



東京大学
THE UNIVERSITY OF TOKYO



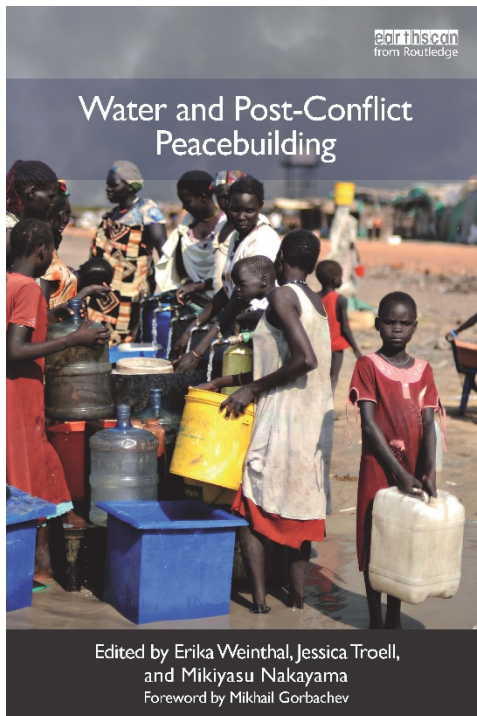
McGill



PRIO

This chapter first appeared in *Water and Post-Conflict Peacebuilding*, edited by E. Weinthal, J. Troell, and M. Nakayama. It is one of 6 edited books on Post-Conflict Peacebuilding and Natural Resource Management (for more information, see www.environmentalpeacebuilding.org). The full book can be ordered from Routledge at <http://www.routledge.com/books/details/9781849712323/>.

© 2014. Environmental Law Institute and United Nations Environment Programme.



Water resources in the Sudan North-South peace process and the ramifications of the secession of South Sudan

Salman M. A. Salman^a

^a *International Water Resources Association*

Online publication date: October 2014

Suggested citation: S. M. A. Salman. 2014. Water resources in the Sudan North-South peace process and the ramifications of the secession of South Sudan. In *Water and Post-Conflict Peacebuilding*, ed. E. Weinthal, J. Troell, and M. Nakayama. London: Earthscan.

Terms of use: This chapter may be used free of charge for educational and non-commercial purposes. The views expressed herein are those of the author(s) only, and do not necessarily represent those of the sponsoring organizations.

Water resources in the Sudan North-South peace process and the ramifications of the secession of South Sudan

Salman M. A. Salman

On January 9, 2005, after lengthy and complex negotiations, the government of the Republic of the Sudan and the Sudan People's Liberation Movement/Army (SPLM/A) signed the Comprehensive Peace Agreement (CPA),¹ which incorporated a number of separate protocols and agreements. This was a defining moment in the history of Sudan. It ended a devastating civil war that had lasted since 1983 following the collapse of the Addis Ababa Agreement.² It put in place radically new political structures for the division of power and wealth between the two parts of the country; and it recognized, for the first time, the right of the people of Southern Sudan to self-determination.

The CPA was signed by the then-first vice president of the Republic of the Sudan and the chairman of the SPLM/A, and was witnessed by envoys of thirteen countries and organizations—the presidents of Kenya and Uganda and representatives of Egypt, Italy, the Netherlands, Norway, the United Kingdom, the United States, the African Union, the European Union, the Intergovernmental Authority

Salman M. A. Salman is an academic researcher and consultant on water law and policy. Until December 2009, he served as the lead counsel and water law adviser with the Legal Vice Presidency of the World Bank. Some data in this chapter is drawn from the author's experience.

¹ The CPA is formally known as the Comprehensive Peace Agreement between the Government of the Republic of the Sudan and the Sudan People's Liberation Movement/Sudan People's Liberation Army. For the complete text of the CPA, see www.sd.undp.org/doc/CPA.pdf.

² The Addis Ababa Agreement on the Problem of South Sudan was concluded between the government of Sudan and the Southern Sudan Liberation Movement on March 12, 1972. The agreement ended Sudan's first civil war that erupted in 1955, and granted Southern Sudan limited regional autonomy. Its implementation, however, faced a number of difficulties, as well as major breaches by the government in Khartoum, and as a result, it collapsed in 1983. The SPLM/A was established that year and led the renewed civil war, and thereafter the negotiations that resulted in the conclusion of the CPA in 2005. For more information on the history, see Wai (1973); Alier (1990); and Bob (2009). For the complete text of the Addis Ababa Agreement, see www.goss-online.org/magnoliaPublic/en/about/politicalsituation/mainColumnParagraphs/00/content_files/file3/Addis%20Ababa%20Agreement.pdf.

328 Water and post-conflict peacebuilding

on Development (IGAD),³ the Arab League, and the United Nations. This wide range of participants testified to the importance the world community had ascribed to the CPA and to the peaceful resolution of the conflict in Sudan. The CPA's main provisions are reflected in the Interim National Constitution of the Republic of the Sudan, which was adopted six months later, on July 6, 2005.⁴

As per the CPA, the people of Southern Sudan exercised the right of self-determination on January 9, 2011, and voted overwhelmingly to secede from the Sudan.⁵ The new state of the Republic of South Sudan (also referred to as South Sudan)⁶ formally came into existence on July 9, 2011, as the 193rd member of the global family of nations and the fifty-fourth African state, following the end of the interim period stipulated under the CPA and the interim constitution.

This chapter reviews the agreements that made up the CPA as they addressed water resources. It describes the political geography of South Sudan and the Nile Basin; examines the centrality of water resources to the Sudan North-South relations; and analyzes the implications of the secession of Southern Sudan and emergence of the new state of the Republic of South Sudan on the sharing and management of the Nile waters, both with Sudan as well as with the larger group of the other Nile riparian states.

AGREEMENTS AND PROTOCOLS UNDER THE CPA

The CPA consisted of the chapeau,⁷ six protocols and agreements, and two annexures on the implementation of these instruments. The chapeau recorded the long and continuous negotiations process that took place from 2002 to 2004 in Kenya,⁸ referred to the tragic losses resulting from what had become the

³ IGAD is a regional organization consisting of the East African countries of Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Uganda, and (starting in 2011) South Sudan. Its vision is to achieve peace, prosperity, and regional integration. See www.igad.org for more information.

⁴ For the complete text of the Interim National Constitution of the Republic of the Sudan, see www.mpil.de/shared/data/pdf/inc_official_electronic_version.pdf.

⁵ The results of the referendum were announced on February 7, 2011, and showed that close to 99 percent of the Southern Sudanese voters opted for secession (Southern Sudan Referendum Commission 2011).

⁶ This chapter generally uses the terms *Southern Sudan* and *Northern Sudan* to refer to the two parts of Sudan prior to South Sudan's secession. On February 13, 2011, about a week after the Southern Sudan referendum results were officially announced, the government of Southern Sudan decided to call the country "Republic of South Sudan." Accordingly, the chapter uses this term when referring to the new state.

⁷ The chapeau is the umbrella agreement that was signed by the two parties and the thirteen witnesses on January 9, 2005, and to which the other agreements and protocols constituting the CPA are attached.

⁸ Negotiations took place under the auspices of IGAD. They were held in the Kenyan towns of Karen, Machakos, Nairobi, Nakuru, Nanyuki, and Naivasha. Because five of the six main agreements of the CPA were concluded at Naivasha, the CPA is often referred to as the Naivasha Agreement. Kenya played a major role in the negotiations, and appointed General Lazaro Sumbeiywo as a mediator. For a description of the negotiations process and the role of General Sumbeiywo, see Waihenya (2006).



Notes:

- A – The Hala'ib Triangle is claimed by Sudan and de facto administered by Egypt.
- B – The disputed Abyei area; shaded area depicts the Abyei area as proposed by the government of Sudan.
- C – The Ilemi Triangle is claimed by Ethiopia, South Sudan, and Kenya and de facto controlled by Kenya.

longest-running conflict in Africa, and emphasized the need for full adherence to the letter and spirit of the CPA to ensure lasting peace, security, justice, and equality in Sudan. The chapeau was followed by the six separately negotiated agreements and two annexures. The six agreements include:

1. The Machakos Protocol,⁹ concluded on July 20, 2002, stated in paragraph 1.1: “The unity of the Sudan, based on the free will of its people democratic governance, accountability, equality, respect, and justice for all citizens of the Sudan is and shall be the priority of the parties and that it is possible to redress the grievances of the people of South Sudan and to meet their

⁹ For the complete text of the protocol, see www1.chr.up.ac.za/chr_old/indigenous/documents/Sudan/Legislation/Machakos%20Protocol%202002.pdf.

