

**“Beyond Conflict and Cooperation:  
Hydropolitics in the Nile Basin”**

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## **ABSTRACT**

“Beyond Conflict and Cooperation:  
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The field of hydropolitics has recently garnered the interest of a variety of scholars and practitioners to become the main axis of reflection and discussion for those involved in the sharing of scarce water sources. Yet, in spite of the rather all-encompassing nature of the term hydropolitics, the field has from the very beginning been circumscribed to the international level of analysis and has rarely dared to enter into the realm of national water management. Much of the hydropolitical literature centers on whether states will indeed truly be inclined to go to war over water resources. Faced with the extraordinary challenge of fostering a peaceful solution between suspicious states, scholars and politicians alike have been too eager to equate the ratification of a durable water sharing agreement with what ought to be the ultimate goal of hydropolitics: ensuring that scarce water resources are managed in such a way as to maximize the general welfare of the populations sharing these resources and particularly for those individuals for which the lack of water represents either a threat to their lives or to their basic human development. This thesis proposes a redefinition of the scope of hydropolitics. The case study of the Nile Basin constitutes the practical basis in which to anchor our reflection and demonstrates the need for a new definition.

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## **Chapter 1:**

### **Hydropolitics and the Nile Basin Initiative**

#### **1.1 Introduction**

The recent Nile Basin Initiative (NBI) is something of a rarity. For the first time in history, the ten states with futures heavily dependent upon the Nile are attempting to come to a carefully negotiated agreement governing the use of that precious resource. The result of years of negotiations and conferences, this endeavour is meant to rework the legal framework of water-sharing in the region and improve the tumultuous political relationships that have prevailed amongst the ten diverse countries that border the river. Those familiar with the field of hydropolitics know just how decisive the NBI could be for the region. If successful, this initiative could be the beginning of a whole new way in which the riparian states relate to each other, engendering trust, a higher level of regional development and security, and even the possibility of regional cooperation on matters other than water-sharing.

If the promise is great, the challenges are formidable. For the many representatives seated at the negotiations table of the NBI, finding an agreement that will form the basis of the new relationships between the ten neighbouring states will require careful navigation between the reefs of mistrust, rivalry and resentment that have been building over the past. Relations have been particularly tense between Egypt and the rest of her upstream riparian neighbours as the country claims that it has legal, historical and acquired rights which allow it to safeguard the uninterrupted flow of Nile waters.<sup>1</sup> In fact, a number of scholars worry that if a stable basin-wide water-sharing infrastructure is not soon agreed upon, the rising tension

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<sup>1</sup> Tefesse has discussed at length Egyptian foreign policy with regards to water security. See Tesfaye Tefesse, *The Nile Question: Hydropolitics, Legal Wrangling, Modus Vivendi and Perspectives* (Munster: Lit Verlag, 2002): 83-92.

over water between states in the Nile basin may eventually bring them to the brink of war. As proof of the volatility of the topic, many point to Egyptian President Anwar Sadat's 1979 statement, in which he announced that the only issue which would prompt Egypt to go to war again would be water.<sup>2</sup> Since then, other prominent figures, including former UN Secretary-General Boutros-Boutros Ghali, have voiced similar concerns over the potential for conflict over water.<sup>3</sup> The situation is particularly worrisome as large water shortages, which would subsequently increase competition over the scarce resource, are expected to affect several of these countries by the year 2025.<sup>4</sup>

Consequently, the question of how to better forge cooperation amongst these riparian states has become the focus of many in the academic and diplomatic communities. Scholars, analysts and a number of politicians have been hard at work in the past decade to replace notions of zero-sum gains, traditionally associated with shared water resources, with an understanding of how cooperation can generate win-win situations for all riparian states. This task alone has mobilized most of the energy and attention of anyone involved with the sharing and management of the Nile waters, which has de facto limited the study of hydropolitics on the Nile to the realm of international relations. Though this focus on the international level corresponds to the critical need to foster a peaceful and lasting arrangement between these nations, it unfortunately leaves aside many important questions which pertain to Nile water usage on other levels. While negotiators in Arusha are struggling to determine how many cubic meters each country should be entitled to, no one seems to show much concern for what will be done with this water once extracted from its source.

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<sup>2</sup> Cited by Joyce R. Starr in "Water Wars," *Foreign Policy* 82 (Spring 1991): 17-30.

<sup>3</sup> In 1990 Boutros Ghali stated that "the next war in our region will be over conflict over water and not politics." This is widely cited. For more, see Gwyn Rowley, "Multi-national and National Competition for Water in the Middle East: Towards Deepening Crisis", *Journal of Environmental Management* 39.3 (1993): 187-198.

<sup>4</sup> Asit Biswas, "Water for Sustainable Development in the Twenty-First Century: A Global Perspective," *Water International* 16.4 (1991): 219-224.

Are Egypt's water demands and needs inflated by its obstinacy to rely on local agriculture? Will Tanzania, Kenya, Rwanda and Burundi make the necessary improvements to their water distribution infrastructure so as to make the most of the precious cubic meters that the riparian community will grant them? Will the Sudanese government share the benefits of NBI sanctioned projects with the country's Southern and Western populations? What will Ethiopia do to ensure that any additional water obtained will help to reduce extreme water scarcity for the poorest in the region? Even though it would seem a priori difficult to assess the fairness and the viability of any water sharing agreement without first answering such essential questions, NBI officials and participants have all but eluded these issues without impeding the progress of their negotiations.

This trend is not just limited to the Horn of Africa but can be observed in other regions of the world as well. From the Euphrates-Tigris basin in the Middle East to the Ganges-Brahmaputra-Barak basin in South Asia, the study and the practice of hydropolitics have been focused almost exclusively on the international level of analysis. The international community has been so preoccupied with avoiding interstate conflict that international cooperation has become, de facto, the sole goal of hydropolitics, effectively eclipsing other critical objectives within the water management debate. Faced with the extraordinary challenge of fostering a peaceful solution between suspicious states, scholars and politicians alike have been too eager to equate the ratification of a durable water sharing agreement with what ought to be the ultimate goal of hydropolitics: ensuring that scarce water resources are managed in such a way as to maximize the general welfare of the populations sharing these resources and particularly for the water poor- that is, those individuals for whom the lack of water represents either a threat to their lives or to their basic human development.

If the absence of interstate conflict is a necessary milestone in the pursuit of that goal, it is important to recognize that is also far from sufficient. Interstate cooperation alone does not guarantee that each country will address the needs of those people who face the very real effects of water scarcity in their daily lives. In fact, interstate cooperation tells us very little about how water will be used within each country and therefore about the impact that common water projects will have on the population of a region. This is why hydropolitics cannot shy away from trying to answer the fundamental question of “who gets what” at the individual level. This thesis hopes to act as a catalyst for the field by demonstrating the importance of the integration of a strong sub-national human security and development perspective into the discourse of hydropolitics.

The unwillingness to truly tackle this question in the Nile region has made it very difficult to evaluate the full benefits of the projects and agreements being prepared under the aegis of the NBI. In this context, one can only look with deep suspicion at the organization’s fifth central objective, “to develop the water resources of the Nile Basin in a sustainable and equitable way to ensure prosperity, security and peace for all its peoples.”<sup>5</sup> Clearly, if the international community is to address larger concerns that deal with the delivery of water to those people who may be most in need, then we must look beyond cooperation to setting standards that will allow for the judging of the intrastate management of these water resources.

The rest of this chapter will further explore these issues by proceeding as follows:

- 1) We will review the general context of water scarcity in Africa, since it has brought the study of conflict and cooperation over water to the forefront.

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<sup>5</sup> Tafesse 108.

- 2) We will then briefly examine the development of hydropolitics, its theoretical origins and scope as well as its recent rise as a consequence of scarcity.
- 3) Next, we will examine in greater depth, the weakness of the current discourse.
- 4) Finally, we will proceed to analyze how this situation might best be rectified both in the literature and in practice in the context of the Nile basin.

## 1.2 Water Scarcity in Africa

Increasing conditions of water stress and scarcity in many parts of the world have attracted much international attention in recent decades. Both scholars and politicians have voiced their concern over the adverse ways in which these water issues impact global human health, well-being and security in the present and how it will likely do so in the years to come.<sup>6</sup> The United Nations has found the situation to be so grave that, in its latest World Water Development Report, it declared that the world is, in fact, already in the midst of a water crisis, the consequences of which are numerous and far-reaching.<sup>7</sup> Though water stress and scarcity<sup>8</sup> adversely affects people in all parts of the world, nowhere are its consequences more pronounced than in the so-called developing world, where high population rates, pressures for industrialization, agricultural expansion, and urbanization combine with harsh geographical factors and increasing environmental degradation to push already struggling states towards a highly dangerous situation of absolute water shortage. On the continent of Africa alone, it is estimated that 300 million are already living under conditions of water

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<sup>6</sup> For a more in-depth discussion about water scarcity prevalence and consequences see Peter Gleick, *The World's Water 1998-1999: The Biennial Report of the World's Freshwater Resources* (Oakland: Island Press, 1998).

<sup>7</sup> See The United Nations World Water Assessment Programme, *Water for People, Water for Life: A Joint Report by the Twenty-Three UN Agencies Concerned With Freshwater* (Barcelona: UNESCO Publishing and Bergham Books 2003) 5-21.

<sup>8</sup> Falkenmark has described 'water stressed' countries as countries where per capita water availability is between 1000 and 1600 m<sup>3</sup>; Malin Falkenmark, "Fresh Water: Time for a Modified Approach." *Ambio* 14.4 (1986): 194–200; "The Massive Water Scarcity Now Threatening Africa: Why isn't it Being Addressed?" *Ambio* 18.2 (1989): 112–118.

scarcity.<sup>9</sup> Ironically enough, a great deal of them live in countries bordering the world's longest river, the Nile. A total of ten countries border the basin and each one is currently struggling with issues of rising water stress and scarcity. The ten countries of the Nile basin include: Egypt, Eritrea, Sudan, Ethiopia, Uganda, the Democratic Republic of Congo, Kenya, Burundi, Rwanda, and Tanzania. Combined, the Nile riparian states possess 40 percent of Africa's population and 10 percent of its landmass. As estimations of future population growth rates within these countries predict continued growth, concern over the effects of water scarcity continues to increase on national and international levels. Conditions of scarcity often mean that individuals and communities are unable to meet even the most basic of food, health, and other security needs which, in turn, may have a destabilizing effect on the very fabric of a village, town, region or state.

In response, regional politicians have turned their attention once again to issues of Nile water distribution and utilization. Within the last decade, many of these governments have increasingly considered proposals for the construction of new dams and out-of-basin water transfers in an effort to increase their state water supplies, consequently intensifying interstate riparian tension. The question of which countries have the legal right to utilize Nile waters and the manner in which each should be able to alter the river has always been a contentious one and, as stated earlier, interstate relations between many of these riparian nations have often been at best precarious. The premise of zero-sum logic suggests that, when several states are dependent on a single water source, each riparian state tends to be seen by the others as a competitor for that vital resource and a gain for one state may often translate into a loss for another. Many authors have posited that this situation may, in the worst case-scenario, dramatically increase the potential for violent conflict to erupt between

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<sup>9</sup> Tafesse 2.

riparian countries. The fact that such a high number of water-stressed countries border the Nile has made the issue of water-sharing a particularly contentious topic. Indeed, the basin has been named by several authors as one out of a number of international river basins in which the potential for conflict may continue to grow if its riparian states are not willing or able to develop and use common resources in a cooperative, sustainable and equitable manner.<sup>10</sup>

### 1.3 The Development of Hydropolitics

As estimations of future water scarcity and absolute shortages for the Nile and other international river basins increase, so too does the study and practice of hydropolitics. Although one could claim that hydropolitics has been practised for as long as humans have argued over water, this term was most famously coined when John Waterbury published his 1979 book, *Hydropolitics of the Nile Valley*, a study on the politics surrounding the historical and, then, contemporary use of Nile waters between riparian states.<sup>11</sup> However, despite Waterbury's well-known publication, it is only recently that hydropolitics seems to have picked up speed as a field of study in international relations and security studies. Since the end of the 1980's, the field has garnered the interest of a variety of scholars and practitioners, to become the main axis of reflection and discussion for those involved in the sharing of scarce water sources.

Yet, in spite of the rather all-encompassing nature of the term hydropolitics, the field has from the very beginning been circumscribed to the international level of analysis and has never since, outside of a few timid attempts, dared enter the realm of national water

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<sup>10</sup> Arun Elhance, *Hydropolitics in the Third World: Conflict and Cooperation in International River Basins* (Washington: United States Institute of Peace Press, 1999); Miriam Lowi and Brian R. Shaw, eds., *Environment and Security* (London: MacMillan Press Ltd., 2000) 153-154.

<sup>11</sup> John Waterbury, *Hydropolitics of the Nile Valley* (Syracuse: Syracuse University Press, 1979).

management. Generally understood as the study of conflict and cooperation between states over transnational water resources, the field of hydropolitics seeks to dissect the relationship between states, their freshwater resources, the legal infrastructure around those resources, and the social, economic and political factors that may push these actors either toward cooperation or conflict.<sup>12</sup> Much of the debate centers on whether states will indeed truly be inclined to go to war over water resources. While some posit that water in this century will be considered much like oil was in the last, others are more skeptical about the probability that this issue – traditionally considered as a low politics issue – will directly lead states to enter into violent conflict with one another.<sup>13</sup>

This focus on the possibility of interstate conflict or cooperation in the sharing of water resources evolves from the larger debate within international relations between the realist and liberal /neo-liberal institutionalist schools of thought. Realists assert that conflictual relations between states are the norm as states battle for power and security in an anarchic international system. Military power is seen as the principal agent through which state security is attained and hence dominates the hierarchy of issues on the agendas of states. Cooperation should neither be generally expected nor seen as the normal state of affairs because states are concerned with things like relative gains.<sup>14</sup> Liberal and neo-liberal institutionalists, on the other hand, argue that cooperation is in fact possible and even likely given the right institutional context. Functionalist integration theorists of the 1950's and 60's,

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<sup>12</sup> Elhance 1-20; Tafesse 59-100; See also Shlomi Dinar, "Water, Security, Conflict, and Cooperation" *JALIS Review* 22.2 (2002): 229-253. Other authors in the field of hydropolitics will be discussed at length in the next chapter as well.

<sup>13</sup> See Thomas Homer Dixon, "Environmental Scarcities and Violent Conflict" *International Security* 19.1 (1994): 5-40.

<sup>14</sup> For more on realist theory see, Hans Morganthau, *Politics Among Nations*, 4<sup>th</sup> Edition (New York: Knopf, 1966) first published in 1948; E.H. Carr, *The Twenty Years' Crisis, 1919-1939: An Introduction to the Study of International Relations* (New York: Harper Touch Books, 1964); Kenneth Waltz, *Man, the State and War* (New York: Columbia University, 1959).



for example, asserted that long-term interstate cooperation could be promoted in the short-term through the establishment of functional task-related organizations.<sup>15</sup> Cooperation in these areas would then naturally spill over to produce cooperation in other, typically more controversial spheres. In a similar manner, regimes theorists have also examined the issue of interstate cooperation at great length, but, unlike functionalists, posit that though cooperation can occur, it is not necessarily the norm. Institutions and regimes are what make cooperation most likely.<sup>16</sup> Because they codify expectations, reduce uncertainty and impose rules, regimes reduce the chances that cheating or non-compliance will occur, and thereby makes states feel safer about cooperation as a means of securing their national interests.<sup>17</sup>

The above-mentioned theories are representative of just a fraction of the debate that has taken place over states' tendencies towards conflict or cooperation. Hydropolitics, however, seems to have found its own, distinct place within that debate due to the specificity of its focus on transnational water resource sharing. The work done by many political scientists is meant to enhance the international community's understanding of the factors critical to the hydropolitical equation so that they may better foster cooperation. And for the most part, despite being a relatively young field, the development of hydropolitical analysis has allowed for some interesting results. The main contribution of the field is without a doubt to have raised our awareness of the critical issues surrounding water scarcity. In doing so, it has contested the traditional, or realist-based, perspective by asserting that non-military threats also hold a place on the security agenda. The progress made by the research in the

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<sup>15</sup> For Functionalist theory see, David Mitrany, *A Working Peace System* (Chicago: Quadrangle Books, 1966) first published in 1943; For changes made to the functionalist theory see, Ernst Haas, *Beyond the Nation-State: Functionalism and International Organization* (Stanford, Stanford University Press, 1964).

<sup>16</sup> For discussion on the difference between international organizations and institutions see, Oran Young, *International Cooperation: Building Regimes for Natural Resources and the Environment* (Ithaca: Cornell University Press, 1989).

<sup>17</sup> For interdependence theory see Robert Keohane and Joseph Nye, *Power and Interdependence: World Politics in Transition* (Little, Brown and Co., 1977).

field has been helpful in supporting the work of the UN and other organizations in pushing states towards cooperation. In the case of the Nile Basin, the various specialized agencies of the United Nations, Canadian International Development Agency (CIDA) and World Bank have all been active partners in the creation of the NBI's preliminary forum through which the riparian countries were able to come together to voice their most urgent concerns with regards to water utilization on the Nile. Despite, however, having clarified and strengthened the linkage that exists between environmental threats and state security on the ground, there has been a failing to explore other essential links connected to the practice of hydropolitics, particularly those related to development.

#### **1.4 The Weakness of the Discourse**

If the field has been clearly committed to fostering efficient and, to a lesser extent, equitable water sharing agreements between states, it seems, in contrast, to have completely eluded the issue of intrastate water distribution. To date, questions pertaining to the efficiency and equity of water distributional mechanisms at play at the national level have been absent from the debates. Furthermore, only a handful of international organizations and scholars have done anything to pull this question from the bottom of the agenda.

This is all the more surprising considering that this state-centered approach is in direct contradiction with recent individual-based human security and development concepts promoted by the UN. The attainment of water security has indeed become an important component of the human security framework that many within the international community have been increasingly promoting.<sup>18</sup> In contrast to the state-centered view of security, the

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<sup>18</sup> For more information on the new human security approach see Fen Osler Hampson, *Madness in the Multitude: Human Security and World Disorder*. (Oxford: Oxford University Press, 2001). Yuen Foong Khong, "Human Security: A Shotgun Approach to Alleviating Human Misery?" *Global Governance*, 7.3 (2001): 231-236; Astri

idea is to promote the protection of every individual from a broad range of threats, and to set the minimum terms for their well-being. This approach, apparent in a growing body of human security and development literature, asserts that certain basic requirements such as food, health, environmental and economic security are essential to the protection of the individual. In essence, it asserts that the international community has a responsibility to ensure that states are able and willing to provide all their citizens with these requirements. Although this approach has picked up speed within the last decade, as evidenced by the UN Millennium goal, the provision of water security for every individual on earth clearly remains but a dream. As of 2000, at least 1.1 billion people worldwide still did not have access to safe water.<sup>19</sup> The situation with regards to sanitation facilities is even worse. As the UN has cited: “In the 1990s the number of children killed by diarrhoea—the result of unsafe water and sanitation—exceeded the number of people killed in armed conflicts since the Second World War.”<sup>20</sup> The number of alarming statistics does not stop here. Water deprivation continues to affect people in a number of different life threatening ways. The Global Water Partnership (GWP) has recently identified a number of groups who should be considered as ‘water-poor’, including:<sup>21</sup>

- Those living at long distances from a year-round supply of drinking water;
- Those required to expend a high percentage of household income on water; slum dwellers obliged to pay for water at well above market rates;
- Those whose water supply is contaminated bacteriologically or chemically, and who cannot afford to use or have no access to an alternative source;

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Suhrke, “Human Security and the Interests of States” *Security Dialogue* 30.3 (1999) 265-276; Peter Stoett, *Human and Global Security: An Exploration of Terms* (Toronto: Toronto University Press, 1999). For more authors see Roland Paris, “Human Security: Paradigm Shift or Hot Air” *International Security* 26.2 (2001): 86-102.

<sup>19</sup> UN Development Programme (UNDP), *Human Development Report 2003* (New York: Oxford University Press, 2003) 103.

<sup>20</sup> UNDP 104.

<sup>21</sup> Global Water Partnership (GWP) Technical Committee, *Poverty Reduction and IWRM*, TEC Background Paper No. 8, (Stockholm: Elanders Novum, 2003) 9.

- Women and girls who spend hours a day collecting water, and whose security education, productivity, and nutritional status is thereby put at risk.

In essence, the water-poor can be regarded as those who are most fundamentally affected by water deprivation and whose health and livelihoods are most likely to be put at risk during times of severe water shortages.

It is well recognized that the adverse geographical and financial situations faced by many states in the developing world prevent them from providing all their citizens with the amount of water necessary for meeting their basic needs.<sup>22</sup> To make matters worse, it is common for states to adopt discriminatory behaviours with respect to water distribution, which widens the water divide between the water rich and the water poor. The uneven distribution of water in the developing world tends to be particularly pronounced as these states most often suffer from serious structural and social inequalities as well as technocratic inefficiencies, a legacy passed on by colonialism. Governments tend to ensure the provision of water for those segments of the population with the most political and economic power. The situation is often further complicated by the fact that many of these countries are highly dependent on agricultural output for the continuation of their economic livelihoods. As a result, the voices of the agricultural sector are often able to dominate national water planning discussions. The water needs and demands of those groups with limited political influence are thus more easily ignored in the consideration of water management schemes. The poor are quite obviously those who suffer the most in such situations. Elhance has remarked that:

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<sup>22</sup> Gleick discusses water requirements for the fulfillment of basic needs in *The World's Water 1998-1999*, 42-47. In it he examines the international declarations that support the concept of certain needs as basic needs and, more specifically asserts that water can be considered as critical to these needs in four particular manners: for the disposal of human waste, for basic hygiene (shower and bathing), for cooking and for human intake (drinking water). This topic is further addressed by the United Nations World Water Assessment Programme in, *Water for People, Water for Life*, 97-98.

