more traditional donors and companies. As such, it has been able to be the first in the race to secure contracts. Third, because China does not impose environmental, human rights or good governance conditionalities, national governments may prefer to work with China rather than with Western governments or multilateral institutions. Cognisant of growing Chinese competition in the African infrastructural construction sector, in 2007, the World Bank signed a Memorandum of Understanding with China Exim (Export-Import Bank of China) to promote collaboration on future projects (BIC, 2007). The contours of this collaboration are still unclear, but it indicates the eagerness of both China and the World Bank to expand infrastructure in Africa.

Insofar as the Nile basin is concerned, the emergence of China as an important infrastructural financier represents a strong incentive for hydraulic infrastructural development. Upstream riparians are already benefiting from it and more projects may follow. The temptation for unilateral project development is increasingly high, in particular when considering how the NBI and the ongoing multilateral cooperation have so far failed to deliver results as facts on the ground. While attempting to establish future scenarios, one might conclude that in case the Nile riparians and external partners do not succeed in the short term by agreeing on multilateral projects, individual riparians may instead opt for developing infrastructure unilaterally and directly via Chinese support. If so, this could have major impacts on the hydro-political relations between upstream riparians and Egypt, and would probably endanger the ongoing hydro-political cooperation process.

### **CHANGING POWER RELATIONS IN THE NILE BASIN: UNILATERALISM VS. COOPERATION?**

This final section aims to develop an understanding of the correlation between asymmetric power relations in the basin and the ongoing changes to the regional balance of power (as analysed above) and the ongoing regional cooperation process. Hydro-political cooperation in the Nile basin was initiated in the mid-1990s. The ten Nile riparians, with the support of several international donors, became engaged in regional dialogue at the highest political levels, and the partners began to work on the design for a multilateral cooperation institution. Cooperation has entailed two tracks: the institutionalisation of the NBI and the legal negotiations for a Nile Cooperative Framework Agreement (CFA), as mentioned earlier. The NBI has been considered an important departure from earlier political conflict over water and unilateralism towards multilateral cooperation and one of the most notable examples of transboundary water cooperation initiatives so far (Nicol et al., 2001). Moreover, the Nile basin exhibits unprecedented levels of financial assistance from international donors for cooperation in transboundary river basins (GTZ, 2007), which was a crucial element in the basin's earlier cooperation process.

As was analysed in the first part of this article, the political landscape of the mid-1990s, when cooperation was initiated, was characterised by strong material, bargaining and ideational asymmetries. The NBI's implicit aim was to reduce these asymmetries, while contributing to the "sustainable socio-economic development [of all riparians] through the equitable utilization of, and benefit from, the common Nile basin water resources" (NBI, 2002). This would be achieved, principally, through the development of multilateral hydraulic projects, and, in addition, through improved institutional and knowledge capacities, increasing economic development, integration and trade, sharing of cooperation benefits among the Nile riparians and, ultimately, the formulation of a multilateral legal agreement around the principles of the equitable utilisation of water resources. Eventually, the NBI would "level the playing field" in the basin while contributing to the building capacity of the weaker riparians (Jägerskog and Phillips, 2006). But did the cooperation process – through the establishment of the NBI – contribute to an increasingly balanced set of power relations in the basin, and were the existing power asymmetries reduced or neutralised?

A decade later, the NBI has partially failed to successfully implement most of its projects and has still to deliver the forecasted benefits. In legal terms, so far, it has also failed to accomplish a new cooperative legal and institutional framework agreement for the basin. After decades of negotiations (1997-2007), and two years since the negotiations were concluded, no political decision has been taken and the CFA agreement has neither been signed nor ratified. Instead a political-legal deadlock dominates regional cooperation, contributing to delays in establishing a river basins commission and future investment projects (Cascão, 2009). Consequently, the NBI and the cooperation process have not yet significantly contributed to a reduction or neutralisation of the basin's existing asymmetries, or to substantially levelling the upstream riparians' playing field. Conversely, while focusing exclusively on the potential benefits of cooperation, the NBI has perhaps contributed to a downplaying of the key importance of power relations in the asymmetric utilisation of the water resources, wherein it 'backgrounded' the problematic basins' water-sharing agreements. Simultaneously, "outside" the cooperation process, power relations in the Nile basin have significantly changed during the last decade and a major corollary has been the increasing unilateral development of the Nile water resources, rather than increasing multilateral cooperation, with substantial (alternative) external support.