330 Water and post-conflict peacebuilding

aspirations within such a framework.” Yet paragraph 1.3 stated, “the people of South Sudan have the right to self-determination, *inter alia*, through a referendum to determine their future status.” More specifically, paragraph 2.5 stated that “[a]t the end of the six (6) year Interim Period, there shall be an internationally-monitored referendum, organized jointly by the GOS [government of the Sudan] and the SPLM/A, for the people of South Sudan to: confirm the unity of the Sudan by voting to adopt the system of government established under the [CPA]; or to vote for secession.” Incorporating these provisions, the interim constitution reconfirmed the six-year interim period, starting on July 9, 2005, with the referendum on the status of Southern Sudan to take place on January 9, 2011, six months before the end of the interim period on July 8, 2011.¹⁰

2. The Agreement on Security Arrangements was concluded on September 25, 2003. It provided for an internationally monitored ceasefire to come into effect upon the signing of the CPA,¹¹ and for the continued existence of two separate and equal armed forces during the interim period, the Sudanese Armed Forces and the Sudan People’s Liberation Army (SPLA), along with a number of joint integrated units incorporating members from both forces.
3. The Agreement on Wealth Sharing, concluded on January 7, 2004, addressed land and other natural resources, including oil. It provided for the establishment of the National Land Commission, the Southern Sudan Land Commission, the National Petroleum Commission, the Fiscal and Financial Allocation and Monitoring Commission, and the Oil Revenue Stabilization Account. It established guiding principles for sharing oil and non-oil revenues,¹² and dealt with monetary policy, banking, currency, borrowing, and the establishment and operation of multi-donor trust funds.
4. The Agreement on Power Sharing was concluded on May 26, 2004.¹³ It set forth principles of governance and human rights, and fundamental freedoms—including freedom of thought, conscience and religion, expression, assembly, and association. It called for a decentralized system of government with significant devolution of powers to Southern Sudan, the states, and local governments, and described the structure and institutions of the national,

¹⁰ The first six months after the CPA was signed (January 9, 2005 to July 8, 2005) were referred to as the pre-interim period. This period was primarily devoted to agreeing on and adopting the interim constitution.

¹¹ A de facto ceasefire had begun to evolve after the conclusion of the Machakos Protocol.

¹² The Agreement on Wealth Sharing stipulated that the net revenue from the oil in Southern Sudan would be divided equally between the national government and the government of Southern Sudan, after the deduction of a certain amount for the Oil Revenue Stabilization Account and 2 percent for each of the oil-producing states or regions.

¹³ For the complete text of the Agreement on Power Sharing, see www.splmtoday.com/docs/CPA%20Related/2004%20Power%20Sharing.pdf.

Southern Sudan, and state governments. Despite its detailed provisions on land and natural resources, the Agreement on Wealth Sharing did not address water resource issues. These issues were addressed briefly only by the Agreement on Power Sharing.

The Agreement on Power Sharing, and subsequently the interim constitution, granted the national government (in schedule A, paragraph 33 of both documents) exclusive jurisdiction over the “Nile Water Commission, the management of the Nile Waters, transboundary waters and disputes arising from the management of interstate waters between Northern states and any dispute between Northern and Southern states.”¹⁴ The agreement and the interim constitution also empowered the government of Southern Sudan to coordinate Southern Sudan services and establish minimum standards in a number of areas, including water provision and waste management (in schedule B, paragraph 9 of both documents). The government of Southern Sudan was also given jurisdiction over natural resources and forestry, as well as over disputes arising from the management of interstate waters within Southern Sudan. Thus, jurisdiction over the Nile and other transboundary waters was placed with the national government, while local water resource management became the responsibility of the government of Southern Sudan.

5. The Protocol on the Resolution of the Conflict in the Two States of Southern Kordofan and Blue Nile was also concluded on May 26, 2004. It dealt with those two states that are geographically part of Northern Sudan but inhabited by people who identify culturally and ethnically more with Southern Sudan. It called for the diverse cultures and languages of the people in these states to be developed and protected. It underscored the need for the development of the two states, and it set up special local structures, with significant powers devolved to them. It also stipulated carrying out popular consultations for achieving these objectives.
6. The Protocol on the Resolution of the Abyei Conflict (also known as the Abyei Protocol) was the third agreement concluded on May 26, 2004, and is the sixth agreement under the CPA.¹⁵ Abyei, according to this protocol, is an area that was transferred from Southern Sudan to the North during the colonial era, and became a focus of a major dispute between the North and the South. The protocol established arrangements for defining the boundaries of the area and for a referendum, to be carried out simultaneously with the Southern Sudan referendum, to determine the area’s future.

¹⁴ The term *Nile Water Commission* should be understood to refer to the Permanent Joint Technical Committee, which was established in 1959 under the Agreement for the Full Utilization of the Nile Waters between Egypt and Sudan, as discussed later in this chapter.

¹⁵ The title of the protocol was changed on December 31, 2004, to the Protocol between the Government of the Sudan and the Sudan People’s Liberation Movement/Army on the Resolution of the Abyei Conflict. For the complete text of the protocol, see www.gossmission.org/goss/images/agreements/Abyei_protocol.pdf.

332 Water and post-conflict peacebuilding

On December 31, 2004, two annexures were concluded on the implementation of the six agreements, covering issues such as timing, executing authority, funding sources, and procedures. This brought to a successful conclusion the arduous negotiations that had spanned almost three years. The CPA was signed less than ten days later, on January 9, 2005. On July 6 of that year, the Interim National Constitution of the Republic of the Sudan was adopted, incorporating the basic provisions of the CPA.¹⁶ Both documents addressed, in addition to the right of self-determination for the people of Southern Sudan, broad issues of governance, security, and power and wealth sharing. As mentioned earlier, water resources were dealt with not in the Agreement on Wealth Sharing but in the Agreement on Power Sharing. Jurisdiction over the Nile waters, which are the only transboundary waters in Southern Sudan, was granted exclusively to the national government.

POLITICAL GEOGRAPHY OF SOUTH SUDAN AND THE NILE BASIN

South Sudan covers an area of approximately 640,000 square kilometers, or about 26 percent of the total area of Sudan, which is approximately 2.5 million square kilometers. Parts of the borders between Sudan and South Sudan, which extend for more than 2,000 kilometers, had not been demarcated at the time of writing (January 2013).¹⁷ Most of the border areas involve tributaries of the Nile River, such as Bahr el Arab and Bahr el Ghazal. A major complicating factor is the grazing and water rights of the tribal communities in those areas. Whether the disputed area of Abyei (about 10,500 square kilometers) belongs with Northern or Southern Sudan was supposed to be decided in a referendum scheduled to take place simultaneously with the referendum of Southern Sudan on January 9, 2011. However, as will be discussed later, the Abyei referendum did not take place. Water and grazing rights are central to the Abyei dispute.

According to the 2008 census, the population of Southern Sudan was 8.2 million, or 21 percent of Sudan's total population of 39.1 million (SSCCSE

¹⁶ Article 225 of the interim constitution stated: "The Comprehensive Peace Agreement is deemed to have been duly incorporated in this Constitution; any provisions of the Comprehensive Peace Agreement which are not expressly incorporated herein shall be considered as part of this Constitution." This article attested clearly to the comprehensiveness and authority of the CPA, and came close to recognizing the supremacy of the CPA over the interim constitution. The government of Southern Sudan adopted its own interim constitution in December 2005. For the complete text of the Interim Constitution of Southern Sudan, see www.chr.up.ac.za/undp/domestic/docs/c_SouthernSudan.pdf.

¹⁷ Sudan had boundary disputes with some of the countries now bordering South Sudan. The Ilemi Triangle, de facto controlled by Kenya, was disputed by Kenya, Ethiopia, and Sudan. Some border areas between Sudan and Uganda were also in dispute. The Republic of South Sudan has now inherited those disputes.

2009). The census figure representing the population of Southern Sudan was contested by the SPLM/A, which argued that the Southern Sudanese were grossly undercounted during this census, and that refugees were still steadily returning to Southern Sudan.

Southern Sudan has been devastated by the civil war that erupted in August 1955, a few months before Sudan gained independence in January 1956. The war took the lives of more than 2 million people and sent a larger number as refugees to neighboring countries as well as to Northern Sudan. A decade of relative peace emerged following the conclusion of the Addis Ababa Agreement between the North and the South in 1972 (see note 2). However, civil war erupted again in 1983 and continued until the conclusion of the CPA in 2005. Not much development took place in Southern Sudan during the six-year interim period that followed, and the new state of the Republic of South Sudan emerged in 2011 as a poor country with little infrastructure and with serious security problems in many areas. The new state borders Ethiopia in the east; Kenya, Uganda, and the Democratic Republic of the Congo in the south; the Central African Republic in the west; and Sudan in the north. It is a landlocked state, bordering three other landlocked states.¹⁸

The government of the Republic of South Sudan relies heavily on oil that was discovered in 1999, and which was shared under the CPA in equal percentages with the North during the interim period. About 75 percent of Sudan's proven oil reserves are now located in South Sudan, with some in disputed border areas. Oil revenue provides an estimated 95 percent of the total income of the government of the Republic of South Sudan. With the oil infrastructure—the pipeline, the refineries, the export facilities, as well as the ports—all situated in Sudan, the two parties have been locked in intricate and difficult negotiations on this matter, as well as other major issues.

As indicated earlier, the CPA and the interim constitution placed all issues related to the Nile waters within the exclusive jurisdiction of the national government, even though a large part of the Nile falls within Southern Sudan (and now South Sudan). As shown in figure 1, almost all of the important tributaries of the White Nile, including the Sobat River, either originate, or join the river in South Sudan (Collins 1996).

Upon exiting Lake Victoria, the river is called Victoria Nile. It passes through Lake Kyoga and then enters Lake Albert, after which it is renamed Albert Nile. Upon entry into South Sudan at the town of Nimule (in Eastern Equatoria State), Albert Nile is renamed Bahr el Jebel. Juba, the capital of South Sudan, is located next to this river. After passing through the city of Bor (in Jonglei State), the river spreads into the large swamps called the Sudd (after the Arabic word for

¹⁸ For administrative purposes, Southern Sudan was divided into ten states, replacing the long-known division of the South into the three provinces of Upper Nile, Equatoria, and Bahr el Ghazal.