“The worst affected by water scarcities are often the poorest strata of society. In the rural areas of many developing countries, scarce water supplies are usually monopolized by the ruling elites. Access to water resources is often limited to a select few by a whole host of historical, political, economic and socio-cultural “entitlements.”<sup>23</sup>

The rural poor are not the only ones to suffer from water deprivation. Unregulated pricing policies constitute another serious obstacle between the poorest populations and adequate supplies of water. Even in the urban centres of many developing countries, the poor often pay many times the price of water than do the wealthy. In her book *Water Wars*, Diane Raines Ward comments on the failure of many governments to meet the responsibility of providing their populations with access to safe drinking water arguing “... money often dominates its distribution. In Cairo the poor pay vendors up to 40 times the real cost of delivery; in Karachi the figure is 83 times; and in parts of Haiti, 100 times, or a third of a resident’s income.”<sup>24</sup>

While river basin organizations may provide countries with more water in absolute terms, they do little to ensure the efficient and equitable use of water within countries. The World Water Development Report emphasized that while basin organizations do, in some way, facilitate the meeting of basic human needs within a country, they are inadequate to ensure the deliverance of the full range of economic and social benefits of international water projects which must be addressed by national water policies and laws.<sup>25</sup> If the international community is serious in its desire to promote even the most basic of human security goals, then international water management planning must emphasize the importance of ensuring a minimum amount of water to those who are gravely disadvantaged because of their socio-economic status or because of the ethnic or gender-based

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<sup>23</sup> Elhance 9.

<sup>24</sup> Starr 206.

<sup>25</sup> UN World Water Assessment Programme 299.

discrimination of which they are the victims. If these goals are not aggressively integrated into the initial discourse of hydropolitics, then they may be left out altogether.

### **1.5 An Unacceptable Shortcut**

It is easy to see how the urgency to avoid any form of interstate conflict and the difficulty to infringe on a state's sovereignty has driven politicians and experts to limit their discussions to the interstate level. It may indeed at first appear futile to fight for the inclusion of human security and development conditions in international negotiations when the establishment of an interstate agreement, which does not in any way impose upon states conditions for the use of the resources, seems itself so far away. This is all the more true in the case of the Nile region, where tensions between riparian states have existed for decades and are still easily exacerbated.

However, it would be erroneous to assume that international organizations do not have any room for manoeuvre when it comes to negotiating sharing agreements between riparian states. After all, most common water-based projects, including the ones that will be sponsored by the NBI, would not be possible without the financial participation of organizations such as the World Bank or CIDA. Experience shows us that international organizations have the ability, where there is the will, to attach a wide variety of conditions to the funds that they make available to developing countries. The IMF has shown on more than one occasion how feasible it is for the international community to obtain very concrete and comprehensive socio-economic adjustments at the national level in exchange for its financial assistance.

Because international funds are critical for the vast majority of water-based projects, the international community has the capacity, and indeed the responsibility, to ensure that

the benefits of these projects are spread equally between the citizens of each riparian state. The establishment of equity policies attached to international funding might best allow for the incorporation of better national water management practices without jeopardizing the progress made on basin-wide initiatives.

## **1.6 Reconceptualizing Hydropolitics**

In order to rectify current shortcomings in the way hydropolitics has been discussed and enacted in practice, we must first attempt to redefine the scope and aim of the field. Only a sufficiently broad premise can allow the field to recalibrate its recommendations and actions. Specifically, our goal is to arrive at a comprehensive and yet analytically useful set of objectives through which we may effectively pursue the human security and development objectives that have found a place on the international community agenda.

It is my conviction that hydropolitics must ultimately be able to answer the question of “who gets what” in relation to a given shared water resource. In order to do so, the field cannot restrict itself to the study of water affairs between states, but must consider with great care and diligence the critical aspects of water management and distribution at the national level as well. More specifically, we should agree, as mentioned in the introduction, that the goal of hydropolitics is to ensure that scarce water resources are managed in such a way as to maximize the general welfare of the populations sharing these resources and particularly of those individuals for whom the lack of water represents either a threat to their lives or to their basic human development.

In essence, this is advocating for an integration of fields. There is a need for a better awareness of the larger development and, more urgently, security goals that cooperation is expected to engender. This approach is, in fact, one that corresponds to the recently stated

new UN Millennium Declaration (for Human Development goals) adopted by the general assembly which called on all members to “(...) stop the unsustainable exploitation of water resources by developing water management strategies at the regional, national and local levels which promote both equitable access and adequate supply.”<sup>26</sup> It is only through the adoption of a new understanding of hydropolitics that we will likely accomplish these objectives. Obviously, expanding hydropolitics in such a manner is going beyond the field of human security into the field of human development and involves a complex analysis of water usage at all levels. Yet, I feel that these additional demands placed on international negotiations are worth the price.

### **1.7 Our New Definition and the NBI**

Though the purpose of the redefinition is to foster a more comprehensive view of the politics of water management and distribution, it would be futile to push for a definition that would have no possible application to policymakers. It stands to reason that a new definition is good if the institutions and the organizations that use it as a basis for their decision-making and activities become more efficient at enforcing human security at the global and individual level in the short as well as in the long-term. On the other hand, a bad definition would be one that does not make sufficient advancements – like the currently accepted definition of hydropolitics – or one that, no matter how admirable in theory, cannot be practically implemented. Accordingly, this thesis posits that a good definition of hydropolitics is one that will push basin-wide organizations towards the adoption of water-sharing frameworks that take into consideration, from the very beginning, the needs of those

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<sup>26</sup> UN World Water Assessment Programme 5.



persons or populations who suffer the most from water scarcity and shortages – the water-poor.

In order to assess the usefulness of this new definition, this thesis proposes to apply it to the context of the NBI. This is only appropriate since the Nile region constitutes one of the world's most explosive water-sharing environments. If our redefinition can benefit the citizens of this region of the world, then we can safely assume that it has its place in the general hydropolitical discourse. Before going any further, it is therefore essential to be able to assess the NBI's criteria for success. This can be done, albeit at a very general level, by looking at the NBI's immediate and long-term development objectives. For the purposes of this thesis, these objectives will be categorized as different levels of achievement. These levels function somewhat like points along a continuum meant to gauge the extent to which the organization might be able to consider its own effectiveness. According to the NBI's own stated objectives, the organization could be seen as successful if it brings about:

- 1) **Level 1:** the construction of a water-sharing agreement that all Nile states find *acceptable* and to which they agree.

or

- 2) **Level 2:** the construction of a water-sharing agreement that all Nile states find *equitable / fair* and to which they agree.

or

- 3) **Level 3:** the construction of an *equitable* arrangement of water-sharing between all states on the Nile *and* if it ensures that the water is distributed in such a way that all the riparian peoples of the region, particularly those who are suffering from grave water shortages, benefit from the arrangement.

While the NBI would undoubtedly be satisfied with Levels 1 or 2, it must be said that Level 3 is the only one that is fully representative of both its immediate and long-term development objectives. Unfortunately, as we will see in chapter 5, this last level belongs more to the domain of political rhetoric and does not seem to possess any clear link to

concrete and actionable ideas. It is interesting to notice that Level 3 happens to correspond to our new definition of hydropolitics. Our goal is therefore to establish whether it is possible and indeed desirable for the NBI to live up to its full potential by accepting the fact that national water management practices have their place in international negotiations.

## **1.8 Mapping the Way Forward**

The current state of hydropolitics lacks a comprehensive vision that would allow it to further other related and important international goals. This chapter has outlined some of the costs associated with the lack of such a vision and has presented ideas as to how this may be remedied. The following chapters will examine the need to redefine the scope of the field in more detail. The edifying case study of Nile hydropolitics will constitute the practical basis in which to anchor our reflection.

Our first step will consist of further analyzing the current discourse in an effort to gain a better understanding of its shortcomings. Correspondingly, our analysis will start with a general review of the field's literature in chapter two. This should allow us to determine the extent to which the field focuses on the international level of analysis. More specifically, we will look into the main contentions of the authors who have written on hydropolitics about conflict and cooperation. We will ask why the national level of analysis has been left out of the debate. Are there authors that have noticed these shortcomings and have advocated for a larger scope? Through the examination of these questions, we should get a feel for how far we can reasonably hope to extend the scope of the field for the future. We will then proceed, in chapter three, by examining how hydropolitics has typically been practiced in the context of our chosen case study, the Nile basin. This will consist of a historical review of conflict and cooperation amongst Nile riparian states from the era of European colonization until

the date of the creation of the NBI. By looking at the tensions that have arisen over water-sharing in the in the past, we should be able to better understand why concerns over cooperation have been so prominent thus far. This will also allow us to explore in more depth the development of the NBI itself. How is it different from other previous cooperative attempts? What have been the major factors in instigating the creation of a new Nile regime? We will continue our exploration of the practice of hydropolitics in the Nile basin in chapter four by analyzing the nature and the determinants of water poverty in the region. Here we will examine the impact that water scarcity has on the region's most vulnerable populations, the water-poor. We will identify who the water-poor are most likely to be and which mechanisms are mainly responsible for a poorer quality of service in national water delivery. The aim of this chapter is to demonstrate that those involved in hydropolitics should not assume that an increase in the amount of absolute water for a country necessarily translates into a significant increase in the amount of water available to the water-poor. The insights gained throughout the contextual chapters three and four will be used to analyze more specifically the objectives, the operating structure and the achievements of the Nile Basin Initiative in chapter five. Our purpose here is to obtain a better idea of how far the organization is prepared to go in tackling national-level water distribution issues that exacerbate water poverty. In essence, we will be asking whether the NBI is indeed representative of the traditional view of hydropolitics or if its policies demonstrate a greater concern for human security and development objectives. We will conclude our study with the formulation of several policy recommendations for the NBI and for the field in general that will hopefully pave the way for a much more inclusive approach.

Overall, this thesis is a call to action for those who participate in the study and practice of hydropolitics. Both the international institutions that hold leadership positions in

the discussion and implementation of hydropolitical policies and the academic community could be useful in pushing states to think in terms of more than just interstate conflict avoidance. However, for this to happen, an expanded view of hydropolitics must be adopted. In the following chapters it is my intention to reveal the need for this new approach by presenting a much more complete picture of the links that exist between water scarcity, hydropolitical cooperation and water poverty in the Nile Basin.

## **Chapter 2:**

### **A Review of the Hydropolitical Literature**

#### **2.1 Introduction: Hydropolitics, an Interdisciplinary Approach**

As discussed in chapter one, though hydropolitics may be a relatively young field, it has burgeoned considerably in a short period of time due to the work of several authors. Though there is a heavy basis for the discipline within the field of political science, a great number of these authors also come from a variety of fields such as geography, economics, water management, etc. This seems fitting given that the diverse range of issues related to the management of internationally shared waters seems to, a priori, require the expertise of people familiar with a broad range of topics. Yet, despite this fact, many academics have been quick to center their studies on the risks that scarcity may pose to state security. This component is so dominant that the study of hydropolitics has, in fact, been largely defined as “the systematic study of cooperation and conflict between states over water resources that transcend international boundaries.”<sup>27</sup> This definition, which was originally proposed by geographer Arun Elhance (as recently as 1999), seems to have been widely accepted by others in the field as is evidenced by the growing number of similarly focused articles and books. This topic clearly forms but a subset of the range of issues that could be addressed by such a diverse group of researchers, and, as stated in chapter one, such a definition fails to address many of the direct threats that water scarcity poses to human security and development.

A few authors have started to realize this and have been pushing to expand the field of hydropolitics beyond its initial boundaries. A.R. Turton, for one, has suggested that hydropolitics should be seen as “the authoritative allocation of values in society with respect

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<sup>27</sup> Elhance 7.

to water.”<sup>28</sup> This definition demands that the discipline examine a larger range of issues, such as water service delivery, water for food, and the social and political value of water in addition to the traditional issue of conflict and its mitigation. According to Turton, this must not only be done at the international level, but at the household, village, city, social, provincial and national levels as well. In contrast to Elhance’s definition, Turton’s vision of hydropolitics addresses issues of scale and range that most authors overlook. Because of the youth of the field and the breadth and novelty of these definitions, little has been done to date to investigate their adequacy. Hence, a great deal of work still remains before we can hope to see a formal and comprehensive definition acceptable to the majority of academics in the field.

Before this paper can further this goal, it is important to first get a clear and comprehensive picture of how far the field stretches at this point. The following literature review will allow a related overview and provide us with the parameters for innovation. The review will start with a presentation of the conflict versus cooperation debate, which can arguably be seen as the origin and the core of the field. From there, we will follow the natural evolution of the field throughout the last two decades as new authors and branches have come to expand and deepen the levels of analysis. In doing so, we will show that hydropolitics has, to date, been largely unable to escape from its initial international conflict bias, which continues to structure the scholarly discourse. Because the purpose of this thesis is to expand the field of hydropolitics so that it can better address all the issues of human security raised by water scarcity, we will then spend some time reviewing the work of these few authors who have pushed the self-imposed limitations of the field towards a more

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<sup>28</sup> A.R. Turton and R. Henwood, eds., *Hydropolitics in the Developing World: A Southern African Perspective* (University of Pretoria: African Water Issues Research Unit (Pretoria: AWIRU, 2002): 16. Chapter 1. Available online at: <http://www.internationalwaterlaw.org/Articles/HydroPolitics-S-Africa.htm>)

comprehensive framework. But first, we will briefly review the work of those scholars that have attempted to better define the concept of scarcity. Hydropolitics is indeed inseparable from a context of scarcity.

## **2.2 Water Scarcity: An Impending Crisis?**

The concept of water stress and scarcity was widely introduced by Swedish hydrologist Malin Falkenmark towards the end of the 1980's. Using a water stress index, Falkenmark measured the per capita availability of water for various populations and how it is likely to change over time, largely as a result of heightened population growth in these regions.<sup>29</sup> Taking into account these expected growth rates and the many multi-sectoral demands and applications of water in a society (i.e. food production, industry and waste management), she concluded that many of these countries will be approaching dangerously low levels of water availability in the near future. Countries with low water levels are classified in one of three ways: as 'water stressed' countries, where per capita water availability is between 1000 and 1600 m<sup>3</sup>, as 'chronic water scarce countries', where per capita water availability is between 500–1000 m<sup>3</sup>, or as countries approaching the 'water barrier' of manageable capability where the per capita availability is below 500 m<sup>3</sup>. Countries or regions whose water supplies are likely to fall into any of the three categories will be faced with severe constraints to development. If more efficient water planning and management practices are not soon put into place, she asserts, the decrease in water availability will likely result in devastating consequences, not only at the individual level, but at the international level as well.

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<sup>29</sup> Falkenmark, "Fresh Water: Time for a Modified Approach." 194–200; "The Massive Water Scarcity Now Threatening Africa: Why isn't it Being Addressed?" 112–118.

As the water measurement and assessment techniques, up until this point, were considered by many as grossly underdeveloped and largely inefficient, Falkenmark's index and concepts of water availability were quickly adopted as a benchmark by many in the international community. Well-known authors such as Postel and Biswas have used Falkenmark's work as an integral part of their analyses on water management in developing countries.<sup>30</sup> The World Bank and the United Nations Food and Agricultural Organization have also, in addition to many others, used Falkenmark's scale to discuss the future implications of agriculture in the developing world.<sup>31</sup> Yet, though her index and estimations gained great notoriety in many circles, not all in the international community agree with the basis of her scale nor the severity of her predictions.

Homer-Dixon, for example, has emphasized that water scarcity may be instigated by more factors than just population growth.<sup>32</sup> Other human actions that may instigate scarcity include environmental degradation and inequities in natural resource distribution. Similarly, Ohlsson has also proposed a move away from the way that water shortage issues have been traditionally discussed.<sup>33</sup> Using Homer-Dixon's description of resource scarcity as a starting point, Ohlsson asserts that a better approach to understanding the real and potential impacts of water scarcity on society is through a critical examination of how institutions may or may not be equipped to deal with the sources and impacts of resource scarcity. Societies that do

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<sup>30</sup> Sandra Postel, *Last Oasis: Facing Water Scarcity* (Washington D.C.: Worldwatch Environmental Alert Series, 1997): 29-37. Malin Falkenmark and Asit K. Biswas, "Further Momentum to Water Issues" *Ambio*, 24.6, (1995).

<sup>31</sup> The World Bank, *Water Resources Management*. A World Bank Policy Paper, (Washington, DC: World Bank, 1993); The Food and Agriculture Organization of the United Nations, *The State of Food and Agriculture*. Rome: FAO, 1993).

<sup>32</sup> Thomas F. Homer-Dixon, Jeffrey H. Boutwell and George W. Rathjens, "Environmental Change and Violent Conflict", *Scientific American* February (1993) 40.

<sup>33</sup> Leif Ohlsson, *Water and Social Resource Scarcity*—An Issue Paper Commissioned by FAO/ AGLW (1998):7. Presented as a discussion paper for the 2nd FAO E-mail Conference on Managing Water Scarcity, WATSCAR 2, 1998. Available online at: <http://www.padrigu.gu.se/ohlsson/files/FAO98.pdf>

This is also discussed in: Leif Ohlsson, ed., *Hydropolitics: Conflicts over Water as a Development Constraint*, (London: Zed Books, 1995): 14-16.



not have sufficient institutional flexibility to adjust to increased scarcity will obviously be impacted quite differently than societies with adaptive capacities. For Ohlsson, any index that does not take this into account will not effectively understand the relationship between scarcity and its impact on the human and environmental systems. Winpenny and Allan have further criticized Falkenmark's index for the exclusion of factors such as outside sources of incoming water and changing patterns of water usage.<sup>34</sup>

Essentially, the discourse that has taken place on scarcity centers on the alleged water crisis – how serious is it now and how serious will it become in the future? While authors like Allan remain cynical about the future likelihood of a full-blown water crisis, others like Falkenmark predict that extreme water scarcity will indeed produce grave international consequences. This debate has become important to the field of hydropolitics because its outcome will likely determine the urgency with which states and other actors will or should react. The fear is that unexpected extreme water scarcity may lead any of these actors to desperate measures and, in the worst case scenario, to international conflict over transnational water sources. As such, scarcity becomes an integral component of the hydropolitical equation regardless of the definition that one chooses to retain.

### **2.3 The Link between Scarcity and Water Wars**

The discussions surrounding the concept of scarcity and the impending water crisis have led the way for what can be considered as the biggest debate within the field of hydropolitics: what will be the international political consequences of growing water scarcity in transnational river basins? Most of the literature on conflict and cooperation in the field

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<sup>34</sup> J.A. Allan, "Hydro-Peace in the Middle East: Why no Water Wars? A Case Study of the Jordan River Basin", *S.AIS Review* 22 (2001) 255-272; J.T. Winpenny, *Managing Water as an Economic Resource* (London: Routledge, 1994) and *Managing Water Scarcity for Water Security* (1998): 2. On-line document prepared for the FAO, available from <http://www.fao.org/ag/agl/aglw/webpub/scarcity.htm>.

follows one of two veins of thought. The first asserts that *water scarcity does and will cause conflict between nations*. Joyce Starr is perhaps the most well-known author of this camp. Her publication of the early 1990's article titled "Water Wars" quickly caused ripples throughout the international community.<sup>35</sup> Shortly thereafter, a number of comparable articles that supported her claim were produced. The second vein of thought asserts that instead of conflict, *water scarcity actually encourages cooperation between riparian nations*. This point of view has perhaps been most clearly pronounced by Aaron Wolf who has critically examined and disputed the assertion that there is a historical precedent for war over water. The contrast between the two viewpoints has perhaps been best described by Postel when she stated: "Over the next decade, water issues in the region's three major river basins – the Jordan, the Nile, and the Euphrates – will foster either an unprecedented degree of cooperation or a combustible level of conflict."<sup>36</sup> As these two viewpoints form the roots of contemporary hydropolitics we will firstly examine the claims of these authors.

### 2.3.1 *Scarcity and Future "Water Wars"*

From the beginning, the claims that countries will go to war over water have bordered on the sensational. Though Falkenmark vaguely mentioned the possibility of violent conflict over water in her 1989 article, the topic seemed to pick up speed as a greater number of articles and books with increasingly provocative titles were published. In a 1984 issue of *Foreign Policy*, John Cooley published the article "The War Over Water".<sup>37</sup> In his article, he examines a number of historical situations where, he concludes, water played a major part if not the leading role in the creation and instigation of acute political tension and

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<sup>35</sup> Starr 17-30.

<sup>36</sup> Postel, *Last Oasis: Facing Water Scarcity* 74.

<sup>37</sup> John K. Cooley, "The War Over Water", *Foreign Policy* 54 (1984), 3-26.

violent conflict in the Middle East. Cooley's description of the mechanisms at play behind water-based conflicts follows the typical argument put forward by other proponents of the water-war link. The argument is straightforward: when freshwater, an essential and non-substitutable resource necessary for both human and national survival and growth, becomes perceived by nations as increasingly scarce, states may, in the absence of effective legal frameworks, seek to unilaterally develop transnational water resources. This will often create tensions with their similarly water-constrained riparian neighbors and, in severe cases, may even lead to violent conflict. Water scarcity then might lead to water wars between states. Cooley states that: "Indeed after oil runs out, water is likely to cause wars, cement peace, and make and break empires and alliances in the [Middle East] region, as it has for thousands of years."<sup>38</sup> Statements like this seem to have clearly caught the attention of those who had never seriously considered this possibility.

Using Falkenmark's concept of water barrier, Joyce Starr presented a similar argument in her 1991 article, which described how conflict would likely erupt in the MENA region if action were not immediately taken to curb the impacts of water shortages. Given the importance of freshwater resources for food production, waste management and other needs, and given the economic dependence of these countries on agricultural production, Starr asserts that the attainment of water security in the face of rising scarcity could soon become equated to state military security. Jordan and Egypt are just two out of a list of states that Starr mentions as having a heightened potential for conflict with their neighbors as a result of particularly strong perceptions of regional vulnerability in regards to water. Bullock, Darwish, and Klare have added that there is also a historical precedence for the settling of

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<sup>38</sup> Cooley 3.

disputes through military means in the MENA region that makes their occurrence all the more likely in the future.<sup>39</sup>

Gleick has also breached the topic in a great deal of his work. He has specified four major links that may exist between water and conflict. Water resources can be used as military goals, political goals, weapons of war, or targets of war. The likelihood that it will be used in either of the first two ways, as political and/or military goals, is dependent on four important conditions. “(1) the degree of water scarcity; (2) the extent to which the supply is shared by two or more groups; (3) the relative power of these groups; and (4) the ease of access to alternative sources.”<sup>40</sup> Basically Gleick states that the greater the disparities in strength --economic or military-- that exist between the water-sharing parties, the greater the likelihood that conflict may erupt, particularly when it is a weaker nation that controls the water source. He stresses that this equation works conversely as well – the smaller the disparities in strength between nations the greater the chance that cooperation will be pursued by the parties.

