

Nile Basin Cooperation

A Review of the Literature

Dahilon Yassin Mohamoda

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List of Acronyms

AWIRU	African Water Issues Research Unit
CIDA	Canadian International Development Agency
ENSAP	Eastern Nile Subsidiary Action Program
FAO	Food and Agriculture Organization
HDI	Human Development Index
HYDROMET	Hydrometeorological Survey of the Catchments of Lake Victoria, Kyoga and Mobutu
ICCON	International Consortium for Cooperation on the Nile
IGAD	Inter-Governmental Authority on Development
ILC	International Law Organization
IPCC	Intergovernmental Panel on Climate Change
KBO	Kagera Basin Organization
MENA	Middle East and North Africa
NBI	Nile Basin Initiative
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
Nile-COM	Nile Council of Ministers
Nile-SEC	Nile Secretariat
Nile-TAC	Nile Technical Advisory Committee
NGO	Non-Governmental Organizations
NRBAP	Nile River Basin Action Plan
OAU	Organization of African Unity, since 2002: AU, African Union
PoE	Panel of Experts
PJTC	Permanent Joint Technical Commission on the Nile
RBO	River Basin Organization
SAP	Strategic Action Program
SEI	Stockholm Environment Institute
SPLM/A	Sudan and the Sudanese People's Liberation Movement/Army
SWSI	Social Resource Water Stress/Scarcity Index
SVP	Shared Vision Program
TECCONILE	Technical Cooperation Committee for Promotion of Development and Environmental Protection of the Nile Basin
TFDD	Transboundary Freshwater Dispute Database
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
WaterGAP	Water-Global Assessment and Prognosis
WEAP	Water Evaluation and Planning System

The Nile Basin



The Nile Basin

Source: *The Nile*, 2002, by Robert Collins.

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Dahilon Yassin Mohamoda

Oslo, May 2003

1. INTRODUCTION

The River Nile, the longest river in the world, is a source of life to millions of people. The Nile basin is broad, embracing nearly 2 million square miles of equatorial and north-east Africa (one-tenth of the African continent). A detailed description of the Nile River is provided by Collins' recent book entitled, *The Nile* (2002). As Collins observes, what make the Nile distinct "is not its volume but its rich and colourful history, its profound role in shaping human civilization in Africa, and the absolute dependency on the river and its vagaries of those who live in its basin" (2002:11). The quantity of freshwater carried by the Nile, in terms of volume, is a mere cup (2 per cent) of the Amazon, perhaps a glass (15 per cent) of the Mississippi, or at best a pitcher (20 per cent) of the Mekong (ibid.).

The Nile waters are derived from rainfall coming from two major areas: the Ethiopian Plateau and the mountainous hinterland of the Great Lakes. The Blue Nile, which is known as Abbay in Ethiopia, has its source at Lake Tana in north-western Ethiopia. The Blue Nile consists of numerous tributaries and its flow varies following the rainfall pattern in the Ethiopian highlands. From its major source, Lake Victoria, one of the largest freshwater lakes of the world, the White Nile flows northwards through Uganda and into the Sudan. At Khartoum the Blue Nile and the White Nile merge into a single River Nile. 320 km north of Khartoum it is joined by the Atbara River that rises in the Ethiopian Highlands. The Nile receives no additional water during the rest of its 3,000 km journey through the desert to end up in the Mediterranean Sea.

Ten countries: Burundi, the Democratic Republic of the Congo (former Zaire), Egypt, Eritrea, Ethiopia, Kenya, Rwanda, the Sudan, Tanzania and Uganda make up the Nile River Basin. Only the Danube and the Niger Rivers have an equal or greater number of countries sharing their banks. Water contribution to the River varies from Ethiopia, which contributes the most, to Egypt that has nothing to contribute yet is totally dependent on the Nile waters. Many of the Nile basin countries are located at the source, while others are at the receiving end, and the upstream and downstream countries consequently have different needs and interests.

It is estimated that about 150 million people live within the basin and twice that number within

the countries that share the Nile waters. Despite the rich resources of the Nile, many of the basin countries are characterised by poverty (about half of the riparians are among the ten poorest countries in the world), widespread conflict, environmental degradation, and frequent natural disasters such as drought and famine. The Nile basin is one of the five regions, which have been identified as critical regions in the analysis of inter-connections between water, food, poverty, and urbanization (Vakkilainen and Varis, 1999; Varis, 1998a).

During the past decade, two parallel and inter-related developments can be identified in the Nile basin. Emphasis on potential conflict over the Nile waters on the one hand, and the evolving process of basin-wide cooperation on the other. Reports on water resources by UNEP, 1999; FAO, 2002; and the World Bank, 2000; all predict a serious water shortage on a global level. It is argued that the infinite supply of the World's freshwater resources will not be able to match the rapidly growing demands for water.

Many observers and analysts have thus warned that the water conflicts in the near future are likely to replace the oil conflicts of the 20th century (Gleick, 1993, 1998; Brown 1999). It is predicted that the population living within the Nile basin will double by 2025. Factors like the rapidly growing population combined with the ecological consequences, and the increasing agricultural and industrial development which demands more and more water, are expected to make the potential for conflict over the Nile waters greater than ever.

Tensions and conflicts are not new in this region as the history of the Nile basin is dominated by conflicts. Relationships between major Nile basin countries have been described in terms of mutual distrust, competition and confrontation, and this is reflected in the volumes of books and articles written on this river. There is, however, as Brunnee and Toope observe another aspect of the story to be told; a story of nascent regime change and growing cooperation among the basin countries (2002:131). Many attempts have been made by the Nile basin countries to cooperate or obtain agreement on the utilisation of the Nile waters during the last three decades. None of these efforts, however, succeeded in bringing together all the countries that share the Nile basin. The process of the Nile Basin Initiative (NBI), which began in early 1990s, is the exception. For the first time, all the ten countries agreed to cooperate on development of the Nile basin to promote common benefits of all the countries that share its waters. Many

donors have made formal pledges to support the initiative and it can be argued that the process so far has registered significant achievements, while a number of serious problems and challenges remain.

This paper focuses on attempts of cooperation on the Nile waters, and its purpose is to review recent literature on the Nile basin cooperation.

Literature on the Nile is vast and embraces wide range of subjects. Comprehensive bibliographies on the River Nile already exist. *The Waters of the Nile: an annotated bibliography* (1991) by Robert Collins, and *The River Nile and its Economic, Political, Social and Cultural Role: An annotated bibliography* by Terje Tvedt published in 2000 covers extensive literature on wide range of topics. Tvedt's work together with another bibliography, *An Annotated Bibliography on the Southern Sudan, 1850–2000* (2000) provides an excellent overview of literature on the River Nile, its economic, political, social and cultural role.

This paper is confined to post-cold war literature on Nile basin cooperation and issues related to this process. It covers the period 1989 to 2002¹. The paper is limited to English literature, while it is recognized that there are many publications in other languages, such as Arabic and Amharic that could have provided further insight into the issue. This literature review does not claim to be exhaustive. It is rather an attempt to give an overview and cover the major literature on the Nile cooperation and issues related to it, focusing on more recent literature.

After the introduction, Chapter Two surveys the debate on water scarcity and its consequences, to place the discussion on Nile cooperation in a broader context. This is followed by a discussion of legal issues related to the Nile, with a focus on the utilization of the Nile waters.

In Chapter Four, conflict and cooperation along the Nile is addressed in general terms to give a background to a more detailed discussion on Nile cooperation. The remaining three Chapters deal with various attempts at cooperation in the basin, focusing on the divergent interests of riparian countries and the challenges ahead.

2. WATER SCARCITY: CAUSE OF CONFLICT OR OPPORTUNITY FOR COOPERATION?

2.1. What is water scarcity?

Terms and concepts such as water scarcity, shortage, barrier, stress, rationality, water wars and water security are commonly used terminologies in current water discussions and debate. Some of these terms and concepts are used interchangeably at times. Some have been around for a while and others were introduced in recent years. Establishing exactly what water scarcity (which is our main concern here) refers to, however, is not an easy task. The concept is attributed to a Swedish hydrologist Malin Falkenmark (1986, 1989). Using a water barrier scale measured by persons/flow unit, Falkenmark quantified water availability and categorised it into different stages such as *Water Stress, Chronic Scarcity, and Beyond the Water Barrier*. The inverse of her water scarcity index measures by cubic metre per year and person has been widely accepted and used by many analysts to assess and predict water availability.

According to a growing consensus among water experts, water scarcity, refers to a situation where the annual supply of renewable freshwater is less than 1,000 cubic metres per person (1 cubic metre equals 1,000 litres). Freshwater projections and analysis by the World Bank (1993, 1999) Population Action International (Gardner-Outlaw and Engleman, 1997), the Food and Agriculture Organisation (1998, 2000a), and many other researches are based on this figure. Based on this index, Olli Varis (2000) has compared populations with the available runoff for five critical regions of the world (China, South Asia, Southeast Asia, West Africa and the Nile region) and found that the Nile basin is by far the most water scarce region.

Whilst a threshold such as 1000m³/capita is useful for reference purposes and comparison, several scholars have pointed out that there are a number of problems involved in using such an index, due to the need to take into account a wide variety of factors that affect estimates of freshwater availability (Abrams, 1997; Allan, 1997; Gliick, 1993; Ohlsson, 1998; Turton, 1998, 1999a; Winpenny, 1997). Factors which are difficult to predict include population projections, climatic change patterns and their impact on future water resources, future adaptability of capacity to water scarcity, future food production trends, and agricultural water consumption patterns. Abrams

1. Godana (1985) is the exception.

(1997), and Ohlsson (1998, 1999, 2000) have further argued that the concept of water scarcity is relative and hence is a social construct determined both by the availability of a water supply and by its consumption patterns. Ohlsson who focused his studies on the social dimension of water scarcity took the term a step further by introducing the concept of *social scarcity* and as its measurement the *Social Resource Water Stress/Scarcity Index* (SWSI) (1998, 2000, Ohlsson, et al., 1999, 2000). SWSI is built on a combination of traditional hydrological indices and the Human Development Index (HDI).

In recent years, water measurement and assessment have advanced in terms of methodology, techniques, and tools employed. Consequently, different predictions or scenarios supported by sophisticated computer modelling have been developed. Such tools include:

- World Water Vision by World Water Council (Cosgrove, and Rijsberman, 2000; Rijsberman, 2001);
- Globesight—Global Foresight—developed by the Case Western Reserve University, USA (Sreenath, 2001);
- WaterGAP—Water-Global Assessment and Prognosis—developed by the Centre for Environmental Systems research at the University of Kassel (Alcamo et al., 1997, 2000);
- The Water Evaluation and Planning System—WEAP—developed by the Stockholm Environment Institute—SEI (SEI, 2001).

These models employ different approaches and have been discussed by Van der Helm, and Kroll (2002). Other prediction and scenario analyses include works by: Gallopin et al., 1997; Gleick, 1997; Raskin et al., 1998; Seckler et al., 1998; and Shiklomanov, 1998. A comprehensive review of most of these models and scenario projections is provided by Gleick (2000).

The above models and projections are important in understanding the complexities involved in water issues and are helpful for water policy making, but are far from reliable. The problem is not only imprecision in the estimates, but also that the gaps between different assumptions are so immense that it becomes difficult to draw comparisons at times. The debate between water pessimists and water optimists is partly based on such divergent assumptions (Allan, 1997). Allan points out that the divergence in assumptions between the pessimists and the optimists is so wide that they cannot communicate (1997:10). Although water

pessimists are wrong, he adds, their pessimism is very useful in terms of their contribution in shifting belief systems of the public and putting pressure on politicians to act. Otherwise, politicians will treat water as a low policy priority, delaying innovations necessary to tackle water challenges (ibid.).

2.2. The debate: water scarcity and its potential consequences

2.2.1. *Water scarcity will ultimately lead to “water wars”*

Post-cold war writings on freshwater focused mainly on what has been perceived as an imminent crisis of water shortage. The literature here is enormous and examples are: Biswas, 1994; Falkenmark, 1989; Gleick, 1993; Homer-Dixon, 1995, 1996; Leslie, 2000; Ohlsson, 1995; Postel, 1996, 1997. Several writers, moreover, asserted that increased demand for freshwater would most likely lead to conflicts and even wars (Biswas, 1991; Bulloch and Darwish, 1993; de Villiers, 1999; Gleick, 1994; Starr, 1991). Several publications emphasise conflict over water resources, especially in the Middle East. Allan has critically reviewed five of them, and points out the context in which such works have to be read (Allan, 1999f). The assertion that water scarcity increases as population grows, and hence competition for scarce water resources will lead ultimately to “water wars” lies at the centre of this argument. Turton (1998) calls such linkage a type of linear thinking or Malthusian type discourse.

The idea of “water wars” is traced back to Joyce R. Starr’s 1991 article with precisely the same title. The issue of water scarcity and its potential consequences have not received the kind of attention it deserves, Starr argued, despite availability of sufficient evidence which indicates that regions such as the Middle East, North Africa and the Gulf are approaching serious water shortages. He further added that water has become a strategic issue that needs to be addressed accordingly. Otherwise, he warned, water security would soon rank with military security in the war rooms of defence ministries. Similarly, Bulloch and Darwish, 1993; Gleick, 1994; and de Villiers, 1999 have emphasised that water scarcity will most likely lead to water wars especially in arid and semi arid areas such as the Middle East and North Africa.