Figure 1. Nile River Basin

Notes:

- A – The Hala’ib Triangle is claimed by Sudan and de facto administered by Egypt.
- B – The disputed Abyei area; shaded area depicts the Abyei area as proposed by the government of Sudan.
- C – The Ilemi Triangle is claimed by Ethiopia, South Sudan, and Kenya and de facto controlled by Kenya.

barrier), and branches into Bahr el Jebel and Bahr el Zaraf, to be joined by a number of tributaries flowing from the west and the southwest. The river Bahr el Arab originates in the border areas between Sudan and the Central African Republic, and flows eastward. It is fed by a number of tributaries, including the Lol, Yei, Jur, and Tonj rivers. The city of Wau, the capital of Western Bahr el Ghazal State, is situated on the Jur River. The Jur and Bahr el Arab merge to form Bahr el Ghazal, and after joining Bahr el Jebel at Lake No, the river is called the White Nile. The river Bahr el Zaraf, which branches off Bahr el Jebel, joins the White Nile a few kilometers after Lake No. The White Nile then flows eastward to the city of Malakal, the capital of Upper Nile State, where it is joined by the Sobat River. The White Nile contributes approximately 11.5 billion cubic

meters (bcm) per year—or about 14 percent of the total flow of the Nile River, as measured at Aswan, in Egypt.

The Sobat River originates in Ethiopia as the Baro and Akobo rivers, which merge inside South Sudan. The Sobat River is then joined by the Pibor River, which originates within South Sudan. The river thereafter flows through the Machar marshes (sometimes referred to as the Sobat marshes) before joining the White Nile near the city of Malakal. The combined river, now called the White Nile,¹⁹ flows for a considerable distance within South Sudan before entering Sudan, later merging with the Blue Nile at Khartoum, the capital of Sudan. As such, the White Nile dominates and is dominated by South Sudan. Indeed, South Sudan is where the White Nile loses and later consolidates itself.

The Blue Nile and its tributaries, including the Rahad and Dinder rivers, rise in the Ethiopian highlands. Upon their confluence at Khartoum, the White Nile and the Blue Nile form the Nile River.²⁰ The Nile is joined after that, still in Northern Sudan, by the Atbara River, which also originates in the Ethiopian highlands. The Atbara River is the last tributary to join the Nile, which thereafter flows through Northern Sudan and Egypt before emptying into the Mediterranean Sea.

The Sobat River contributes the same amount of water as the White Nile (approximately 11.5 bcm, or 14 percent of the Nile waters, as measured at Aswan). This brings the total flow of the White Nile to approximately 23 bcm, or 28 percent of the total Nile waters. (Table 1 summarizes the source contributions to the waters of the Nile River.) A large amount of the water of the tributaries of the White Nile evaporates and seeps in the huge swamps of South Sudan. It is estimated that about 20 bcm of water from those swamps could be conserved and added to the flow of the White Nile, almost doubling its flow (Collins 2002). Approximately 20 percent of the Nile Basin area falls in South Sudan, and more than 90 percent of South Sudan is part of the Nile Basin.²¹ As mentioned above, the three main cities in South Sudan—Juba, Malakal, and Wau—are all situated on the White Nile or one of its main tributaries.

The remaining 72 percent of the flow of the Nile (approximately 61 bcm) comes from the Blue Nile (59 percent) and the Atbara River (13 percent)

¹⁹ Some books and maps consider the White Nile as starting after the confluence with the Sobat River. Others call the entire river from Lake Victoria to Khartoum the White Nile, while still others consider the White Nile to start after the confluence of Bahr el Ghazal and Bahr el Jebel rivers. The latter approach, which this author subscribes to, is consistent with most of the literature on the Nile and helps in distinguishing the White Nile, with its Equatorial Lakes origin, from the Sobat River, which flows from Ethiopia. Yet, the author also subscribes to the use of the name *White Nile* to describe, in a generic sense, the whole river from Lake Victoria to Khartoum.

²⁰ For a detailed account of the political geography of the Nile, see Collins (2002).

²¹ About 63 percent of the Nile Basin fell in Sudan before the secession of South Sudan. The secession leaves Sudan with about 43 percent of the Nile Basin, still the largest area of the basin in one country (Salman 2011).

336 Water and post-conflict peacebuilding

Table 1. Source contributions to the waters of the Nile River

	<i>Annual water contribution (in billion cubic meters)</i>	<i>Percentage of total Nile River flow</i>
Equatorial Lakes		
White Nile	11.5	14%
Subtotal	11.5	14%
Ethiopian Plateau		
Atbara River	11.0	13%
Blue Nile	50.0	59%
Sobat River	11.5	14%
Subtotal	72.5	86%
TOTAL	84.0	100%

(Waterbury 2002). Thus, the Ethiopian plateaus are the origin of about 86 percent of the waters of the Nile (72.5 bcm), while the Equatorial Lakes contribute about 14 percent (11.5 bcm). Despite the high contribution of the Blue Nile, its flow is largely seasonal, concentrated in the months of June through September. Conversely, the relatively smaller contribution of the White Nile remains steady throughout most of the year and provides for the critical water needs of Sudan and Egypt during the low-flow period of the Blue Nile.²² Thus the two rivers complement each other to provide a perennial water flow in Sudan and Egypt.²³

With the emergence of the Republic of South Sudan as a new state, the Nile is now shared by eleven states. Tanzania, Uganda, and Kenya share Lake Victoria, while the highlands of Burundi and Rwanda are the origins of the Kagera River, which is the major river flowing into Lake Victoria. The Democratic Republic of the Congo shares the Semliki River, which flows into Lake Albert (one of the sources of the White Nile), as well as Lake Albert, with Uganda. The White Nile consolidates itself after being joined by the Sobat River in South Sudan. Eritrea shares portions of the Setit River, which is a tributary of the Atbara River, with Ethiopia, the origin of the Blue Nile and almost all of its tributaries. Sudan and Egypt are the most downstream riparian states. The stakes and interests of Egypt, Sudan, and Ethiopia in the Nile are very high; those of Uganda as high; those of Tanzania, Kenya, Burundi, and Rwanda as moderate; and those of Eritrea and the Democratic Republic of the Congo as low (Salman 2011). Because of the size of the White Nile in South Sudan, the heavy water evaporation and seepage at the swamps there, and the possibility of conservation of a good part of such

²² The Blue Nile also carries a heavy load of silt from the Ethiopian highlands, whereas the White Nile is almost silt-free.

²³ Since its completion in 1971, the Aswan High Dam has been regulating the flow of Nile waters in Egypt.

water, the stakes of South Sudan can be classified as very high, almost on a par with Egypt, Ethiopia, and Sudan.

Despite this wide range of interests and contributions to the Nile River, Egypt and, to some extent, Sudan have long dominated the Nile River. In November 1959, Egypt and Sudan concluded the Agreement for the Full Utilization of the Nile Waters (known as the 1959 Nile Agreement).²⁴ This agreement established the total annual flow of the Nile (measured at Aswan) as 84 bcm, and allocated 55.5 bcm to Egypt and 18.5 bcm to Sudan. The remaining 10 bcm represents the evaporation and seepage at the large reservoir created by (and extending below) the Aswan High Dam in southern Egypt and northern Sudan. The agreement sanctioned the construction of the Aswan High Dam in Egypt and the Roseires Dam on the Blue Nile in Sudan. To ensure cooperation in research related to the management of the Nile waters, and the increase of the water supply, and in hydrological survey work in the Nile's upper reaches, the agreement established a Permanent Joint Technical Committee with an equal number of members from each country.²⁵

Thus, the two countries allocated the entire flow of the Nile at Aswan to themselves. While they recognized the claims of the other riparian states to a share of the Nile waters if the other states so requested, they reserved to themselves the ultimate decision on whether those states would get a share, and if so, how much. This position is rejected by the other riparian states who consider it an infringement of their rights under international law as riparians of the Nile Basin.

Those states also reject the earlier 1929 Nile Agreement,²⁶ which gave Egypt veto power over any project in the then-British colonies of Uganda, Kenya, Tanganyika, and Sudan. They have argued that they are not bound by this agreement because they were not parties to it (Garretson 1967). Egypt and Sudan contend that their historic and existing rights are protected under international law and are not negotiable. The other riparian states also invoke international law in support of their claims to a share of the Nile waters. They argue that, since almost the entire flow of the Nile originates within their territories, they are entitled to an equitable and reasonable share of that flow. These countries also invoke the Nyerere Doctrine (named after Julius Nyerere, the first prime minister and later president of Tanganyika, later Tanzania), which gave countries emerging from colonialism two years to renegotiate treaties concluded during the colonial era, after which they would lapse (Makonnen 1984). Egypt, on the other hand,

²⁴ *United Nations Treaty Series* 453:64 (1963).

²⁵ The details regarding the committee are spelled out in the Protocol Concerning the Establishment of the Permanent Joint Technical Committee, 1960, *United Nations Legislative Series* B/12 (International Rivers).

²⁶ Exchange of Notes between Great Britain and Northern Ireland and Egypt in Regard to the Use of the Waters of the River Nile for Irrigation Purposes, Cairo, May 1929, *League of Nations Treaty Series*, No. 2103.

338 Water and post-conflict peacebuilding

invokes the principle of state succession to support its claim that the 1929 Nile Agreement remains valid and binding.