As analysed above, Sudan, Ethiopia and the equatorial riparians are politically and economically stronger than they were a decade ago. They have also developed stronger bargaining tactics and are more vocal in their claims for renegotiation of the basin's volumetric water allocations. These riparians seem determined to develop their water resources and have a new external partner, China, which is keen to assist them in those ventures. Unilateral trends upstream are becoming more visible, such as the construction of the Merowe dam (Sudan), the Tekeze dam (Ethiopia) and the Bujagali dam (Uganda). Moreover, it is not only the upstream riparians who are going ahead with unilateral projects but Egypt too, as mentioned previously in this article.

What, then, is the correlation between these unilateral developments and the cooperation process?

First, the unilateral trends show that despite ongoing hydropolitical cooperation, the Nile riparian states have not abandoned what can be called a "hydro-sovereignty" strategy (Wouters, 2000); neither have unilateral projects that can bring economic and political benefits at the national level, regardless of the impacts they may have in other riparians. Indeed, these unilateral developments appear to be elements of a bigger hydropolitical strategy wherein all riparians aim to increase their water utilisation, to put facts on the ground, and subsequently claim legal rights to these resources during potential renegotiations of volumetric water allocations. Such trends clearly show that the NBI has failed to materialise a "shared vision" in the basin or promote an effective basin-wide framework for the management of transboundary water resources. And, in the end, national factors are still the main "determinants for collective action" (Waterbury, 2002).

Second, the unilateral projects may collide with the ideal of basin-wide water-resources management, with the principles of cooperation, and may even undermine efforts at the promotion of multilateral projects currently being identified by the NBI. Nevertheless, the NBI authorities, in addition to the external donors, have remained silent about the unilateral projects, and no official statements have been made to publicly criticise any unilateral moves. In the absence of a multilateral agreement ratified by all riparians and a clear legal status the NBI appears to have little space to manoeuvre its efforts to prevent the Nile riparians proceeding with unilateral projects and has only limited capacity to influence national water policies. Moreover, the slow pace of cooperation, the failure to advance with projects on the ground and deliver benefits, may indeed encourage individual riparian states to favour unilateralism.

So far, the Nile riparians have tried to combine unilateral and multilateral strategies, most likely attempting to derive the benefits of both kinds of projects. Countries like Ethiopia, for example, are very keen to have the NBI projects – which are financially supported by the World Bank and widely accepted by the downstream riparians – implemented in their territories. But they remain aware that other projects, including large-scale irrigation, may never be included in the NBI project portfolio and, in order to come to existence, the projects would have to be implemented unilaterally. But can unilateral

and multilateral projects co-exist in the basin? On the one hand, during the past decade, the NBI has tried to change the policy environment towards a basin-wide approach and harmonisation of projects, but it has partially failed to implement it and, on the other, the riparian states have moved forward with national projects, often without consideration for a holistic and basin-wide approach. As the goal of the NBI was not to replace absolutely the riparians' national policies and initiatives, the coexistence of unilateral and multilateral projects has, so far, been possible. But the coexistence of unilateral and multilateral developments in the basin is unlikely to last in the medium and long term if water demands collide in practice. This situation forms the cornerstone of the Nile basin's current hydropolitical dilemma.

What is certain, however, is that implementation of current and future unilateral projects might endanger the basin's cooperation process. Several risks may be identified. The confidence and trust among riparians facilitated by the NBI in the last decade may break apart. On the one hand, the NBI may fail to demonstrate that cooperation brings a greater number of (higher-value) benefits than do unilateral strategies and, on the other, the win-win and benefit-sharing scenarios promoted by the cooperation partners may prove illusory. Additionally, the legal negotiations may become more complex due to the inability of individual countries to operationalise the principle of equitable utilisation and negotiate volumetric water allocations. And, as a consequence of the failures to promote a greater degree of integration in the basin, the willingness of the international donors to invest in the cooperative process in the basin might fade. In the worst-case-scenario the NBI may lose its *raison d'être* – namely the desire to cooperate – and collapse as past cooperative attempts in the Nile basin have done. Nonetheless, there might be other political options available, namely a restructuration of the NBI mandate and scope of action, as discussed further.