“The only matter that could take Egypt to war again is water,” declared President Anwar Sadat in the spring of 1979, just days after signing the his-

toric peace treaty with Israel. This declaration was directed not at his former enemy, Israel, but at Ethiopia (Starr, 1991). In 1990, the late King Hussein of Jordan repeated a similar warning that water was the only issue that could prompt war between Jordan and Israel. Both Ismail Serageldin, a vice president of the World Bank and the UN Secretary-General Kofi Annan, predicted in mid 1990s that future wars will be over freshwater resources. The above statements, which are frequently quoted, have become part and parcel of discussions on water scarcity and conflict.

In his recent book entitled *Resource Wars* (2001), Michael Klare, who is an expert on warfare and international security, explores prospects for global war and peace in the years ahead. He argues that the wars of the future will largely be fought over the possession and control of vital and scarce resources such as oil and water. His presentation is a contrast to that of other security analysts like Samuel Huntington (1996) whose Clash of Civilizations theory contends that cultural differences, such as between Muslim and Christian will become a distinctive feature of post-cold war global security. Klare dedicated two chapters of his book (Chapters Six and Seven) to analysis of the challenges posed by growing water scarcity, and identifies potential areas of conflict as the Nile, Jordan, Tigris-Euphrates and Indus River Basins.

2.2.2. Arguments against “water wars”

Argument against the widely held opinion that water scarcity poses one of the major risks for international conflict is mainly represented by Aaron T. Wolf (1998). Wolf puts forward at least four arguments against the plausibility of future “water wars”: historical arguments, strategic arguments, shared interest arguments and institutional resiliency arguments. The first argument is based on historical analysis of water resource agreements and conflict, and Wolf concludes that there is no historical evidence that countries had ever gone to war over water resources. Future “water wars” are not plausible, he argues, simply because such war is not logical from *strategic* point of view, while common interest or *shared interest* which are exemplified regularly in treaties, usually outweigh the alternative of going to war over water disputes. Lastly, Wolf argues that once cooperative water regimes are established through treaty, and water management institutions are in place, they tend to be consistently resilient, even in conflict situations. Wolf thus concludes that interstate wars over wa-

ter resources are unlikely, because war over water does not seem to be strategically rational, hydrographically effective or economically viable.

Ohlsson in his study of “Environment, Scarcity, and Conflict” (1999) argued that the risk of conflicts within countries is more likely. According to Ohlsson, the risk of international conflict over shared water resources is derived from the necessity to avoid what he defined as second-order conflicts (will be explained later) within countries caused not by water scarcity itself, but by the institutional change required to adapt to water scarcity.

Tony Allan addresses the question as to why there had been no water wars in Middle East and North Africa (MENA) despite predictions and warnings by both politicians and academicians. The main reason, he explains, is because the Middle East and North African regions have been able to access water in the global system via trade in a form of what he termed “virtual water” or food imports. “Virtual water” is the water embedded in key water-intensive commodities such as wheat (Allan, 1997).

Both Peter Beaumont (1994) and Turton (2000b, 2000c), dismiss the notion that water shortages will lead to wars as a simplistic prediction or myth.

The above authors contend that there is little empirical evidence supporting a causal relationship between water scarcity and conflict or do not believe that water scarcity in itself will lead to major wars. They do not, however, undermine the connection between water resources and political instability, and emphasise the necessity of cooperation in order to cope with water scarcity and avert a water crisis (Glieck, 1998; 2000; 2002; Homer-Dixon, 1999; Turton, 2000c; Wolf, 1998).

2.3. Other perspectives

The debate on water scarcity and its consequences has triggered a great deal of research. Several scholars have provided insight into problems and challenges of freshwater and made valuable contributions. Some of these works are briefly discussed below.

Allan has developed the concept of “virtual water” that he suggests as a solution for water deficit economies (1992; 1994; 1996a; 1996b; 1997; 1998a; 1998b; 1999b; 1999c; 1999d; 1999e). Food production requires about ninety per cent of a community’s water, he argues, and the major indicator of the scale of the water deficit of an econ-

omy is the level of its food imports. Based on these criteria, Allan asserts that Egypt ran out of water in the 1970s, while the Sudan has some way to go before it fully utilises the share of the Nile it agreed on with Egypt (1997).

According to Allan, more water flows into the Middle East each year in “virtual form”, embedded in cereal imports, than flows down the Nile into Egypt for agriculture. He thus argues that the solution for water deficit economies is found not in the narrowly defined hydrological systems or watersheds, but in the political economy of the global trading system or “problemsheds”. “Virtual water”, as a solution, however, requires fundamental change and adjustments in the way of life and hence requires a substantial social adaptation in areas such as land and water use patterns. It requires abandoning the principle of food self-sufficiency and accepting dependency on other countries for food supply.

Sandra Postel in her book, *Pillar of Sand: Can the Irrigation Miracle Last?* (1999) underlines problems involved in depending on traditional irrigated agriculture as a means of securing food supplies. In agreement with Allan, she recommends more efficient use of water resources through investing in micro-agricultural projects rather than in large-scale irrigation projects, and to allocate water to the most economically efficient sectors such as industry. Postel recognises the need to halt expansion in the irrigation sector and allocate scarce water to more efficient sectors, but also acknowledges that conflicts can arise due to such a policy on both the domestic and international levels. She states, “whether international or domestic, tensions over water scarcity have the potential to incite civil unrest, spur migration, impoverish already poor regions, and destabilise governments” (Postel, 1999:162).

Leif Ohlsson provides an important insight into water resource complexity through his analysis, which links water scarcity to society’s adaptive capacity or social resources (1998, 1999). What is essential, according to his argument, is not the availability of water resources in itself (first order resource), but rather how a society adapts to changes in water supply (second order resources). In this sense, the social adaptation capacity of a country determines the extent to which this country can cope with the problem of water scarcity. The success of Israel in overcoming water scarcity is given as an example of such capacity. Water management is depicted as being a series of oscillations between a first-order scarcity of the natural

resource water and a second-order scarcity of the social resources required to successfully adapt to the first-order scarcity, much like the turning of a screw. In other words, the focus shifts between managing first-order conflicts over the scarce resource itself; and managing second-order conflicts, caused by the very means societies employ to overcome the first-order scarcity (Ohlsson, 2000; Ohlsson and Lundqvist, 2000; Ohlsson and Turton, 1999). Thomas Homer-Dixon has explored a view similar to Ohlsson’s “second-order resource” through a concept of “ingenuity” (1995; 1996).

The Transboundary Freshwater Dispute Database project of the Oregon State University directed by Aaron T. Wolf has produced a searchable database of summaries and text of 150 water-related treaties. The study found only seven disputes where water seems to have been at least a partial cause for conflict and the last war over water was fought 4,500 years ago. On the other hand, 3,600 treaties have been signed historically over different aspects of international waters, and these treaties have proved effective in dealing with water related disputes. The historical patterns, the study summarises, suggest that the more valuable lesson of international water is to regard it as a resource whose characteristics tend to induce cooperation and induce violence only as an exception.

Postel and Wolf in an article, “Dehydrating Conflict” (2001), point out that the debate over whether there will be water wars or the obsession with such an idea has obscured an important question. The question as to how and why tensions develop goes beyond the simplistic cause-and-effect equation that water shortages lead to wars. They thus attempt to identify the early signs and likely locations of water-related disputes, and suggest what governments and international agents can do to prevent the eruption of violence and political instability. The Nile basin is identified as one of the potential conflict areas over water resource. Postel and Wolf conclude that the key is establishing a process of cooperation early in the trajectory before serious hostilities erupt that make it difficult for nations to sit around a negotiating table together.

Peter H. Gleick, who is an internationally recognized expert on global freshwater resources, is President of the Pacific Institute for Studies in Development, Environment, and Security (Oakland, CA). Since September 1998, he has published a report on the state of the world’s freshwater resources every two years. His three volumes entitled *The World’s Water* (1998, 2000; 2002), which are

comprehensive and timely; provide detailed analyses on the political, economic, scientific and technological issues associated with freshwater. Topics addressed include global water crisis, conflict and cooperation over freshwater resources, global warming and water, privatization and globalization of water, and a number of other critical water related issues. Gleick et al. (2002) suggest a “soft path” or solution to hard challenges of freshwater. The central message of “soft path” is the need to change the way water is managed. It is a call to focus on ways of improving overall productivity of water rather than seek endless sources of new supply. To achieve this end, Gleick asks policy makers to reconsider how, and for what we use water (ibid.).

Turton, whose research focuses mainly on Southern African issues, has written extensively on different aspects of freshwater ranging from theoretical questions to practical issues of water management and problems of implementation. His contribution includes issues related to water management (1999a, 1999b, 2000e); discourse and theoretical issues related to water (1998, 2000a, 2002,); and “water wars” (2000b, 2000e). Turton, furthermore, has explored how Allan’s “virtual water” proposal could be applied in Southern African situation (1998, 2000d; Turton et al., 2000), and has elaborated Ohlsson’s idea of social adaptation capacity by developing some key concepts and testing the idea in various Southern African social settings (1999a).

Hydropolitics in the Developing World, a recent book by Turton et al. (2002) challenges the prevailing hydropolitics literature, which it argues is biased in favour of international river basins where conflict is high. The book is distributed free of charge as part of the commitment of the African Water Issues Research Unit (AWIRU) to building capacity in the Southern African Water Sector. It is argued that there are four elements of bias inherent in the current literature on hydropolitics:

- The first bias refers to water and conflict, where the literature focuses on conflict and cooperation within the framework of the state or where the state is mostly used as the unit of analysis.
- The second category of literature seeks to place water within a broader environmental setting and water is seen as being a component of the environment, with a variety of inherent conflict drivers.
- The third body of literature referring to water and security aims at drawing attention to the

element of crisis within the water sector and consequently politicises, or “securitizes” the management of water resources.

- The fourth group of literature focuses on the social and cultural components of water and as the result tends to examine water in a more abstract and less empirically defined sense.

The point of departure of this book is a new definition of hydropolitics. Hydropolitics is here suggested as a study of the authoritative allocation of values in society with respect to water. Issues of scale and range are two central elements in this new definition. The scale considered as a vertical dimension of hydropolitics covers a range of issues from the individual, to the household, village, and city, social, provincial, national and international level with a number of undefined levels in between. The range which is a horizontal dimension is almost infinitely wide, and includes issues such as conflict and its mitigation, states and non-state actors, water service delivery, water for food, the social value of water, the political value of water, etc.

This collection of essays in this sense seeks to expand the concept of hydropolitics, and thereby to contribute to its development as a discipline by introducing the issues of scale and range in a systematic manner.

3. LEGAL ASPECTS OF UTILIZATION OF THE NILE WATERS AND THE NILE BASIN COOPERATION

3.1. Principal treaties and agreement regarding the utilization of the Nile waters

A very good review of the treaties and agreements over the Nile waters is given in *The Transboundary Freshwater Dispute Database* (TFDD), which can be accessed at <http://terra.geo.orst.edu/users/tfdd/>. Eleven bilateral treaties and agreements, dated from April 15, 1891 to November 8, 1959 are listed with summaries and the full text in many cases. Five of these treaties and agreements are signed between Great Britain and Egypt (May 31, 1949; May 7, 1929; July 16, 1952; December 5, 1949; January 19, 1950), and two between Great Britain and Italy (December 20, 1925; April 15, 1891). The remaining four treaties are signed between Great Britain and Ethiopia (March 18, 1902), Great Britain and Independent Congo (May 9, 1906), Great Britain and Belgium (November 22, 1934), and Egypt and the Sudan (November 8, 1959).

All the above legal instruments were negotiated on a strictly bilateral basis and the one party to the treaty was always Great Britain except in the case of the 1959 Nile Water Agreement signed between Egypt and the Sudan. These treaties hence were based on British colonial aspirations, and were rejected after the independence by the states on whose behalf the British signed the agreements (Collins, 1990; Godana, 1985).

An overview of the above listed treaties and agreements is given by Brunee and Toope (2002:145–148); Caponera (1993:657–659); Collins (1990); Jacobs (1993:105–115) and Wiebe (2001:746–47). A more detailed discussion is provided by Dellapenna (1997:121–134); Godana (1985:101–120, 169–199); Okidi (1990); and Waterbury (1990) while a broader historical context and political background in which these treaties and agreements were secured is examined by Collins (1990, 2000), and Tvedt (1993).

The most relevant and debated treaty regarding utilization of the Nile waters is the Agreement of 1959 (UN, 1963). The treaty aimed at full utilization of the Nile Waters, allocating 48 billion m³ to Egypt and 4 billion m³ to the Sudan per year as measured at Aswan (Article 1), excluded all the other riparian countries. The treaty further committed the Sudan to undertake additional reclamation works in the upper Sudan with the water reclaimed to be allocated equally between the two

nations (Article 3). The two countries also agreed to develop a unified view in the event where they have to discuss the treaty with other riparian countries (Article 5). The 1959 agreement institutionalized the cooperation between the two countries on Nile waters by the establishment of the Permanent Joint Technical Commission on the Nile (PJTC) with three principal functions:

- To monitor the discharge at all storage sites to make sure they are in conformity with agreed upon allocation;
- To negotiate any reductions in the basic allocation brought about by prolonged regional drought;
- To commission and supervise the engineering studies for and the actual implementation of any joint projects for water storage and supply enhancement.