The 1959 Nile Agreement also addressed the water evaporation and seepage in the Sudd area of Southern Sudan and the other swamps and marshes, and the need for conservation and use of such waters. Under the 1959 agreement, the two parties would carry out projects to conserve some of the waters of these swamps in order to increase the flow of the Nile. The benefits and costs of such projects are to be shared equally between the two parties. The agreement gave Egypt the right to undertake this work by itself if it decided it needs the water before Sudan does. When Sudan is ready to use its share, it would reimburse Egypt for its share of the cost of the work. Thus, the Sudd and other swamps and marshes of Southern Sudan have been viewed by Egypt and Northern Sudan as a major potential source of additional water for their use, in addition to their full utilization of the existing amount of Nile waters.

NILE WATERS MANAGEMENT UNDER THE CPA

As stated earlier, the CPA and the interim constitution were explicit that the Nile waters were the exclusive responsibility of the national government. Given the size of the Nile Basin in then-Southern Sudan and the fact that most of the projects to augment the flow of the Nile would take place there, it may seem counter-intuitive that the SPLM/A would not push for a more active role in Nile water management during the interim period, as it did with oil, land, and other natural resources. In this author's view, there are two main reasons for this decision.

The primary reason relates to the wide and acute controversies surrounding rights to the Nile River waters described in the previous section, and concerning both the 1929 and 1959 Nile agreements. Attempting to bridge their differences, nine of the riparian states established the Nile Basin Initiative (NBI) in 1999.²⁷ One of the goals of the NBI has been to conclude a cooperative framework agreement among all the Nile riparian countries for regulating the sharing and management of the Nile Basin. Intense discussions since 2001 have failed to achieve this goal. During the CPA negotiations between 2002 and 2005, the SPLM/A leaders must have been keenly aware of these controversies and developments.²⁸ It seems

²⁷ The nine original NBI member states included Burundi, Democratic Republic of the Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda. Eritrea was, and continues to be, an observer. On July, 5, 2012, the Republic of South Sudan was admitted as the tenth member of the NBI during the twentieth annual meeting of the Nile Council of Ministers of Water (Nile-COM) in Kigali, Rwanda. The NBI has described its vision as achieving "sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile Basin water resources" (NBI n.d.a, n.d.b).

²⁸ The late John Garang de Mabior, the leader of the SPLM/A, and one of his closest advisers, Mansour Khālid, addressed Nile water issues at length in their respective doctoral dissertations (Garang de Mabior 1981; Khālid 1966).

likely that they realized that Southern Sudan's hard-won right of self-determination could be jeopardized if it became entangled with the Nile politics, and could cause the other riparian states to fear the emergence of a new competitor for the Nile River waters, or at least a complicating factor in an already complex situation. The Organization of African Unity and its successor, the African Union, have opposed secessionist movements and have—since 1963—repeatedly called for the retention of the boundaries set during the colonial era. Under these circumstances, the SPLM/A choice not to demand a voice in Nile water management must have allayed the fears of the other Nile riparian states and made it easier for them to support, or at least remain neutral on, the issue of self-determination for Southern Sudan.

The second reason for the SPLM/A's decision not to pursue a role in Nile water management under the CPA is that there were no functional irrigation projects in Southern Sudan using Nile waters when the CPA was being negotiated. On the other hand, there are several large irrigation projects in the North,²⁹ but these have not exhausted Sudan's annual share of the 18.5 bcm under the 1959 agreement. Its average annual use has ranged between 14 and 15 bcm. The few existing agricultural projects in Southern Sudan—such as the Nzara (or Anzara) Agro-industrial Project, Tonj Kenaf factory, Melutt and Mongalla sugar projects, Wau Brewery, and Malakal Pulp and Paper project—either were not completed or were in need of major rehabilitation (Yongo-Bure 2007). Due to its unequal development, South Sudan's water needs remain limited. It must have also been realized during the negotiations of the CPA that the heavy rains that fall from June to October would be sufficient, for some time to come, to sustain the limited subsistence agriculture and livestock herds of communities in the South. Even if the projects in the South were completed or rehabilitated, Sudan's unused share of Nile waters could, for the near future, accommodate them.

Although the SPLM agreed to leave responsibility for the Nile waters during the interim period to the national government, the government of Southern Sudan, as will be discussed later, gradually started to assert itself on the Nile water issues from the early years of the interim period.

THE CENTRALITY OF WATER ISSUES IN THE NORTH-SOUTH RELATIONS

Water resources have been central to the relationship between Northern and Southern Sudan. As an indication of this centrality, the Southern Sudan Referendum Act of 2009 listed ten issues, including water resources, which were supposed to be resolved by the two parties immediately after the referendum. Those issues

²⁹ The Gezira Scheme in central Sudan is the largest user of Nile waters in Sudan, averaging about 8 bcm per year, or about 40 percent of Sudan's allocation under the 1959 agreement, and more than half of Sudan's total annual usage of Nile waters. Other projects include the Rahad Project, the New Halfa Scheme, the Suki Scheme, the White Nile and Blue Nile Pumps Schemes, and the Kenana Sugar Scheme.

340 Water and post-conflict peacebuilding

comprise: nationality; currency; public service; position of joint integrated units; international agreements and treaties; debts and assets; oil fields, production, and transport; oil contracts; water resources; and property. Attempts to resolve those issues during the period between the adoption of the Southern Sudan Referendum Act in December 2009 and the emergence of South Sudan as an independent state were not successful.³⁰ Indeed, a number of those issues were still pending resolution when this chapter was completed at the end of February 2013 and would now have to be dealt with by two sovereign nations.

Two examples, the Jonglei Canal Project and the Abyei territorial dispute, serve to show the centrality of water resources issues in the Sudan North-South relations. The Jonglei Canal Project, intended to conserve water from the Sudd and add it to the White Nile, foundered on the tensions between the North's and Egypt's desire for additional Nile waters, and the South's concerns about the canal's potential to harm local livelihoods and the environment. Water rights also play a central role in the territorial dispute over the Abyei area on the border between Sudan and South Sudan. In addition, allocation between the two parties of the Nile waters allotted to Sudan under the 1959 Nile Agreement between Egypt and the Sudan, and the relationship of the new state of South Sudan with the other Nile riparians, particularly Sudan and Egypt, emerge as major issues for the Sudan and South Sudan relations, as discussed below.

The Jonglei Canal Project

Describing the Sudd of Southern Sudan, Alan Moorehead wrote:

There is no more formidable swamp in the world than the Sudd. The Nile loses itself in a vast sea of papyrus ferns and rotting vegetation. . . . This region is neither land nor water. Year by year the current keeps bringing down more floating vegetation, and packs it into solid chunks perhaps twenty feet thick and strong enough for an elephant to walk on. But then this debris breaks away in islands and forms again in another place, and this is repeated in a thousand indistinguishable patterns and goes on forever (Moorehead 2000, 88–89).

The Sudd area varies in size between 30,000 and 40,000 square kilometers, and can expand to double that size during the wet season, making it one of the

³⁰ On June 21–22, 2010, representatives of the National Congress Party (NCP) and the SPLM met in Mekelle, Ethiopia, to discuss the post-referendum issues. On June 23, they signed the Mekelle Memorandum of Understanding between the NCP and SPLM on Post-Referendum Issues and Arrangements (*Sudan Tribune* 2010). For the complete text of the memorandum of understanding (MOU), see www.cmi.no/sudan/doc/?id=1283. The MOU stated that negotiations on post-referendum issues would be conducted by a joint negotiating team consisting of six members from each party, to be assisted by a joint technical secretariat. The MOU clustered the issues to be negotiated into four groups: (i) citizenship; (ii) security; (iii) financial, economic, and natural resources; and (iv) international treaties and legal issues.

largest wetlands in the world. A large portion of its water is lost to evaporation and transpiration. Navigation through its thick vegetation has always been difficult, as attested to by explorers in the second half of the nineteenth century who passed through the Sudd looking for the sources of the Nile (Baker 2002). The Anglo-Egyptian colonial administration of Sudan, established in 1898, quickly recognized the potential of the Sudd as well as the other swamps of Southern Sudan to help augment the flow of the Nile. Water was needed to expand cotton production in Egypt to meet the growing needs of the textile industry in Lancashire (Tvedt 2004).³¹ Thus, the search and planning commenced immediately after the conquest of Sudan for ways to bypass the swamps and deliver more water to the Nile.

In 1904, Sir William Garstin, the undersecretary of state for public works in Egypt, published an influential report on the Upper Nile (Garstin 1904), which included a thorough investigation of the White Nile and its tributaries. To bypass the Sudd, Garstin recommended excavating a new channel of about 340 kilometers to bring water from the upper Nile (Bahr el Jebel) at Bor directly to the confluence of the White Nile and the Sobat River. This proposal was the origin of what was later known as the Jonglei Canal Project.³²

Garstin's proposal was reconsidered in the early 1920s but was shelved due to deterioration in relations between Britain and Egypt in the mid-1920s following the assassination of the governor-general of the Sudan, Sir Lee Stack, in Cairo (Gaitskell 1959). Interest revived in the mid-1930s, and again in 1946, when the colonial administration in Sudan established the Jonglei Investigation Team, which produced a report in 1953 (Howell, Lock, and Cobb 1988). However, by that time the attention of Egypt had shifted to the Aswan High Dam, and the Jonglei Canal Project took a back seat.