Haftendorn has also remarked on how growing water scarcity in the future is likely to induce more water conflicts, greater in numbers and intensity.<sup>41</sup> She discusses four different ways in which conflict might arise from water: conflict through use, conflict through pollution, conflict because of distributional issues in cases of relative shortages, and conflict because of distributional issues in cases of absolute shortages. Whereas the first two situations tend to be more easily mitigated through the creation of basin agreements, the last two tend to be more sensitive and potentially explosive because a gain by any one country

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<sup>39</sup> Michael Klare, *Resource Wars: The New Landscape of Global Conflict* (New York: Henry Holt and Co., 2001): 13-26. John Bullock and Adel Darwish, *Water Wars: Coming Conflicts in the Middle East* (London: Victor Gollancz, 1993) 199.

<sup>40</sup> Gleick, *The World's Water 1998–1999* 108.

<sup>41</sup> Helga Haftendorn, “Water and International Conflict”, *Third World Quarterly* 21.1 (2000): 51-68.

requires a sacrifice from one or several others. In relative cases of scarcity, conflict may arise from disparities in the distribution of water between upper and lower lying basin states. In cases of absolute shortage, there is simply not enough water to go around to meet the legitimate needs of all riparian states. Furthermore, disparities between the abilities of different states to access basin water tend to make the situation even tenser.

As the notion that states may soon go to war over water gained greater momentum in the academic community so too did it gain acceptance in the international political community. Though Nile politicians, such as Egyptian President Anwar El-Sadat, had previously made statements made about the possibility of going to war over water resources, the discussions of worsening water scarcity, however, seemed to alert others within the international diplomatic community to the possibility. This was demonstrated by the former vice president of the World Bank, Ismail Serageldin, and former UN Secretary-General, Boutros-Boutros Ghali, who both publicly declared by the mid 1990's that the potential for interstate conflict to occur over water resources was in fact very real and worrisome.<sup>42</sup>

Taken together, the authors in this camp can be broadly identified as non-traditionalists within the field of security studies. They argue that, in contexts of extreme water scarcity, water-sharing can create acute tensions between riparian nations and ignite large-scale regional conflicts. By asserting that an environmental threat such as water scarcity has the potential to trigger international wars, they clearly refute the traditional realist postulate which regards environmental concerns as 'soft issues' in the realm of world politics. This contestation of the traditionalist approach started to gain currency in the early 1990's, as the end of the Cold War opened up new possibilities for the inclusion of non-

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<sup>42</sup> Ghali is quoted in John Vidal, "Ready to fight to the last drop" *Guardian Weekly*, Aug 20, 1995 p13. Also see Mary Cooper, "Global Water Shortages." *Congressional Quarterly Researcher* 5.47 (1995): 1113-34.

military concerns into the field of security studies.<sup>43</sup> Though its continued acceptance throughout the post-Cold War years has been questioned by some who believe that recent events (such as the war with Iraq) prove the continued dominance of the traditional view of security, the debate over the inclusion of this non-traditional threat remains very much alive in the literature of security studies.

### 2.3.2 *Breaking the Link between Scarcity and Water Wars*

On the other side of the debate, a number of authors began to oppose the scarcity-war link that Cooley, Starr and others had established. In sharp contrast with the claims of the latter, many of these authors have declared that an increased level of basin-wide cooperation would be the most likely outcome of water scarcity. Those who favor this argument generally state that, as riparian states come to better understand the limitations of a river, the web of interdependencies it produces and the ways in which they are all affected, states are more likely to understand their shared responsibility to preserve it and the benefits that may be produced through cooperative action.

Arguments against the link made between resource scarcity and violent interstate conflict have been most clearly pronounced by Aaron T. Wolf. Wolf has written several articles in which he refutes assertions that water wars have, in fact, been historically prevalent, a claim usually supporting the notion that they could therefore easily occur again in the future given the right conditions.<sup>44</sup> Wolf presents four arguments against the plausibility of water wars: historical arguments, strategic arguments, shared interest

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<sup>43</sup> For more see Dinar 230. Also see Paul F. Diehl and Nils Petter Gleditsch eds., *Environmental Conflict* (Boulder: Westview Press, 2001); Lowi and Shaw, *Environment and Security*.

<sup>44</sup> Aaron Wolf, "Conflict and Cooperation along International Waterways", *Water Policy* 1.2 (1998), 251-265.

arguments and institutional resiliency arguments. In essence, he asserts that a more rigorous examination of history reveals that war over water resources has, by and large, not occurred, and that shared interests in keeping a healthy river or stream system push states away from choosing to go to war with each other and instead engender cooperation, which tends to endure once solidified by treaty in a water regime.

Allan has too has asserted that, in reality, there have been few water wars in the MENA region, but this is because of policy choices which have increased the use of “virtual water” or food imports. Virtual water eases the strain on available water supplies by substituting domestically produced agriculture with imported food. Food like wheat is imported instead of grown locally, thereby decreasing the overall amount of water needed for the agricultural sector. He points to the Jordan basin as proof of the utility of virtual water. “Despite growing water demand, the Middle East has shown no signs of water war since the early 1960’s. On the contrary, there is much evidence of cooperation over scarce water resources in the region, especially in the Jordan River Basin, where freshwater is scarcest.”<sup>45</sup>

The shared interests argument that Wolf has wrote about is something that Elhance has built on as well. For Elhance, the study of hydropolitics involves a thorough understanding of the ways in which the hydrology and geography of river basins link all riparian states in a complex web of economic, social and political interdependence. For instance, water scarcity in the loser states can lead to acute political instability, economic underdevelopment, and, consequently, intrastate conflict which may spillover. Conversely, if states were to work together to find an efficient and acceptable manner of sharing basin water, each riparian state would benefit from greater water security in the short and long-

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<sup>45</sup> Allan, “Hydro-Peace in the Middle East”, 255-272.

term. By enhancing individual state development at the same time as regional development, states are able to better ensure their economic, political, and social security and prosperity for the future. Hence, Elhance declares that hydropolitical cooperation can provide riparian states with a win-win situation. “Even the most reluctant states are ultimately compelled to seek cooperation with their neighbors because, in a situation of growing water scarcity, hydrological interdependencies restrict the unilateral options available to the riparian states while inflating the environmental, economic, political, and social costs of non-cooperation or hydropolitical procrastination.”<sup>46</sup>

Ohlsson too has stated that even though the potential for conflict to erupt may seem high in many river basins, the tendency towards conflict resolution is often higher. In his 1995 book “Hydropolitics: Conflicts over Water as a Development Constraint”, he analyses the tendency for conflict or cooperation in different river basins. He notes that what may often appear to be a direct link between scarcity and conflict over water can be misleading. Neighboring states of a basin, over a period of time, may build up various tensions and unresolved disputes between one another before the issue of scarcity is perceived as a problem. These disputes and tendencies however can manifest themselves in different ways and added stress over scarcity may help to ignite the flames of violent conflict. Yet, in these instances scarcity cannot be considered as the main cause of conflict. Furthermore, he asserts, when it comes to disputes bearing directly on the use of a common and critical resource such as water, states instead are inclined to opt for the negotiation of a water-sharing regime because it constitutes the better route to safely increase the resources for all.<sup>47</sup>

The creation of a water-sharing agreement between the former rival provinces of Punjab and

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<sup>46</sup> Elhance 235.

<sup>47</sup> This is something that has been also argued by Peter Beaumont in, “The Myth of Water Wars and the Future of Irrigated Agriculture in the Middle East”, *International Journal of Water Resources Development* 10.1(1994), 9–22.



Sind in Pakistan over water from the Indus basin is demonstrative of the kind of success that may be achieved from negotiations. Ohlsson's argument brings out a problem often cited by critics of the water war linkage –that of the causal link. A number of authors have pointed out that water scarcity may just be one small element, and not necessarily the main instigating factor contributing to conflict between states.<sup>48</sup> By saying that states will be like to go to war over water, authors simplify the real relationships between the variables at play in a conflict situation.<sup>49</sup>

Like Elhance and Ohlsson, Biswas has also voiced skepticism over the potential for states to go to war over water in the near future. He states that, too often, such literature does not provide a complete picture of all the costs and benefits associated with military conflict over water. "The problem is that it is not at all easy for one riparian in a drainage basin to deprive another of significant amounts of water, and it is not all easy to define the military to be pursued if there is a resort to force. Again, the nature of transboundary rivers creates special transboundary characteristics of military encounters that they may engender."<sup>50</sup> These stated interdependencies are similar to what Elhance has described in his book. But Biswas is also quick to caution the reader of what he believes is the true possibility for cooperation. Cooperation, he says, is a rare occurrence because politicians tend to worry more about the risks of cooperation. Because the benefits of cooperation in a river basin may be highly asymmetrical and complex with numerous bargaining parties, the whole

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<sup>48</sup> R. Lipschultz "What Resource Will Matter? Environmental Degradation as a Security Issue" in E. Kirk (ed.), *Environmental Dimensions of Security: Proceedings from AAAS Annual Meeting Symposium*, American Association for the Advancement of Science, Washington 1992 1-8. Miriam Lowi "Water Disputes in the Middle East" *Environmental Change and Security Project Report*, 2 (1996): 5-8.

<sup>49</sup> See Jon Barnett, *The Meaning of Environmental Security: Ecological and Policy in the New Security Era* (London: Zed Books, Ltd., 2001). Richard A. Matthews "Integrating Environmental Factors into Conventional Security" Chapter 3 in Lowi and Shaw 33-48.

<sup>50</sup> Asit K. Biswas and J. Kolars ... [et al.], *Core and Periphery : a Comprehensive Approach to Middle Eastern Water*, sponsored by the Middle East Water Commission with the support of the Sasakawa Peace Foundation, (Delhi: Oxford University Press, 1997): 24.

process of finding voluntary cooperative solutions becomes difficult. Though he states that there are a number of ways that cooperation may nevertheless be pursued (multi-good bargaining may most effectively induce voluntary solutions, while involuntary solutions or induced solutions may also produce cooperation), it remains very difficult to achieve and maintain. "In the absence of cooperative agreements it is likely that riparians will pursue unilateral exploitation which will be economically sub-optimal yet attractive given the perceived risks and costs of other options according to the politicians."<sup>51</sup>

The contrast between the vision of those who see a future stained by bloody water wars and those who predict wide-spread regional cooperation is readily apparent. How can there be such a difference between the claims of these authors? Essentially, the differences stem from the nuances introduced by the proponents of cooperation. First, the latter have prompted us to discern different degrees of severity when examining water induced conflicts. For them, few if any of these conflicts should rightfully be considered as regional wars and should instead be referred to as skirmishes or sharp but short armed struggles. Second, they have questioned the causal relationship between water scarcity and many historical conflicts having occurred in arid and semi-arid regions. If water has a role to play in some conflicts occurring in regions suffering from acute water scarcity, they point out that it may not necessarily be the main instigator. These two nuances have definitely contributed to the maturation of the field by balancing out its analyses. However, taken separately, neither of these two strands of literature gives us a satisfactory picture of the role that water plays in international relations. For even if full-scale water wars are not likely to occur, one must accept the fact that, despite our efforts to promote cooperation, water scarcity is likely to increase human misery in different parts of the world and thus foment more than one

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<sup>51</sup> Biswas, "Core and Periphery" 25.

violent conflict. As a result, we cannot simply invalidate the link between scarcity and violence. As we will see in the next section, several authors have come to this realization and have proposed a more realistic description of the link that exists between water scarcity and international security.

## **2.4 In the Absence of Water Wars: scarcity, conflict and security**

Somewhere between the sensationalist claims of Starr and the idyllic promises of cooperation of Elhance has emerged a more balanced vision that recognizes the explosive nature of severe water scarcity and understands at the same time the importance of actively working towards peaceful resolutions. Whether or not we are able to contain this explosive situation, it is clear for several authors that water scarcity should be part of the security agenda of all states. In this section, we will look at some of the discussions occurring around the securitization of water within the field of hydropolitics.

The growing claim according to which natural resources threats represent a new and important concern for state security has been most notably examined by Buzan. While his work investigates the linkages that exist between a number of nonmilitary sources of threats and international security, his discussion of environmental threats has been particularly useful in estimating how water may influence either increased conflict or cooperation in the MENA region.<sup>52</sup> A regional security complex generally exists when the primary security concerns of a group of geographically linked states become so closely interconnected that their individual security issues cannot be easily analyzed autonomously. Buzan has stated that, within the MENA region, there are three specific sub-complexes: the Gulf, North

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<sup>52</sup> His discussion of the widening of this traditional theory is found in B. Buzan, *Security: A New Framework for Analysis*, (London: Lynne Rienner Publishers, 1998). See also Buzan, *Security Complexes and Sub-complexes* (London: Lynne Rienner, 2000).

Africa and the eastern Mediterranean areas. He asserts that water issues are most poignant, however, in the Jordan Basin where it is and has been for some time a core component of security politics. He also discusses the impact that environmental scarcity can have on the socio-political fabric of a nation. He describes how a population can be more easily driven towards extremist reactions in situations of environmental scarcity as people tend to quickly think in terms of “them against us” – what Buzan calls the “my family first” phenomenon. As the belief that there is growing scarcity spreads throughout a region, entire communities and villages can be pitted against each other, warranting attention from the state. Though Buzan can hardly be considered as having taken an in-depth look at the national consequences of water scarcity, he clearly goes beyond the international level to investigate other ways in which water scarcity can precipitate violence.

Shlomi Dinar, in her article, “Water, Security, Conflict, Cooperation” has also examined the relationship between state security and growing water scarcity. She has noted that while water may not be the independent variable in creating ‘water wars’ as often as thought, it nevertheless is critical to the field because it may be the independent variable behind military skirmishes and political tension, which may spillover to full-range conflicts or even on rare occasion war. In her view, whether the outcome of scarcity is conflict or cooperation, hydropolitics, as the study of the consequences of scarcity, is an important aspect of state security and should be incorporated to the field of security studies. “The water-security link is therefore valid as long as hydropolitics continues to determine to a greater or lesser extent interstate conflict and cooperation, which in turn affects national, regional, and international security. To that extent, hydropolitics has forged itself a clear

place in the security studies field.”<sup>53</sup> Though Dinar’s analysis too considers the impact that water scarcity has on interstate conflict as key to the justification for the inclusion of hydropolitics into security studies, her emphasis on the national realm would suggest that scarcity at the intrastate level should indeed be more rigorously examined.

Ullman similarly asserts that though conflict over water will probably become more frequent and intense as demand increases, these conflicts are more likely to occur within countries or pronounce themselves as short sharp struggles at borders. But, he contends, such conflict is only one way in which resources will impinge upon national security in the upcoming years. Instead of thinking of security purely in terms of conflict, he asserts that a more useful definition of security is one in which threats are considered “as actions or a sequence of events that threaten to drastically and over a relatively brief amount of time degrade the quality of life for the inhabitants of a state or that threatens significantly to narrow the range of policy choices available to the government of a state or private nongovernmental entities within the state.”<sup>54</sup> According to this approach, water deprivation, be it the result of population growth, conflict situations, or inequitable distribution policies, can be regarded as a threat to security of individuals. Hence, an expanded definition of hydropolitics that analyses water deprivation as well as conflict then becomes critical to such a concept of security.

Canadian peace researcher Homer-Dixon, has also examined the topic at great length and highlighted a number of ways in which scarcity and conflict can be exacerbated. As stated earlier, he has drawn much attention to the fact that national scarcity is not only the result of population growth and environmental degradation, but that it can also come

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<sup>53</sup> Dinar 232.

<sup>54</sup> Richard Ullman, “Redefining Security”, *International Security* 8.1 (1983) 133.

through resource capture – that is large distributional inequalities introduced and maintained by a country's government. The latter, often overlooked in analyses, may indeed privilege certain ethnicities, regions, or economic sectors, which may further disturb the economic, social, institutional and group identity complexes of a society. It is the combination of these three factors that are more likely to bring countries to the brink of what Falkenmark has named “the water barrier”. Homer-Dixon's research has shown that, though resource scarcity may not precipitate interstate wars, it may nevertheless produce violent conflict on a sub-national level. This, however, he has cautioned, may still have serious repercussions for international stability:

Countries under stress may fragment as their states become enfeebled and peripheral regions are seized by renegade authorities and warlords. Governments of countries as different as the Philippines and Peru have lost control over outer territories [...] fragmentation of any sizeable country will produce large outflows of refugees; it will also hinder the country from effectively negotiating and implementing international agreements on collective security, global environmental politics and other matters.<sup>55</sup>

Much like the other authors in the section, Homer-Dixon's analysis draws skeptical conclusions about the probability for water wars, as espoused by Starr and Cooley, to occur. However, does his analysis undermine the seriousness of the consequences of scarcity at the national level, as do some of the authors in the cooperation section. The concept of resource capture gives us yet another reason to look at the national allocation of water as an integral and necessary part of scarcity and conflict analyses. In fact, allocation at this level would seem to be an essential aspect of hydropolitics. A handful of authors have used Homer-Dixon's analysis as a foundation for the exploring of distributional inequalities at the national level. Ullman, for example, has pointed out that, when resources of a nation are severely strained, those at the bottom of a social hierarchy are quick to imagine – often with

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<sup>55</sup> Homer-Dixon, "Environmental Scarcities and Violent Conflict" 36.

justification – that those who govern distribute the benefits at their disposal in ways that favor some groups at the expense of others.<sup>56</sup>

Taking up Homer-Dixon's lead on the inclusion of a social dimension in the scarcity conflict link, Lonergan has noted that much of the literature in the field completely ignores questions of international sustainable development and social welfare. Much of the work done on water in particular tends to overlook the questions of inequities and instead focus on conflict or cooperation.<sup>57</sup> For Lonergan, inequity is clearly a major instigator, if not root cause, in the proliferation of non-traditional security threats such as resource scarcity. "While environmental degradation and resource depletion as causes of conflict may be overstated, it is undeniable that increasing sources of inequities in society are likely the major sources of these (and other) non-conventional threats to individual security."<sup>58</sup> Hence, he proposes that the most appropriate framework for the consideration of such security threats is first and foremost through an understanding of equity. Lonergan's inclusion of the notion of equity and international development into the conception of security, much like Ullman's and Homer-Dixon's, demands that a more comprehensive view of security be taken. Their conclusions point to the need for an adoption of an individual-centered view of security, something which stands in stark contrast to the way that water issues have traditionally been discussed in the literature of hydropolitics, and until the end of the Cold War, in the literature of security studies as well.

Although these authors have explored in a more comprehensive fashion the relationship between water scarcity, conflict and state security, their work has not per se

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<sup>56</sup> Ullman 142.

<sup>57</sup> Steve Lonergan, "Human Security, Environmental Security, and Sustainable Development." in Lowi and Shaw 71.

<sup>58</sup> Lonergan in Lowi and Shaw 73.

affected the focus of the field of hydropolitics, which remains primarily set at the international level. While a few authors like Ullman, Homer-Dixon and Lonergan have addressed the issue in terms of broad security theory, only a handful of authors have pushed for the integration of the national level of analysis into hydropolitics and even fewer have started to carry out this type of analysis. In fact, Postel and Wolf may be two of the few who have done so. In their article “Dehydrating Conflict”, they show how the debate over the likelihood of water wars has obscured the important question as to how and why tensions develop in river basins. They 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 places where these problems are most likely to occur are where farmers lose their livelihood due to water shortages, where dams and development projects have taken place, where privatization of water may have been recently implemented and where institutions for conflict resolution is weak. The range of the solutions that they propose for the mitigation of these issues clearly borrows from different fields. From increasing productivity of water-output use per unit to the regulation of the water market, they establish – around the issue of water scarcity – a link between international relations, water management and political economy. This article is particularly interesting because it confirms that only a truly multidisciplinary and granular approach can hope to effectively mitigate the risks that water scarcity poses to national security. Unfortunately, it also constitutes, along with Turton’s call for a new definition, the most far-reaching effort made by hydropoliticians to look beyond the international conflict versus cooperation paradigm. To date, the issues relating to the efficiency and the fairness of national water distribution mechanism clearly remain the exclusive domain of economists



and water management specialists. Until this situation is addressed, hydropolitics cannot hope to propose satisfactory policy recommendations to regions suffering from water scarcity.

## **2.5 Conclusion**

Our review has revealed a clear divide in the way that water scarcity has been studied by political scientists. While the fields of water management and political economy have examined to some length the national determinants of water scarcity, hydropolitics has been limited to discussing its impact on international relations and conflict. This is not surprising given the fact that the growth of the study of hydropolitics has coincided with the first alarmist publications warning of impending water wars and the debate between those who believe that catastrophe is imminent and those who argue that cooperation will prevail. Because of this early focus, hydropolitics has traditionally been centered on the international level and has mostly used the state as its unit of analysis. If some scholars have attempted to look past this artificial analytical border, they have but scratched the surface of what lies ahead of us in our quest to better understand the impact of water scarcity on all facets of human security. These researchers, such as Postel and Wolf, have however demonstrated the existence of a link between political economy, water management and the study of international cooperation and conflict around regional water basins. In so doing, they have started to pave the way for an integration of these fields into a comprehensive analytical framework that can allow us to study and mitigate the impact of water scarcity on our world.

Despite the contribution of these authors, hydropolitics has never escaped the mold of its origins and has ever since been searching for its identity. The next few chapters will hopefully help the field break free and compel most hydropolitics specialists to adopt a broader view of water scarcity. Specifically, I will be pushing for a deeper investigation of the

national level with a scope that encompasses all the ways in which human security is affected by water scarcity. We will do this by first examining the international context of water sharing on the Nile - where the potential for international conflict has been recognized as one of the highest in the world, and then by contrasting this with the state of water poverty in the Nile region in chapter four. This choice should allow us to demonstrate that the sub-national level of analysis is critical even when concerns for international conflict are very real.

## **Chapter 3:**

### **History of Cooperation and Conflict in the Nile Basin**

#### **3.1 Introduction**

There are a number of reasons why the Nile basin constitutes such a prime subject of study for hydropolitics. As we will see in the next section, this great river, which runs all the way from its Tanzanian source to the Cairo delta in Egypt, holds a central role in the life of a large portion of the African continent. The fact that ten states and over 140 million people depend on its waters for subsistence has made the exploitation of the river a highly contentious topic that has occupied, ever since man was able to erect large dams, the very top of the region's political agenda. However, there is no doubt that, beyond the vital importance of the Nile waters for these states, the political tensions that have been building up between them are also the result of their colonial heritage which has left the region with fragmented ethnic groups, weak and divided states and a pseudo-legal framework meant originally to protect British interests and which could, with time, only lead to disaster. This chapter will cover all these issues in greater detail with a historical review of the hydropolitics on the Nile. This review constitutes the first part of our presentation on the context in which the NBI was born and is operating today. The second part of our presentation, which is given in chapter four, will leave the realm of international relations to deal with the nature and the determinants of water poverty in the same region at the national and local levels.