The PJTC has continued to function almost without interruption through various political crises for nearly forty years (Waterbury, 2002:133). Background and prospects of the 1959 agreement is examined by Waterbury (1997a) in his article “Is the status quo in the Nile Basin viable?” While Egypt and the Sudan contend that the 1959 treaty is valid, the upstream countries led by Ethiopia reject it and stress that they have a right to exploit water resources within their borders. Consequently, the relationship between downstream countries, Egypt in particular, and most of the upstream countries led by Ethiopia have often been characterised by distrust, disagreement, adversarial actions, and threats (Godana, 1985; Kukk and Deese, 1996; Erlich, 2002). Differing perspectives on previous treaties and agreements are usually reflected in the works of writers from the respective countries. Samir Ahmed’s article, for instance, is an attempt to show the validity and legality of these treaties and agreements vis-à-vis principles and precedents of international law. He further contends that the Egyptian Sudanese Nile Waters Agreement of 1959 “contains some ‘advanced’ ideas and principles governing cooperation and sharing of efforts and burdens relative to the international river” (1990:231). Mokonnen (1997) and Kendie (1999), on the other hand, reject the validity of the Nile treaties signed during the colonial era, and underline the illegitimacy of the 1959 Nile agreement. They pointing out, that it was a bilateral agreement signed between Egypt and the Sudan to divide all the Nile waters between themselves, ignoring the rest of the riparian states.

Four more agreements and treaties can be added to the above list of treaties and agreements (Caponera, 1993:659):

- The Agreement of 1967, setting up the HYDROMET Survey project;
- The 1977 treaty establishing the Kagera River Basin Organization;
- The Agreement of December, 1992, setting up a Technical Cooperation Committee for the Promotion of the Development and Environment Protection of the Nile Basin (TECCONILE); and
- The Agreement of July 1, 1993, between Egypt and Ethiopia, which established a framework for general cooperation in the utilization of the waters of the Nile River.

The recent Nile Basin Initiative (NBI) has for the first time brought together all the riparian countries of the Nile, and has taken significant steps to implement a concrete strategy for sustainable use and development of this shared resource for the benefit of all basin countries.

3.2. International water law and the Nile

3.2.1. An overview

More than 40 per cent of the world's population live in approximately 261 international watersheds that cover more than one half of the land surface of the globe (Hamner and Wolf, 1998). Numerous treaties and agreements regulating utilization of shared water resources between states (TFDD; Wolf, 1998) have laid a foundation for the development and codification of international water law. Four principal doctrines are identified as theoretical bases of the international water law: absolute territorial sovereignty (the Harmon Doctrine), absolute territorial integrity, limited territorial sovereignty, and community of interest. The doctrine of absolute territorial sovereignty insists upon the complete freedom of action of the upstream states, while that of absolute territorial integrity maintains the opposite. Limited territorial sovereignty, a view that has received much support, is an attempt to balance between the two opposing doctrines; while the theory of community interest is based on a fundamental notion that all freshwater is something that should be shared by the community (McCaffrey, 2001:112–174).

The most significant attempt to codify the principles of international water law was completed in 1966 (Helsinki Rules, 1966) by the International Law Commission (ILC) of the United Nations. These Rules, which are known as the *Helsinki*

Rules of the Uses of the Waters of International Rivers, are widely quoted, but were not adopted by the UN General Assembly because of objections from a number of states. On May 21, 1997, the UN General Assembly adopted *the Convention on the Law of the Non-navigational Uses of International Watercourses* (from now on, the Convention). The full text of the Convention is available on: <http://www.un.org/law/ilc/texts/nnavfra.htm>.

“Equitable and Reasonable Utilisation” (Article 5, 6) and “No Significant Harm” (Article 7) are among the most fundamental principles of the Convention (McCaffrey, 2001). The Convention requires states to use international watercourses in an equitable and reasonable manner (Article 5.1) and to “take all appropriate measures to prevent the causing of significant harm to other watercourse States” (Article 7.1). Equitable and reasonable use within the meaning of Article 5 requires taking into account a number of relevant factors and circumstances which include:

- Geographic, hydrographic, climatic, ecological and other natural factors;
- The social and economic needs of the watercourse states concerned;
- The population dependent on the watercourse;
- The effects of the use of the watercourse by one state on other watercourse states;
- Existing and potential uses of the watercourse; and
- Conservation, protection, development and the economy of use of the water resources of the watercourse, and the costs of measures taken to that effect (Article 6.1).

The Convention also stresses that none of the uses of international watercourse is to be given priority (Article 10.1), and in the event of a conflict, it shall be resolved “with special regard being given to the requirements of vital human needs” (Article 10.2).

The downstream states, principally Egypt and the Sudan to some extent, stress the “historical use” doctrine, or “no harm” doctrine, declaring that upstream riparians may not use shared waters in a way harmful to downstream riparian states. Upstream states, on the other hand, favour the Harmon Doctrine, holding that as a matter of sovereignty, states may use water within their borders unconditionally (Bruneel and Toope, 2002; Godana, 1985; Kukk and Deese, 1996; Waterbury, 2002; Wiebe, 2001). Such views were clearly reflected during negotiations on the UN Watercourse Convention (1997), and especially when draft provisions regarding equitable utilization

and no harm rules were debated (Brunnee and Toope, 2002:150). The Convention is not yet in force, as it has not attracted the number of states required for ratification. McCaffrey, who is a recognized authority in the field, argues that the Convention constitutes a milestone in the development of the law governing internationally shared freshwater resources, and that it will have significant bearing upon member states even if it does not enter into force (2001:315–317). Many scholars share his view, and consider the 1997 UN Convention a significant achievement (Brunnee and Toope, 2002; Sherk et al., 1998, Wiebe, 2001). Critics disagree. Though the convention is a useful step, they argue, it did not go far enough; it is vague or contradictory at times, and hence difficult to operationalise (Barandat et al., 1998; Beaumont, 2000; Biswas, 1999; Wolf, 1999). Biswas (1999), for instance, concludes that the Convention is very broad, general, vague, and thus is likely to be of only limited help to the negotiators on the various international watercourses. Tarlock (2000) asserts that it focuses too heavily on developing watercourses for economic use and too little on conservation.

The legal dimension of sharing water resources has always been at the centre of the Nile question, and the issue has hence been addressed by many scholars. Brunnee and Toope, 2002; Caponera, 1993; Carroll, 1999; Dellapenna, 1997; Flint, 1995; Godana, 1985; Lemma, 1994; Tamrat, 1995, are a few examples.

A book by Bonaya A. Godana (1985), *Africa's Shared Water Resources: Legal and institutional aspects of the Nile, Niger, and Senegal River systems* could be considered as the first significant attempt to address the legal dimension of the Nile in some detail. A review of the legal arrangements drawn up to establish rules governing the efforts to control or alter the flow of the Nile over the last century, by Waterbury (1990), is a very good overview of legal issues at the centre of the Nile water utilization. Flint (1995), a year after ILC presented draft Articles on International Watercourses to the UN General Assembly for approval, and two years before it was to be adopted (the Convention), discussed the potential implications of International Watercourse Law for the Nile. He pointed out problems related to core articles dealing with water utilization in general and the implementation of these articles in the Nile context in particular.

Legesse Lemma (1994) examines utilization of the Nile waters by Ethiopia and Egypt in the context of the Helsinki Rules from an Ethiopian per-

spective. Dante Caponera (1993) analyses the legal aspects of allocation and management of water resources in the Nile and two other river basins in the Middle East, while Joseph Dellapenna (1997) explores the effectiveness and limitations of customary, international, and treaty law in resolving disputes over international water resources through examination of the Nile as a legal and political structure. A comprehensive and in-depth analysis of the role of law in shaping the changing Nile basin regime is provided by Brunnee and Toope's recent article (2002), which has been used extensively in the following section.

3.2.2. *The recent water law convention and its implications for recent Nile basin cooperation*

The idea of water entitlement, underlying the “equitable and reasonable utilisation” and “no significant harm” principles briefly discussed above, has always been and still remains at the centre of controversies over the question of sharing the Nile waters. The relationship between the two principles is examined by Waterbury (1997b) and World Bank Technical Paper No. 414 (Salman, 1998); while a comprehensive and in-depth analysis is provided by McCaffrey (2001). Wolf (1999) explores the question of equitable measures for water-sharing agreements in the context of global hydropolitics as exemplified in the Transboundary Freshwater Dispute Database. Other scholars have gone beyond discussion of these principles and attempted to propose “solutions” for water allocation or define measurable criteria on the basis of which water resources could be allocated to the riparian countries.

Wolf (2000) turns to indigenous approach, in search of guidelines to help resolve water conflicts between modern nations. He investigates how indigenous peoples approach conflict brought about by water scarcity and fluctuation in the context of current international hydropolitics. Lessons learned from the indigenous experience, which are applicable to modern problems along international waterways, include:

- Allocation of water by time not quantity or specific volumes;
- Prioritization of different demand sectors.

Smith (1996) suggests the establishment of a basin-wide mechanism, whereby the Nile states especially Egypt, the Sudan, and Ethiopia could buy and sell water rights from one another as one of the possible components of an agreement that could lead to collective improvements.

Beaumont (2000) who examines the 1997 UN Convention critically, proposes allocation of available waters under two major guidelines: 50 per cent of water is to be allocated on the basis of where the water flow is generated, and the remaining 50 per cent on the basis of historical use or based on principles of “prior appropriation”. He then applies his rules on the Euphrates and the Nile River basins, coming up with a detailed water volume for each riparian state. It is suggested that the estimated 89,000 MCM Nile waters could be allocated as follows: Ethiopia 35,850 MCM; Eritrea 850; the Sudan 12 380; Egypt 23,370; and the remaining 16,550 is to be divided among the rest of Nile basin countries (2000:491–494). Zaag et al. (2002), put forward more sophisticated allocation criteria both in terms of methodology and the variables taken into account. Six criteria and allocation algorithms that operationalise the equity concept are developed and applied to the Orange, Nile and Incomati Rivers. The authors argue that criteria that consider all (blue and green) water resources¹ and use the basin population as the main allocation variable yield the most equitable water allocation.

The above proposals, as noted by some of the authors themselves, are not meant to provide a recipe for equitable allocation of shared water resources, but are instead intended to initiate further discussions or provide a basis for negotiations between riparian states (Beaumont, 2000; Zaag et al., 2002).

The Nile basin countries have shown interest in codification of the 1997 UN Watercourse Convention and nearly all Nile basin countries participated in discussions of drafting its text. Voting records on the final texts of Articles 5, 6 and 7, which refer to equitable utilization and no significant harm principles, show that none of the Nile basin countries voted either for or against these Articles (Sherk et al., 1998). This voting pattern, Sherk et al. (ibid.) argue, attests to the relative fairness of the compromise finally reached regarding this crucial issue, and that the Convention favours neither upstream nor downstream states. In support of this argument, Brunne and Toupee (2002), maintain that “the language of the NBI appears to follow the lead of the Watercourse Convention in drawing together the equitable utilization and no

harm principles so as to neutralise both principles” (152).

When the convention was presented to the UN General Assembly, only Burundi voted against it. Kenya and the Sudan voted in favour of the convention while Egypt, Ethiopia, Rwanda, and Tanzania abstained. Eritrea, Uganda and the DR Congo were absent (UN General Assembly, 1997). The fact that a majority of the Nile basin countries either abstained or voted in favour of the Convention is viewed by many observers as confirmation that its terms in general are acceptable (Brunnee and Toope, 2002; Sherk et al., 1998; Wiebe, 2001).

The lack of international water law governing water allocation has frequently been mentioned as one of the major obstacles limiting the potential for cooperation in the Nile basin. To what extent, then, has the 1997 UN Convention succeeded in filling this gap?

Sherk et al. (1998) assert that the 1997 UN Convention goes a long way in the establishment of clear “rules of the game”, as it provides solid rules for determining the rights and duties of states regarding the fundamental question of “who gets what”. Brunnee and Toope (2002) argue that changes and improvements made regarding the fundamental principles of water entitlement in the 1997 Convention is one of the reasons for a new, more cooperative spirit in Nile basin relationships (131). Elaborating their point further, the authors maintain that the Convention makes an important contribution towards cooperation in the Nile basin, because its terms effectively “neutralise” the previous computing rules and hence deprive each side of convincing legal arguments for the priority of their claims, thereby forcing them to re-examine their entrenched positions and engage with one another to find common ground or fair solutions to their disagreements (ibid:150–153). Sherk et al. (1998) similarly argue that the governing principle of reasonable and equitable utilization levels the playing field and offers every state an opportunity to have its situation put forward.

The contribution of international water laws in general and that of the 1997 UN Convention in particular to the evolving cooperation on Nile waters has been addressed particularly by Brunnee and Toope (2002) in their article entitled, “The Changing Nile Basin Regime: Does Law Matter?” Their answer is emphatically yes.

The article opens with an observation that international law’s actual or potential contribution in promoting cooperation in the Nile basin tends

1. Blue water is renewable water that occurs in rivers and aquifers while Green water is renewable water that occurs in the soil; it is the part of the rainfall that infiltrates into the root zone and is directly used by plants for biomass production through transpiration.

to be seen by many observers as limited or that its role has been considered subordinate. The rest of the article is aimed at proving the contrary. The authors suggest that “the evolving normative framework for shared freshwater has helped to re-define both the identities and interests of key state actors in the Nile basin, moving them more recently toward more cooperative behaviour” (2002:110). This argument is illustrated through assessment of contributions of the historic Nile treaties, international water law, and various informal institutions and processes designed to promote cooperation among the Nile countries.