As discussed earlier, the 1959 Nile Agreement between Egypt and Sudan included detailed provisions on projects for preserving the waters of the swamps of Southern Sudan. Planning of the construction of the Jonglei Canal, however, did not start until 1974, after the temporary end of Sudan's civil war and conclusion of the Addis Ababa Agreement in 1972. The newly designed project, which still drew substantially on the 1904 Garstin proposal, consisted of a 360-kilometer canal from Bahr el Jebel at the village of Jonglei to the junction of the White Nile and the Sobat River. It also included development components for the project area: a large-scale irrigation scheme for sugar growing and

³¹ Terje Tvedt noted "British banks supported increased cotton exports in order to buttress Egypt's ability to repay its debts. In 1882 Egypt's foreign debt had risen to £100 million, and annual debt service to £5 million, of which a large proportion went to Britain. The Lancashire textile industry wished to reduce its dependence on American cotton by increasing supplies of cheaper cotton from Egypt" (Tvedt 2004, 21).

³² Under the design of this project, the canal would start at the village of Jonglei, not far from Bor, and extend for about 360 kilometers to the confluence of the White Nile and the Sobat River, following a similar route to the one suggested by Garstin. It would fall entirely within Jonglei State in Southern Sudan.

342 Water and post-conflict peacebuilding

processing; all-year roads, bridges, and river transportation links; and education and health services.

Under the 1959 Nile Agreement, Egypt had agreed to pay 15 million Egyptian pounds to Sudan in compensation for the inundation of Sudanese territory by the Aswan High Dam.³³ However, the agreement did not mention compensation to the people who may be adversely affected by projects in the swamps of Southern Sudan.

Sudan established a National Council for the Development of the Jonglei Canal Area in 1974. Nonetheless, the (Sudanese-Egyptian) Permanent Joint Technical Committee established under the 1959 Nile Agreement continued to have supervisory responsibility for the project. The cost of the project was estimated at US\$260 million; costs and benefits were to be divided equally between Sudan and Egypt. When completed, the canal was expected to add close to 5 bcm to the flow of the White Nile. An equal amount of water is expected from a second canal that would drain a part of the remaining swamps in the Sudd area of Behr el Jebel and Bahr el Zeraf. Studies also indicated that a similar amount of water could be drained from the Bahr el Ghazal swamps and the Machar marshes. The four projects together could almost double the flow of the White Nile (Waterbury 2002).

The contract for the Jonglei Canal was awarded to the French consortium *Compagnie de Constructions Internationales* (generally known as CCI), which had excavated a similar project in Pakistan.³⁴ Its huge excavator was dismantled, brought by land and sea to the proposed canal site, and reassembled. Engineers and technicians from France, Pakistan, and Sudan were employed in addition to local laborers. The French-led foreign staff lived in a camp at the northern end of the canal site—ironically, just a few kilometers from the site from which French forces withdrew after they were confronted by the British in the 1898 Fashoda Incident.³⁵

³³ More than 50,000 Sudanese Nubians living in the border town of Wadi Halfa and surrounding villages had to be relocated to northeastern Sudan (Dafalla 1975).

³⁴ The project that CCI constructed in Pakistan was the Chasma-Jhelum link canal, connecting the Indus River with the Jhelum River. The project was completed in 1964 (Collins 2002).

³⁵ A French battalion, under the leadership of Major Jean-Baptiste Marchand, arrived in the Fashoda area of the White Nile in Southern Sudan in July 1898. Following the conquest of the Sudan by the Anglo-Egyptian army in September 1898, Colonel Horatio Kitchener was ordered to move immediately to Fashoda to confront the French battalion. The incident represented the epic of the Scramble for Africa generally, and for the Nile in particular, by European colonial powers. After a brief encounter and frenzied communications between London and Paris, the French withdrew from Fashoda, resulting in the White Nile coming under the full control of the British. Fashoda, the village where that incident took place, was subsequently renamed “Kodok,” perhaps as a gesture of conciliation with the French. The CCI camp was erected a few miles south of that village. For a detailed account of the Fashoda Incident, see Tvedt (2004).

The Jonglei Canal Project faced some major opposition from the start in Southern Sudan because it was seen as serving the interests of Northern Sudan and Egypt. Local and international actors voiced concerns that the canal could have negative impacts on the Sudd ecosystem and on local livelihoods—specifically, on drinking water, pastures, fisheries, and access to either side of the canal by pastoral communities and their herds and by wildlife (Yongo-Bure 2007). Opposition was also fuelled by rumors about the impending settlement of 2 million Egyptian farmers in the canal area. Students in a number of cities in Southern Sudan rioted against the project, and three people were shot and killed during those riots.

The situation gradually quieted, and implementation of the project started in 1978.³⁶ By November 1983, about 260 of the canal's 360 kilometers were completed. However, in that month, the recently formed SPLM/A attacked the canal site. The SPLA carried out three major attacks on the Jonglei Canal site—on November 16, 1983, February 6, 1984, and February 10, 1984—and the final attack brought the project to a complete halt (ICCA 1988).³⁷ Since that time, the huge excavator has sat idle and rusting in the middle of the Sudd swamps about 100 kilometers north of the village of Jonglei. The completed portion of the canal has turned into a large ditch in which wildlife could easily be trapped and die and which has impeded the movement of people and animals in the region (Yongo-Bure 2007).

The SPLM/A's main complaint against the project was that its implementation concentrated on the excavation of the canal, which would benefit Northern Sudan and Egypt, and neglected the components of the project intended to help develop Southern Sudan. Such components had not even been started in 1983, although they had originally been presented as an integral part of the project (Oduho 1983).³⁸

Environmental and social standards, particularly for water infrastructure projects, are far more strict and comprehensive today than they were when the Jonglei Canal Project was planned in the 1970s. Local, regional, and international civil society organizations concerned about the Sudd ecosystem and the rights of the people who live there are certain to keep a close eye on any plans for the revival of the project. Moreover, the Sudd was officially recognized on November 1, 2006, under the Ramsar Convention (Ramsar Convention Secretariat 2012b)

³⁶ For further discussion of the Jonglei Canal Project, see Collins (2002) and Alier (1990). Abel Alier was the president of the High Executive Council of Southern Sudan when those developments took place. He was a strong supporter of the Jonglei Canal Project, and was quoted as saying, in response to protests against it, "If we have to drive our people to paradise with sticks, we will do so for their own good and the good of those who come after us" (Collins 2002, 204).

³⁷ The SPLM/A also halted Chevron's oil operations in Southern Sudan as well as improvements to the airport at Juba, the capital of Southern Sudan (and now South Sudan), in the early months of 1984.

³⁸ The late John Garang de Mabior, leader of the SPLM/A, argued in his doctoral dissertation that the project, as designed and implemented, would perpetuate poverty, misery, and underdevelopment in the area (Garang de Mabior 1981).

344 Water and post-conflict peacebuilding

as an internationally important wetland.³⁹ It is the third largest Ramsar site in the world after the Okavango Delta in Botswana, and the Queen Maud Gulf in Canada.

As a Nile River project, the Jonglei Canal fell, during the interim period, under the jurisdiction of the national government as stipulated in the CPA and the interim constitution. However, from the very early days of the interim period, the government of Southern Sudan raised concerns about the political, economic, social, and environmental effects of the project.⁴⁰ The president of the government of Southern Sudan made it clear that the Jonglei Canal Project was not one of their priorities (Kiir Mayardit 2010). The emergence of the Republic of South Sudan as an independent state means that the issues of conservation and use of the waters of the swamps of South Sudan fall fully in the hands of the government of the Republic of South Sudan. The security situation in Jonglei State as well as other areas in the South, has been steadily deteriorating. Inter-tribal fights, food shortages, and military clashes have been regularly reported since early 2009 (UNHCR 2009; Schomerus and Allen 2010). Those circumstances are certain to make resumption of work on the Jonglei Canal Project more difficult.

The increasing assertiveness of the Nile upstream riparian states is also likely to complicate future negotiations on the resumption of work on the Jonglei Canal, or the work on any of the other three proposed canals. This is because the waters of the Sudd and of the Machar marshes of South Sudan could be viewed, due to the sources of those waters, as a wider Nile Basin issue, and not simply a South Sudanese-Sudanese-Egyptian concern (Salman 2008).

The Abyei dispute

The dispute over the Abyei area on the border between Sudan and South Sudan also raises important water issues for the local communities in the area. Although a number of steps were taken during the interim period in an attempt to settle this dispute, the issues are still far from resolved, and now have to be

³⁹ Article 2(2) of the Ramsar Convention—concluded in 1971 and formally known as the Convention on Wetlands of International Importance—states: “Wetlands should be selected for the List on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology.” Sudan became a party to the Ramsar Convention on May 7, 2005 (Ramsar Convention Secretariat 2012a). Article 4(1) of the convention requires each party to “promote the conservation of wetlands . . . by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wardening.” For the complete text of the convention, see http://www.ramsar.org/cda/en/ramsar-documents-texts-convention-on/main/ramsar/1-31-38%5E20671_4000_0__.

⁴⁰ The minister of irrigation for the government of Southern Sudan expressed reservations in 2009 about the effects of the Jonglei Canal Project and called for a new feasibility study to be carried out by his ministry (*Sudan Tribune* 2009b).

dealt with by two sovereign states, together with the United Nations Security Council.⁴¹

Abyei is defined by the Abyei Protocol, which is part of the CPA, as the area of the nine Ngok Dinka chiefdoms that was transferred from Southern to Northern Sudan by the colonial government in 1905 for administrative convenience.⁴² However, the exact size and boundaries of the area were not agreed upon, and became the central issue in the dispute between the North and the South following independence of the Sudan in 1956. The Abyei Protocol placed Abyei temporarily in a special administrative status under the presidency. The protocol gave the area's residents citizenship in both Kordofan and Bahr el Ghazal, and provided for the creation of a local executive council, initially appointed by the presidency and to be later elected by Abyei residents. Once the boundaries of Abyei were demarcated, its residents would choose—in a referendum scheduled to be carried out simultaneously with the referendum on Southern Sudan's self-determination on January 9, 2011—between retaining their current status or becoming part of Bahr el Ghazal in Southern Sudan.⁴³ However, the referendum did not take place.