#### **3.2 The Importance of the Nile for the Region**

The Nile has long been considered as a lifeline of sorts for Egypt and other basin countries whose climates are so drastically determined by the encroaching desert. It is estimated that the waters of the Nile have provided the basis of agricultural development in

Egypt and Sudan for more than 7000 years.<sup>59</sup> Because of the continued reliance on agriculture today, the Nile still occupies a central role in the economy of all ten countries. In all of the riparian states agriculture is the main economic activity, employing up to 93% of the labor force.<sup>60</sup> Though irrigation is, by far, the most common use of Nile water, the river is also used to provide urban and rural industrial and domestic water supplies, and is an integral part of many basin storage, hydro-electric, and conservation projects. Though the main users of the Nile's water have been without a doubt Egypt and Sudan, populations all along the river depend on it to meet a variety of needs. In the early 1990's the population of all the Nile countries combined was estimated to be at 140 million, 50% of which was said to be heavily dependent on the use of its water for their domestic and economic survival.<sup>61</sup> The number of people dependent on the river has likely grown as more recent studies have estimated the basin population to be closer to 250 million.<sup>62</sup> The fact that so many people are dependent on the Nile makes it easy to understand why the various riparian countries have been so eager to secure or increase the water allocated to them. Perceptions that there is not enough water in the basin to meet all the needs of the Nile countries have led the leaders of some states to resort to using the threat of force to meet their water needs, as will be shown in the next section.

### **3.3 Hydropolitics in the Nile Basin: History and Directions**

The NBI is not the first time there are hopes for integrated river development planning on the Nile. Known plans to develop and manage the basin as a single hydrological

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<sup>59</sup> P.P. Howell and J.A. Allan, eds., *The Nile: Sharing a Scarce Resource*, (Cambridge: Cambridge University Press, 1994) 65.

<sup>60</sup> Elhance 60.

<sup>61</sup> Howell and Allan 139.

<sup>62</sup> Elhance 59.

unit go as far back as the second half of the 19<sup>th</sup> century, when Egypt, under the leadership of Mohammed Ali, pursued plans to unify the Nile Valley by attempting to annex Ethiopia and certain key areas of the Equatorial Lakes region.<sup>63</sup> Subsequent efforts to develop the river as a single unit came during the period of colonization. The end of colonialism and establishment of several independent states in its place brought about dramatic changes for the context of basin hydropolitics. Concerns over the potential for conflict to escalate soon became regarded as a major issue threatening regional stability. The Cold War altered regional dynamics even further as superpower involvement often exacerbated existing tensions between Nile states, sometimes to the brink of violent conflict. Understanding the dynamics of hydropolitics in the Nile basin requires examining the relationships that have existed between the riparian states at a greater length. This section aims to do just that. First, we will examine the hydropolitical history and positions of the states of the Blue Nile --the major players in basin hydropolitics-- Egypt, Sudan and Ethiopia.<sup>64</sup> When combined, they make up about 85% of the total Nile basin area. We will then briefly examine how the remaining states of the White Nile have influenced regional hydropolitics, before moving on to look at recent cooperative initiatives in the basin.

### *3.3.1 Egypt: the strategy of a regional hegemon*

No state is as dependent on the Nile than Egypt. It has used more water of the basin than all the other states combined.<sup>65</sup> More than 97% of the country's freshwater stems from the Nile. About 96% of the Egyptian population lives in the Nile Valley and Nile Delta,

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<sup>63</sup> Daniel Kendie, "Egypt and Hydro-Politics of the Blue Nile River." *Northeast African Studies* 6.1 (1999): 145; Tafesse 60-62.

<sup>64</sup> The hydropolitical history of Eritrea will not be directly discussed as it was, to large extent, determined by the fact that they were, until recently, part of Ethiopia.

<sup>65</sup> Tafesse 33.

which together account for about 4% of the country's landmass.<sup>66</sup> Though its placement as the lowermost state in the basin might put it at a geographical disadvantage, it has asserted a superior position by pushing its economic and military strength. Undoubtedly, it has been and remains one of the most economically and militarily advantaged states in the basin and has been recognized by many as a regional hegemon. Despite its power, however, the country has not been able to entirely escape its condition of vulnerability with regards to water security. Proposals for water development projects by other Nile countries threaten to decrease the amount of water that will flow into Egypt's borders. Of course, as the regional hegemon, it has so far exercised a great deal of leverage in persuading other countries from pursuing such projects, but increasing pressure for decreased Egyptian domination in the region has recently put them at the center of some regional and international criticism. Nevertheless, out of all the Nile states, they have probably most significantly directed the overall hydropolitics of the basin. As Elhance has pronounced, hydropolitics in the Nile basin cannot be examined independent of Egypt:

“The Egyptian condition has always been and will continue to be at the heart of hydropolitics in the Nile basin. For Egypt, geography, more specifically hydrology, is national destiny. Other countries sharing the basin also depend on the waters of the Nile for economic development, political stability and social welfare, but not as crucially as does Egypt.”<sup>67</sup>

The current and historical position of Egyptian dominance on the Nile has a great deal to do with the legacies of British colonial water strategies. After the failed Egyptian attempts to control Nile flow through the annexation of Ethiopia under leaders Mohammed Ali and Khedive Ismail, the Egyptians had all but given up, at least temporarily, on the idea of controlling the whole of the Nile flow. However, when the

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<sup>66</sup> Jutta Brunnee and Stephan Toope “The Changing Nile Basin Regime: Does Law Matter?” *Harvard International Law Journal* 43 (2002) 119.

<sup>67</sup> Elhance 54.

country came under British control in 1882, they came closer to achieving the vision of unity of the Nile Valley than ever before. The British imposed a basin-wide regime with Egypt as the main benefactor. In a series of measures in the late nineteenth and early twentieth century they secured guarantees for the uninterrupted flow of the Nile.<sup>68</sup> Tafesse has explained the rationale behind British policy at this time saying:

The commitment from the British imperial power towards Egypt emanated from the fact that they considered their North African colony as a 'Middle Eastern Jewel in the Crown' mainly because they envisaged that it could offer them two advantages: firstly, it could supply them the much-needed cotton to the textile mills in Manchester and Lancashire and secondly, its strategic position on the waters along the Suez Canal could give them an upper hand to control shipping movements and mercantile on the Mediterranean and Red Seas as well as the Indian Ocean.<sup>69</sup>

The most significant of the treaties made during British control was undoubtedly the 1929 Nile Waters Agreement. The signatories to the agreement were Great Britain (officially on behalf of Sudan) and unofficially on behalf of Egypt. The agreement ensured that the British (on behalf of its colonies) would not construct any works which would interfere with the flow of the Nile in Egypt. The agreement also set fixed amounts for annual water withdrawal for both Egypt and Sudan: 48 billion cubic meters for Egypt and 4 billion cubic meters for Sudan.<sup>70</sup> Overall, the strength of the treaty lies not only in the annual amounts given to these states, but in the fact that it cements Egypt's ability to construct any Nile project it decides necessary without the consent of other riparians, as well as to veto any work done by other countries which could adversely affect Egyptian water interests.

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<sup>68</sup> Some of the main treaties include the signing of the: 1891 treaty with Italian colonialists in Ethiopia; 1902 treaty with Ethiopian royalty, which was later repudiated altogether by the Ethiopian government in 1957; 1906 Trilateral agreement between Britain, France and Italy; 1906 Belgian-British Treaty. For more information on treaties that existed under the British regime see Brunnee and Toope 123-127; Kendie 145-147; Christina Carroll, "Past and Future Legal Framework of the Nile River Basin", *Georgetown International Law Review* 12.1 (1999): 276-279.

<sup>69</sup> Tafesse 34.

<sup>70</sup> Tafesse 74.

Following Egyptian independence, nationalist fervor and water insecurities prompted Egypt to seek out new ways of increasing their water storage capacity. The British had earlier proposed the construction of the Century Storage Scheme, which would have dramatically increased the water flows and storage opportunities for Egypt, but the fact that the majority of the structures would need to be built outside of Egyptian territory meant that Egypt might be at the mercy of its neighbors. This proved to be politically unacceptable for the times. Any major infrastructure would have to be built within Egypt. The Aswan High Dam, constructed under President Nasser, is representative of this desire to maximize Egyptian water security confidently through the building of structures that could be mostly controlled from within the country. Constructed after 1960, following the revision of the 1929 water-sharing agreement with Sudan, the Dam crosses only partially into the territory of one other riparian –Sudan. The Aswan Dam, which was financed by the Soviet Union after American funding was withdrawn at the height of the Cold War, created the reservoir Lake Nasser, the second largest man-made lake in the world.<sup>71</sup>

Egypt today continues to claim natural, acquired and historical rights to the use of Nile water. Any project proposal which might interfere with the flow of the Nile has been seen as an affront to Egypt itself. The country has used its historical, economic, and military dominance on the Nile to defend its position in the face of proposals for water projects of other countries. While this view has been protested by other Nile riparians in the past, Egypt has continued to use their regional power to intimidate others and keep the status quo even in the face of new challenges.

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<sup>71</sup> The Aswan High Dam has a storage capacity of 160 billion cubic meters (estimated as being able to store two full years of the Nile's flow). Tafesse 38.



### *3.3.2 Sudan: An Uneven Partner*

Though almost two-thirds of the whole Nile basin lies within Sudanese territory, the country uses, overall, a very small amount of the river's water when compared to Egypt. There are two main reasons for this. Firstly, (for its own economic interests) the British adopted a policy towards Egypt that left out, for the most part, all other riparians. By the time that Sudan achieved independence, Egypt had already taken a dominant position in basin relations. Secondly, the country has had a great deal of problems internally and its preoccupation with these issues has kept it from centering a greater amount of attention on water issues. Nevertheless, Sudan has managed to utilize the waters of the Nile more than many of the other riparians and has been more successful at finding a place for itself in basin hydropolitics.

Sudan's first major protest for a larger share of Nile water was directly after the country's independence in 1952. In the years that immediately followed, 1956-1958, Egyptian-Sudanese relations were marked by an intense period of stress and tension. Egyptian President Nasser withdrew from plans to help Sudanese President Azhari build the Roseires Dam because of Sudanese objections to the building of the Aswan Dam in Sudanese territory. Tensions reached an all-time peak when Sudan declared that it intended to withdraw from the 1929 bilateral agreement between the two countries. This resulted in the movement of Egyptian military forces to the Sudanese border. Though direct military conflict was avoided, the event demonstrated how dangerous things could become on the Nile.

Relations between the two countries changed considerably, however, after the Sudanese regime change of 1958. A military takeover replaced President Azhari with General Ibrahim Abboud, who took a softer stance towards Egypt. Shortly thereafter, the 1959 Nile

Waters Agreement was reached between the two countries. The new agreement was meant to make the 1929 agreement fairer, at least for the Sudanese. The 1959 agreement allots Egypt with an annual 55.5 billion cubic meters and Sudan with 18.5 billion cubic meters. Like the original agreement, other Nile countries were not consulted or included. The agreement freed both Sudan and Egypt to construct desired projects. Sudan was assisted by Egypt in the construction of the Roseires Dam, while Egypt was granted the green light for Aswan.

Ten years later, a coup d'état put another Egyptian-friendly Sudanese government in place, led by President Nimeiri. The Tripoli Charter, signed shortly thereafter, signified the hope for continued cooperation by both Presidents. President Nimeiri stayed in power for sixteen years, until 1985. During this time Sadat intervened militarily to help save Nimeiri's regime twice.<sup>72</sup> In return for helping the President stay in power the Sudanese agreed, in 1976, to construct the Jonglei Canal Project. The Jonglei Scheme was meant to resolve the evaporation that occurs in the Sudd swamps of Southern Sudan, where nearly one-half of the river's flow from White Nile disappears. The scheme would, consequently, elevate the quantity of water that reaches the Aswan High Dam and Lake Nasser.<sup>73</sup> Though construction on the Canal began in 1978, without consultation with any of the other Nile states, it was halted five years later, 70% through its construction, when Sudan's civil war erupted. Because it increased the already high tension and animosity that existed between the

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<sup>72</sup> Egypt intervened first in July of 1971, and then later again in July of 1976. Ashok Swain, "Ethiopia, the Sudan, and Egypt: The Nile River Dispute." *The Journal of Modern African Studies*, 35.4 (1997) 681. Ashok Swain, "The Nile River Basin Initiative: Too Many Cooks, Too Little Broth." *SAIS Review*, 22.2 (2002): 296-297.

<sup>73</sup> It is estimated that up to 4.7 billion cubic meters of water from the Sudd wetlands would have been diverted back to the Nile, 3.8 billion of which were allocated to go to Egypt. Swain, "The Nile River Basin Initiative: Too Many Cooks, Too Little Broth." 297.

northern and southern groups of Sudan, the project has been named by some as a significant instigating factor leading to war itself.<sup>74</sup>

The end of the Nimeiri regime in 1985 has brought about a situation where there is less water security for Egypt. The new Islamist military regime which followed quickly abolished previously agreed upon programs for integration between the two countries. In the early 1990's Sudan asked that the 1959 agreement be revisited, and they have threatened to withhold water from Egypt if their terms are not met, a position that obviously clashes with that of Egypt's. Egyptian authorities have also accused the regime of assisting anti-Egyptian forces in Sudan and of aiding the parties involved in the assassination attempt on Egyptian President Hosni Mubarak's life in 1995.<sup>75</sup> In terms of water use, the most efficient way for Sudan to increase its ability to effectively use Nile water resources would be to build structures with its southeastern neighbor Ethiopia, as suggested by two US Bureau of Reclamation studies.<sup>76</sup> But Egyptian dominance on the Nile makes this an unlikely possibility as such an alignment would surely be cause for concern in Cairo. Additionally, the potential for Sudan to realize any major hydrological projects has been impeded by the fact that much of their resources continue to be concentrated in a military campaign against black groups in the Darfur region in the west of the country, a conflict situation for which the Sudanese government has faced recent international condemnation.

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<sup>74</sup> For more on this see Robert O. Collins, *The Waters of the Nile: Hydropolitics and the Jonglei Canal* (Oxford: Clarendon Press, 1990).

<sup>75</sup> Swain, "Ethiopia, the Sudan, and Egypt" 683.

<sup>76</sup> Kendie 149.

### *3.3.3 Ethiopia's Paradox*

Ethiopia is one of the most geographically advantaged states in the whole of the Nile basin and certainly of those in the Blue Nile. Close to 85% of the Nile's water that reaches Egypt originates in the Ethiopian highlands near Lake Tana. In terms of the portion or length of the Nile that flows within each country, Ethiopia is second only to Sudan. Additionally, evaporation in the Ethiopian highlands is reasonably minimal when compared with that of its closest neighbors. The country would seemingly be in an ideal position for the utilization of Nile waters based on claims of natural rights. Yet, ironically, it uses less than 1% of the Nile per year. The total amount of irrigated land in the Ethiopian portion of the basin is 8,000 hectares (.4 percent of the total basin's potential), and the amount of hydroelectricity that is produced through the Nile is 2% of the potential.<sup>77</sup> One major obstacle to Ethiopian water security has been its own history of conflict and bad leadership. The country has been ranked as one of the poorest in the world and has, until recently, been ridden with internal conflict and war.<sup>78</sup> The other evident and major challenge standing between Ethiopia and Nile water utilization has been Egypt. Egyptian authorities have made it clear time and time again that any potential development schemes which would decrease the flow of water to Egypt would be regarded as a serious affront to the existing legal regime in the basin and, more specifically, to Egypt itself -a threat to which they would likely respond militarily. Though Ethiopia has declared on several occasions that it was never party to any of the key documents that currently govern Nile usage, it has never actively challenged Egyptian policy on the matter. However, the absence of violent conflict has not

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<sup>77</sup> Tafesse 44.

<sup>78</sup> Ethiopia has third lowest per capita income in the world after Rwanda and Mozambique and is third most populous country in Africa. Elhance 59. World Bank, *World Development Report 1998-1999* (New York: Oxford University Press, 1999): 190-191.

helped to conceal the clear climate of mistrust and suspicion that has existed for quite some time between the two countries.

The Lake Tana project, proposed by Britain in 1922, could be considered as one of the major opportunities that Ethiopia had to direct modern Nile hydropolitics. The basic goal behind the project was to construct a reservoir at Lake Tana to ensure safe amounts of water for British cotton fields in their Egyptian colonies. Payment for water rights and construction of the scheme was offered to Regent Ras Tafari, who later became Emperor Haile Selassie. Negotiations lasted a total of 15 years and, in the end, no agreement was reached between the two governments. Tafesse has noted that one reason for this was Ethiopia's own internal regime transition.<sup>79</sup> Regional power centers within the country were already at odds with each other over a number of factors, making the task of generating consensus on the topic all the more difficult. By the time that Ethiopia was ready to strike deal two major things had happened: the 1929 agreement and the invasion of Ethiopia (today Eritrea) by Italy.

In 1956, Emperor Haile Selassie established the Ministry of Public Works. It was the first major institution directed at water conservation efforts. Unfortunately, it had few resources –money and knowledgeable experts– allotted to it and resulted in little valuable technical information. A few years later, however, the US Department of Interior undertook a massive study of the Blue Nile and the possibilities for future Ethiopian irrigation and hydroelectricity production. The decision of the US to dedicate the resources to the study can best be understood through the context of the Cold War. The decision was made in the aftermath of the Suez Canal Crisis and the alignment of Egypt with the former USSR for the financing of the Aswan High Dam. More than likely, US interests in completing the study

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<sup>79</sup> Tafesse 46.

mainly stemmed from the desire to remind Egypt of the potential influence they could have on their national water security.<sup>80</sup> The results of the study were published in seventeen volumes in 1964. It identified over thirty potential major water projects, which would have used roughly five percent of the total mean discharge of the Nile as measured at Aswan. Of the many proposed projects only one, the Fincha Dam, was implemented. The inability of Haile Selassie's regime to provide water for food production during the 1972-1974 Welo Famine no doubt accelerated his downfall.<sup>81</sup>

In 1974, a military coup replaced Haile Selassie's government with a self-pronounced Marxist-Leninist regime, led by Mengistu Haile Mariam. The tides of Cold War regional politics turned as the US distanced itself from the new Ethiopian regime, which allied itself with the Soviet Union, and President Sadat normalized relations with the US. Relations between the two countries during the years of Mengistu's rule were exceptionally tense. Ethiopian threats to potentially construct major water projects and thereby 'cut Egypt off' were met by Egypt with threats to use military force. Tafesse has listed six instances where threats of war have been issued by Egyptian leaders between the end of the 1970's to the end of 1990's.<sup>82</sup>

Though the Mengistu regime may have used the rhetoric of development projects to threaten Egypt, in reality they were far from being able to finance any such work. During their rule the government organized one major project in 1984, to resettle 1.5 million Ethiopians along the tributaries of the Nile. The project failed due to lack of sufficient financial capability, in addition to other deficiencies. The drought of the 1980's, and the

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<sup>80</sup> Waterbury has stated that the US decision to take the study on "...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." John Waterbury, "Is Status Quo in the Nile Basin Viable?" *Brown Journal of World Affairs* 4.1 (1997) 288.

<sup>81</sup> Swain, "Ethiopia, the Sudan, and Egypt" 687.

<sup>82</sup> Tafesse 85-88.

inability of the government to provide Ethiopians with much relief, weakened the Mengistu regime considerably. By the end of the decade, Ethiopia had developed plans for another water development project –the Tanes-Beles Project- and asked other governments for help for its construction, and the development of its water potential in general, including Israel. As Swain has noted, almost concurrently, Egypt was instrumental in blocking an African Development Bank loan for the hydro-electric project on the grounds that it could have reduced the flow of the Nile.<sup>83</sup> The blocked Tanes-Beles Project, which, it was hoped, would have doubled Ethiopian hydro-electricity production and irrigate enough land for the resettlement of over 200,000 farmers, exacerbated the tense state of relations between the two countries.

Since the early 1990's, the Ethiopian position towards Egypt and future hydropolitical cooperation in general has seemingly softened greatly. In 1991, the Ethiopian People's Revolutionary Democratic Forces (EPRDF) came to power and, in 1995, instituted the Federal Democratic Republic of Ethiopia. The new leaders have so far tried to distance themselves from the old regimes of Ethiopia by emphasizing their seriousness towards achieving food security without risking traditional national security. Additionally, the end of the hostilities with Eritrea and Tigray have loosened up resources that could potentially be put towards such development. But long-held suspicions do not melt away easily and though both countries have signaled their desire for future cooperation, what the future will hold for them is unclear.

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<sup>83</sup> Swain, "Ethiopia, the Sudan, and Egypt" 688.

### *3.3.4 The States of the White Nile*

From its source, the Lovinzola tributary, the White Nile travels 5,584 kilometers northward through portions of Burundi, Rwanda, Kenya, Tanzania, Congo (Zaire), and Uganda to meet the Blue Nile in Khartoum before continuing on through Egypt and ultimately to the Mediterranean Sea. Though shallow near its origins, its flow is considerably strengthened by the waters of nearby tributaries like Lake Victoria and Albert. However, the intense evapotranspiration that occurs in the Sudanese swamps significantly diminishes the overall amount of water that the White Nile contributes to the lower basin flow. In the end, the White Nile contributes only about 14% to the Nile's annual flow.<sup>84</sup> Even more surprising is the fact that, when combined, the states of Tanzania, Rwanda, Burundi, Kenya, Uganda and the Democratic Republic of Congo utilize not more than 0.05 billion cubic meters of the Nile water.<sup>85</sup> As most of these states are located in humid equatorial zones, where there are relatively large amounts of rainfall and alternate sources of water, they have managed to avoid developing a heavy dependency on the river's water for their continued survival. In turn, this decreased dependency helps to explain, in part, why their role in basin hydropolitics has remained limited. The only exception to this may be Uganda, whose geographic positioning and past relationship with Egypt has placed it in a unique position.<sup>86</sup>

Of all the states in the upper portion of the basin, Uganda has probably been regarded as the state that is most involved in the dynamics of basin hydropolitics. The country possesses 40% of Lake Victoria, the principal source of the White Nile, as well as

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<sup>84</sup> Carroll 275.

<sup>85</sup> Swain, "The Nile River Basin Initiative" 294; Tafesse 28 and 50.