Brunnee and Toope conclude that international law’s role in the Nile basin is confined neither to formalising agreements previously reached through purely strategic bargaining, nor to establishing explicit entitlements. Rather, international law together with other relevant factors has played a more significant role for generations. They contend that legal norms in the Nile basin have served to articulate common understandings and to influence the evolution of previously entrenched positions and hence have assisted political change toward greater cooperation (2002:159).

Kristin Wiebe expresses her expectation that the NBI will most likely adopt the general principles of the existing watercourse legal instruments (2001:750, 754). Such expectations find support in the fact that the NBI has established a process which is expected to put in place the legal foundations of major issues including water allocation. In 1995, The Nile Initiative with support from the UNDP, launched Project D3 (one of the central projects of the NBI) to serve as a forum to maintain and monitor the legal and political dialogue surrounding Nile use (NBI, home page). A “Panel of Experts“ (PoE), composed of three law and water resources experts from each country was established in 1997, and after a series of discussions, it produced a draft text of a *Cooperative Framework* in early 2000. A *Cooperative Framework* aims at “providing the support to the Nile River Basin countries in defining an adequate and acceptable framework for co-operation that may pave the way for equitable and legitimate use of the Nile River Basin water resources” ((NBI, home page). The 9th Nile-COM meeting held in Cairo, Egypt in early 2002 recommended formation of a negotiations committee that will be mandated to work on the finalisation of the “Draft Agreement on the Nile River Basin Cooperative Framework” (ibid.).

Scholars have emphasised that reaching an agreement on such important issues which involve

difficult negotiations requires time and the determination to make serious compromises on the part of riparian countries (Brunnee and Toope, 2002; Waterbury, 2002; Wiebe, 2001). Despite the positive trends mentioned above, the Nile basin countries face enormous challenges ahead. Such challenges will be discussed later.

4. CONFLICT AND COOPERATION ALONG THE NILE RIVER

Although the Nile has historically been the key to socio-economic development for the countries along its banks, it has also been an object of political tension and conflict. (Kukk and Deese, 1996:42)

4.1. Conflicts over the Nile waters

Conflict and cooperation along the Nile River goes back as far as the time of the pharaohs. According to historians, the rulers of Egypt long ago used to send gifts to the rulers of Ethiopia to ensure an uninterrupted flow of the Nile water (Dawoud; Kerisel, 2001; Pankhurst, 2000). This was partly based on the assumption that Ethiopians were capable of interrupting or diverting the flow of the Blue Nile. Richard Pankhurst, examining such beliefs, concludes, "There is, however, little evidence that the Ethiopians ever made plans for the diversion of the Nile, let alone that they executed them. ... One may even doubt whether changing the course of the Nile, however much desired, or feared, ever lay within the technological possibilities of the time" (2000:35).

Although Egypt and Ethiopia have no common borders, the two countries linked by the Nile River share a common history, culture, and religion, and have been mutually interdependent. Ethiopia is the main source of the Nile water on which Egypt is dependent (material existence), while Egypt historically has been the source of the *abun*, or patriarch (spiritual existence), that remained the key to religious legitimacy for Ethiopia's political establishment (Erlach, 2002; Pankhurst, 2000:25).

Relations between the two countries, however, have not always resulted in harmonious exchanges of gifts as mentioned above. The modern history of the Nile is typified by tensions and conflicts. It is thus difficult to write about utilization and management of the Nile River without addressing the tensions and conflicts related to it. The literature on this subject is immense. Collins, 2002 (Chapter 12); Erlach, 2000; Erlach, 2002; Foulds, 2002; Kendie, 1999; Kerisel, 2001 (Chapter 5); Klare, 2001 (Chapter 6); Tafesse 2001; and Waterbury, 2002, are some of the most recent publications.

Conflict over the Nile waters is dominated by threats and counter-threats between Egypt and Ethiopia, which at times also involves the Sudan. Following the Suez Canal Crisis in 1956, Gamal Abdel-Nasser negotiated an agreement with the Soviet Union for the construction of the Aswan High Dam. In 1957, Ethiopia under the rule of

Emperor Haile Selassie, who was a close ally of the USA signed a contract with the U.S. Bureau of Reclamation to carry out a survey of the irrigation and hydropower potential of its Blue Nile watershed. The Bureau of Reclamation completed its multi-volume study in 1964 and identified over twenty major water projects for irrigation and hydropower developments. The total amount of water that these projects would have used was estimated at over 4 billion cubic metres (bcm) or about 5 per cent of the mean discharge of the Nile as measured at Aswan. Only the Fincha Dam project has been implemented (Waterbury, 1997:288; 2002:69, 116–118). The announcement of the survey, Waterbury states "was a clear shot across the bows of Egypt and the USSR; Egypt may have its Soviet-financed dam, but Ethiopia has Egypt's water" (1997:288).

This alliance lasted until the early 1970s, as the situation changed after the death of Gamal Abdel-Nasser in 1970 and the deposition of Haile Selassie four years later by a military coup. Anwar Sadat, who succeeded Nasser, reconsidered his country's relations with the Soviet Union and took steps to normalise relations with the USA, while the military that took power in Ethiopia allied itself with the Soviet Union. Consequently, tensions between the two Nile countries were high in the late 1970s and early 1980s, when the frequently quoted threats and statements over the Nile waters were exchanged. Egypt threatened to use the military whenever it felt Ethiopia was engaged in water projects that might reduce the amount of water in the Blue Nile. Tesfaye Tafesse for instance, lists six instances where threats of war and conflict-laden statements have been issued by Egyptian leaders and politicians between the end of the 1970s to the end of 1990s (2000:10–12). Ethiopia, on the other hand, reminded Egypt that the Nile has one of its sources in Ethiopia (Collins, 2002:213). Tensions and conflicts between Egypt and Ethiopia over the Nile waters is covered by Arsano, 1997; Collins, 2002:213–17; Kendie, 1999; Klare, 2001:153–54; Kukk and Deese, 1996:41–46; Swain, 1997; Tafesse (2001); and Waterbury, 2002:69–71.

The end of the cold war, which coincided with regime changes in both the Sudan (1989) and Ethiopia (1991), has had impact on Nile politics in the region and together with other factors has contributed to opening dialogue on cooperation in the Nile basin. The Nile waters, however, have continued to invoke tensions in this region, despite the end of the cold war and the initiative of basin-wide cooperation. Relations between Egypt and the Su-

dan, for example, deteriorated after the military coup d'état that brought Omer el Beshir to power in 1989. Tensions between the two countries mounted, particularly after the June 1995 assassination attempt on the life of the Egyptian President Hosni Mubarak in Addis Ababa, for which the Sudan was blamed. The issue of the Nile water has been raised several times during these and other conflicts between Egypt and the Sudan. Many of the writers, mentioned above in connection with Ethiopian–Egyptian relations, also address tensions and conflicts between the Sudan and these two countries involving Nile waters. Detailed analysis of the Nile in Egyptian–Sudanese relations 1956–1995 is undertaken by Warburg (2000a; 2000b).

El-Khodari (2002), Hultin (1995), and Schiffler (1998) argue that, although conflict characterised relations between Egypt and Ethiopia, and Egypt and the Sudan at times, no war has been fought over the Nile's waters in recent history, and the Nile moreover has in most cases not been a direct cause of the tensions and conflicts between these countries. Manuel Schiffler further notes "It is perhaps not by chance that the, at times vehement, rhetoric about water between Egypt, the Sudan and Ethiopia flares up whenever other conflicts enter a particularly acute phase" (1998:148). He refers to the fact that water was not the object of public verbal attacks when relations between the Sudan and Egypt were good in the 1980s, and that water is today to a much lesser degree an object of conflict between Egypt and Ethiopia, in spite of the much higher population (ibid:148). Warburg, who explored Egyptian–Sudanese relations through examination of the Nile waters, borders, and radical Islam, came to a similar conclusion. Although the Nile waters is the most sensitive issue in the Egypt–Sudanese relations, he argues, conflicts both on borders and the Nile waters are symptoms of declining relations between the two countries. Immediately following the assassination attempt on President Mubarak's life in Addis Ababa in 1995, the Nile waters and the Egyptian–Sudanese border issues featured high on the agenda, as in many previous conflicts since the Sudan achieved independence (2000b:73, 87).

This does not, however, as many writers have pointed out, underestimate the potential for conflict in the face of rapid population growth and water scarcity in the region, despite the current basin-wide cooperation initiative (Dinar and Alemu, 2000; El-Khodari, 2002; Schiffler, 1998:148; Wiebe, 2001).

4.2. Cooperation in the Nile basin

Efforts to unify the Nile basin were begun by the British after occupying Egypt in 1882 and most of the upper Nile basin later. The Nile basin was regarded as an integral whole and the plan was to establish control over its waters both hydrologically by building a series of dams, and legally, through signing treaties with or on behalf of different countries. The British policy on the Nile was directed at ensuring that there was no diminution of flows of water to Egypt (Collins, 1990). Such commitment is illustrated by the terms of the 1929 Water Agreement between Egypt and Britain, which stipulated that, "no irrigation or power works or measures are to be constructed or taken on the River Nile or its branches, or on the lakes from which it flows... in such a manner as to entail prejudice to the interests of Egypt, either reduce the quantity of water arriving in Egypt, or modify the date of its arrival, or lower its level". The British effort to control and develop the Nile basin ended with the end of its control in the region. Various attempts to cooperate or obtain agreement on the utilisation of the Nile waters had been made during the last four decades, and Egypt in particular has shown interest in pursuing some of the ideas that had been promoted by the British.

The Nile Basin Initiative is the most recent cooperative effort and includes all the Nile basin countries. This initiative will be discussed in more detail in the next section. This section will give an overview of earlier cooperative attempts in the basin, which could be said had laid ground for the current basin-wide effort.

Egypt and the Sudan coordinated their efforts to expand or obtain recognition for the 1959 agreement between the two countries. This attempt was not successful mainly because the agreement was not acceptable to the upstream states. The two countries, however, continued to pursue their own priorities by pushing for establishment of some kind of basin-wide cooperation, and have on several occasions put forward different proposals to this end.

In 1978, Egyptians and the Sudanese put forth a proposal for a comprehensive basin accord, recommending establishment of a Nile Basin Commission "to be entrusted with the tasks of conducting hydrometeorological studies, establishing data banks, sponsoring studies of river control, preparation of working arrangements of dams, and standardization of hydrological equipment and methods of measurements" (Waterbury,

1990:293). The Commission's task was thus limited for the most part to data-gathering and technical analysis pertaining exclusively to water (Waterbury, 1990:293–94). The two countries launched a campaign in 1981 to secure agreement on a more comprehensive arrangement that would provide for the planning and implementation of projects for the overall economic development of the Nile basin. Waterbury has reviewed the timing and political background to this proposal (ibid:295–96). This effort, however, achieved little beyond the Badolite (Congo) Declaration of June 7, 1981. Other major attempts to cooperate in the Nile basin include the launching of Hydromet in 1967, The Kagera Basin Organization (KBO) in 1978 and the Undugu Group in 1983.

The independence of most of the East African states in the early 1960s coincided with unpredictable and unprecedented rainfall in the region. These countries consequently, in 1961 requested that the World Meteorological Organization and FAO to make a survey of the Lake Victoria basin. Based on recommendations by these organizations, the survey was extended to cover the whole of the Lake Plateau and its equatorial lakes. The hydromet project comprising Burundi, Egypt, Kenya, Rwanda, the Sudan, Tanzania and Uganda was established in 1967, and Ethiopia joined as an observer in 1971. The project was supported by the UN agencies, which regarded it as an important step in regional cooperation and integrated river basin development. It undertook a series of surveys and provided basic training for technicians and technocrats in several of the member countries, but failed to develop an effective basin-wide cooperative arrangement. It has, however, served as a significant forum for discussions regarding the creation of a viable mechanism for regional cooperation within the basin (Tamrat, 1995:185). Collins (2002:222) provides the background of the Hydromet Project, while a good overview is given by Waterbury (1990:288–90).

The Kagera Basin Organization (KBO) was formed by the four Nile basin states that share the Kagera River: Burundi, Rwanda, Tanzania and Uganda. In July 1969, the member states took the first step for establishment of a technical committee, which was followed by identifying several potential projects. The member countries had neither the human nor material resources to carry out the identified projects, and with advice and support from the UNDP, the Kagera River Basin Survey was brought under the administrative umbrella of the hydromet survey in 1971. The principal con-

sultants, Norwegian and Swiss consultant firms, produced a 13 volume study in 1977, which included a proposal for the Organization for the Management and Development of the Kagera River Basin. This organization was formally proclaimed on February 5 1978, and a dam was proposed at Rusumu Falls on the Kagera River for hydroelectric power. The Organization is not limited to the development of water resources of the Kagera river basin, but is also interested in much broader activities such as the promotion of regional development in agriculture, transportation, communication, training and energy.

Waterbury, in this sense, refers to the Kagera Basin Organization (KBO) as “one of the most ambitious and coherent river organizations in Africa if not the world” (2002:155). The KBO, with its headquarters at Kigali in Rwanda still exists, while its projects exist only on paper, mainly due to the political instability that led to civil wars in three of the four member states, and limitations of resources (Collins, 2002:222–23; Waterbury, 1990:290–92; Waterbury, 2002:155–156).