The major complication to the Abyei dispute is that, in addition to the national government and the SPLM/A, the dispute also involves the Southern tribe of the Ngok Dinka and the Northern tribe of the Misseriya, who share parts of, and have conflicting claims over, the Abyei area (Salman 2013). The discovery of oil in and around Abyei has added to the complication of the situation. The Abyei Protocol included detailed provisions on the sharing of oil revenues during the interim period.⁴⁴

Based on the provisions of the Abyei Protocol, the Abyei Boundaries Commission (ABC) was established in March 2005 (Pettersen 2008). The ABC was made up of five representatives each from the national government and the SPLM/A, and five international experts. Its report, issued in July 2005 (ABC 2005), set the boundaries of Abyei area in a way that was close to those claimed by the SPLM/A, legitimating Ngok Dinka dominant (permanent) and secondary claims well into Kordofan to the north, and assigned large areas to Abyei in the east and some areas in the west. It also established an area of shared seasonal rights for the Ngok Dinka and the Misseriya north of the dominant claims area

⁴¹ For more information on the land and territorial aspects of the Abyei dispute, see Salman (2013).

⁴² Abyei was transferred from the Southern state of Bahr el Ghazal to the Northern state of Kordofan. Both states have since been further divided; the Abyei issue concerns the states of South Kordofan and Northern Bahr el Ghazal.

⁴³ Most of the provisions of the Abyei Protocol, including the Abyei referendum, were reflected in article 183 of the interim constitution.

⁴⁴ The percentages were as follows: 50 percent for the national government, 42 percent for the government of Southern Sudan, and 2 percent each for Bahr el Ghazal, Kordofan, the Ngok Dinka, and the Misseriya.

346 Water and post-conflict peacebuilding

and divided it between the two parties. Thus, the ABC report included large areas of Kordofan within the Abyei area boundaries.

The SPLM/A accepted the report, but the government of Sudan immediately rejected it, claiming that the ABC had exceeded its mandate. A stalemate resulted and continued for the next three years. Following violent clashes in Abyei, the two parties agreed, in July 2008 to refer the dispute to the Permanent Court of Arbitration (PCA).

In October 2008, three months later, the arbitral tribunal of the PCA was constituted and issued its decision on July 22, 2009.⁴⁵ It validated the ABC's decision regarding the dominant claims of the Ngok Dinka on the northern boundary, but the PCA overturned the decision on the eastern and western boundaries and the shared secondary rights above the northern boundary. The tribunal's award reduced the Abyei area from that delimited by the ABC substantially in the east and slightly in the west. As a result of this reduction, some major oil fields reverted to Sudan. However, Bahr el Arab (also known as the Kiir River), the main river in the area, together with most of its major tributaries, would fall largely within the Abyei area as delimited by the arbitral award.⁴⁶

The grazing and other traditional rights of the Misseriya and other communities within the Abyei area were confirmed in both decisions. The PCA tribunal's award stated: "The exercise of established traditional rights within or in the vicinity of the Abyei Area, particularly the right (guaranteed by Section 1.1.3 of the Abyei Protocol) of the Misseriya and other nomadic peoples to graze cattle and move across the Abyei Area (as defined in this Award), remains unaffected."⁴⁷ It further indicated that under international law, traditional rights are not extinguished by boundary delimitations. Thus, according to the award, the Ngok Dinka and the SPLM/A got land and water, while the government of Sudan got most of the oil fields around the area, and the Misseriya got confirmation of their grazing rights (Salman 2010).

The PCA tribunal's award was accepted by both parties, and was welcomed by the United Nations, IGAD, the European Union, and the United States. Although one of the arbitrators issued a powerful dissent, this did not dilute the wide welcome the award received. However, the Misseriya tribe rejected the award, claiming that it added too much of their own land and villages to the Abyei area, and limited their rights over the area to grazing rights (*Sudan Tribune* 2009a). The Misseriya leaders issued a series of strong statements that they would defend their

⁴⁵ For the full text of tribunal's final award, see www.pca-cpa.org/showfile.asp?fil_id=1240.

⁴⁶ For a map of the Abyei area as delimited by the PCA arbitral tribunal, see Terralink (2009); see also Salman (2013). The government of Sudan announced immediately after the PCA decision that the government of Southern Sudan would no longer receive any of the revenue from the oil in those fields, since they were no longer in the Abyei area as delimited by the PCA. The government of Southern Sudan responded that it would still claim those oilfields as part of Southern Sudan when the process of delimiting the complete border between the North and the South commenced.

⁴⁷ Para. 770(e)(2).

rights in the Abyei area. Clearly, with the considerable expansion of the Abyei area, the Misseriya believe that they have a claim to more than just grazing rights in the area.

On its face the Abyei dispute concerns land, but oil and water are also critical aspects of the dispute. Revenues from oil in the Abyei area were shared mainly by the governments of Sudan and Southern Sudan and have not been a concern of the Misseriya or the Ngok Dinka. Water and grazing rights are the root cause of the dispute between the Misseriya and the Ngok Dinka. The Misseriya argue that their claims go beyond the right to move in the Abyei area in search for water and fodder. They believe that a good part of the area actually belongs to them. This point was highlighted in paragraph 203 of the dissenting opinion by Judge Awn Shawkat Al-Khasawneh when he asked who “gave the Experts or the Tribunal the right to reduce the Misseriya to second class citizens in their own land and to create conditions which may deny them access to water.” The Misseriya welcomed the dissenting opinion and saw it as strengthening their rejection of the award. With the oil in this area expected to run out soon (ICG 2007), water emerges as the pivotal element of this dispute.

Because of the opposition of the Misseriya to the tribunal award, the demarcation of the area, as per the award, did not take place. Nonetheless, negotiations between the government of Sudan and the SPLM on the Abyei referendum commenced in late 2009. In December 2009, five months after the PCA tribunal’s decision, the National Assembly passed both the Southern Sudan Referendum Act and the Abyei Area Referendum Act.⁴⁸ The Abyei Area Referendum Act confirmed the boundaries of Abyei area (as determined and delimited by the PCA) and the date for the Abyei referendum (January 9, 2011, as determined by the CPA). It called for the Abyei Area Referendum Commission to be established as a legally and financially independent entity with its head office in Abyei Town, and branch offices where the commission deemed necessary.

The Abyei Area Referendum Act was silent on who are considered residents of the Abyei area, and thus eligible to participate in the referendum. The Abyei Protocol, in paragraph 6.1, defined the residents of Abyei as the “Members of the Ngok Dinka community and other Sudanese residing in the area” and stated that the criteria for residence should be worked out by the Abyei Area Referendum Commission. The act did not reiterate the definition of residency, as it did with other provisions of the Abyei Protocol and other parts of the CPA. Perhaps the reason for this was the demand of the Misseriya tribe that they also be mentioned by name in the act, which was vehemently rejected by the SPLM. It seemed that the compromise the framers of the act reached was neither to reiterate the Abyei Protocol’s definition (which specified the Ngok Dinka) nor to mention the Misseriya by name.

⁴⁸ For the major points raised during the discussion of the Abyei Area Referendum Act, and the Misseriya protest against the act, see *Sudan Tribune* (2009c).

348 Water and post-conflict peacebuilding

The adoption of the Abyei Area Referendum Act did not, however, pave the way for holding the referendum in Abyei on January 9, 2011, as envisaged under the Abyei Protocol. The Misseriya, with support from the government of Sudan, insisted that they are residents of the Abyei area, and thus are entitled to participate in the referendum. The SPLM and the Ngok Dinka rejected this demand, and are adamant that the Misseriya are not residents of the Abyei area, and accordingly are not eligible to participate in the referendum. Thus, on January 9, 2011, only the Southern Sudan referendum was undertaken, and its results were near unanimity for secession. Meanwhile, the situation deteriorated further in Abyei, and on May, 2011, Sudanese government forces took over Abyei area after some of their soldiers were killed by the SPLM a day earlier. After four tense weeks, the two parties signed an agreement in Addis Ababa on June 20, 2011, whereby the security in Abyei would be the responsibility of some 4,200 Ethiopian soldiers, with the administration of Abyei being jointly run by the government of Sudan and SPLM appointees. This agreement was incorporated and elaborated in United Nations Security Council Resolution 1990, issued on June 27, 2011. The resolution urged the parties to resolve peacefully the final status of Abyei (UNSC 2011; Salman 2013).

Those developments have not addressed the issue of who has the right to vote in the referendum. This issue, which is closely tied with the water and grazing rights of the Misseriya, has turned out to be the crux of the Abyei dispute, overshadowing the original issue of the borders of the Abyei area. With the emergence of the Republic of South Sudan as an independent state, the Abyei dispute has now turned into an international dispute involving two sovereign nations.

Allocation of the Nile waters

As indicated earlier, water resources had been listed in the Southern Sudan Referendum Act as one of the pending issues between the two parties. Consequently, the Republic of South Sudan is now demanding a share in the Nile waters allocated to the Sudan under the 1959 agreement. The issue might have been easier to negotiate and resolve before secession, when the two states were still one country. This is because negotiations between two states are generally more difficult than between two parts of the same state. While the six-month transitional period between the referendum vote and the establishment of South Sudan as a separate state (January to July 2011) provided some time to negotiate these issues, the issues are complex and require additional time to resolve. Moreover, it is possible that negotiations on water resources could be expanded to include the grazing rights of the border communities in the two countries.