<sup>86</sup> In a recent move, Tanzania has also placed itself in the mist of controversy over the use of Nile waters, as the country announced its plans to start construction on a pipeline which will extract drinking water for approximately 1 million people in the west. The project is an independent endeavor which has attracted international attention because of the concern it may put NBI negotiations at risk.



the whole or part of the four smaller lakes of the Upper White Nile within its territory.<sup>87</sup> Like the other equatorial states, Uganda has abundant rainfall and depends very little on surface irrigation, but it has nevertheless been considered as an important player in hydropolitics because of their past and present relationship with Egypt in the construction and operation of the Owen Falls Dam. The Dam, located on an outlet of Lake Victoria was proposed as part of the British Century Storage Scheme when Uganda was still under British rule. It was originally meant to serve two purposes: 1) to provide Egypt and Sudan with water storage area in the equatorial lakes region (where evaporation is slower than at Aswan), and 2) provide hydroelectricity for Uganda. Though today the dam serves only in the production of hydroelectricity for Uganda, it is nevertheless operated by Egyptian and Ugandan personnel based on a 1949 agreement between the two countries. The dam provides Uganda with approximately 150 MW of hydroelectricity (some of which is exported to Kenya and Tanzania). Because the production of hydroelectric power is a non-consumptive use of water, it is not harmful to the interests of downstream states like Egypt. However, the water balance of Lake Victoria itself is dependent on the continued free flow of various regional streams and rivers, many of which lie in the territories of neighboring countries. Were these rivers ever cut off, they would significantly decrease the amount of power produced at Owen Falls. Hence, Uganda has reason to support the Egyptian position of non-interference in the free flow of the Nile. For Egypt, the Owen Falls arrangement permits them to better survey and control discharge before it reaches Aswan while, at the same time, it provides them with a downstream ally. Waterbury has stated: "What shapes Uganda's interest in the Nile basin is the generation of hydroelectric power. (...) To operate Owen Falls and any future sites requires maintaining relatively high surface levels of Lake Victoria and releasing large

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<sup>87</sup> Tafesse 30.

amounts of water through the turbines. Uganda's need for power meshes nicely with Egypt's need for water in the White Nile."<sup>88</sup>

Overall, the geography and hydrology of the White Nile states, save Uganda, have generally left them in a position where they have been able to survive without depending too heavily on the waters of the Nile. This, consequently, helps to explain why they have played such a minor role in impacting the direction of larger basin hydropolitics. Yet, other factors, historical, economic and political in nature, have also played a role in limiting the active participation of the White Nile states in pressing for a new water-sharing framework on the Nile. Firstly, most of these countries had treaties signed on their behalf by colonial powers and Egypt has continued to insist that some of these agreements still remain valid today. Secondly, Egypt is vital trading partner for many of these countries.<sup>89</sup> Any clear opposition to the current arrangement of water-sharing on the Nile would surely impact their trading relationship for the worse. Additionally decreasing their need to get involved in lower basin politics is the fact that these countries have managed, when necessary, to form smaller functional organizations to tackle certain technical issues like the improvement of water quality in Lake Victoria.<sup>90</sup> A final and perhaps most obvious factor which increases the reluctance of the White Nile states from becoming involved in more explosive lower basin disputes in hydropolitics is the clear military superiority of Egypt. The fact that Egypt has always made it clear that it would not hesitate to use its force should it become necessary undoubtedly deters these states from strongly defending any position which could be considered anti-Egyptian.

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<sup>88</sup> Waterbury, *The Nile Basin* 150.

<sup>89</sup> Tafesse 99.

<sup>90</sup> The states of the White Nile have formed the following sub-basin groups: the Lake Victoria Basin Group – which regulates things like pollution on Lake Victoria, and, in the past, the Kagera Basin Organization – a Burundian-Rwandan organization which dealt with hydroelectricity production.

### *3.3.5 Summary of the Hydropolitical Positions of the Riparian States*

In sum, the hydropolitical history and positions of the Nile countries demonstrate that the regime which has been in place, though shaky at times, has been one in which the whole basin was dominated by the Egyptian quest for water security. Though it began in the years prior to colonialism, the regime was truly strengthened during the British era of power on the Nile and has continued even after the independence of the various African countries. Collins has described the relationship that has existed between Egypt and the other countries as such:

Although Egypt is the downstream state in this river system, and utterly dependent on it, it is also the most powerful economic and military power in the basin. It cannot project that power easily throughout the basin, but no other riparian, including Ethiopia, can afford to ignore it. It is for that reason that elsewhere I described Egypt as a quasi-hegemon. It cannot impose a solution, but it can coax and threaten its neighbors convincingly.<sup>91</sup>

Yet, despite Egypt's power, the fact that they have never managed to fully attain a sense of guaranteed water security for the long-term has put them in a vulnerable position. The tensions, old and new, that have existed between Egypt and its closest neighbors, Ethiopia and the Sudan, confirm this. The discord that has existed between the states on the Nile helps to explain the tendency to focus on conflict in discussing regional hydropolitics and exemplifies the manner in which relationships between states in international river basins have been discussed at large. However, this can be considered as only one side of the coin. As discussed in chapter two, the search for a cooperative basin-wide regime represents the other.

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<sup>91</sup> J. Waterbury, "Transboundary Water and the Challenge of International Cooperation in the Middle East." In Peter Rogers and Peter Lydon, eds., *Water in the Arab World: Perspectives and Prognoses* (Cambridge: Harvard University Press, 1994): 53.

### 3.4 Attempts at Forging Cooperation

Throughout the years, Egypt and the other states in the basin have proposed and been involved in the establishment of a number of regional organizations for the integrated management of river basin planning. However, in the end, many of the early organizations were dissolved without ever having accomplished any of their concrete objectives. Two of the most famous examples are the Hydromet and Undugu organizations. Though there are many factors that help to explain the failure of these organizations, some authors have asserted that Egyptian influence itself was most damaging to the spirit of cooperation that was to be pursued.<sup>92</sup> Collins, for example, has suggested that Egyptian participation in these organizations has often stemmed from a desire to directly and indirectly control the actions of the other riparians. By flooding many of the organizations with Egyptian technical experts, hydrologists and engineers, they ensured that the Egyptian pursuit for water security would always be put first. In the end, the suspicions, mistrust and disagreement that existed so long between the states on the Nile overpowered the early attempts of cooperation.

The organization *Hydromet* was launched by Egypt, Kenya, Sudan, Tanzania, and Uganda in 1967 with the support of the UNDP and the World Meteorological Organization. In order to avoid aggravating already existing riparian tensions and disputes in the larger realm of water-sharing fairness, the mandate of the organization was made specific and technical in nature: to foster the joint collection of hydro-meteorologic data of the equatorial lakes -Victoria, Koiga and Albert.<sup>93</sup> Basically, the mandate was representative of the desire to control the flooding that had occurred in Southern Sudan because of increased rainfall in the

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<sup>92</sup> Robert O. Collins, "The Inscrutable Nile at the Beginning of the New Millennium." Online article retrieved from Department of History, University of California, Santa Barbara homepage. (1999): 2-5. Accessed on February 1, 2004 from <<http://www.history.ucsb.edu/faculty/collins.htm>>

<sup>93</sup> Swain, "The Nile River Basin Initiative" 301.

lakes region. Eventually, all the basin riparians, except for Ethiopia and the Democratic Republic of Congo, ended up participating in Hydromet. Ethiopia and Congo voiced their preference to remain as observers because the mandate did not speak to the issues that most concerned them -those of water redistribution.<sup>94</sup> Though, in all, Hydromet lasted twenty-five years, ultimately, many of their more ambitious projects remained unaccomplished. Many authors have noted that suspicions between countries fundamentally inhibited the organization from developing.<sup>95</sup>

In 1983, a new group *Undugu* was formed. Swahili for “brotherhood”, the organization represented another effort to foster cooperation between the Nile states. This time the mandate of the organization went far beyond that of its predecessor. It was to tackle cooperation in areas like general infrastructure, environmental cooperation, culture and trade. Boutros-Boutros Ghali, then Minister of State for Foreign Affairs in Egypt, was one of the principal organizers involved in the creation of Undugu. It was hoped that the organization would be able to instill a common African development vision, but, in reality, it was far from achieving the vision of brotherhood that the name implied. In fact, comparatively speaking, the organization was even less successful than Hydromet. Ethiopia, Tanzania, and Kenya all opted to remain as observers, and, Undugu too basically failed to ever produce anything concrete from its many discussions and conferences. Brunnee and Toope have noted that, from an Egyptian perspective, Undugu was probably an exercise in

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<sup>94</sup> Tafesse 104.

<sup>95</sup> Tafesse has said that “Suspicious and lack of trust amongst the Nile riparian states, and the non-membership of principal riparian states such as Ethiopia and lack of confidence-building measures by the downstream states could be singled out as some of the factors that deterred the implementation of the planned Hydromet projects.” 105.

hegemonic influence, while from a pan-African point of view it was probably an effort to promote a self-reliance and African inter-dependence.<sup>96</sup>

It could be stated that the first real breakthrough for the future establishment of basin-wide cooperation came shortly after the creation of the *Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin* (TECCONILE) in 1992. Six out of the ten riparian states joined the organization. Among those who chose to position themselves as observers were: Kenya, Burundi, Ethiopia and Eritrea. The creation of TECCONILE and its mandate seemed to come from a realization for the need to step back from pursuing broad and overly ambitious organizational objectives like Undugu's. Its early mandate was basically to deal with water quality control issues. Like the basin organizations that preceded it, no projects were ever realized during TECCONILE's three years of existence. Nevertheless, it was during this time that a significant change in the scope of what Nile riparian states would address in organizational mandates occurred. Though originally envisioned as a technical organization, in an effort to secure financing from CIDA, TECCONILE proposed for the revision of the scope of their objectives to include the search for an equitable entitlement of Nile waters between riparian states. In response to the proposal, Ethiopia immediately called for the establishment of a Panel of Experts (POE) for the further exploration of what such a framework might include and what the benefits of such cooperation might yield. The proposal, and 1997 establishment, of the POE, composed mostly of legal and technical water experts from a number of the riparian countries, signaled the first move towards the creation of a more successful basin-wide process of legal and institutional dialogue.

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<sup>96</sup> Brunnee and Toope 133.

The change in the scope of the mandate of TECCONILE was mirrored by a parallel effort -the *Nile 2002 Conferences*. Originally created as a “technical forum, many authors have remarked at how the yearly conferences have increasingly dealt with more contentious and normative issues. “Papers often canvassed the legal status of riparian relationships (including the continued validity of colonial treaties), and issues concerning the proper legal framework for apportionment were raised in public debate.”<sup>97</sup> Of course, the introduction of these issues into the discussions has not always been greeted with enthusiasm by officials from some riparian states like Egypt, but the structure and, more specifically, the emphasis on creating an informal atmosphere for discussion, have made it so that traditionally powerful players have less control over what is talked about and who is invited to the discussion tables. This, overall, has allowed new actors -regional and international scholars as well as technical experts- to enter and broaden the debate of water-sharing on the Nile.

The end of the 1990’s brought about several key events in the Nile basin. In 1998, a new program of action for the sharing and managing of Nile water was established, and the Council of Ministers of Nile basin countries developed policy guidelines for what was to become the Nile Basin Initiative. In September of 1999 the NBI Secretariat’s office was established in Arusha, Tanzania and the NBI itself was formally launched the following February. Additionally, in 2000, the Panel of Experts reviewed the first draft text of the ‘Cooperative Framework’, a document which articulates the general principles and institutional structure for long-term water-sharing. At the end of the meeting the vice-chairman of Sudan’s water resources authority stated “remarkable convergence toward future cooperation.”<sup>98</sup>

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<sup>97</sup> Brunnee and Toope 136.

<sup>98</sup> Brunnee and Toope 139.

### 3.5 Examining the Shift: Changes in the Behaviour of Nile Riparian States

In their examination of the changing Nile basin regime, Brunnee and Toope have stated that:

Until 1999, one could claim nothing more than a modest improvement in communications and a broader rhetorical commitment to cooperative behaviour. There was no joint management, or even coordinated planning and development, of Nile water resources. Even the Nile 2002 Conferences had few tangible results. What may prove to have been a breakthrough was the creation of the NBI in February 1999.<sup>99</sup>

As will be discussed in greater detail in chapter five, though fairly new and experimental, the NBI seems to have effectively pressed forward in ways that its predecessors did not. The number of states which are actively participating in the organization and the enlarged scope of its mandate are proof of this. Never before have so many of the riparians actively participated in water-sharing discussions which deal with not only technical issues of water quality, but also questions of equity in water distribution between states. There are a number of factors that have contributed to the emergence of this more cooperative spirit amongst riparians. First and foremost, the end of the Cold War has helped to reduce the role that superpowers have played in exacerbating regional tensions. Secondly, some of the states, like Ethiopia, have recently made progress in resolving violent conflict situations that they have had with internal factions and close neighbors. Though, in many cases, these situations may not be completely settled, it has allowed for a certain degree of demilitarization to occur in some places like Ethiopia, which has now promised to commit more resources to development initiatives. In addition to changes in the political context, some changes in the way we understand technical water issues have influenced the approach of the Nile states. Clearly, the recent increase in awareness of the encroaching

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<sup>99</sup> Brunnee and Toope 137.



conditions of water scarcity and its consequences have caused politicians to focus, more than before, on issues of efficiency in freshwater use. And, it can be safely said that the increased focus on water scarcity in the world at large has helped to increase the funding opportunities from international donors like CIDA and the World Bank. In addition, there has been a general increase in the recognition of problems associated with several existing regional river structures. Egypt has, for example, battled with evaporation issues at Aswan, and problems with such structures have emphasized the limitations of building on strictly Egyptian territory. Additionally, Brunnee and Toope have argued, in a constructivist manner, that the more recent legal and diplomatic efforts to establish a new basin-wide Nile regime – from bilateral and trilateral treaties, to sub-basin organizations and informal meetings – have all been helpful in the promulgation of new legal norms for cooperation. Overall, these changes in the regional and international contexts, had, by the end of the 1990's, helped to make the creation of the NBI possible.

### **3.6 Conclusion**

This chapter has presented an overview of the international political context of water-sharing in the Nile basin over the last century. As we have seen, the road to building a cooperative solution has been barred by extraordinary obstacles for these nations, thus perpetuating the post-colonial status quo that has allowed Egypt and, to a lesser extent, Sudan to retain significant privileges regarding the exploitation of the Nile waters. The end of the Cold War, the aggravation of water scarcity, and a greater ability for some of the states to undertake water projects have recently increased the likelihood that other riparian nations will attempt to challenge Egypt's grip on the Nile. The international community has seen, in this shift, the opportunity to intervene and ensure that the ten riparian states move away

from conflict and towards a cooperative arrangement. All its efforts and attention have subsequently been focusing on fostering a lasting water sharing framework and have culminated in the creation of the NBI in the year 2000.

This focus on the impact that water scarcity has on the international relations between the states in the Nile basin corresponds to the way hydropolitics has generally been discussed in the literature, as seen in chapter two. In both cases, this approach arbitrarily limits the scope of hydropolitics by proposing a very limited characterization of the role that water scarcity has had on the history of a basin. In order to get a more complete picture of the impact that water scarcity has on the region, it is imperative to take an in-depth look at the national and local levels. Only then can we hope to get an idea of the impact that water scarcity has on the millions of people whose livelihoods depend on the Nile waters and to devise a framework that addresses their needs. By analyzing the nature and the determinants of water poverty in the Nile region, the next chapter will allow us to delve into the very real human consequences of water scarcity and at last complete the canvas of hydropolitics on the Nile.

## **Chapter 4:**

### **Water Poverty in the Nile Region: Assessing the Situation at the National and Local Levels**

#### **4.1 Introduction**

As we have seen from chapter two, the concern for those that suffer most from water scarcity – the water poor – has clearly not been a point of focus in the literature of hydropolitics outside of the context of conflict. But even when violent conflict does not occur, the inability to access safe water nevertheless remains a threat and reality for many people throughout the world. In 2000, a reported 2 out of 10 people in developing countries lived without access to safe drinking water, and 5 out of 10 were without access to adequate sanitation facilities.<sup>100</sup> The situation is particularly worrisome for many people living in the Nile basin. Despite minor improvements in performance, in 2001, a reported 48% of the Ugandan, 59% of Rwandan and 76% of Ethiopian populations still lived without sustainable access to improved water sources.<sup>101</sup> The Democratic Republic of Congo actually reported a decline in the number of people with access to improved drinking water.<sup>102</sup> Yet, troublesome as these statistics may be, they do not provide an accurate picture of water poverty in these countries, since they fail to convey the various ways in which water poverty can impact communities. The water poor cannot be reduced to those individuals who simply do not have access to potable water on a regular basis, but includes every individual who receives what we will call an insufficient quality of service (QoS) from water utility companies. Many

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<sup>100</sup> World Bank, *World Development Report 2000/2001* (New York: Oxford University Press, 2000) 159.

<sup>101</sup> The UN Human Development Report (UN HDR) 2003 has defined improved access as “the availability of at least 20 litres a person per day from a source within one kilometre of the user’s dwelling.” For more on what is defined as ‘reasonable and unreasonable access’ (stated other places as “improved access”) see UNDP 358 and 247.

<sup>102</sup> UN Economic and Social Council (ECOSOC), Commission on Sustainable Development, *Report of the Secretary-General: Freshwater Management*, (2004), 6.

factors can contribute to a poor QoS, such as the time it takes for women to travel to the well or pump, the risks that they run during this daily trip, the quantity available to them, the health risks associated with using this water and the price that they must pay to acquire this water. It is therefore useful to distinguish several dimensions of the QoS before attempting to assess and categorize water poverty. Quality of service can be said to comprise:

- quality (i.e. the quality of water obtained)
- quantity (i.e. the amount of water available)
- price (i.e. the cost of purchase)
- points of access (i.e. the distance between water supplies in working order and a community base)

It is possible for one of these factors alone to dramatically impact the quality of water service received by individuals (i.e. high water prices can impede poor individuals from accessing water), but, more often than not, it is a combination of these factors that inhibit the water-poor from satisfying their basic needs. In essence, poor quality of service, determined by any of these factors, can be seen as a crucial impediment to the achievement of human security and development goals related to water and hence warrants the immediate attention of national governments as well as the international community. This chapter will look at the water poor in more detail – who they are likely to be and how they are affected by the QoS – as well as examine the larger water governance issues that surround the state of water poverty itself. Since this thesis uses the Nile basin as a case study, special attention will be given to the conditions of water poverty in the Nile.

#### **4.2 A Closer Look at the Water Poor**

At this stage, there is still no widely accepted definition of what can be considered as water poverty. It is indeed difficult to identify every category of individuals that may suffer from water poverty. Thus, this section does not endeavour to create such a list. Instead, it is

limited to groups that are commonly identified as those receiving some of the worst quality of service in the Nile region. In general, they can be divided into four different categories: people removed from large populated areas, people with low incomes, dominated ethnic groups, and women.

#### *4.2.1 Location*

In 2000, more than four out of five people without improved access to drinking water worldwide lived in rural areas.<sup>103</sup> In developing countries the challenge is particularly great, where only 18 % of rural residents have access to water, compared with 63 % in urban communities.<sup>104</sup> The costs associated with the provision of infrastructure to rural areas often represent the greatest challenge to rural water security. Limited funding for national water management budgets often mean that difficult decisions must be made as to how available money will be spent while rising urban population growth rates put increasing pressure on states to allocate funds to urban water infrastructure. The comparatively low cost of installing and maintaining water systems in these areas often means that rural communities may be left with scant water infrastructure. In such cases, natural sources of freshwater may provide rural communities with much-needed water. However, these sources may not be available consistently throughout the year. The onset of dry seasons and droughts can bring the water in these sources down to trickle or less, at which times, water storage becomes critical for the survival and livelihood of rural communities. If these storage structures are few and far in between or are not in working order, then populations in rural areas may be suddenly and harshly affected. In such cases, it is often the rural poor who suffer most as

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<sup>103</sup> UN ECOSOC 5.

<sup>104</sup> Akhtar Hameed Khan, "The Sanitation Gap: Development's Deadly Menace," *The Progress of Nations* (New York: UNICEF 1997) 6.

they generally tend to rely more directly on land and water resources to sustain their livelihoods.<sup>105</sup>

Urban-rural disparities are greatest in Sub-sub-Saharan Africa, where only 45% of the rural population has access to water as opposed to 83% of the urban population.<sup>106</sup> The Nile region is no exception to this general trend despite the fact that large numbers of people still live in rural areas. The 2000 Report on Water and Sanitation, conducted by the World Health Organization (WHO) and UN Children's Fund (UNICEF), estimated that though 82% of the Ethiopian population live in rural areas, rural water supply coverage is only 13%.<sup>107</sup> The same report indicated that, in the Democratic Republic of Congo, though 69% of population live in rural areas, rural water supply coverage is 26%. Though conditions may not be so severe in all basin countries (i.e. in Tanzania nearly 78% of people live in rural areas and water supply facilities have the capacity to serve an estimated 46% of this population), the impact that poor water infrastructure has on so many should nevertheless prompt concern as dry seasons and drought can be catastrophic. As Kenyan author Gichuki has explained:

A long series of drought results in sever hardship, loss of planting material, desiccation of land, loss of animals, and a high dependency on external assistance (food aid remittance from relatives, etc.). The poor are the most disadvantaged by drought and its associated water storages as they (a) pay very high prices per unit volume of water, (b) expend more calories carrying water for long distances, (c) suffer more in impaired health from contaminated or insufficient water, and (d) lose more in diminished livelihoods and in extreme cases loss of life.<sup>108</sup>

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<sup>105</sup> Sandra Postel, *Pillar of Sand: Can the Irrigation Miracle Last?* (New York: WW Norton and Co., 1999) 220.

<sup>106</sup> UN ECOSOC 5.

<sup>107</sup> WHO and UNICEF Joint Monitoring Programme for Water Supply and Sanitation, *Global Water Supply and Sanitation Assessment 2000* (Geneva: WHO, 2000) Section 6.2.

<sup>108</sup> F.N. Gichuki, *Water Conflicts in the Upper Ewaso Ng'iro North Basin: Causes, impacts and management strategies*. Paper prepared for Water Week Conference Session 24. (Washington D.C.: World Bank, 2002) 5.