Meanwhile, the Egyptians and the Sudanese, motivated by the OAU's adoption of a “Plan of Action for the Economic Development of Africa” at Lagos in 1980, began a diplomatic offensive for the establishment of basin-wide cooperation comprising all basin countries. Their efforts did not produce such an agreement, but resulted in 1983 in the creation of a group known as UNDUGU consisting of Egypt, the Sudan, Uganda, Zaire and the Central African Republic. Ethiopia, Kenya and Tanzania never joined the group. The term UNDUGU is derived from a Kiswahili word *ndugu*, meaning brotherhood. The group held sixty-six meetings at the technical and ministerial level between 1977 and 1992, but produced few results (Collins, 2002:223–24; Erlich, 2000:264; Laki, 1998:294–5; Waterbury, 1990:293–9).

5. THE NBI: THE NEW EVOLVING COOPERATION

This section is mainly meant to provide a broad background to the NBI both in terms of the general literature related to this initiative and what the NBI is about. It is also intended to lay a foundation for the next two sections that will address more specific aspects of the evolving basin-wide cooperation.

5.1. An overview of literature

This brief review of literature is restricted to recent and major books on the Nile, which cover a range of issues including the Nile Basin Initiative. It is confined to books published between the years 2000–2002.

The eighteen contributors to the volume edited by Haggai Erlich and Israel Gershoni (2000), as indicated by its title, present diverse histories, cultures and myths of the Nile River, as one water system. The book focuses mainly on Ethiopia, the Sudan, and Egypt, and the fact that the Nile River both connects and separates the people that share its waters is underlined. The book's central message is summarised by Erlich's introduction, where he identifies two interrelated issues. First, cultural, geographical and historical barriers separated the Nile's major cultures, and this separation not only magnified their distinctive identities, but also hampered sharing experiences, mutual understanding, and cooperation. Secondly, the myths, mysteries, and misconceptions took over where direct communication lagged behind (2000:2). He then points out the need to address and recognize barriers of all sorts, and calls upon the leaders to turn the diversities into foundation for recognition, cooperation, and mutual enrichment.

Erlich and Gershoni in the last chapter of the book, where they examine historical legacies and present concerns of the Nile states, conclude, "Only by redressing the past, by demystifying its myths, by deciphering its legacies, by deriving inspirations and attaining perspective can humankind better cope with the challenges. Only by recognizing diversity and legitimizing pluralism can regional cooperation and unity of action be achieved" (2000:271).

Jean Kerisel, who has civil engineering and archaeological background in his book, *The Nile and its Masters*, (2001) traces relations between the Nile waters and its rulers from the period of the great Pharaohs to the contemporary leaders of Egypt. He analyses how the memory of the Pharaohs has been handed down to the present leaders

through pharaonic ambitions. The building of the Suez Canal, the Aswan High Dam, and the planned New Valley and Peace Canal Project are mentioned as examples of such pharaonic ambitions, or projects driven by a dream to construct something that would measure up to the Pharaohs. While the contemporary leaders of Egypt have inherited the dreams and ambitions of the ancient pharaohs, Kerisel argues, they have not matched it with the wisdom of the ancient pharaohs which enabled them to succeed in the management of the Nile waters. He is particularly critical of the current ambitious scheme to open up a new valley, the valley of Tushka. His main point is that considering all the circumstances, it will be quite impossible for the Nile waters to serve two valleys: the main valley and the new valley of Tushka. If Egyptian leaders ignore this fact and carry on with the implementation of the New Valley Project, he warns, a time might come when the Nile will no longer be able to irrigate even the main valley.

John Waterbury's book (2002) is one of the most recent books, which explores the recent attempt to establish cooperation between regimes in the Nile basin. It is thus a very valuable source on the NBI. Waterbury examines the complex legal, political, environmental and economic issues that face the Nile basin and the ten countries that lay claim to its waters, by applying collective action and international relations theory. He proposes a series of steps, like the establishment of accords among groups of states, and the critical participation of third-parties like the World Bank, if the new initiative is to foster cooperation and environmentally sound policy. If there is to be a solution to the dilemmas and challenges of the Nile basin, Waterbury concludes, it must be based upon contractual understandings, brokered by funding third-parties, and based on the national interests of each basin state.

The Cross and the River, by Haggai Erlich (2002) is one of few books that analyses Egyptian–Ethiopian relations from the perspective of the Nile Waters in the light of a broader historical and cultural context, and it provides an excellent scholarly analysis of the centrality of the Nile River in the relationship between the two countries. Erlich, in exploring diverse relationships between the two countries, focuses his analysis on identity; how the two countries define self and the other through such self-definition, keeping the issue of the Nile River at the centre of such examination. One country's conception of the other, he points out, had always been as complex and varied as its

self-definition (2002:4). The author also raises the central question regarding the utilization of Nile waters, and emphasises the necessity of cooperation for the common benefit of all involved.

Collins, in his recent book *The Nile* (2002), examines a series of topics. There are hundreds of books about the Nile, Collins argues, but none for the general reader about all the aspects of the river (2002:ix). This book which focuses on the multiple diversity of the River Nile is intended, as he points out, for both the general reader and those with a particular interest.

Collins also discusses the Nile Basin Initiative and its challenges (ibid:80–83; 172–73). The final two chapters, “Who Owns the Nile?” and “The Waters of the World and the Nile”, briefly explore the past and recent developments that attempt to manage the Nile basin as well as international waters, and the difficulties that stand in the way of such efforts.

Tafesse’s book (2001) highlights the legal debates and cooperative endeavours in the Nile basin, on the one hand, and the hitherto existing hydropolitical positions of the Nile riparian states, on the other. In this context, the book discusses the recent efforts of the Nile basin Initiative, focusing mainly on Egypt, Ethiopia and the Sudan. It also discusses relevant issues beyond the Nile basin, and its comparative analysis of other transboundary river basins is particularly useful.

5.2. NBI background

The evolving Nile Basin Initiative (NBI) is a result of years of negotiations and renegotiations among the Nile basin countries. Let us first briefly look into factors that contributed to the new Nile Basin Initiative, before proceeding to discussions of the process itself. Explanations vary as to what promoted the NBI.

In addition to the legal norm, which is the main theme of their article, Brunnee and Toope (2002:140–142) identify four factors that contributed to a shift from a competitive to a more cooperative Nile basin regime:

- Realization that the status quo on the use of the Nile’s water is unsustainable, largely because of population growth and growing irrigation;
- Both upstream countries such as Ethiopia, the Sudan, Uganda, and the downstream country Egypt recognised the need for a comprehensive regime to regulate the Nile;

- The fact that it is acknowledged that not all action on the Nile creates winners and losers, and cooperating on utilization and management of the Nile waters in areas such as protection of water quality, pollution control, hydroelectric development, and problems of evaporation, could benefit all the basin countries;
- The active engagement of multilateral and bilateral donors.

Anthony Allan, focusing on more general issues, argues that the change in international and regional relations as a consequence of the end of the cold war, and Egypt’s increasing awareness that its future economic self-sufficiency depends (more than any thing else) on consideration of the economic and environmental principles of water utilisation, have contributed to enhancement of the Nile basin cooperation (1999a:5–6). Swain, on the other hand, asserts that pressure from the World Bank has been crucial in changing Egypt’s foreign policy over the Nile waters. He points out that Egypt’s economy has experienced serious difficulties and the Bank’s sharp reduction of lending to the country has aggravated the situation. This changing economic landscape, he argues, “has practically forced Egypt into expressing its willingness to cooperate and relinquish its long-standing policy of defending its disproportionate consumption of Nile waters based on the principles of ‘acquired rights’” (Swain, 2002:302).

Two parallel and interdependent processes that led to the establishment of the NBI could be identified: the official Technical Cooperation Committee for Promotion of Development and Environmental Protection of the Nile Basin (TECCONILE) program, and the semi-official NILE-2002 series of annual conferences (Dinar and Alemu, 2000:337).

5.3. TECCONILE program

In December 1992, the water resources ministers from the Democratic Republic of the Congo, Egypt, Rwanda, the Sudan, Tanzania and Uganda met in Kampala (Uganda) and agreed to establish a Technical Cooperation Committee for Promotion of Development and Environmental Protection of the Nile Basin (TCCONILE) in order to coordinate common interests and objectives of the basin countries. The TCCONILE, with its secretariat at Entebbe in Uganda, convened its first meeting in early 1993. The other four riparian states initially joined as observers and gradually

became members, with the exception of Eritrea (NBI, home page).

At the 2nd Nile Technical Advisory Committee (Nile-TAC) meeting held in Arusha in September 1998, an agreement was reached on a plan of action and policy guidelines for the establishment of the Nile Basin Initiative. Five months later, the Nile Basin Initiative (NBI) was formally launched at an extraordinary meeting of the Nile Basin Council of Ministers, in Dar es Salaam, Tanzania (NBI, home page). In September 1999, the NBI Secretariat, which superseded the disbanded TEC-CONILE, was officially opened in Entebbe (Swain, 2002:302), and this was a significant development in terms of making real progress (Brunnee and Toope, 2002:137). The years between 1993 and 1999 were used for preparing and reviewing the Nile River Basin Action Plan (NRBAP), securing support of donor agencies, and drafting policy guidelines that defines the Shared Vision Program (SVP).

The World Bank, at the request of the Nile-COM in 1997, accepted the role of coordinator of the basin-wide cooperation effort in partnership with the United Nations Development Program (UNDP) and the Canadian International Development Agency (CIDA). As a result, the three agencies, which together make up the “Nile-Team”, established a partnership with the NBI to support its activities. The initiative is also supported by a number of other multi-national and bilateral donors.

At the end of March 2001, an extra-ordinary Nile-COM meeting held in Khartoum, the Sudan endorsed the Strategic Action Program (SAP) documents and project portfolio for which donor funding will be sought at the first meeting of the International Consortium for Cooperation on the Nile (ICCON) (NBI, home page). SAP consists of the basin-wide Shared Vision Program (SVP), which covers seven projects, and two subsidiary action programs: the Eastern Nile Subsidiary Action Program (ENSAP) which will benefit the Sudan, Ethiopia and Egypt, and the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) which consists of the six Equatorial Lakes Countries, but also includes Egypt and the Sudan.

The first meeting of ICCON, held in Geneva, Switzerland in June 2001 brought the Nile basin countries together with a broad range of bilateral and multilateral donors. The two main objectives of the meeting were to publicise the NBI and to raise financial support for the range of projects proposed by the Initiative—through the Nile Basin

Strategic Action Program. Donors have pledged to raise an initial amount of USD140 million and expressed strong willingness to finance the first phase of the investment program, which is expected to reach USD3 billion (Swain, 2002:302).

The Council of Ministers of Water Affairs of the Nile Basin or the Nile Council of Ministers (Nile-COM) is the highest authority of the NBI, and is supported by a Nile Technical Advisory Committee (Nile-TAC) and a Secretariat (Nile-SEC) located in Entebbe. The Initiative (NBI) is guided by a shared vision “to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile basin water resources”. Two Subsidiary Action programs are being formulated, in order to translate the shared vision into reality:

- The Eastern Nile Subsidiary Action Program;
- The Nile Equatorial Lakes Subsidiary Action Program.

A very good source of information on the latest developments concerning the NBI is its website, the Nile Basin Initiative home page: <http://www.nile-basin.org/>, while a good overview is given by El-Khodari (2002), Foulds (2002), and Swain (2002).

5.4. The Nile-2002 conferences

The Nile-2002 conference series was initiated by the Nile conference organized in February 1992 in Egypt. Its first conference was arranged a year later in Aswan, Egypt, and a series of conferences were since held annually in Nile basin countries. The latest, the 9th Nile 2002 conference with a theme “Comprehensive Water Resources Development of the Nile Basin: Building a Nile Basin Community” was held in Nairobi, Kenya from October 7–9, 2002.

This forum, which brings together scholars and technical experts concerned with Nile issues, is the professional equivalent of the TEC-CONILE (Dinar and Alemu, 2000:337). In other words, it is a forum designed to facilitate the exchange of views over Nile basin issues and thereby assist policy makers to explore possibilities of basin-wide cooperation on the development and management of the Nile’s resources.

The Nile-2002 conferences convene usually at the same venues and immediately after the TEC-CONILE ministerial meetings. The conferences are organized around the theme of comprehensive cooperation, and typically take the form of sessions devoted to individual papers canvassing issues of urgency (Brunnee and Toope, 2002:135).

One of the major highlights of the NILE-2002 conferences has been presentation of “country papers” through which riparian states try to promote their interests, needs and aspirations and/or voice their concerns with regard to the Nile issues (Dinar and Alemu, 2000:338). Time is also allocated for discussion and debate, which is much more open than meetings at official level. One of the central advantages of this conference series, Brune and Toope point out is its relative independence from immediate political calculations (2002:135). Although a group of countries for some time insisted that they were merely observers, all basin countries sent participants to the conferences (Swain, 1997:691). The status of participants is irrelevant in practice, as one cannot discern any appreciable difference between members and observers in terms of their engagement (Brune and Toope, 2002:135).

Brune and Toope assert that the informal processes of the Nile 2002 conference, which is linked to the evolving cooperation at official level, have played an important role in changing the political climate along the Nile. They point out, for instance, that these conferences have provided a forum for reflection upon the possibilities of sub-regional organisation within the Nile basin (2002:135–36). El-Gamal Fathy (1996) maintains that the discussions at the first and second Nile 2002 conferences were fed into the TECCONILE process, helping to structure the Nile River Basin Action Plan (quoted in Brune and Toope, 2002:135–69). Erlich regards the Nile 2002 conferences as one of the factors that contributed to opening a dialogue between Egypt and Ethiopia, the two central countries in the basin whose relations are historically characterised by suspicion and threats (2002:11, 213).