The demand of South Sudan for a part of Sudan's share of the Nile waters under the 1959 agreement may seem easier to accommodate given the fact that Sudan has not been able to use more than 14 to 15 bcm of its share of 18.5 bcm

under the 1959 agreement.⁴⁹ However, this situation may be complicated by other new factors. One of the consequences of secession is the loss by Sudan of 50 percent of the income from the oil in Southern Sudan to which it was entitled under the CPA during the interim period (IMF 2011). This is a major economic and financial loss to Sudan, and has to be compensated from other sources. Thus, the government of Sudan has decided that it needs, and indeed plans, to pay more attention to agriculture to help make up for the loss of income from the oil of South Sudan. Sudan has large tracts of irrigable lands that have hitherto not been developed, and it has recently revived its four-decade-old slogan of Sudan being the bread basket of the Arab world. This in turn will mean the need for more waters than Sudan is currently using. In 2011, following completion of the Merowe Dam on the main Nile River in 2010, the government of Sudan started implementing a project to increase the height of the Roseiris Dam on the Blue Nile. The government has also started leasing large tracts of land to foreign investors and other countries for growing food crops (von Braun and Meinzen-Dick 2009).

On the other hand, South Sudan is claiming a share of the Nile waters, allotted to Sudan, to meet the demands of its agricultural projects that need rehabilitation or completion, the demands of its existing and planned projects, and the growing needs of the returning South Sudanese. Work on the Bedden Dam on Bahr el Jebel, south of Juba, is already underway. This would mean that the competing demands of the two countries may not be easy to meet within the current allocation to Sudan of 18.5 bcm.

The factors enumerated under the UN Convention on the Law of the Non-Navigational Uses of International Watercourses regarding utilization of shared watercourses should provide helpful guidance to the parties in deciding how to share the 18.5 bcm.⁵⁰ Such factors would include, *inter alia*, the current and planned uses of Sudan, and the expected future uses of South Sudan; the amount of Nile waters crossing from South Sudan into Sudan and Egypt; and the heavy

⁴⁹ It may be argued that any water allotted to the state of South Sudan out of the waters of the Nile could arguably fall under article 5(2) of the 1959 Nile Agreement, which states: "Since other riparian countries on the Nile besides the Republic of Sudan and the United Arab Republic claim a share in the Nile waters, both Republics agree to study together these claims and adopt a unified view thereon. If such studies result in the possibility of allotting an amount of the Nile water to one or the other of these territories, then the value of this amount as at Aswan shall be deducted in equal shares from the share of each of the two Republics." However, both parties are proceeding to address the claims of South Sudan from the allocation of the Sudan, and not under the provisions of this article. This is perhaps because South Sudan was part of the Sudan when the agreement was concluded in 1959.

⁵⁰ Although the UN Watercourses Convention has not yet entered into force, many of its provisions, including those on equitable and reasonable utilization, are considered as reflecting customary international water law (Salman 2007).

350 Water and post-conflict peacebuilding

rains in South Sudan as an alternative source of water for South Sudan.⁵¹ Negotiations may also bring up the issue of conservation of the waters in the swamps of South Sudan and the need to complete the Jonglei Canal to augment the flow of the White Nile, providing more water for sharing. The fact that South Sudan does not share the Blue Nile River that provides the bulk of the Nile River waters is another factor. Thus, the negotiations on the reallocation of the 18.5 bcm allotted to the Sudan under the 1959 agreement are not expected to be easy.

RELATIONSHIP WITH THE OTHER NILE RIPARIAN STATES

The relationship between Sudan and South Sudan over the Nile waters reflects broader controversies across the basin surrounding rights to the sharing and management of its waters by the riparian states. As mentioned before, one of the goals of the Nile Basin Initiative (NBI) has been to have all Nile riparian countries to conclude the Nile River Basin Cooperative Framework Agreement (CFA), which would regulate the sharing and management of waters in the Nile Basin. Despite intense discussions and negotiations on the CFA since 2001, however, the Nile riparian states have failed to reach a final agreement on the CFA. Five of the riparian states—Ethiopia, Kenya, Rwanda, Tanzania, and Uganda—signed the CFA in May 2010. At that time, Burundi and the Democratic Republic of the Congo indicated their intention to sign, and Burundi did so on February 28, 2011. However, as of the time of writing in February 2013, the Democratic Republic of the Congo had not yet done so. Egypt and Sudan vehemently oppose the CFA, and Eritrea has remained an observer, and not a full member of the NBI, perhaps because of its limited interests and stakes in the Nile (Salman 2011). To enter into force and effect, the CFA requires ratification by six of the riparian countries.

One of the major differences over the CFA relates to the existing uses of, and rights over, water by Egypt and Sudan, for which the two countries demand recognition by the other riparians, as well as in the CFA. Another difference relates to the treaties concluded during the colonial era, particularly the 1929 agreement. Other differences concern notification for planned projects,⁵² and

⁵¹ In addition to the Nile waters, a number of groundwater basins fall across the borders between Sudan and South Sudan, largely fed and replenished by the White Nile and its tributaries, as well as the huge swamps there. The Upper Nile Basin is one such shared aquifer. However, technical knowledge and data about these basins is, at best, quite limited, and the borders between Sudan and South Sudan in some of these areas are still to be demarcated. Additionally, there is limited use of groundwater resources by the agro-pastoral communities in South Sudan. Thus, shared groundwater is not expected to be a major issue in the near future.

⁵² Ethiopia claims that it was never notified by any riparian of any of the projects that have been constructed on the Nile, and thus feels no obligation other than to exchange data and information on its planned projects with the other riparians. On the other hand, Egypt and Sudan demand that notification for planned projects be a major part of the CFA.

whether the CFA should be amendable by a majority or by consensus.⁵³ Differences on the first three issues have dominated the Nile discussions since the 1960s when the Nile Equatorial countries gained their independence, and when Ethiopia's request to be a party to the 1959 Nile negotiations was ignored by Egypt and Sudan. As such, major differences between the Nile riparian states have existed for a long time, and were brought to a head, and indeed exacerbated, by the negotiations over the CFA, resulting in heightened tension, accusations, and threats.⁵⁴

The Republic of South Sudan was born at a time of tense relations among the then-ten Nile riparian countries, exacerbated by the acute differences over some basic principles and provisions of the CFA. The Republic of South Sudan applied for membership of the NBI during its ministerial meeting in Nairobi in July 2011, and was expected to be admitted as a full member during the Nile water ministers meeting in Kigali, Rwanda, in October 2011, after it was admitted as a full member of the African Union in August 2011. However, that meeting did not take place. Membership of South Sudan was eventually approved during the NBI ministerial meeting that took place on July 5, 2012. Membership of South Sudan in the NBI raises a number of critical questions. Will the new state of the Republic of South Sudan align itself with the equatorial lakes countries—as is widely expected based on common interests on the White Nile, ethnicity, geography, and history? Will it accede to the Nile Basin CFA, which has six signatories thus far, and needs six ratifications/accessions to enter into force? Will Sudan and Egypt claim that South Sudan is bound by the 1959 Nile Agreement, particularly with regard to construction of the water conservation projects in the swamps of South Sudan, as specified in that agreement? If Sudan makes that claim, how can it enforce it? Will Egypt claim that the new state is bound by the 1929 Nile Agreement, based on the same reasoning it argues vis-à-vis Kenya, Tanzania, and Uganda, and demand that any project in South Sudan be subject to its prior agreement? These are some of the difficult questions that may be posed now, adding more complexities to the already intricate relations within and among the Nile Basin states.

CONCLUSION

The emergence of a new state invariably carries with it a vast array of challenges. Some of these challenges relate to resolving outstanding issues with the mother state, and sharing and managing of common natural resources. This is certainly the case with Sudan and the new Republic of South Sudan. Indeed, the challenges in this case are compounded by the inability of Sudan and South Sudan to resolve thus far many of the outstanding issues, enumerated in the Southern Sudan Referendum Act of 2009, including water resources.

⁵³ Egypt and Sudan demand that the CFA be amendable by consensus (thus giving them veto power), while the other riparians insist that a simple majority should suffice for amending the CFA.

⁵⁴ See, for example, Reuters (2010a, 2010b).

352 Water and post-conflict peacebuilding

The Republic of South Sudan dominates and is dominated by the White Nile. About 90 percent of South Sudan falls in the Nile Basin, and about 20 percent of the Nile Basin falls in South Sudan. Approximately 28 percent of the Nile flow of 84 bcm measured at Aswan crosses South Sudan into Sudan and eventually Egypt. Yet, for reasons related to hydropolitics, the SPLM gave up, under the CPA, all responsibilities for the Nile waters during the interim period to the central government. The SPLM did not even demand representation in the Permanent Joint Technical Committee. Although this position might have facilitated acceptance by the Nile riparians of the right to self-determination, it has resulted in major delays in the decisions on the sharing and management of the Nile waters between the two parts of the country, and eventually between the two states.

Sudan and the new Republic of South Sudan now have to address the issue of sharing and managing the Nile waters allocated to the Sudan under the 1959 Nile Agreement. They also have to address the grazing and related water rights of the border communities in areas across some of the tributaries of the White Nile. Indeed, some of the disputed border areas that the two parties still have to resolve, including the dispute over the Abyei area, fall across the White Nile or some of its tributaries, thus extending the border disputes to water rights. The Jonglei Canal Project, as well as the other projects for conserving some of the waters of the swamps of South Sudan, could as well be on Sudan's agenda. Sudan may bring up completion of the Jonglei Canal Project as a way of providing more water for sharing with South Sudan. Aside from hydropolitics, the security situation in South Sudan may be an important factor in determining the future of the Jonglei Canal Project, as well as the other projects for conserving the waters of the swamps of South Sudan.