In brief, the recent shift in power relations in the basin indicates the increasing strength, in economic and bargaining terms, of upstream riparians, new infrastructural-financiers and developers (such as China), and a greater number of opportunities for the development of unilateral projects. These factors will certainly have a bearing on the future success of cooperation in the Nile basin and of the NBI itself. Obviously, the future of cooperation and the NBI is in the hands of riparian states themselves and two divergent political scenarios are possible. First, riparians may choose a basin-wide approach to the management of the shared Nile water resources, reinforce political commitment to the cooperation process, establish a river basin commission and work together for the effective implementation of the multilateral projects. This is what the NBI has been attempting to build. A sub-option of this scenario is that the NBI develop a different role in the basin and instead of focusing on multilateral projects that run in parallel to the national 'unilateral' projects, it might assume a new role in which it binds together unilateral projects within a common basin-development approach. In the second scenario, the riparians might opt for a free-rider approach, increasing their own water resource utilisation through unilateral projects, whilst disengaging from multilateral processes.

## CONCLUSION

The article has identified how and where power relations in the Nile river basin have changed over the past decade and what the impacts of these dynamics on hydropolitical relations in the basin have been. The article started with a demonstration of the basin's historical characterisation by asymmetric power relations. On the one hand, until recently, Egypt, the strongest riparian in the basin (through force of its material, bargaining and ideational power) had been able to systematically develop the Nile water resources, to the point where it could control the hydropolitical regime to favour its interests and maintain its hegemonic position in the basin and, on the other, the capacity of upstream riparians to develop water resources has been hindered by several internal and external constraints. Consequentially, these riparians have been unable to challenge Egypt's quasi-monopoly of the Nile water. The main thrust of the article has shown that this situation is changing rapidly and that highly dynamic political processes may be observed.

As analysed, over the last decade, power changes have occurred in two ways: a) in the regional balance of power, as Ethiopia and the equatorial states become economically stronger and politically stabler than in the past, and Sudan gains geopolitical importance and hydropolitical relevance in the region; and b) in the configuration of power centres, namely with the emergence of new regional actors (e.g. the NBI, EAC, China, external donors) and national actors (e.g. DIU in Sudan) in the basin's hydropolitics. These new dynamics are causing significant impacts on the basin's hydropolitical relations. Upstream riparians are economically stabler, have increased access to international funding for hydraulic projects, are more determined to develop their water resources and have become more vocal in their claims to rights for the Nile water. Some of the upstream riparians – namely Sudan and Ethiopia – have started, unilaterally, to develop projects. China's involvement in the regional dam industry appears to represent a large incentive to unilateral development of hydraulic infrastructure in the basin. There are several consequences of these changes. There is a significant challenge to the old hydropolitical regime, the basin's current volumetric allocations and to Egypt's previously comfortable position as the main user of the shared water resources. This may be the beginning of a new phase of competition over the utilisation of the basin's transboundary water resources with the NBI playing the role as a fig leaf.

This article has also analysed the correlation between the shifts in power relations and the cooperation process in the Nile basin which started a decade ago. It was shown that these power changes have occurred simultaneously to the development of the NBI and its cooperative projects. The outcomes could not be more divergent: the NBI has promoted multilateral and basin-wide approaches; in contrast, the new dynamics of power have driven individual riparians towards unilateralism or, in the case of the equatorial countries, to a parallel kind of multilateralism. Certainly, the recent shift in power relations in the basin will have a bearing on the future success of cooperation and the NBI itself. Most likely, cooperation and unilateralism cannot coexist in the long term and, if so, the Nile riparians and the NBI will have to opt for one of three following scenarios:

1. The riparians seriously compromise and are committed to the cooperation process, working together under the auspices of a river basin commission to promote basin-wide management of its shared water resources and regional development. This would be achieved through multilateral projects to be supported by multilateral and bilateral donor institutions already engaged in the NBI.
2. The riparians opt for cooperation, but the NBI assumes a different role from its current, actual role and moves towards a position of support for unilateral projects within a common basin-wide development approach rather than through parallel multilateral projects and, in this case, countries could benefit from diversified sources of funding.
3. The riparians decide to withdraw from the multilateral cooperation and opt for unilateral development of the Nile's water resources, most likely benefiting from alternative sources of investment including from China.

The three scenarios remain open. But developments over the next few years will determine the political choices adopted by the Nile riparian states as NBI programmes are phased out and the negotiations for the next phases of cooperation and future financial assistance begin.

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