Large numbers of papers have been presented to the nine Nile 2002 conferences held between February 1993 and October 2002. Forty-two individual papers, for instance, were presented at the second conference held in Khartoum in 1994 (Shady et al., 1994:77). Shady et al. (1994) in their article, “The Nile 2002: The vision towards cooperation in the Nile Basin”, have summarized the main features of the country papers presented at the first and second Nile 2002 conferences, held in 1993 and 1994. Assessing all the papers presented to the Nile 2002 conferences could have provided further insight into the Nile Basin Initiative. This was not possible, however, due to the problem of access. An article by Dinar and Alemu (2000) is relevant in this regard. They have undertaken a

quantitative analysis of changes in negotiating positions of Nile riparian states over time, by examining the TECCONILE and NILE-2000 documents covering the period from 1993 to 1997. Their analysis is restricted to four main riparians (Egypt, Ethiopia, the Sudan and Uganda), and they have identified three issues as major issues of negotiation. While there have been differences in the positions of the riparian states regarding the three negotiation issues analyzed, they conclude that the positions and power values of the riparian states have changed over time. They further found that the Nile 2002 process has contributed to building consensus on the desirability of regional cooperation in the Nile basin (2000:353). Brune and Toope similarly argue that the Nile 2002 conferences “appear to have fostered genuine mutual learning and the evolution of previously entrenched positions, thereby helping to create an environment in which the parallel TECCONILE, Nile River Basin Action Plan, an NBI processes could evolve” (2002:155).

6. TEN RIPARIANS, ONE NILE: DIVERGENT INTERESTS OF THE NILE BASIN COUNTRIES

6.1. Introduction

The Nile basin riparian states have divergent interests or stakes and have different expectations of Nile basin cooperation. Analysis of the stakes of Nile riparians is provided by Alemu (1995). Dinar and Alemu (2000), on the other hand, focus on examination of the changes in political positions of four key Nile riparians: Egypt, Ethiopia, the Sudan and Uganda, while they also give a summary of major stakes of the ten Nile riparian countries (2000:339). Waterbury in his 1990 article assesses the varying interests of the Nile riparians with respect to legal accords to guide the future hydraulic development of the basin, and in his recent book he provides an overview of major stakes of the ten Nile riparian states (2002:4–6).

Literature on utilization and management of the Nile waters overwhelmingly concentrates on three countries considered to be central actors in the basin, namely: Egypt, Ethiopia and the Sudan. Abraham, 1997; Amare, 2000; Arsano, 1997; Erlich, 2000, 2002; Kendie, 1999; Schiffler, 1998; Swain, 1997; Tafesse, 2001; Waterbury, 1990, 1997, 2002; Whittington and McClelland, 1992 are some examples. Five out of the six books published between the years 2000 to 2002 on issues related to the Nile (briefly reviewed in Chapter five) focus mainly on these countries. Egypt and the Sudan look to the Nile waters as their main water source, while there are indications that Ethiopia, from which around 86 per cent of the Nile waters originate, intends to utilize more of the waters in the coming decades. Some writers add Uganda as one of the major players, or the fourth major actor in the Nile basin (Dinar and Alemu, 2000; Waterbury, 2002).

Waterbury, groups the Nile riparians into three categories based on their positions on regime change in the basin: Egypt and Uganda are in favour of the status quo; Ethiopia, the Sudan and Eritrea support the new regime; and Kenya, Tanzania, the Democratic Republic of the Congo, Rwanda, and Burundi are indifferent (2002:167–68). As Waterbury has indicated, the categories are not static and their composition may change over time (ibid:167).

In the following section, we will first review how the Egyptian and the Ethiopian interests in Nile waters interact. This will be followed by the Sudanese Nile priorities, and finally the stakes of

the Great Lake Region Countries will be discussed briefly.

6.2. Egypt, Ethiopia, and the Nile

The Nile River represents and means different things to Egypt and Ethiopia. The two countries, moreover, have divergent views of each other. Details of the Egyptian conception of Ethiopia and vice versa are eloquently elaborated by Erlich in Chapters 8 and 9 of his recent book (2002). Egypt is totally dependent on the Nile waters. Consequently, the Nile is perceived as Egypt's lifeline, and it is thus underlined that Egypt cannot be imaged without the Nile waters. This is described best by the repeatedly quoted statement, "Egypt is the gift of the Nile", uttered by the Greek Historian Herodotus in 460 BC.

"If the waters of the Nile have meant life for Egypt," Erlich states, "they have meant something different for the Ethiopians. The part of the river in their own territory gave no life, at least not in the material sense" (2002:8). This view is better elaborated by Bairu Tafla (2000), in his contribution, "The Father of Rivers: The Nile in Ethiopian Literature". Tafla assesses the notion and the role of the Blue Nile or Abbay, "our father" in Amharic, in Ethiopian literature. He asserts that the Abbay, both admired and hated, has been central in Ethiopia's culture and history. He further argues that the popular image of the Abbay in Ethiopia in recent decades has changed from a natural might admired as a national symbol, to that of a criminal thief. Tafla concludes, "the lamentation of the new generation is understandable: drought and famine have taken their toll on the Ethiopian population in recent years while the Abbay waters thundered unused down the precipice as always. This contradiction made many Ethiopians restless, and some began to compose challenging poems" (Tafla, 2000:165). Such bitterness and criticism as Tafla has pointed out, is represented best by Hailu Gabre-Yohannes's poem (in Amharic) entitled, *Innatkin Belulgn* (1989) translated roughly as "Insult him on my behalf". Gabre-Yohannes charges the Abbay with betrayal of its county and people by flowing freely to feed people in other remote countries, while millions of its own citizens are starving to death due to the lack of a drop of water.

Egyptian and Ethiopian scholars usually view the utilization and management of the Nile waters from different angles and their perspectives in many cases coincide with their respective countries' policy on the Nile issue. Many Ethiopian

writers have welcomed the recent move towards comprehensive basin-wide cooperation with caution (Abraham, 1997; Amare, 2000; Arsano, 1997; Kendie, 1999; Tafesse, 2000; Yohannes, 1999; Zerihum). The new initiative is generally viewed as a positive development. Tafesse (2000) and Yohannes (1999) further have made a number of suggestions that they think could help to overcome difficulties and contribute to the success of basin-wide cooperation. Many writers, however, are sceptical of Egypt's intentions and question its commitment to genuine basin-wide cooperation. The New Valley scheme is mentioned as a case in point. Some writers even insist that Egypt is less interested in basin-wide cooperation which will mean a challenge to maintenance of the status quo, and argue that Egypt has not abandoned its long-standing policy of undermining and destabilizing Ethiopia. Egypt's alleged involvement (the Ethiopian government's allegation) in the recent Ethiopia-Eritrean conflict (1998–2000) by supporting the Eritrean regime is pointed out as an example (Kendie, 1999; Tafesse, 2000; Yohannes, 1999; Zerihum). This charge is denied by the Egyptian authorities. Ethiopian scholars generally argue that the new cooperation efforts will become meaningful and effective if, and only if, the 1959 bilateral agreement between the Sudan and Egypt is nullified and a fresh Nile water redistribution arrangement that would accommodate the interests of all the riparian countries is negotiated.

Egyptian writers first of all underline the fact that Egypt is heavily dependent on the Nile waters, and that the Nile is thus a national security issue to Egypt. They also emphasise the importance of basin-wide cooperation. They stress the urgency of such cooperation in the face of serious challenges that the Nile basin countries are faced with, while the issue of sharing Nile waters is played down. They point out moreover that some upstream countries have been using the Nile to exert political pressure on Egypt. When the issue of sharing the Nile waters is addressed, the focus is on explaining why Egypt's share of Nile waters is the largest. The reason for this, it is argued, should be considered within the context of the Nile being the only source of water used in agriculture in Egypt; that Egypt furthermore has acquired historical rights over Nile waters; and this use further is established through international laws, treaties and agreements signed with upstream countries at different times. It is also pointed out that the UN Watercourse Convention of the 1997 makes it clear that fair shares do not necessarily mean equal

shares. A country's economic and social needs, its population, and the availability of other water sources it can resort to, should all be taken into account when quota-setting is considered (Abd El-Wahab, 2001; Ahmed, 1990; Al-Rashid, 2001).

How Egypt and Ethiopia promote their interests or, as Waterbury (2002, Chapter 3) puts it, play the game within the framework of the NBI process, is highlighted by Erlich (2002); Dinar and Alamo (2000); and Waterbury (1990). Egypt, concerned with its strategy of "water security," is full of goodwill regarding general cooperation and regional development, and in this sense, is very much interested in projects such as ecological conservation, reforestation of the Ethiopian highlands, and other cooperative enterprises aimed at securing more waters. The Ethiopian position, on the other hand, is to accept the principle of regional cooperation, but to focus mainly on what they think Egypt wants to ignore: the redistribution of water (Erlich, 2002:218). These positions Erlich argues, were reflected in the "Country Papers" presented at the 5th Nile 2002 conference held in Addis Ababa in February 1997. The Egyptian government's official "Country Paper" urged the riparian countries to promote studies of local water problems and to share this information in order to implement basin-wide projects, while the Ethiopian paper emphasised the need to engage in continuous dialogue with the objective of coming up with an equitable allocation of water resources of the basin (2002:218–19). Waterbury similarly states that, Egypt from the beginning has played down the issue of water supply and played up the common benefits to be drawn from integrated development in the basin, in fields that have little to do with water supply (1990:297).

Dinar and Alemu (2000) distinguish between two separate tracks representing two divergent interests within the process of the Nile Basin Initiative: the TECCONILE and its "Action Plan" where the priorities are enhancing regional cooperation; and the Panel of Experts (PoE) and its "Cooperative framework" whose priorities are establishing the legal basis for equitable utilization of the Nile waters (353). They point out that the prime movers of these two tracks have been Egypt and Ethiopia respectively (340–41, 353). They state "...the TECCONILE process and Panel of Experts (PoE), or Project D-3 as it is referred to in the Nile Basin Action Plan, are the two extensions of riparian interests through which they want to implement their respective positions in support of

regional cooperation or Nile water allocation” (352).

The Egyptian and Ethiopian views on Nile basin cooperation is further reflected in two articles that appeared in the same issue of *United Nations Chronicle online* after both officials participated in the International Consortium for Cooperation on the Nile, which met in Geneva in June 2001. Mahmoud Abu Zeid¹ in his article entitled “River of Hope and Promise” (2001) focuses on cooperation, achievements of the NBI and future hopes. He outlines the multiple and complicated challenges millions of people in the basin face and argues that, despite such difficulties, the determination of the Nile basin countries to tackle their common problems through cooperation and their international commitments provides hope and promise for better future. Seifeselassie Lemma² in an article entitled, “Cooperation Is Not a Zero-sum Game” (2001), also points out the necessity and urgency of cooperation between the Nile basin states in order to tackle the immense challenges these countries face. He furthermore argues that the downstream riparian states, Egypt in particular, remain the major beneficiaries of the Nile, and emphasises the need to address the central issue of equitable entitlement of the Nile waters to all the riparian states, if the vision of new cooperation is to succeed.

Eritrea, which officially became an independent country in 1993, is a new state in the region, and joined the evolving cooperation in the Nile basin as an observer. The country up to now has chosen to maintain its observer status. Eritrea is interested in development for irrigation and hydropower of two seasonal streams that flow from its territory into the Sudan. The Mereb and Tekeze rivers form part of the border between Eritrea and Ethiopia at different sections, but these rivers have neither been the cause nor object of dispute during the recent fighting between the two countries.

6.3. Sudan's Nile priorities

The Sudan with abundant surface water resources and good lands that could relatively easily be brought under irrigation has tremendous potential to become a major agricultural producer and exporter in the Nile basin (Waterbury, 2002:171–

72). The country is thus mainly concerned with development of its agricultural potential. Its ability to realize such potential, however, is limited by the civil war in the south, economic crisis, and the 1959 agreement with Egypt which restricts how much of Nile water the Sudan could use (Collins, 2002:213–14; Kilot, 1994; Schiffler, 1998:144–5; Swain, 1997; Waterbury, 2002:chapter 6).

Waterbury (2002), who examines the major conflict of interests in the Nile basin as a three-player game, involving Egypt, Ethiopia and the Sudan, identifies the Sudan as the master of the middle, referring to the vital position it occupies in this game (Chapter 6). At the same time, he underlines the difficult situation the Sudan finds itself in due to such position. The Sudan is the only country that has signed the 1959 treaty on utilization of the Nile water with Egypt and is generally a champion of this agreement when it comes to sharing the Nile waters with other riparian countries. Yet, as Waterbury puts it, the Sudan is in profound structural contradiction with Egypt. Egypt has a long-standing interest in developing projects in the White Nile basin and counts on Sudan's cooperation for the realisation of these objectives. The Sudan, with its tremendous potential for irrigated agriculture, is interested in exploiting this potential on a much greater scale and its priority is to pursue water development projects on the Blue Nile, which would mean cooperating with Ethiopia (Waterbury, 1990:299–300; 2002:128–30).

Kilot similarly observes that, the Sudan prefers to have a cooperative agreement with Ethiopia, because the water that could be stored on the Blue Nile can easily be delivered to the Sudan's agricultural lands by gravity flow, reducing silt problems in the already existing dams in their territory, which is expensive (1994:68–69). Sudan on the other hand, has a downstream neighbour, Egypt, on which it depends in many ways and which is very interested in whatever the Sudan does on the Nile (Kilot, 1994:88–89).