Moreover, South Sudan will also face the issue of its relationship with the other Nile riparians, and how to deal with the Nile Basin CFA. As indicated earlier, the six countries that have thus far signed the CFA will do their best to woo, perhaps even pressure, the Republic of South Sudan to become a party to the CFA so as to ensure that the CFA would enter into force and effect. On the other hand, Egypt and Sudan which vehemently oppose the CFA will do their best to court South Sudan to their side, or at least keep it neutral on this issue. It remains to be seen how South Sudan will address this matter.

The centrality of water resources in the issues that need to be addressed in post-conflict situations has been reconfirmed by the emergence of South Sudan as an independent state. In this case, the issues and their implications go well beyond Sudan and the new Republic of South Sudan, and extend to the other riparian states of the Nile Basin.

REFERENCES

- ABC (Abyei Boundaries Commission). 2005. *Abyei Boundaries Commission report*. Djibouti: Intergovernmental Authority on Development. www.sudantribune.com/TEXT-Abyei-Boundary-Commission,11633.

- Alier, A. 1990. *Southern Sudan: Too many agreements dishonoured*. Exeter, UK: Ithaca Press.
- Baker, S. W. 2002. *The Albert N'yanza Great Basin of the Nile and explorations of the Nile sources*. Torrington, WY: Narrative Press.
- Bob, A. M. 2009. *Southern Sudan: The debate of unity and secession* [in Arabic]. Khartoum, Sudan: University of Khartoum.
- Collins, R. O. 1996. *The waters of the Nile: Hydropolitics and the Jonglei Canal, 1900–1988*. Princeton, NJ: Markus Wiener Publishers.
- . 2002. *The Nile*. New Haven, CT: Yale University Press.
- Dafalla, H. 1975. *The Nubian exodus*. London: C. Hurst.
- Gaitskell, A. 1959. *Gezira: A story of development in the Sudan*. London: Faber and Faber.
- Garang de Mabior, J. 1981. *Identifying, selecting and implementing rural development strategies for socio-economic development in the Jonglei projects area, Southern region, Sudan*. Ph.D. diss., Iowa State University.
- Garretson, A. H. 1967. The Nile Basin. In *The law of international drainage basins*, ed. A. H. Garretson, R. D. Hayton, and C. J. Olmstead. New York: Oceana Publications.
- Garstin, W. 1904. *Report upon the basin of the Upper Nile: With proposals for improvement of the river*. Cairo, Egypt: National Printing Department.
- Howell, P., M. Lock, and S. Cobb, eds. 1988. *The Jonglei Canal: Local impact and opportunity*. Cambridge, UK: Cambridge University Press.
- ICCA (International Council for Commercial Arbitration). 1988. 1988 report. The Hague, Netherlands: Kluwer.
- ICG (International Crisis Group). 2007. Breaking the Abyei deadlock. Africa Briefing No. 47. October 12. www.crisisgroup.org/en/regions/africa/horn-of-africa/sudan/B047-sudan-breaking-the-abyei-deadlock.aspx.
- IMF (International Monetary Fund). 2011. *Regional economic outlook: Middle East and Central Asia*. Washington, D.C.
- Khālid, M. 1966. *Le régime international des eaux du Nil*. Ph.D. diss., University of Paris.
- Kiir Mayardit, S. 2010. Interview of the president of Southern Sudan, Mr. Salva Kiir Mayardit, by Sudanile, May 2 [in Arabic]. www.sudanile.com/index.php?option=com_content&view=article&id=14036:2010-05-02-18-05-53&catid=43:2008-05-30-16-11-36&Itemid=67.
- Makonnen, Y. 1984. *The Nyerere Doctrine of state succession and the new states of East Africa*. Arusha, Tanzania: Eastern Africa Publications.
- Moorehead, A. 2000. *The White Nile*. New York: HarperCollins.
- NBI (Nile Basin Initiative). n.d.a. About the NBI. www.nilebasin.org/newsite/index.php?option=com_content&view=article&id=71%3Aabout-the-nbi&catid=34%3Anbi-background-facts&Itemid=74&lang=en.
- . n.d.b. South Sudan admitted to the Nile Basin Initiative. www.nilebasin.org/newsite/index.php?option=com_content&view=article&id=127%3Asouth-sudanadmitted&catid=40%3Alatest-news&Itemid=84&lang=en.
- Oduho, J. 1983. Letters from Joseph Oduho, chairman of the Political and Foreign Affairs Committee of the SPLM, November 30, 1983, and December 7, 1983. *Horn of Africa Bulletin* 8 (1): 52–55.
- Petterson, D. 2008. Abyei unresolved: A threat to the North-South agreement. In *Implementing Sudan's Comprehensive Peace Agreement: Prospects and challenges*. Washington, D.C.: Woodrow Wilson International Center for Scholars, Africa Program.

354 Water and post-conflict peacebuilding

- Ramsar Convention Secretariat. 2012a. Contracting parties to the Ramsar Convention on Wetlands. May 31. www.ramsar.org/cda/ramsar/display/main/main.jsp?zn=ramsar&cp=1-36-123^23808_4000_0__.
- . 2012b. The Ramsar list of wetlands of international importance. June 4. www.ramsar.org/cda/en/ramsar-documents-list/main/ramsar/1-31-218_4000_0__.
- Reuters. 2010a. Egypt asserts right to block upstream Nile dams. May 18. www.reuters.com/article/2010/05/18/idUSLDE64G1D0.
- . 2010b. Ethiopia PM warns of Nile war. Nov. 24. <http://english.aljazeera.net/news/middleeast/2010/11/20101124152728280839.html>.
- Salman, S. M. A. 2007. The Helsinki Rules, the United Nations Watercourses Convention and the Berlin Rules: Perspectives on international water law. *International Journal of Water Resources Development* 23 (4): 625–640.
- . 2008. Water resources in the Sudan North-South peace process: Past experience and future trends. *African Yearbook of International Law* 16:299–328.
- . 2010. The Abyei territorial dispute between Northern and Southern Sudan and the decision of the Permanent Court of Arbitration. *Nature of Law Newsletter*, September. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTLAWJUSTICE/0,,contentMDK:22607203~pagePK:148956~piPK:149081~theSitePK:445634,00.html>.
- . 2011. The new state of South Sudan and the hydro-politics of the Nile Basin. *Water International* 36:154–166.
- . 2013. The Abyei territorial dispute between North and South Sudan: Why has its resolution proven difficult? In *Land and post-conflict peacebuilding*, ed. J. Unruh and R. C. Williams. London: Earthscan.
- Schomerus, M., and T. Allen. 2010. *Southern Sudan at odds with itself: Dynamics of conflict and predicaments of peace*. London: Development Studies Institute, London School of Economics. www.academia.edu/266877/Southern_Sudan_at_odds_with_itself_Dynamics_of_conflict_and_predicaments_of_peace.
- Southern Sudan Referendum Commission. 2011. SSRC announces final referendum results. February 8. <http://southernsudan2011.com/Sudan>.
- SSCCSE (Southern Sudan Centre for Census Statistics and Evaluation). 2009. *Statistical yearbook for Southern Sudan 2009*. Juba.
- Sudan Tribune. 2009a. Sudan Misseriya community refuse to implement Abyei ruling. October 5. www.sudantribune.com/spip.php?article32687.
- . 2009b. Jonglei Canal Project needs to be revised, South Sudan says. August 7. www.sudantribune.com/spip.php?article32062.
- . 2009c. Sudan parliament adopts Abyei referendum law amid Messeriya protest. December 30. www.sudantribune.com/spip.php?article33635.
- . 2010. Sudan's SPLM & NCP sign MOU on post-referendum arrangements. June 27. www.sudantribune.com/spip.php?article35494.
- Terralink. 2009. Abyei arbitration: Final award map. <http://reliefweb.int/map/sudan/sudan-abyei-arbitration-final-award-map-22-jul-2009>.
- Tvedt, T. 2004. *The River Nile in the age of the British: Political ecology and the quest for economic power*. London: I. B. Tauris.
- UNHCR (United Nations High Commissioner for Refugees). 2009. Deteriorating security in parts of South Sudan hampers refugee returns. March 24. <http://www.unhcr.org/49c908c92.html>.
- UNSC (United Nations Security Council). 2011. Resolution 1990. S/RES/1990 (2011). June 27.

- von Braun, J., and R. Meinzen-Dick. 2009. "Land grabbing" by foreign investors in developing countries—Risks and opportunities. Policy Brief No. 13. Washington, D.C.: International Food Policy Research Institute. www.presentationsistersunion.org/_uploads/fcknw/Land_Grabbing.doc.
- Wai, D. 1973. *The Southern Sudan: The problem of national integration*. London: Frank Cass.
- Waihenya, W. 2006. *The mediator: Gen. Lazaro Sumbeiywo and the Southern Sudan peace process*. Nairobi, Kenya: Kenway Publications.
- Waterbury, J. 2002. *The Nile Basin: National determinants of collective action*. New Haven, CT: Yale University Press.
- Yongo-Bure, B. 2007. *Economic development of Southern Sudan*. Lanham, MD: University Press of America.