Essentially, these statistics demonstrate that even though urban population growth may be rapidly rising in these countries, the fact that so many people still live in rural areas means that the improvement of rural water coverage should nonetheless remain an important priority on the agendas of these states. It is all the more surprising that this issue has been pushed aside given the unpredictability and, at times, severity of the regional climate. Yet, the reasons behind the bias towards urban investment seem to be economic, historical and political in nature. Clearly, as stated earlier, the longer the distance involved, the more expensive the installation and maintenance of water infrastructure becomes. By spending more on urban infrastructure politicians are able to maximize the return on their investment. The urban bias of water infrastructure has historical foundations as well, as the policies of many colonialist governments in Africa invested unevenly in urban water systems, leaving rural systems sorely lagging behind.<sup>109</sup> Lastly, the decision to invest in certain areas rather than others can, in some instances, be strongly linked to the sources of political power for the government in power. As water management expert Asit Biswas, has remarked:

The elite who hold power are urban based; their policies, in spite of rhetoric, clearly favour the areas where their power centres normally lie. Rural people tend to be poor, illiterate and malnourished, and thus have very little political power and the bureaucracies are often not familiar with rural problems and constraints.<sup>110</sup>

#### 4.2.2 *Wealth*

It is perhaps no surprise that statistics have shown that people with limited income are likely to have more difficulty in accessing water. This is true not only in terms of access to water, but access to other basic services as well. The Global Water Partnership has noted that when it comes to, “[...] competition over access to resources, whether these be access to

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<sup>109</sup> Ismail Mwaka, *Water Law, Water Rights and Water Supply Tanzania: study country report* (London: Department for International Development, 1999) 16.

<sup>110</sup> A. Biswas, “Water for the Third World” *Foreign Affairs* Fall (1981) 152.

resources or man-made services and livelihood opportunities, those living in poverty do less well than others, unless they or agents acting on their behalf manage to secure interest vis a vis those with more economic, social and political clout.”<sup>111</sup> This remains true for the case of water servicing. The biases in water access between the well-off and the poor become most evident when comparing the quality of water service for urban middle-class and wealthy to that of the urban poor. The structure of much urban development in these societies provide water and sewerage infrastructure to only certain areas or sectors of a city. These areas are typically where the better-off inhabitants live. The slum and squatter areas where the poor live are often scantily, if at all, serviced:

Squatter communities, for example, are sometimes home to 30 to 60 % of a city’s population. [...] These crowded ‘informal’ settlements remain largely unserved by public utilities, mostly because of governments’ unwillingness to acknowledge that they even exist. It is no surprise, then, that these communities are places of poor hygiene and rampant disease.<sup>112</sup>

In Nairobi, squatter settlements are where 55% of the city’s inhabitants live, in an area of not more than 6% of the total area of the city.<sup>113</sup> In the urban areas of Ethiopia, outside of the capital city of Addis Ababa, access to safe potable water has been estimated to be 38%.<sup>114</sup> In Tanzanian city Dar es Salaam, more than 60 percent of communities live in squatter areas where there is virtually no water infrastructure. Here, sewage disposal tends to be particularly problematic:

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<sup>111</sup> Global Water Partnership (GWP) Technical Committee, *Effective Water Governance*, TEC Background Paper No. 7, (Stockholm: Elanders Novum, 2003) 22.

<sup>112</sup> Khan 6.

<sup>113</sup> World Water Assessment Programme 172.

<sup>114</sup> Federal Democratic Republic of Ethiopia (FDRE), Ministry of Finance and Economic Development (MOFED), *Ethiopia: Sustainable Development and Poverty Reduction Program* (A report for the International Monetary Fund) (2002) 84.



Only a small proportion of the population of the country's largest cities have sewage connections. 83 percent of households in Dar es Salaam use pit latrines among which 10 percent have septic tanks and 6 to 7 percent have sewers; the sewage network covers only the central part of the city and a small section outside the centre. The system is old and unreliable, owing to deferred maintenance. Many Tanzanian cities had water available for only a few hours a day on average, ranging from Dodoma (7 hours) to Singida (2 hours)<sup>115</sup>

Sometimes when water and sanitation services are extended into areas where the poor live within a city, land prices rise, forcing them to seek new living locations elsewhere. In addition, not all water coverage statistics indicate whether installations are in functioning condition. Consequently, the urban poor in many developing countries purchase water from street vendors. These vendors may, in some places be licensed carriers, as in Nairobi, or completely unregulated in others.

While the World Bank has suggested that individuals should have to pay no more than 2% of their disposable annual income for water, many poor communities in urban areas of Africa pay 20%.<sup>116</sup> It is indeed well-recognized that the price that the unconnected pay for water is often many times greater than the price that the connected users pay. The ratio between prices charged by vendors and public utilities charged in Kampala, Uganda has been conservatively estimated to be four to nine and in Nairobi, Kenya seven to eleven.<sup>117</sup>

Meanwhile connected households tend to pay much less for their water coverage, certainly less than the full costs of the services.<sup>118</sup> Instead governments provide subsidies for these users that bring the cost of water down quite extensively. In the book, *A City for All*,

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<sup>115</sup> World Water Assessment Programme 172.

<sup>116</sup> T. Allan, *The Middle East Water Question: Hydropolitics and the Economy* (London: L.B. Tauris & Co. Ltd, 2002) 141.

<sup>117</sup> R. Bhatia, and M. Falkenmark, *Water Resource Policies and the Urban Poor: Innovative Approaches and Policy Imperatives*, Background paper for the International Conference on Water and the Environment, (Dublin, 1992).

<sup>118</sup> The World Bank has estimated that the served water-users of urban communities pay an average of 35% of the costs. J. Jarman, "Water Supply and Sanitation", in Jo Beall, (ed.), *A City For All: Valuing Difference and Working with Diversity* (London: Zed Books Ltd, 1997) 184.

Jarman conducts a survey of the pricing of water in urban areas of several developing countries and notes that: “In effect, governments heavily subsidize the urban elite especially as cost sharing and user charges increasingly characterize investment low-income areas.”<sup>119</sup>

#### *4.2.3 Ethnicity and Gender*

Two additional types of determinants for water poverty that tend to be particularly poignant in the Nile region are ethnicity and gender. Ethnic discrimination can play a decisive role in the quality of service received by a population, especially when ethnic groups live in distinct and well-defined geographic areas, as is the case in many rural parts of the Nile region. Gender is also an important, albeit less well-documented, factor. Because the provision of water for the family unit is predominantly a feminine duty in most of these countries, women are the first ones to be impacted by a decrease in the quality of service experienced by a household. Although these two forms of discrimination may not be as critical for determining the quality of service as the location and wealth factors, they remain nevertheless important considerations for understanding the various dimensions of water poverty.

Ethnicity can play a central role in the distribution of water resources when these resources remain under the direct control of the state in ethnocratic societies – societies where political power and general access to the state is tied to ethnic groupings. In the Nile region, colonialist and post-colonialist policies of centralization, militarization and authoritarianism, have served to keep power in the hands of a few, perpetuating the unequal relations between ethnic groups in a number of countries.<sup>120</sup> Regional specialist, John

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<sup>119</sup> Beall 184.

<sup>120</sup> John Markakis and K. Fukui, eds., *Ethnicity and Conflict in the Horn of Africa* (London: James Curry Ltd, 1994) 220-224.

Markakis, is one of many who have asserted that, even today, access to these states, their power and resources, is still very much based on hierarchical relations between ethnic groups, writing:

Access to state power is essential for the welfare of its subjects, but such access has never been equally available to all the people of the Horn, and to many it has never been available at all. Since those who control the state have used its power to defend their own privileged position, the state has become both the object of the conflict and the principle means by which it is waged.<sup>121</sup>

He continues to note that Ethiopia and Sudan are the most poignant examples of what can be called 'ethnocratic states'. This system of ethnic discrimination extends almost systematically to the distribution of resources, which often can constitute a major catalyst for conflict as well as the result of conflict between ethnic groups. International agencies have categorically questioned the treatment of, for example, Amhara and Ormo peoples in Ethiopia.<sup>122</sup> Although this phenomenon can be mostly observed in Ethiopia and Sudan, other riparian states that have known a parallel historical evolution and that display similar state structures are also cause for concern. In Kenya for example, there is a growing ethnic consciousness that has led to the creation of new administrative districts along ethnic boundaries. This has resulted in growing disparities and in a more competitive and ethnic-based approach to water distribution.<sup>123</sup>

In these contexts, the temptation is great for the public authorities to loosen the budgetary pressures they are facing by choosing to neglect the water infrastructure serving the subset of the population that does not belong to the dominant ethnic group. These decisions can have a dramatic impact on the quality of service received by the dominated

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<sup>121</sup> Markakis and Fukui 217.

<sup>122</sup> For more on these conflicts see Markakis and Fukui and also J. Markakis, *National and Class Conflict in the Horn of Africa* (Cambridge: Cambridge University Press, 1987).

<sup>123</sup> Gichuki 5.

ethnic group as water connections are allowed to deteriorate and piping systems may cease to be built. Similarly, quotas are sometimes used to deal with scarcity by limiting the amount of water available to certain groups in order to guarantee a certain consumption level for others. Additionally, pricing policies can in some cases be skewed in favor of certain groups. It must be noted that quotas and targeted subsidies need not be structured around geographic location alone. Other characteristics such as volume of consumption or professional activities can be used as the basis of policies that systematically advantage an ethnic group to the detriment of another.

Water poverty is also more likely to more directly affect women than men in third world countries in several different ways. Firstly, because they are often responsible for the procurement of water for the fulfillment of basic family needs, women's lives are often dramatically impacted by the location of water sources, be they natural or man-made. In many rural areas of African countries women must spend hours a day just collecting water. In some areas of Kenya, Ethiopia, and Sudan women often may spend 2-6 hours a day in the collection of water, and it has been estimated that women in Uganda could save hundreds of hours a year if walking time to water sources were reduced to roughly 30 minutes.<sup>124</sup> Young girls are often similarly impacted by the quality of the points of access as statistics show that, in many developing countries, they are pulled out of school to participate in water collection activities in times of familial need. The strategic placement of water infrastructure could save women and girls a great deal of time and increase the educational levels for females within a country. Secondly, bad placement of water and sanitation facilities is more likely to affect the

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<sup>124</sup> J. Briscoe and D. de Ferranti, *Household Water Resources and Rural Productivity in Sub-Saharan Africa: A Review of the Evidence*. Produced by the Harvard Institute for International Development under the sponsorship of the Equity and Growth through Economic Research (EAGER) Project of the United States Agency for International Development. (1999): 56-58; See also Oxfam, "Water Distribution, Boloso Ethiopia", Oxfam Homepage (2003). Accessed on March 1, 2004 from [http://www.oxfam.org.uk/what\\_we\\_do/where\\_we\\_work/ethiopia/boloso.htm](http://www.oxfam.org.uk/what_we_do/where_we_work/ethiopia/boloso.htm)

health of women by putting them at greater risks for disease and violence. The placement of water facilities in remote locations may, for example, mean that women must pass through unsafe areas, increasing the chances that they may be attacked. As stated in a document by Women's Environment and Development Organization (WEDO):

[...] the availability and placement of toilets has a huge impact on women but in many communities women must walk a long distance to use facilities, often risking their personal safety—there is an increased incidence of sexual and physical assault when toilets are in a remote location. In rural areas where toilets may be unavailable, deforestation and loss of vegetation have forced women and girls to rise earlier and walk further in search of privacy. Toilets are also unavailable for vast numbers of poor women who work in urban centers. About 1 in 10 school-age African girls do not attend school during menstruation or drop out at puberty because of the absence of clean and private sanitation facilities in schools.<sup>125</sup>

Lastly, because men may regard women's withdrawal of water (outside of a basic amount for drinking) as less important than men's withdrawal of water for income generation, a decrease in the total quantity of water available means that women's withdrawal needs, for other various domestic uses, may quickly be limited. This generally limits the amount of water allotted towards the meeting of health and sanitation needs, which tend to be particularly important for children, and inhibits women from participating in income-generating activities. Families where women are single-parents are generally the worst off in such cases.

Overall, the problems experienced by women with the quality of service in developing countries often stem from the fact that, though they are generally responsible for the procurement of water for a variety of family needs, they often have very little decision-making power in influencing the location of its infrastructure or uses. Decisions as to where

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<sup>125</sup> Women's Environment and Development Organization (WEDO), "Gender Differences in Water Use and Management." *Untapped Connections: Gender, Water and Poverty* (2003) 4.

infrastructure is installed and norms of the valid uses of water are typically governed by men in family unit, village, or municipal government, who may believe that women's water needs should come secondary to that of men's. In turn, women are likely to be more directly impacted by poor quality of service – which can inhibit their ability to keep healthy families, finish school, and earn income.

#### 4.3 Mechanisms behind Water Poverty

Evidently, water poverty is not an isolated phenomenon. As we have seen, it touches millions of people in the Nile region alone and impairs their ability to lead a normal life in dramatic ways. Now that we have a better idea of who is most affected by water poverty, we can identify the larger issues that surround or determine the issues with the quality of service received. In order to do this, it is necessary to analyze water governance at the national level, which can be defined as “the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society.”<sup>126</sup> “Over 90% of domestic water and wastewater services world-wide are provided by the public sector and this is likely to remain the case.”<sup>127</sup> The Nile region is no exception as all riparian states have kept control over water management and distribution. To date, there is very little private investment in water systems in sub-Saharan Africa. Between 1992 and 2002, thirteen private projects were counted as implemented, amounting to a total investment of 67 million USD.<sup>128</sup> In the Middle East and North Africa region, there were a total of seven projects amounting to an investment of

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<sup>126</sup> GWP, *Effective Water Governance* 18.

<sup>127</sup> GWP, *Effective Water Governance* 32.

<sup>128</sup> UN ECOSOC 22.

1,209 million USD.<sup>129</sup> In the course of managing this scarce resource, states adopt policies that tend to reflect, at a general level, the socially and politically accepted ways of dealing with water in their country. Among them, the idea that water should be available and affordable to the vast majority of citizens has influenced, to a varied extent, the policies of many states. Despite this fact, water poverty is still rampant and many argue that public water management has led to a waste of that precious resource and to insufficient infrastructural investments. These problems, along with issues of discrimination related to water allocation, have prompted many to call into question the role that the state should play in water management.<sup>130</sup> In this section, we will examine these criticisms and explore the most commonly proposed alternatives in order to better assess the nature of the link between water management policy and water poverty.

#### *4.3.1 The Failures of Public Water Management*

In the last decade, public water management in the developing world has come under harsh criticism. Academics and water management experts have highlighted two major failures of the state approach to water governance. First, governments have been criticized for their inability to provide their citizens with an infrastructure of sufficient size and quality, which has drastically limited the quality of service received, especially in the most remote and impoverished rural areas. Second, pricing policies have been condemned for systematically undervaluing water services, which has led to wasteful consumption patterns.

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<sup>129</sup> UN ECOSOC 22.

<sup>130</sup> Francis Cleaver and Diane Elson, *Women and Water Resources: Continued Marginalization and New Policies*, Series No. 49 (London: International Institute for Environment and Development, 1995).

#### *A. The inability to Finance an Adequate Infrastructure*

It is no secret that the cash-strapped states bordering the Nile have experienced great difficulties in gathering the funds necessary to maintain and expand their water distribution infrastructure as required by the demands of their rising populations. The obsolete distribution network available in many parts of these countries is to blame for the inadequate quality of service received by the water poor (from quantity and quality to accessibility and price gauging). This is particularly salient in rural and poor urban communities where wells and pumps can often be very distant – if available at all – and can produce poorly treated water. As mentioned earlier, this may leave the poor with no choice but to pay private vendors many times the price of water charged by the state. This lack of infrastructure dramatically limits the productive efficiency of water distribution in the Nile region. Allan has described productive efficiency as the ability for water management authorities to bring water from its natural source to water users.<sup>131</sup> It is estimated that an annual investment of \$26 billion USD is needed to bring about the productive efficiency required to meet internationally accepted standards for drinking and sanitation water in developing countries.<sup>132</sup>

#### *B. The Waste of a Precious Resource*

In addition to poor productive efficiency, governments have been blamed for adopting pricing policies that have been deemed responsible for pronounced allocative inefficiencies. First, some authors have highlighted the fact that below market level pricing leads to over-consumption of water, thus putting unnecessary pressure on already scarce

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<sup>131</sup> Allan, *The Middle East Water Question* 129.

<sup>132</sup> UNECOSOC 21.



reserves.<sup>133</sup> Instead of setting a price that accurately reflects the cost of providing water, and therefore its scarcity, state policies remove a key incentive to consume sparingly by artificially keeping prices at very affordable levels. This is especially problematic for users who experience a decent quality of service, as it is the case in some urban centers, because water may then appear to be an abundant resource. This can result in wasteful water usage with both drinking and sanitation water.

Second, artificial price levels can skew the efficiency with which water is allocated throughout a country's economy. A heavily subsidized agricultural sector has been accused of consuming very large quantities of water when most farms' productivity cannot warrant even a fraction of the water that they use. Allan writes that:

Water is rarely delivered to agricultural sector users anywhere, and certainly not in the MENA region, at a price which takes into account the cost of delivery. Nor is it priced at a level which takes into account comprehensively water's other very real values to the economy as a whole nor in recognition of its intangible value as an environmental resource.<sup>134</sup>

In the Nile region, the severity of the issue of agriculture water waste is by many orders of magnitude greater than the issue of domestic waste as states use up to 10 times more water for agriculture than for drinking and sanitation purposes.<sup>135</sup> Indeed, most of these countries devote 60-90% of their water to irrigation.<sup>136</sup> However, this issue is not restricted to agriculture alone as low prices also lead many industrial sectors to over-consumption. Instead of finding alternative inputs to water or investing in recycling equipment, manufacturers continue, in many cases, to use the under-priced scarce resource.

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<sup>133</sup> For more see Allan, *The Middle East Water Question*; M.A. Schur, "The Need to Pay for Services in the Rural Water Sector", *The South African Journal of Economics* 62.4 (1994): 419-431; J. Briscoe and D. Ferranti, *Water for Rural Communities: Helping People Help Themselves* (Washington: World Bank Publication, 1988); and Winpenny, *Water as an Economic Resource*.

<sup>134</sup> Allan *The Middle East Water Question* 131.

<sup>135</sup> Allan, *The Middle East Water Question* 123.

<sup>136</sup> Allan, *The Middle East Water Question* 138.

### *C. A Disappointing Performance*

The general consensus is that public water management has led to less than satisfactory results in the Nile region. The financial challenges faced by these governments are aggravated by political and bureaucratic inefficiencies that further impair their ability to work towards improving the quality of service received by their citizens. Some at the World Bank have gone so far as to insist that elections disturb water management processes and that “public utilities are often expected to contribute to the alleviation of unemployment by hiring and keeping on their payroll a large number of low-qualified staff, some of whom are not essential to maintaining operations.”<sup>137</sup> Despite these difficulties, growing water scarcity in the Nile region will force these governments to find more adequate alternative policies in the near future.

#### *4.3.2 Privatization as an alternative*

Faced with this distressing state of affairs, some have been quick to blame many of the water governance issues on the below market level prices set by governments. A strand of literature in water management supported by a number of publications from the World Bank have asserted that governments have no choice but to at least recover the cost of providing water to their citizens if they are to maintain a minimum quality of service to their population.<sup>138</sup> This school of thought argues that water provision should be a self-sufficient market, one that generates enough revenues for governments to invest in the quality, quantity and accessibility of the water that is distributed. According to this argument, only by recovering both the recurrent and capital cost of providing water can a society hope to

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<sup>137</sup> Jamal Saghir, Manuel Schiffler and Mathewos Woldu *Urban Water and Sanitation in the Middle East and North Africa Region: The Way Forward* (Washington D. C.: World Bank Publication, 2000).

<sup>138</sup> See authors in notes 33 and 37.

finance the investments required to provide an adequate quality of service to its population. Some go as far as suggesting that the development of the infrastructure would reach even the most impoverished of communities and put an end to the price gauging practices to which they fall victim.

In addition, the argument continues, wastage could also be dramatically alleviated, if not eradicated, if prices were to reflect the true cost of providing water to users. Market forces would compel these societies to adapt to the harsh reality that is theirs by reducing consumption at all levels and particularly within water-intensive sectors such as agriculture. Instead of encouraging water-intensive activities with subsidies, this would diminish their importance and replace them with the “virtual water” contained in imported goods. Food imports in particular have been presented as a way to greatly reduce water consumption in the Nile region by transferring the burden of irrigation to better water endowed regions of the world.<sup>139</sup>

These recommendations are often issued by more or less vehement advocates of the privatization of the water sector who have succeeded over the last decade in influencing the general consensus on how to manage water in developing countries. As a result, there has been a mounting pressure for states to privatize and increase water charges. Even though privatization has thus far been a fairly limited phenomenon in the Nile region, the recommendations of the NBI and other influential actors may convince several governments to consider it as a much more serious alternative. Many experts and scholars have gone to great lengths to demonstrate the irrationality of heavily subsidized water markets and the extent of the damage imposed by these policies on the entire population of developing

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<sup>139</sup> Allan *The Middle East Water Question* 111.

countries.<sup>140</sup> It is argued that, far from having any sound economic foundations, these pricing policies are anchored in ill-informed and preconceived notions held by African and Middle-Eastern societies about the value of water. Many of these authors regard the notion that water should be provided for free to every individual as an ancestral principle derived from religious doctrine. Hence, market level pricing and privatization appear as the rational and only viable alternatives to an archaic approach that has for too long impaired the economic development of these countries. In so doing, proponents of privatization tend to contrast the economic and rational approach with the non-economic approach favored by either ill-informed consumers and legislators or romantic social right activists.

#### *A. The Risks of Privatizing*

Yet, there are many reasons to question the efficiency or the desirability of privatization on economic grounds, especially when it comes to its impact on the water poor. Admittedly, there is little contention that inadequate pricing can have profound consequences on the efficiency of an economy and it cannot be disputed either that “free water” is conducive to inefficient and wasteful usages. However, it is unclear whether the systematic increase in water charges recommended by the World Bank and other liberal organizations will benefit Nile riparian societies as a whole. What is clear, on the other hand, is that the water poor are likely to be adversely affected by these policies. As many NGOs and scholars have argued, privatization and cost recovery policies further worsen access issues for the poor, who are unable to pay higher water charges. Beyond the many inefficiencies introduced by privatization, which have been documented in part by Kate

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<sup>140</sup> See K.A. Edwards, “Water environment and development; a global agenda?” *Natural Resources Forum*, 16.3 (1993): 59-64.

Bayliss,<sup>141</sup> there are many reasons to believe that unregulated market prices may have a devastating impact in the medium term on the economy of Nile riparian states.