One other important factor that has to be considered not only in relation to the Sudan, but also in terms of its wider implications for the whole basin and hence the Nile waters, is the impact of the on-going Sudanese peace negotiations. The Government of the Sudan and the Sudanese People's Liberation Movement/Army (SPLM/A), under the auspices of the East African regional body, the Inter-Governmental Authority on Development (IGAD), signed an outline for a peace agreement known as the Machakos Protocol on July 20, 2002. Since then, rounds of negotiations resulted

1. Mahmoud Abu Zeid is Minister of Water Resources and Irrigation in Egypt and Chairman of the World Water Council.
2. Seifeselassie Lemma is Director for Legal Affairs of the Ministry of Foreign Affairs of Ethiopia.

in signing of memoranda of understanding. The major compromise at the heart of the peace agreement is Khartoum's acceptance of a referendum on self-determination of the South. After an interim period of six years, an internationally monitored referendum will be held in the South to decide on whether secession as a sovereign entity or adoption of a system of unity government should be established under the peace agreement¹.

The possibility of session of the Southern Sudan raises a series of issues and questions in relation to the Nile waters. Such a possibility will mean that there will be one additional regional competitor for the precious waters of the Nile. How the new state will reshape relations between the basin countries, which in turn will play into Nile politics, is difficult to predict at this point. For many basin countries (especially Egypt and the Sudan) it will, generally speaking mean reconsideration of their Nile policies in terms of new realities. How will such a scenario affect the 1959 Nile water agreement between Egypt and the Sudan? What about the controversial Jonglei project? What will the consequences be for the management and utilization of the Nile waters in general? In what way will the new situation affect the current effort to achieve basin-wide cooperation on the Nile waters? These are some of the major issues.

6.4. Great Lakes Region Countries

The Nile's riparians in the Great Lakes Region were unable to secure their interests in the Nile basin during the colonial era due to treaties signed on their behalf, which mainly favoured downstream riparians. The region has a relatively large and stable amount of rainfall and several water resources outside the Nile basin. These countries in other words, are not dependent on the Nile as other Nile riparian countries, and it is hence implied that many of them are less interested in the Nile waters. Waterbury in 1990 commented:

The question of water utilization in the Nile Basin and Equatorial Lakes is probably of some indifference to Rwanda, Burundi and Zaire, ... Kenya, Tanzania and Uganda, sharing the Equatorial Lakes of Victoria, Kyoga and Albert, are concerned mainly by the fact that these lakes may one day be targeted as sites for the storage of water to augment the downstream discharge of the Nile. It is not so much what they might gain from the basin as what they

may be asked to give up that concern these three riparians (Waterbury, 1990:276).

It seems, however, that things have changed since then, as there are indications that many of the Great Lake Riparians are showing increasing interest in the Nile waters in order to promote their own development endeavours. In late 2002, for instance, the issue of the 1929 treaty which restricted the upper Nile countries from using the waters of Lake Victoria, and which gave Egypt advantages was raised in both the Kenyan and the Ugandan parliaments. Members of parliament in Kenya questioned the legality of the treaty, and called on their government to denounce it and seek support from other East African countries like Tanzania and Uganda. Similar concern was voiced in the Ugandan parliament and it was further suggested that Egypt should pay an annual compensation to Uganda for use of the water in case of any new agreement in future (*The Nation*, September 7, 2002; *The Monitor*, September 7, 2002). Initiatives, attempts and potential areas of cooperation in the Great Lakes Region are discussed by Arsano (1997:36–37); Wiebe (2001:745); and Waterbury (2002:4–6).

Uganda is considered to be the country that has the major stake in the Nile waters following the three central actors discussed above (Alemu 1995; Dinar and Alemu 2000; Waterbury, 1990, 2002: Chapter 7). The country enjoys abundant rainfall with the exception of the semi-arid areas in the north-east, and it depends very little on surface irrigation. Uganda's interest in the Nile basin is shaped by its need of hydropower generation. The country at present has only one hydropower station, at Owen Falls, and its operation is jointly carried out by Egyptian monitors and Ugandan engineers, based on the terms of the 1949 agreement between the two countries concerning the construction and operation of the Owen Falls Dam. Berild (2001), who examines Uganda's contribution and influence in the negotiations leading to the agreement on the Owen Falls dam from Uganda's perspective, argues that the country's role is overlooked in the literature dealing with Nile water management.

Uganda's need for hydropower generation matches Egypt's need for increasing water volume in the White Nile. Uganda consequently, together with the Sudan, partly supports Egypt's position for the maintenance of the status quo, which is based on the 1959 water agreement between Egypt and the Sudan. Uganda, on one hand, resents

1. The interim period of six years will begin after a pre-interim period of six months.

Egypt's attempt to maintain hegemony in the Nile basin, but at the same time is locked into alliance with Egypt because of the shared interests of the two countries (Waterbury, 2002:150–51). Waterbury in this sense refers to Uganda as Egypt's unwilling ally (Ibid:Chapter 7).

The following is a brief summary of the “stakes” and interests of the other Great Lake basin countries based on Alemu (1995), Dinar and Alemu (2000:339) and Waterbury (2002:4–6).

It could be argued that the Democratic Republic of the Congo initially has shown little interest in development of the Nile basin. When Mobutu Sese Seko was in power, however, he entertained the Egyptian proposal to build a vast power grid leading from Congo's Inga hydropower station across to the Nile basin and then on to Europe. DR Congo has interest in shipping and fishing rights on Lake Albert, which is part of the Nile basin and forms part of the border between Congo and Uganda. Burundi and Rwanda are both members of the Kagera Basin organization (the Kagera River rises on Burundi's territory), and enjoy high and regular rainfall. Their interest in the Kagera is confined mainly to hydropower generation. Tanzania is a member of the Lake Victoria Basin group as well as of the Kagera Basin organization, and is interested in developing and conserving the Lake Victoria sub-basin resources. Kenya participates in the Lake Victoria Basin group, which is concerned mainly with issues of pollution and the spread of the water hyacinth. A number of tributaries to Lake Victoria arise on Kenyan territory, and it is argued that Kenya has seen itself more as a broker in the Nile basin and has showed less interest in any binding accords on Nile water use (Waterbury, 2002:5). This position it seems, however, to be changing. Kenya, as mentioned above, is voicing its concern over the past Nile accords that limit its right to use the Nile water (*The Nation*, September 7, 2002).

7. CHALLENGES AND PROSPECTS

While the NBI and its achievements so far are encouraging, a number of problems and challenges remain. Olli Varis (2000) identifies the key constraints to water resources development in the Nile basin as a nexus of natural, human and socio-economic developments (including politics). The major challenges to NBI include: upstream–downstream conflicts of interest and unilateral decisions to implement development projects, the consequences of climatic changes, armed conflicts in the region which continue to create regional instability, and the lack of a legal framework.

Upstream and downstream countries, as we have seen, have different interests and expectations regarding the Nile basin cooperation (Alemu 1995; Dinar and Alemu, 2000, Waterbury, 2002). Although there are difficulties, it is possible nevertheless to negotiate and compromise on issues of common interest and concern. Unilateral decisions to implement development projects to promote national interests, however, pose major challenges that could undermine the process of the negotiation or the basin-wide cooperation initiative. Several scholars have underlined this point, referring to unilateral measures being taken especially by Egypt and Ethiopia (Erlich, 2002; Swain, 2002:300–1; Waterbury, 2002:84–87; Waterbury and Whittington, 1998).

The Egyptian Government has initiated a massive and ambitious irrigation scheme in its western desert, known as the Toshka or the New Valley Project. When completed, a pipeline will carry up to five billion m³ of Nile water per year (or nearly 10 per cent of Egypt's allotment under the 1959 agreement) from the Lake Nasser reservoir to the New Valley. 200,000 hectares would be brought under irrigated cultivation, and new cities and settlements will be constructed enabling around 7 million inhabitants to move out of the overpopulated Nile valley into the oases. The Ethiopian government, on the other hand, has announced its intention to build a large number of micro-dams on the Blue Nile intended for hydropower production and irrigation schemes¹. These projects are expected to reduce the amount of water flowing downstream to the Sudan and Egypt (Erlich,

1. Micro-dams are small-scale dams that can largely be built with local resources and hence do not require sophisticated engineering or foreign financing. Such dams are capable of providing water for irrigating a few hundred hectares (Whittington and Waterbury, 1998:152).

2002:214, 216–17; Kerisel, 2001, Chapter 5; Waterbury and Whittington, 1998; Waterbury, 2002:84–87).

The Egyptian authorities insist that the additional water supplies needed for the New Valley Project will be obtained by using existing supplies more efficiently, and by taking other water conservation measures. Many authors have questioned this claim, and remain critical of the New Valley Project. The most vocal criticism, as we have seen (Chapter Five), comes from Kerisel (2001). Waterbury points out that the project sets back the prospects for further steps towards basin-wide understandings (2002:176), while Erlich asks if Egyptian President Hosni Mubarak has chosen a fatal collision course by pursuing the Toshka project (2002:216–17).

Very good overviews of the New Valley and Ethiopia's micro-dam projects are provided by Erlich (2002:214, 216–17) and Waterbury (2002: 84–87). Kerisel (2001) engages in detailed discussions particularly of the New Valley Project, while an article by Waterbury and Whittington (1998) examines the challenges and problems posed by unilateral decisions by Egypt and Ethiopia to cooperation in the Nile basin. They argue that while Egypt and Ethiopia on an official level have agreed to cooperate on the management and utilization of the Nile River, in practice, both countries are engaged in creating "facts on the ground", and if the two countries pursue their unilateral initiatives, they may soon find themselves on a collision course. They further comment:

How Egypt and Ethiopia will defend or promote their interests, in the Nile basin has recently become clearer. Egypt will again seek to create "facts on the ground", this time a large new land reclamation and settlement scheme called the New Valley Project. Ethiopia too will create facts by proceeding with water resources development in the Blue Nile basin, including construction of low-cost microdams (Waterbury and Whittington (1998:150).

Waterbury and Whittington also point out that, if completed, the New Valley Project "will be a major bargaining chip when and if Egypt is obliged to enter into negotiations with the other Nile riparians over reallocation of shares in the river" (1998:165). In that sense, they add, "even though Egypt may not use any water beyond the share allotted in the 1959 agreement, it will have effectively precluded accommodation of the growing needs for water of its upstream neighbours, especially those of Ethiopia" (*ibid.*).

While Waterbury and Whittington in 1998 stressed the seriousness of the challenge that the New Valley Project poses to basin-wide cooperation, Waterbury in his recent book maintains that despite the challenge, there is room for optimism, as the Nile riparian countries can with proper effort overcome the problem. He states, "Egypt's initial commitment to the New Valley project will undoubtedly set back the prospects for further steps towards basin-wide understandings, but it need not kill them" (2002:176).

Unilateral activities in the Nile basin are not limited to Egypt and Ethiopia, though the two countries' projects are significant and have thus attracted attention. The Sudan, despite problems it face because of the civil war in the south, is pursuing an ambitious plan to use the Nile water resources for developing its huge potential in agriculture; Tanzania has had plans on the drawing board to transfer water from Lake Victoria to satisfy its agricultural and domestic water demand; and Uganda has made it clear that it has interest in the consumptive use of Nile waters especially for irrigating its north eastern and south western regions (Dinar and Alemu, 2000:352).

A consequence of climatic changes is another challenge that can affect the Nile flow and hence influence cooperation in the basin. While the future developments of rainfall patterns in the Nile basin due to climatic changes remain uncertain, different models and projections indicate that such changes could have significant consequences on the on the quantity of the Nile waters (Klare, 2001:157; Scheffler, 1998:146). A study by the IPCC (1996) reveals that the area known as the equatorial belt, which includes the Nile basin, is subjected to the highest uncertainties of any climatic zone in the climate change projections. Analysis of hydrological implications of future climatic changes by Gleick (1991), suggest that any increase in temperature and slight decrease in precipitation may result in substantial decrease in flow of the Nile waters. Hulme concludes that the current best guess for greenhouse-induced forcing of Nile discharge would be reduced Blue Nile flows, and constant or slightly increased White Nile flows (1994:159). El-Fatih and El-Tahir (1996), who discuss results from analysis of data describing sea surface temperature of the Pacific Ocean, and the flow of water in the Nile River, suggest that 25 per cent of the natural variability in the annual flow of the Nile is associated with El Nino oscillations. The impact of climatic change became evident in mid-1980s when the waters of

Lake Nasser sank to unprecedented levels as a consequence of several years of drought in Ethiopia (Erllich, 2000:3). To what extent the Ethiopian drought of 1984–1985 was caused by natural or human factors has been debated.

Political unrest in the Nile basin due to civil wars in the majority of the basin countries makes the region highly unstable, and this is another obstacle to basin-wide cooperation. Civil wars in this region have a long history and the majority of the Nile basin states have been torn by such conflicts (Elhance, 1999:63–66; Hultin, 1995; Waterbury, 2002:6–8). Burundi, DR Congo, Ethiopia, Rwanda, the Sudan, and Uganda have all suffered from serious internal crises, and conflicts continue to dominate in many of these countries. With the exception of the period 1972–1983, a civil war has raged in the southern Sudan. Waterbury, who examines conflicts between Egypt, the Sudan and Ethiopia as the major conflict of interests in the Nile basin, discusses the southern Sudan as a fourth player (2002:139). He comments:

The main point is that so long as the ultimate disposition of this territory [southern Sudan] and its peoples remains undetermined, it is a bargaining chip for both Egypt and Ethiopia in their dealings with the Sudan. Neither country, however, knows how to use it. What is at stake is a third of the Sudan's territory, maybe a seventh of its population (no reliable census has been carried out in the southern Sudan, ever), and the Sudd swamps that controls the discharge of the White Nile (ibid.).

In this regard, joint efforts by Egypt and the Sudan to construct the Jonglei canal, which fell victim to the civil war in the south, has attracted attention and a good deal of literature has been produced on this controversial project (Collins, 1990, 2002: 247–48; Waterbury, 2002:142–47).

In the mid-1990s, some western countries and the United States in particular, were convinced that the coming to power of new and younger leadership in countries like Eritrea, Ethiopia, Rwanda, and Uganda marked the beginning of a new area of economic prosperity and political stability in the Horn and Great Lakes Region of Africa. They were hailed as a new force of young leaders with vision. Many of these leaders, however, either provoked or allowed themselves to be drawn into regional conflicts, and the promise or hypothesis about their vision has proven sadly and badly misconceived, as Waterbury puts it (2002:7).

Lack of agreement on distribution of the Nile waters, which El-Khodari considers as “the thorn-

iest issue that would cause the NBI to break apart” (2002) is yet another major challenge that faces the Nile basin cooperation. The 1997 UN Watercourses Convention, as discussed in Chapter three, attempts to balance between the equitable and reasonable utilisation and no significant harm principles and has provided a framework in the context of which further agreement can be reached (Brunnee and Toope, 2002:152; McCaffrey 2001; Sherk et al., 1998). Although a process that will hopefully lead to a legal framework in the basin is in place, there is no comprehensive basin-wide agreement on the utilization of the Nile water resource so far. It seems, generally speaking, that there is realization that there is a need of some kind of legal arrangement which will take into consideration interests of all who share the Nile waters. How to achieve this remains one of the major challenges the Nile Basin Initiative has to face. As Collins put it “in a new century of self-determination and democracy, even those who are most dependent on the Nile recognize the need for equitable use by all those who drink its waters. To define and agree on what constitutes equitable utilization, however, will be a perilous passage down a long river...” (2000:233).

Other issues and difficulties in addition to the challenges and problems discussed above have also been touched upon by some writers.

El-Khodari (2002) and Foulds (2002) appreciate the work accomplished so far by the NBI, but are critical particularly of its social and environmental aspects regarding sustainable development and the involvement of civil society. El-Khodari (2002) observes “What was achieved is huge, but what is needed is more than just economic or water resources development. This “sustainable development” will not be achieved by the current NBI plans/procedures or even by just the current players”. Foulds (2002) similarly notes that the NBI will never fully realize its goals of a shared vision or regional cooperation without NGO participation and the resolution of Nile basin issues.

Brunnee and Toope (2002); Laki (1998); Dagne et al. (1999); Swain (2002); and Waterbury (2002), have addressed the question as to whether the NBI could be better enhanced by focusing on a sub-basin approach, or on basin-wide cooperation. Dagne et al. in their article, “Towards a Cooperative Use of the Nile” (1999), have proposed a focus on a sub-basin level, in order to lay a firm foundation for future basin-wide cooperation. Swain, in his article, “The Nile River Basin Initiative: Too Many Cooks, Too Little Broth” (2002),

maintains that though the usefulness of a comprehensive basin based approach is recognized, there are limitations as what can be achieved at this level. He argues that a sub-basin model of cooperation would be more appropriate and effective because it would diffuse existing tensions without jeopardizing basin-wide cooperation prematurely. Any initiative aimed at achieving basin-wide cooperation will not be successful, he asserts, without first addressing and finding a formula for active cooperation among the core sub-basin countries such as Egypt, the Sudan, and Ethiopia.

He further notes that some riparian states for different reasons are less interested in cooperating on Nile water allocation and development projects. The majority of the Great Lakes riparian states, for instance, he points out, depend mainly on Lake Victoria as a source of freshwater while their dependence on the Nile River itself is negligible. Moreover, collaboration between the riparian states in the Great Lakes Region and those in the lower basin will be extremely difficult as long as the civil war in the Sudan continues. Swain illustrates his point through the experience of the Mekong Basin, which he argues is relevant to the case of the Nile Basin Initiative. Six countries share the Mekong Basin, and two of them for different reasons are less interested in basin-wide cooperative management of the river. The other four countries located at the lower basin reached an agreement without the two upstream parties and have formed the Mekong River Commission, in which the two countries participate as observers. Waterbury seems to agree with Swain's view when he states, "while in juridical terms all ten riparians in the Nile basin count equally, in terms of real stakes in the basin there are only four concerned actors, ...Egypt, the Sudan, Ethiopia and Uganda, were they ever to come to terms, could by themselves provide a new regime for the Nile" (2002:176). Sam L. Laki similarly maintains that many of the upstream countries have not yet formulated their master plans and may not want to be in a position of locking themselves into agreements that will not serve them well in the future, and these countries thus do not seem to be interested in arriving at agreements on the full utilization of the Nile waters at this time (1998:294).

Waterbury stresses that although a risk of consolidation of a sub-basin regime at the expense of basin-wide cooperation is real, building a regime at the sub-basin level could also be a stepping-stone towards basin-wide cooperation, or the sub-basin accords could eventually "federate" into a

basin-wide accord (2002:40, 174). Reducing the number of players, simplifying the agenda and goals, and minimising the number of existing jurisdictions that have to coordinate with the sub-basin's River Basin Organisation are mentioned as some of the benefits of focusing on cooperation at sub-basin level (Ibid:40). Waterbury envisages at least six sub-basin accords in the Nile basin: The Lake Victoria states which are loosely grouped since 1996 in order to combat the water hyacinth and to reduce pollution; the Kagera Basin Organization which already exists; Uganda-Sudan cooperation on management of the Albert Nile and the Bahr al-Jebal; the White Nile Basin cooperation consisting of Uganda, Congo, the Sudan and Egypt; the Ethiopian-Sudanese cooperation on development of the Blue Nile, and perhaps the Tekeze, Atbara, and the Baro-Akabo rivers; and the Eritrea and Sudanese cooperation on management of the Gash and Baraka rivers (ibid:174).

Although the idea of sub-regional agreements suggested by Waterbury is attractive, Brunnee and Toope argue that attainment of basin-wide cooperation is now more likely. They envisage establishment of sub-basin arrangements within wider basin framework as in the case of subsidiary action programmes of the Nile Basin Initiative (2002: 136). Elaborating their point further, they argue that what made the NBI process and its achievements possible so far is the fact that the Nile basin riparian states in the first place have managed to reach an agreement on basin-wide shared set of principles. Such agreement and frameworks legitimated particular projects. In other words, it was not possible to promote "action on the ground" or sub-basin activities before a basin-wide shared framework of principles were agreed upon. It was recognized that projects on a sub-basin level would be more likely to generate concrete results than basin-wide projects, or that sub-basin projects were in some cases more realistic. Brunnee and Toope conclude, "perhaps ironically, it was a basin-wide, completely inclusive process of normative evolution that cut the Gordian knot to allow Nile states to move toward concrete cooperative projects, many of which will be undertaken at the sub-basin level" (ibid:156).

8. CONCLUSION

Literature on the Nile is extensive and covers a wide range of issues (Tvedt, 2000). This literature review has concentrated on Nile cooperation and related issues focusing on more recent publications. The literature in the early 1990s was in general dominated by a debate maintaining that water scarcity would probably lead to armed conflicts. Some writers had predicted the inevitability of war over freshwater. The Nile basin has been at the centre of this discussion and was frequently referred to as a case where conflict over water resources is real.

This changed later because of detailed research on the relationship between water resources and conflict (The Transboundary Freshwater Dispute Database), and because there have been no wars over freshwater despite the predictions and warnings. On the contrary, efforts to cooperate on utilization of water resources have been growing, though the potential of conflict over water resources is not undermined. The Nile Basin Initiative is one of the major examples of such cooperation.

Literature on utilization and management of the Nile waters, which in one way or another is related to basin-wide cooperation efforts, has been growing fast during the last decade. At least seven books (Tvedt, 2000, and the six other books reviewed briefly in Chapter Five) have been published during the last three years. The number of papers presented to conferences or articles in various journals and the Internet is enormous.

Literature on the Great Lake countries during the period of study is very limited, while literature on the Nile waters overwhelmingly concentrates on three countries considered to be the central players of the Nile basin namely: Egypt, Ethiopia and the Sudan. Five out of the six books published during the last three years, for instance, focus on these countries¹. Many writers have pointed out that the major conflict in the Nile basin at present involves a contest between Egypt and Ethiopia. The rivalry between the two countries, as we have seen, centres on conflicting visions and interpretations of management and utilization of the Nile waters. Egypt and Ethiopia also have different perceptions of each other. Erlich, who provides an in-depth analysis of the relationship between Egypt and Ethiopia, stresses the necessity of enhancing

dialogue directed at understanding each other better which, in turn, contributes to understanding themselves. He considers such dialogue the key to the first step towards cooperation on the Nile Waters and notes, "the more Egypt and Ethiopia liberalize their views of themselves, the greater the chance for mutual understanding" (2002:11–12).

Several writers have emphasised that basin-wide cooperation is the way forward in the face of rapidly increasing population, widespread conflicts, environmental degradation, and frequent natural disasters such as drought and famine, which all exacerbate the water shortage in the Nile basin. Taking into account the historically volatile relationship between the central actors in the Nile basin, Flouds (2002) and Khodari (2002) consider it is a significant achievement to get all the basin countries together to discuss the controversial issues, and that the Nile basin countries have peacefully agreed on the shared vision of the NBI. Similarly, Erlich considers the very existence of dialogue on cooperation between Egypt and Ethiopia, key players in the Nile basin, as an achievement in itself as the actual positions of these countries are essentially contradictory (2002:218).

The UN Watercourse Convention of 1997, in which the Nile basin countries have shown interest through their participation in discussions of its draft, is an important contribution towards the evolving Nile cooperation, as Brunnee and Toope (2002) have noted. The Convention, however, merely provides the fundamental legal principles or framework to help guide negotiations. It is up to the Nile riparian countries to work out details, and reach an agreement on utilization and management of the Nile waters.

The question of allocation of water resources, which is one of the most fundamental principles of the UN Watercourse Convention, thus remains the key issue at the centre of difficulties facing the Nile basin cooperation. This challenge is further complicated by riparian countries' decisions to implement development projects unilaterally or create "facts on the ground". Such measures, as many scholars have pointed out, can be considered as among the major obstacles of the NBI, which could make future negotiations an even more difficult task and may eventually undermine efforts to enhance cooperation in the Nile basin.

In short, the history of utilization of the Nile River is a history of both conflict and cooperation among the people that share its waters. It is the conflict aspect, however, that has largely been focused upon in both the media and academic dis-

1. Collins' book (2002) is restricted to the Nile River itself.

cussions. At present it seems there is acknowledgement that there is no alternative to basin-wide cooperation in the face of the multiple challenges that the riparian countries are confronting. Ironically, this urgency for cooperation came to the forefront partly as the result of emphasis on the potential conflict about the Nile waters in relation to predicted water scarcity. The NBI in this context is a step in the right direction. It represents, however, only a transitional arrangement, until the riparian countries agree on a permanent legal and institutional framework for the sustainable development of the Nile basin. Realization of this transformation is the biggest challenge ahead.

9. USEFUL WEBSITES

African Water Issues Research Unit (AWIRU)
<http://www.up.ac.za/academic/libarts/polsci/awiru/>

African Water Page
http://www.thewaterpage.com/int_water_law.htm

Bibliography: International Water Law (general)
<http://www.internationalwaterlaw.org/Bibliography/IWL-general.htm>

Bibliography on Water Resources and International law: Library of the Peace
<http://www.ppl.nl/bibliographies/wil/>

InterAfrica Group's NGO Networking Service, the Virtual Resource Centre
<http://www.interafrica.org/vrc/water.html>

International Water Law Project (IWLP)
<http://www.internationalwaterlaw.org/>

International Water Law Research Institute (IWLRI)-University of Dundee, Scotland
<http://www.dundee.ac.uk/law/iwlri/index.html>

Nile Basin Initiative (the official website of NBI)
<http://www.nilebasin.org/>

Nile Basin Society
<http://nilebasin.com/>

Nile Basin NGO & Civil Society Discourse
<http://nilebasin.com/documents/discour1.htm>

Nile River: Yahoo! Group
<http://groups.yahoo.com/group/NileRiver/>

Transboundary Freshwater Dispute Database-Project of the Oregon State University
<http://www.transboundarywaters.orst.edu/>

Papers Relating to the Transboundary Freshwater Dispute Database Project
<http://www.transboundarywaters.orst.edu/documents/index.html>

United Nations, UN Convention on the Law of Non-navigational Uses of International Watercourses (1997)

<http://www.un.org/ga/documents/gares51/ga51-229.htm>

Water and Conflict

<http://waternet.rug.ac.be/>

Water Conflict Prevention: Green Cross International

<http://web243.petrel.ch/GreenCrossPrograms/waterres/waterresource.html>

Water Law and Policy Resources: useful sites

<http://www.internationalwaterlaw.org/Useful-Sites.htm>

World Bank Group: the Nile Basin

<http://www.worldbank.org/afr/nilebasin/overview.htm>

World Commission on Dams

<http://www.dams.org/>

World Water Council-International Water Policy Think Tank

<http://www.worldwatercouncil.org/>

World Water Forum

<http://www.worldwaterforum.org/>

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