It must first be mentioned that developing the distribution network of a country based uniquely on people's willingness to pay can leave out a large proportion of the water poor. In contrast to the government that can deem that individuals are entitled to water security regardless of their income, unregulated markets can only base their decisions on the consumer's ability to pay. The contention that distribution networks would be extended to the poor urban and rural areas in a free market environment is therefore highly questionable. In fact, experience in several countries including Bolivia seems to suggest quite the opposite. In many cases, the infrastructure serving the water poor is not improved in a significant manner or, if it is, higher prices still leave a substantial number of users with an unacceptable QoS. As stated in a recent UN report, "doubts have been raised about the realism of the expectation that large-scale private sector participation in the water sector will make more than a minor contribution towards meeting the water-related Millennium Development Goal."<sup>142</sup>

Higher prices can also have adverse effect on entire economic sectors. If the idea of relying less on agriculture and of transferring the burden of irrigation on other regions is interesting, one cannot ignore the potentially dramatic impact that price increases can have on the standard of living of a sizeable farming population and therefore on an entire economy. Rural exoduses and the ensuing massive urban pauperization is a phenomenon that is known to be associated with the more or less rapid disintegration of the small farming

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<sup>141</sup> Kate Bayliss, "Privatization and Poverty: The Distributional Impact of Utility Privatization" a paper funded by Public Services International Research Unit (PSIRU) (2002). Accessed March 1, 2004 from PSIRU Homepage <<http://www.psiru.org/reportsindex.asp>>

<sup>142</sup> UN ECOSOC 22.

sector. In the Nile region, this phenomenon cannot be excluded if the prices of water for irrigation purposes were to be raised significantly. This would undoubtedly have very immediate and lasting negative consequences on the welfare of the region. It is indeed unlikely that these countries' already struggling economies would be capable of absorbing a rapidly increasing surplus of unqualified labor in industries other than agriculture.

It is therefore important to realize that allocative efficiency has its price, and that a complete cost-benefit analysis may reveal that countries bordering the Nile may be better off sacrificing some allocative efficiency in order to sustain their economy. Allan, a voluble supporter of privatization, is correct when he writes:

The second option, involving principles of allocative efficiency, is viewed very differently by insider water professionals and those deeply involved in real political economies of water. Re-allocation of water is a profoundly political act. It disadvantages some and benefits others. Disadvantaging those that contend effectively in the sanctioned discourse is not a political option. There is far too much political stress associated with water re-allocation; too many political prices to pay.<sup>143</sup>

What he forgets to mention, however, is that these political prices and this general reticence to re-allocate water inside these countries correspond to a very real concern: avoiding casting hundreds of thousands if not millions of people into the grip of unemployment. It is therefore appropriate to be extremely careful with such potent economic levers as water pricing and to ensure that any necessary adjustments are accompanied by measures that will be able to limit the negative impact of the resulting economic shockwave.

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<sup>143</sup> Allan, *The Middle East Water Question* 187.

#### 4.4 Conclusion

Though the UN has shown that developing countries have been making some progress in their ability to provide access to water for their inhabitants, there can be no question that this progress is slow and that there are still a great deal of people who suffer from many symptoms of water poverty. Rural inhabitants, the urban poor, certain ethnic groups and women seem to be those most at risk in the Nile region. Until the quality of water service is improved for these groups, there is cause to sound the alarm. The quality of service, however, cannot be improved without addressing the greater water governance issues discussed in the last section. As we have seen, public sector policies that price water inappropriately, subsidize the rich, and limit the extension of the infrastructure perpetuate conditions of water poverty. Meanwhile, privatization and hasty increases in price levels seem to offer no better solution and have been increasingly criticized when implemented in developing nations.

The alternative seems to reside in the implementation of better pricing policies based on block tariff schemes, subsidization of basic water consumption and greater subsidization of water infrastructure in remote areas. Of course, all of this is dependent upon larger investments in public water systems, something that NBI funding institutions like the World Bank can undoubtedly help. At any rate, it will be crucial for the international community to monitor the QoS received by the water poor to ensure the equitable distribution of the benefits received from common water projects carried out on the Nile. A more detailed look at the specific context of the NBI in chapter four will allow us to make more precise policy recommendations aimed at protecting the water poor.

## **Chapter 5:**

### **The Development of a New Hydropolitical Regime on the Nile: The NBI, a More Comprehensive Approach?**

#### **5.1 Introduction**

The Nile Basin Initiative (NBI) is designed to promote confidence amongst riparian states and establish a stronger foundation for the future development of cooperative river development initiatives. The creation of the organization is causing quite a few ripples throughout the political and academic communities. In a joint statement made by the Ministers of Water Affairs from the ten Nile countries (with Eritrea as an observer), the group declared that: “For the first time in history, all Nile basin countries have expressed a serious concern about their need for serious discourse”<sup>144</sup>. The states that make up the organization clearly recognize it as a significant development in the region’s political history and apparently so too do others. It has already secured considerable financial support from large international funding agencies like the World Bank for a number of cooperative water projects. Though, at this point, the main objective of the organization is limited to the building of a concrete cooperative framework for Nile water utilization, there are big hopes for the future. In a functionalist manner, it is hoped that with time it will help to create greater opportunities for broader cooperation in other realms than just river development.

As seen in chapter three, the NBI is not the first attempt of its kind to bring about a water-sharing framework between the states on the Nile and the organization’s framework is considered only as a transitional arrangement until a permanent legal and institutional framework is reached. The establishment of such a permanent framework may yet be far off in the future, and there can be no guarantees that the NBI too will not become another

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<sup>144</sup>Haggai Erlich, *The Cross and the River: Ethiopia, Egypt and the Nile*. (Boulder: Lynne Rienner Publishers 2002). 213.



extinct failed organization like the ones before it. But, the organization has, nevertheless, been noted by several authors as one of the best hopes thus far for the ensuring of peace amongst the ten riparian states. This is perhaps due to the fact that it has garnered so much regional participation, a feat that previous basin organizations were unable to accomplish. In essence, the emergence of the NBI and the enthusiasm it has provoked, from within and outside the region, seems to signify a move away from an era where riparian relations were marked by public threats and intimidation to one in which efforts and advancements in cooperation are regularly declared and increasingly likely.

However, even if the NBI manages to surmount the barriers that have historically impeded the realization of interstate cooperation in the region, there are still a number of other issues that should be considered in determining the extent of its success. More specifically, we will need to look at how successful the organization will be in achieving its development objective –to create a water-sharing structure that will allow all the peoples of the Nile region to better benefit from the river in the future. The inclusion of this objective means that the NBI should be regarded not only as a diplomatic organization, but as a development organization as well, one that incorporates a people-centered approach to hydropolitics. This vision should be reflected in the structure, objectives and programs that the NBI has laid out for itself. In this chapter we will examine the NBI at a greater length, its development as a political construct, organizational vision and the scope of its programs. By doing so, we can gain a better understanding of how the initiative will likely impact regional hydropolitics in the future. Though it may represent the means to establishing a lasting interstate framework for cooperation on the Nile, the NBI's current structure does not go far enough in the pursuit of its own development objectives, and, consequently, if left unchanged, will not be representation of a more comprehensive view of hydropolitics.

## 5.2 The Nile Basin Initiative (NBI)

The NBI was launched as a replacement for the organization TECCONILE in 1999. It has thus far garnered the support and participation of every state in the Nile basin, except Eritrea, which, for the time being, maintains observer status. To its credit, it is the first organization in which Ethiopia has agreed to actively participate, an act which may signal the coming of a change in the way the riparian states relate to each other. The officials of the Nile countries have agreed that the broad goal of the NBI should be to “promote sustainable socio-economic development through the equitable utilization of and benefit from the common Nile basin water resources,”<sup>145</sup> an impressive goal indeed. The Nile Council of Ministers of Water Affairs (Nile-COM), the head decision-making body of the NBI, has more specifically defined the objectives of the organization as the following:<sup>146</sup>

- To develop the water resources of the Nile Basin in a sustainable and equitable way to ensure prosperity, security, and peace for all its peoples
- To ensure efficient water management and the optimal use of the resources
- To ensure cooperation and joint action between the riparian countries, seeking win-win gains
- To target poverty eradication and promote economic integration
- To ensure that the program results in a move from planning to action.

Like the *Nile 2002 Conferences*, the NBI provides member states with an additional forum where legal and technical issues can be discussed. However, instead of being a yearly conference which discusses, in a very informal manner, riparian concerns, the NBI is representative of a more formal step and desire to achieve two things: a permanent institutional structure for political cooperation amongst the states as well as a more comprehensive framework for river planning and development. Hence, the NBI is designed

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<sup>145</sup> NBI Document, “Policy Guidelines for the Nile Basin Strategic Action Program” Prepared by the Council of Ministers of Water Affairs of the Nile Basin States (2001). NBI Guidelines Homepage. Retrieved on February 1, 2004 from <<http://www.nilebasin.org/Documents/TACPpolicy.html>>

<sup>146</sup> NBI, “Policy Guidelines for the Nile Basin Strategic Action Program”.

to stimulate two kinds of processes: political dialogue and technical planning. The programmatic structure of the organization is meant to serve these processes by encouraging the sharing of information, technical assistance, and through the development of joint project initiatives between countries.

The objectives of the NBI are carried out concretely through its main program: the Strategic Action Program, which identifies and prepares cooperative projects in the basin. The philosophy behind the program maintains that “real action on the ground is key to the success of the NBI and that basin-wide cooperation is best promoted by taking decisions at the lowest possible level”.<sup>147</sup> The Strategic Action Program has two main components: the Shared Vision Program (SVP) and the Subsidiary Action Program (SAP). The SVP focuses on promoting a shared vision of development through a number of basin-wide activities and projects, while the SAP focuses on preparing projects at a sub-basin level.

The SVP comprises 5 broad themes: cooperative framework; confidence building and stakeholder involvement; socio-economic and benefit-sharing; environmental and sectoral analyses; development and investment planning; and applied training. The creation of the first draft text of the Cooperative Framework, presented in 2000 to the Panel of Experts, fell under the first of these five themes. The text was produced after Nile-COM, under the urgings and financial support of the UNDP and World Bank, appointed an independent study team to examine the future possibilities for the establishment of an improved, more equitable, water-sharing arrangement between Nile countries. Quite clearly, the future success or failure of the NBI will be linked to the group’s ability to produce a final and acceptable version of such a text. Until this is established, however, the group works under a “common understanding” which emphasizes the importance of involving all Nile

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<sup>147</sup> NBI, “Policy Guidelines for the Nile Basin Strategic Action Program”.

states and respect for the international principles of “equitable utilization” and “no significant harm”.<sup>148</sup>

The goal behind the Subsidiary Action Program (SAP) is to facilitate the process of planning and actual implementation of water projects by working at the sub-basin level. There are currently two SAP's. The first is the Eastern Nile SAP (ENSAP), which includes Ethiopia, Egypt, and Sudan, while the second is the Nile Equatorial Lakes SAP, (NELSAP), which comprises the six upstream countries of the Nile. Both the ENSAP and NELSAP have already produced numerous proposals for projects at the sub-basin level.<sup>149</sup> The range of projects so far presented has been diverse and deal with issues of: water supply, sanitation, irrigation and drainage, fisheries, and hydropower among others. In March of 2001, Nile-COM met and endorsed several SVP and SAP projects.

Projects are presented to the donor community through a forum process called the International Consortium for Cooperation on the Nile (ICCON). Generally, the stated purpose of ICCON is to bring together various Nile shareholders (i.e. states, international donors, non-governmental organizations, public and private lenders) to discuss river development and management opportunities.<sup>150</sup> But, by and large, the focus of ICCON seems to be to engage the donor community in supporting NBI sanctioned water projects for the development of the river basin.<sup>151</sup> In June of 2001, ICCON met for the first time in Geneva, Switzerland. The meeting was chaired by the World Bank in collaboration with

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<sup>148</sup> NBI, “Policy Guidelines for the Nile Basin Strategic Action Program”.

<sup>149</sup> As of 2001, 3 ENSAP countries had already submitted 56 hydraulic projects. Tafesse 114.

<sup>150</sup> Nile Basin Initiative International Consortium for Cooperation on the Nile (ICCON), “Strategic Action Program Document Overview”, Prepared by NBI Secretariat and the World Bank. NBI and ICCON Homepage. Retrieved February 1, 2004 from <[http://www.nilebasin.org/iccon\\_overview.htm](http://www.nilebasin.org/iccon_overview.htm)>

<sup>151</sup> Nabil El-Khodari, “The Nile Basin Initiative: Business as Usual?” Conference Paper from the International Conference of Basin Organizations, Madrid Spain, 4-6 November (2002). Retrieved from Conference Homepage March 1, 2004. Accessed at <<http://www.cioc.tilesa.es/ingles/programme.htm>>

other cooperating partners. A total of \$140 million USD was allocated for various projects by 12 different funding agencies, with \$3 billion USD promised to come.<sup>152</sup>

For the most part, the pure magnitude and ambition of the initiative itself seems to incite enthusiasm. It is indeed impressive that so many parties have involved themselves, a great number of projects have been cooperatively presented, and that so much money has already been allocated. For those with knowledge of the basin's history of tense relationships, the venture is, in a sense, undeniably exciting. As Collins has put it: "Instead of twenty-two uncoordinated projects, the new Nile Basin Initiative was to promote action programs by a Shared Vision. Since neither Ethiopia nor the states of the Lake Plateau had ever contemplated sharing anything, let alone their water, this was a radical but unassailable concept."<sup>153</sup>

Yet, regardless of the excitement and attention the organization has drawn, there may still be many significant barriers to cooperation. A critical question which will greatly influence the continued participation of countries like Egypt, Sudan and Uganda seems to be how previous agreements and treaties (particularly of 1929 and 1959) will be upheld in the new basin regime. Additionally, the fact that none of the Nile states have yet signed the 1997 Convention on International Watercourses may be a sign that they are still generally reluctant to adopt a new regime inspired by recent international legal principles.<sup>154</sup> Another factor that may obscure the chances for cooperation is the fact that some states are still unilaterally pursuing plans for water projects.<sup>155</sup> There is also the crucial question of how many water

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<sup>152</sup> El-Khodari 1.

<sup>153</sup> Collins 12.

<sup>154</sup> In fact Burundi opposed while Egypt Ethiopia Rwanda Tanzania abstained Eritrea Uganda and Zaire were absent. Only Sudan favored it. El-Khodari 3.

<sup>155</sup> Egypt, Ethiopia and Sudan all have proposals for water projects which have yet to be filtered through the NBI process. Swain, "The Nile River Basin Initiative" 300; John Waterbury and Dale Whittington, "Playing

projects can be pursued, even cooperatively, on the Nile. Waterbury and Whittington have suggested that there is just not enough water in the Nile to complete the water plans of both Ethiopia and Egypt, much less to satisfy the plans of all the Nile riparians.<sup>156</sup>

Overall, despite the focus on convergence from the international community and officials of Nile countries themselves, the development of the NBI probably means considerably different things to the different states. To some, like Ethiopia it may represent the key to freedom, or at least slightly more liberty, in finally pursuing water development plans. To the upstream states of the Equatorial region, it may represent the opportunity to just have a larger say in what happens in the basin, or, since they have already worked in sub-basin organizations together, it may just represent another way to secure greater funding for water projects. For Egypt, it may represent another way to control the plans of other Nile states, thereby further securing their own water interests in the process. In short, despite the establishment of the NBI, it remains unclear if there has truly been a significant shift in the desire to cooperate from the most powerful players in the basin. Until this becomes true, any initiative formed to do so may fall short of achieving its goals in the long-term. However, the NBI is a closer manifestation of this desire than any of the previous basin organizations and, with continued international pressure and support, there is reason to believe that it may succeed in more than just the short-term.

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Chicken on the Nile? The Implications of Micro-Dam Development in the Ethiopian Highlands and Egypt's New Valley Project." *Natural Resources Forum* August (1998): 150-167.

<sup>156</sup> Waterbury and Whittington 159.

### **5.3 Pushing the NBI Forward: Assessing its worth from a more comprehensive view of hydropolitics**

There should be little contention that the NBI was first and foremost set up to deal with the contentious issues of water rights between the Nile states. In reviewing the history of hydropolitical relations we can see why this has been a major issue on the agenda. Concurrently, however, the organization has declared the desire to incorporate a people-centered approach –the objective of developing the water resources to the benefit of all Nile inhabitants. Statements made by Nile officials have asserted that the ultimate goal of the many NBI discussions, meetings and projects center on how to rigorously address the situation of growing water scarcity for the average Nile riparian community. As a result, the NBI has made a name for itself as an important future actor in the pursuit of regional economic and social development. CIDA has remarked that: “the initiative is more than just a water-management project, it's a plan for the social and economic development of an immense region: it focuses on the needs of the poorest of the poor and the environment that sustains them.”<sup>157</sup> Collins has also commented that the NBI is a “peoples program for the people of the Lake plateau who desperately need it.”<sup>158</sup> A people-centered approach such as this would surely be in line with the definition of hydropolitics advocated in this thesis, one that pushes basin-wide organizations towards the adoption of water-sharing frameworks that take into consideration, from the very beginning, the needs of the persons or populations who suffer the most from water scarcity and shortages.

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<sup>157</sup> Canadian International Development Agency (CIDA), “Passage Out of Poverty: The Nile Basin Countries Begin to Pool Resources” (2002). CIDA Home Page. Retrieved on February 1, 2004 from <<http://www.acdi-cida.gc.ca/CIDAWEB/webcountry.nsf/0/04c6df0aa32ce65885256b7a00544d3c?OpenDocument>>

<sup>158</sup> Collins, “The Inscrutable Nile” 13.

However, when looking more closely at the NBI, its framework and internal functioning, it is evident that the goals more closely related to this approach have been sidelined. Instead, NBI meetings and programs seem to focus, for the most part, around traditional topics of hydropolitics: the dissection of relationships between states, the legal infrastructure surrounding the use of the shared resources, the distribution of water project benefits and costs between states and other similar interstate factors that may push actors either towards cooperation or conflict. In fact, the extent to which this goal has been overlooked makes one wonder how serious a goal this ever was from the beginning. The missing but imperative questions that seem to have been left out of the NBI negotiations are those pertaining to the efficiency and equity of water distributional mechanisms at play at the sub-national level –in brief the elements of QoS described in chapter four. As emphasized by the World Water Development Report and, as has been emphasized throughout this thesis, the creation of river basin organizations, which focus mostly on the distribution of water between states, does not necessarily ensure more water for those who suffer most from shortages.<sup>159</sup> In this section we will examine the factors that make the NBI representative of the way that hydropolitics has traditionally been defined and analyzed.

### *5.3.1 Prioritizing Objectives*

Aside from the first and main objective of the NBI – to promote a viable water-sharing framework – the other objectives have all been widely discussed as equally important and interconnecting.<sup>160</sup> Nonetheless, the NBI's internal documents suggest that the last objective – to target poverty eradication and promote economic integration – comes close to

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<sup>159</sup> The UN World Water Assessment Programme 299.

<sup>160</sup> UNESCO, "The Shared Basin Management of the Nile" UNESCO Home Page. Retrieved on February 1, 2004 from <<http://www.ihe.nl/vmp/articles/News/NEW-JAN-01-BG-01.html>>



second, clearly ahead of the other three. The NBI's *Shared Vision Program Project Document* even suggests that poverty eradication would be one of the organization's top objectives when stating that "...development that is socially, politically, and economically sustainable must have poverty reduction as its main goal"<sup>161</sup>

In spite of these emphatic statements, poverty reduction has somehow been absent from the actual analyses carried out by the different entities composing the organization. None of the economic proposals of the NBI seem to address directly human security or human development issues. By perusing the development literature of the NBI, one quickly realizes that the main concern of the organization is to foster economic growth of certain key industrial sectors through the implementation of more efficient water management projects and techniques. If the NBI makes it abundantly clear that it is concerned about the macroeconomic impact of its recommendations, one is hard pressed to find any mention of concrete methods or indicators aimed at evaluating the impact that the very same recommendations will have on the poorest layers of the region's population. Concededly, the Socio-Economic Development and Benefit Sharing Program offers a way to monitor the impact of the sponsored projects on human security and poverty. But as we will see later in this chapter, these indicators leave a lot to be desired.

In an approach that unmistakably bears the seal of neo-classical thinking, the NBI seems to suggest that its objective of poverty eradication can be met through the general economic growth generated by the new international water sharing framework. This is the all but too familiar trickle-down economics approach largely prescribed by the IMF, whose

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<sup>161</sup> NBI, "Shared Vision Program: Socio-Economic Development and Benefit-Sharing Project Document", Prepared by the Council of Ministers of Water Affairs of the Nile Basin States. NBI Public Documents Homepage. Retrieved February 1, 2004 from <<http://www.nilebasin.org/pubdocs.htm>>

impact in so many developing countries is now well documented.<sup>162</sup> In a very typical IMF fashion, the NBI has advocated the opening up of economies and the deregulation and privatization of water management practices. If not implemented with great caution, such policies can lead to a greater pauperization of the water poor as discussed in the last chapter. Even if one believes that trickle-down economics will be somewhat at play in the Nile basin societies, it is undeniable that this indirect way of tackling poverty is far from satisfactorily addressing human security concerns. The dramatic situation of many people in this region calls for much more urgent measures, none of which have been announced or even hinted at by the NBI. Further, the limited democratic character of these societies and the absence of a strong welfare state authorize us to be concerned about the efficiency of the human development strategy advanced by the NBI. And indeed, the lack of reliable human development indicators in the NBI's literature gives us no reason to feel confident that the growth generated in some economic sectors by the new water management projects will have a significant positive impact on the situation of the region's most destitute people.

### *5.3.2 Participation from various levels*

Another reason the NBI has gained a reputation for being people-centered is because, unlike other previous basin initiatives, it has staunchly emphasized the importance of keeping its institutional processes highly participatory and dynamic. The shift to make basin organizations more inclusive is very much in line with a general shift that has occurred, since the 1980's, in several major international institutions such as the World Bank.<sup>163</sup>

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<sup>162</sup> For more Information see Joseph Stiglitz, *Globalization and Its Discontents* (New York: WW Norton and Co., 2002).

<sup>163</sup> NBI, "Nile Basin Initiative Shared Vision Program: Confidence Building and Stakeholder Involvement Communication Project Document" Prepared by the Council of Ministers of Water Affairs of the Nile Basin States. Retrieved February 1, 2004 from <<http://www.nilebasin.org/pubdocs.htm>> [Referred to hereafter as the Long-Term Communication (LTC) Project Document].

Participation from local groups in the proposal and planning phases of large development schemes is generally acknowledged today, at least in rhetoric, as critical to the long-term success of projects. The NBI is no exception to this. In several key organizational documents and in several press statements made by NBI officials, emphasis is put on the importance of maintaining “multi-sectoral, multi-country and highly participatory processes”<sup>164</sup>. One would then expect to find concrete proof of this new approach, through the inclusion of various local and international groups, not just in the project planning phase of the organization, but in the organizational structure itself. Yet, proof that such non-governmental groups or specialists have been incorporated into the structure of the NBI is hard to find. In fact, it seems that two of the most important components of the organization’s framework -the Cooperative Framework and Shared Vision Program- were and are being created with little or no input from non-government officials, demonstrating the still very state-centered nature of the NBI.

The Panel of Experts was created by the Nile countries to help develop the Cooperative Framework. The Framework itself is meant to define how water is to be shared between the states in the Nile in the future. In the end, the POE will greatly influence the permanent organizational structure for future cooperation: its general principles, rights and obligations, and institutional structure. It will not only impact the distribution of water between the Nile states, but the scope of the programs in protecting the rights of the many diverse communities in the basin. Despite, however, the wide-ranging implications that the POE’s work has for the Nile peoples, the composition of the panel itself has, thus far, been greatly restricted. The Panel is composed of “three-person teams from each country,

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<sup>164</sup>NBI, “Socio-Economic Development and Benefit-Sharing Project Document”; “Policy Guidelines for the Nile Basin Strategic Action Program”; “LTC Project Document”.

typically senior government lawyers and regional water resource specialists”.<sup>165</sup> The inclusion of non-state appointed representatives from national or international organizations is clearly absent. In a similar manner, there was a clear absence of local, non-governmental parties invited to participate in the creation of the Shared Vision Program. Though in their project document the NBI again emphasized their dedication to a highly participatory structure, the detailed preparation of the SVP was actually created by the Nile Council of Ministers and 70 national water experts from nine countries.<sup>166</sup> In addition, some authors, like Wiebe, have argued that many of the water specialists who are invited to participate in these processes should not be considered as neutral because of their ties to government officials and parties. Clearly, in both the creation of the Cooperative Framework and the SVP, the rhetoric of the NBI on participation clashes with reality.

On the other hand, the establishment of the Subsidiary Action Programs would seem, at least at first glance, to stem from the realization that there is a need to incorporate a local level in development planning. The SAP program guideline document, for example, states that, “action on the ground needs to be planned at the lowest appropriate level (...)” and that “the appropriate planning level needs to involve all who will be affected.”<sup>167</sup> Yet, in the same document, the responsibility for doing so is put almost exclusively on national governments. “While local and national governments will address what needs to be done at the local and national levels, the challenge of regional cooperation is to address development opportunities at the transnational level.” Once again, the extent to which the NBI itself incorporates the concerns and voices of local, non-government actors in their planning and structure seems fairly limited. The emphasis is to work at a sub-basin level at not sub-

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<sup>165</sup> ICCON “Strategic Action Program Document Overview”.

<sup>166</sup> ICCON “Strategic Action Program Document Overview”.

<sup>167</sup> ICCON “Strategic Action Program Document Overview”.

national level. Wiebe has similarly noted the concern that "...while the NBI considers impacts on the environment and future generations, it is silent regarding subgroups such as the Sudd region dwellers, who could potentially halt action programs, just as they appears to have halted the Jonglei Canal plan."<sup>168</sup>

One way, however, that the NBI has proposed to increase participation is through its Long-Term Communication Project (LTP). The project is one of the SVP projects and has two components. While the first aims to make regional politicians more aware of the Initiative itself, the benefits of interstate cooperation and economic integration, the second component, called the Development Communication Component, focuses on developing guidelines for riparian stakeholder involvement. The Development Communication component of the project was created to address the seemingly already apparent lack of participation from civil society groups. The project document states: "the main participants to date [within the organization] have been officials from the ministries responsible for water in each riparian country. Civil society, particularly women's organizations and others who are likely to be most affected by NBI development initiatives, have had little involvement."<sup>169</sup>

Clearly, the creation of the project, in itself, means that there is recognition, from within the NBI, of the challenges that participation poses to the organization. However, the main question this poses for this thesis is how far the organization is willing to go in order to correct this state of affairs. The main function of the project is basically to facilitate dialogue between officials of governments, donors, and other high priority agencies on which sub-national groups should be included as participants in NBI processes. In essence, the NBI recognizes that governments have differing approaches to stakeholder involvement. While

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<sup>168</sup> Kristin Wiebe "The Nile River: Potential for Conflict and Cooperation in the Face of Water Degradation" *Natural Resources Journal* 42 (2001) 752.

<sup>169</sup> NBI, "LTC Project Document".

some governments prefer to limit stakeholder involvement to only a select number of likely project-affected groups, others, however, will prefer to interact with a larger number of civil society groups.<sup>170</sup> Though the overall aim of the project -to encourage countries to become more inclusive by fostering dialogue on the subject and setting broad guidelines- is worthy enough, once again the project fails to go far enough in setting concrete baselines for participation as the countries themselves nevertheless have the final say about who will eventually participate.

### *5.3.3 The Distribution of Costs and Benefits: the Social Pillar of the NBI*

Another program which is meant to support the pursuit of the NBI's development objective is the Socio-Economic Development and Benefit-Sharing Project. Part of the Shared Vision Program, the project essentially brings regional decision-makers together to explore and assess the worth of different types of development projects based on their associated economic, environmental and social costs and benefits. More specifically, the main functions of the project are to: come up with a number of possible scenario approaches to development (i.e. look at the types of projects that could be pursued), lay out a map of how each scenario might potentially impact greater development in the region and identify those scenarios which would best accomplish the organizational objectives. The beneficiaries of the project are meant to be, first, the people of the Nile basin, then their governments, their government agencies, and other national, regional and even international groups. The social component of the program is the reason why the project has been considered by some as the closest representation of a social pillar within the organization.<sup>171</sup>

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<sup>170</sup> NBI, "LTC Project Document".

<sup>171</sup> El-Khodari 3.

Yet, the extent to which it clearly seeks to promote equity in the distribution of benefits and costs is questionable.

For one thing, the vision for the benefit-sharing arrangements and goals the project is aiming to create, even in a broad sense, seems very unclear. The development objective of the project, for example, states:

“[...] this project is to support the SVP by enabling the riparians to form a range of basin-wide development scenarios, and specify the benefits accruing from the implementation of such scenarios (*together with some notion of how benefits will be shared*). Fundamentally the project aims to provide an opportunity for riparian dialogue that can include a wide range of society and that will develop common visions of cooperative development in sectoral or thematic areas.”<sup>172</sup>

This broad objective leaves several questions unanswered. What constitutes an acceptable sharing arrangement of the benefits of each scenario? What is the maximum burden that can be imposed on a specific sector or segment of the population regardless of the overall benefits accruing from a project? Admittedly, there is a chance that these issues may be explored as program participants are free to organize the scenarios around a variety of “themes”. Economic performance for various economic sectors, consequences for the environment, gender discrimination and poverty alleviation are some examples of the themes that can be selected for these scenarios. Unfortunately, the language used in the program’s documentation makes it clear that none of these themes are mandatory. As a result, vital themes such as poverty reduction may not be used in any scenario and may therefore be entirely left out of the discussion. Additionally, very little has been said about the way that the conclusions pertaining to the various themes of a scenario will be pulled together to inform the general cost-benefit assessment of a project. In other words, how will the NBI assess whether, for example, the expected benefits of a new water project to the agricultural

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<sup>172</sup> NBI, “Socio-Economic Development and Benefit-Sharing Project Document”.

sector justify the negative impact that it may have on the social fabric of a community? Although the scenario building exercise proposed by this program does not seem to offer any satisfactory answer to this question, we must note that there are two ways through which these concerns may be brought into the debate. First, they can be voiced by concerned actors who participate in thematic meetings. Second, it may be noted in the organizational socio-economic information databases. The chances that the first option will happen will clearly depend on who is invited to the discussion tables in the first place. Though the project document emphasizes the importance of including a wide-range of actors from various sectors at these meetings, the invited actors are nevertheless determined by state officials, which, depending on the state, can translate into a highly selective group. The second way in which these concerns may be brought to the table are through the use of socio-economic information bases. Each state is required to collect and compile information on a variety of issues related to the socio-economic patterns and uses of Nile water resources. Information categories might, for example, include the examination of: policy and regulatory frameworks governing the use of water resources in the country; social dependencies and vulnerabilities related to water; the role of the private sector in water resource development; traditions and customs relevant to the water resources of the basin; etc.<sup>173</sup> These bases are meant to provide project planners with a better idea of the real costs and benefits related to any potential SVP or SAP projects. Unfortunately, however, nothing guarantees the accuracy or depth of the bases themselves. Each country in question is responsible for the building of these bases through national consultant teams which they choose. The NBI has no method of checking the validity or extensiveness of the compiled data. The fact that there is no way to check the bases may make it easier for some states,

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<sup>173</sup> NBI, "Socio-Economic Development and Benefit-Sharing Project Document".



when they believe it in their overall interest to do so, to overlook listing issues that could potentially jeopardize the approval or funding of projects. In fact, the project document even lists credibility and reliability of bases as an issue which may require special attention in the future.<sup>174</sup> In the end, neither the socio-economic bases or current policy for participation ensure that all the voices or concerns of various Nile stakeholders will be heard in the assessment phase of projects.

#### **5.4 Policy Recommendations**

It can probably be safely said that NBI programs like the Long-Term Communication Project, Subsidiary Action Program and Benefit-Sharing Project are, despite their shortcomings, representative of a desire to work towards the resolution of water-sharing issues not only at a general basin-wide level, but at the sub-basin level as well. However, though they may be useful in bringing into the debate a few new local actors, overall, the scope of these programs does not go far enough. The framework with which the organization is working does not necessarily address structural and social inequalities or technocratic inefficiencies occurring at the national level. Furthermore, the programs are not tied to any guarantees from national governments about democracy and social measures. If the NBI is to fulfill its objectives more closely associated with human security and development, then it must still address a number of critical issues within its structure and programs. In this section, a number of policy recommendations will be made in an effort to provide the NBI with new tools to work more effectively towards these goals. These recommendations will cover the issues which have been specifically depicted as most

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<sup>174</sup> NBI, "Socio-Economic Development and Benefit-Sharing Project Document".

problematic for the water poor as described in this thesis, and hence should be regarded as a starting point in the amelioration of water management in the Nile basin.

The implementation of these policies will, of course, require the vehement support of the majority of the key actors involved in the Initiative. As this thesis has posited, international funding agencies are the most capable of triggering change in the behavior of the states involved in the NBI. The World Bank, CIDA and the UNDP are currently the key actors that have shown a dedication to the creation of the organization itself and that have also made clear that they were ready to commit to funding joint water projects developed under the aegis of the NBI. The African Development Bank and the US Agency for International Development (USAID) are two similar institutions which have previously funded or seriously considered funding water projects in the region. Based on their past involvement, it seems reasonable to assume that they might be ready to commit to future endeavors under the right circumstances. These actors have shown that they are intent upon supporting a more equitable structure of Nile water allocation between the states of the Nile and, to varying extents, are concerned with the advancement of socio-economic development goals for the MENA and Nile regions. As stated earlier, many of these actors have already adopted policies which encourage principles of wide-participation and other social goals into their organizational structure. The African Development Bank (ADB), for example, has declared that:<sup>175</sup>

- Water is a social good and therefore a universal right and should be made available to all at an affordable cost.
- Gender issues should be taken into account in IWRM. The Bank will strongly support water resources development projects that show good prospects of reducing the time spent by women and girls in fetching and storing water.

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<sup>175</sup> UN World Water Assessment Programme 336.

- Where involved, the Bank will ensure that stakeholders are effective participants in all decision-making processes likely to affect them. Their willingness and capacity to pay for water resources development should be sought and not just assumed.

In some cases, however, conflicts may arise between the policy approaches taken by the various founders (i.e. certain World Bank policies on water pricing may be different than the approach taken by the ADB or UNDP). Yet, despite these divergences, common human development goals form the core of these institutions' missions, and hence, require all of them to devise and vigorously support policies aimed at fighting water poverty.

Since the goal of this thesis is to push the field towards a more comprehensive and yet meaningful approach of hydropolitics, the recommendations made for the NBI should seek to change the state of affairs in a manner that does not altogether threaten the Initiative. Clearly, a demand that would require states to suddenly and fundamentally change their bureaucratic structure would likely put the NBI and the attainment of human development and security goals at risk. Consequently, the approach taken is one which builds upon the already existing principles and goals of the organization and its main supporters, but pushes them forward in an ambitious, yet incremental fashion.

Before going any further, an obvious caveat must be issued regarding the ideas proposed in this section. It should be clear to the reader that the scope of this thesis precludes any attempt to provide real empirical support for the policy recommendations described below. Consequently, this section is limited to offering general political directions and alternatives to the dominant discourse and does not claim to offer a measured or clear, let alone definitive, political roadmap for any of the countries bordering the Nile. Nonetheless, I believe that these recommendations will give everyone a clear idea of the

direction in which the NBI can and should push the region's national water management practices.

#### *5.4.1. Ensuring More Efficient and Equitable Economic Measures*

As seen in chapter four, one ought to be extremely critical of the current trend that encourages countries to privatize and deregulate their water markets as there is very little evidence to support the premise that such measures will benefit these countries' economies or will be consistent with the interests of the water poor. As of today, there is no better forum than the NBI to discuss such issues and to influence the course of national and local water management practices. It is therefore imperative that the NBI take a firm stand on the issue of the economic management of water by abandoning its trickle-down economics rhetoric and by pushing instead for publicly managed water distribution systems that use carefully crafted pricing policies in order to regulate water usage more efficiently and equitably. The policy recommendations presented in this section deal with the economic aspects of water management such as investment levels, pricing policies and industrial organization and revolve around four main ideas.

**Recommendation One:** *Make water affordable to the poor, while making the rest of the population face the real cost of water*

Price is undoubtedly the main political leverage available to the governments of the states bordering the Nile. As explained in chapter four, current pricing policies are responsible for wasteful consumption patterns and, to some extent, for the weakness of the investments made in national water distribution networks. However, increasing prices has its costs. By threatening the livelihood of many water poor people within a country, it may have a very destabilizing effect on a country's economy and possibly on national and regional

security. For obvious reasons, the private sector cannot be expected to take these factors into account and it is the government's responsibility to step up and devise regulatory policies which will allow for price increases while continuing to protect the livelihood of the water poor. Price subsidies must therefore be entirely revisited in order to attain the following key objectives:

- 1) Keeping prices at *very affordable* levels for the water poor as long as the water is used for drinking and sanitation purposes. This can be achieved through consumption quotas and net wealth evaluation methods at the household or village levels.
- 2) Keeping prices at *very affordable* levels for water that is used for irrigation purposes by poor farmers in the short and medium term. Prices may rise *very progressively* later. Timeframes will depend on the economy's adaptive capability and on the government's ability to mold cultural perceptions.
- 3) Increasing water prices *progressively* for the rest of the population with sufficient notice so as to give people, industries and farmers the time to adapt. Timeframes will depend on the economy's adaptive capability and on the government's ability to mold cultural perceptions.

If these price increases are adopted in a timely manner, after consulting and informing all parties involved and if they are accompanied by the necessary measures to absorb some of the resulting economic shock (such as recycling some of the agricultural workforce through government subsidized training programs), then they will undoubtedly lead to a thriftier usage of the Nile waters and to greater welfare for all countries in the region. Because of their transitional nature, such policies would have the greatest chance of being implemented without encountering fierce resistance from various groups at the national and local levels, especially when compared to the broad privatization policies that have been recently advocated.

Closely related to the idea of price increases is the concept of virtual water. Since food imports constitute the only substitute for a diminished national agricultural sector, governments should endeavor to control the price of foreign food at the same time as they introduce new water pricing policies. Failure to do so would result in substantial increases in

the price of food, which would once again pose a great threat to the livelihood of millions of individuals belonging to the poorest layers of the region's population. The effect of water price increases will therefore need to be mitigated by food subsidies aimed in priority at the urban poor who would otherwise be the first ones to face unaffordable food prices.

**Recommendation Two:** *Extract additional revenues to support government policies*

Public water management authorities can only operate effectively if they have sufficient funds at their disposal. As discussed in chapter four, many cash-strapped governments are already incapable of supporting their national water distribution infrastructure. Asking governments to introduce more complex regulatory schemes as well as additional subsidies on food can only put greater pressure on already limited budgets. Nonetheless, we have established that these subsidies must be enforced if we are to effectively pursue fundamental human development goals in the Nile basin. The solution, therefore, does not lie in foreign capital and in the reduction of the public sphere but rather in the ability of the government to raise additional funds to support a more comprehensive set of regulatory activities.

Higher water prices will obviously be the preferred source of financing for governments, as it does not require them to request outside intervention or to intervene outside of the water market. However, because water prices will remain heavily subsidized – at least in the short term – governments will be required to find additional revenue sources if only to bring their country closer to a situation that would be compatible with the UN Millennium goals. Two of these sources can be readily identified.

The first one consists of introducing a new income tax whose purpose would be to support nation-wide infrastructure development. The level and nature of this tax will depend

on each country's particular situation but, in all likelihood, governments should opt for a progressive taxing scheme in order to avoid putting any additional burden on the water poor. It is important to keep in mind when making this recommendation that taxes are almost always an economic reallocation tool that transfers wealth from some to others. As such, they are often opposed by those who perceive that they are being forced to finance the rest of society. Coincidentally, it is extremely rare to come across this type of proposal in the literature. As authors like Allan have shown, reallocation is a much more palatable topic when the idea consists of asking farmers to give up the source of their livelihoods for the good of others.<sup>176</sup> Notwithstanding this slip of the fervent advocates of liberalization, taxes are a perfectly legitimate, and indeed the principal tool used in every economy to finance public activities. They form therefore one of the cornerstones of the government's capacity to manage water distribution at the national and local levels.

Another source of financing is also available in the form of loans or grants accorded by international institutions such as the World Bank or CIDA. If the latter commit, in the context of the NBI, to supporting the improvement of national water management practices, they can be expected to put together special financing programs that will help states upgrade their water distribution infrastructure as well as manage more efficient and equitable pricing policies. While it is difficult at this stage to evaluate the significance of this additional revenue source, it is comforting to see that the twelve main funding organizations of the NBI have injected over \$140 billion in various projects, an amount sufficient to upgrade the infrastructure of the developing world to internationally acceptable standards over the next five years. There are therefore good reasons to be optimistic about the impact

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<sup>176</sup> Allan, *The Middle East Water Question* 187.

that an international community truly committed to improving national water management practices can have on the QoS experienced by the water poor of the entire Nile basin.

### **Recommendation Three:** *Manage efficiently to avoid waste*

Several productive inefficiencies have also been observed in the water management practices of most of the countries bordering the Nile. Public water management bureaucracies have been accused of not allocating budgets effectively and of relying on outdated technologies that further squander the relatively small amount of water available to their country. Although these productive inefficiencies may not be nearly as damaging for the region's welfare as the allocative inefficiencies mentioned above, there should be little contention that the ten riparian states would all benefit from consulting with each other and with the international community on these issues. Specifically, the NBI could become such a place of exchange where transfer of knowledge and technology between different governments and NGOs are facilitated so that each country's technical and organizational water management practices can get closer to internationally accepted standards. This would not only benefit each state but would also facilitate international negotiations as each participant would have a stronger guarantee that the others are using the water that is granted to them in a relatively efficient manner.

#### *5.4.2. Increasing the Diversity of Voices Heard in the NBI Arena*

In addition to the economic policy recommendations described above, the implementation of measures which will increase participation from non-state level actors will also help to bring the NBI closer to the vision proposed in this thesis. Increased participation should come primarily from actors of two levels: actors from below (i.e. representatives of local groups that are likely to be directly affected by the policies or



projects implemented by the NBI) and actors from above (i.e. representatives from international agencies that deal with participatory development and water management issues on a regular basis).

The discussion of the water poor in chapter four emphasizes the importance of the inclusion of the first group -diverse local actors. Those affected by water poverty tend to be people who have little power to make their needs and demands heard within the larger state arena where important decisions are made on water policies. Whether they are members of minority ethnic groups, women, or the poor in urban or rural areas, these groups generally tend to have limited education, money, and ties to high-placed authorities, and hence, are more easily excluded from then same political processes that will, at a later date, so seriously impact their lives. It is therefore imperative for the NBI to make a much more concerted effort to include representatives of these groups into their main organizational processes. This effort should include going beyond the formal task of opening the process to willing and motivated participants, but instead should include the active encouragement and seeking out of opinions from a diverse range of voices. Though increased participation is needed throughout the organization's structure, it is particularly critical at two places: at various stages of the Subsidiary Action Programs, where Blue and White Nile projects are first collectively designed, and in the thematic meetings of the Socio-Economic and Development and Benefit-Sharing Project, where the costs and benefits of potential projects are assessed. By enhancing their role in the design processes of projects, local actors will be able to provide the organization with a clearer picture of the true costs and benefits for a given project.

In a similar manner, increased participation from representatives of international development agencies, such as the International Rivers Network, could, because of their

focus on defending the rights of indigenous groups, also help to ensure the diversity of the local actors who participate and, therefore, that a diversity of opinions are brought to the NBI tables. By providing these groups with a role to play in, for example, the Long-Term Communication Project, the NBI might best be able to realize the vision of having a people-centered approach. Likewise, the involvement of international water management experts would help to reveal potential long-term problems (environmental, economic, etc.) associated with potential projects that may not be evident to general NBI public or to politicians with short-sighted goals. Participation from water experts might be best placed, within the NBI structure, wherever there are project design and assessment processes (i.e. in certain SAP meetings and throughout the Socio-Economic and Development and Benefit-Sharing Project).

In all, actors from both levels should allow politicians to get a more complete picture of costs and benefits of potential and current projects and policies. Additionally, increased participation from both levels should not only help to make the scope of the NBI deeper, but should also help to make it a more sustainable organization. As the World Water Development Report has stated: “[...] the higher the degree of participation by all interested parties, the more sustainable the resultant institutional frameworks. Adaptable management structures, clear and flexible water allocation, water quality management criteria and equitable benefit distribution further contribute to successful and sustainable institutions”.<sup>177</sup>

#### *5.4.3. Implementing Reliable Monitoring Techniques*

The success of the proposed economic and participatory measures will, to a large degree, depend on how well they are implemented and, ultimately, monitored. Progress

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<sup>177</sup> UN World Water Assessment Programme 300.

monitoring, from diverse and, as much as possible, unbiased teams, will help to ensure that programs are effectively impacting the target populations, and, in cases where it is found that policies are causing undesired impacts, will alert policymakers to the need for change. It would, for example, ensure that the participation program is actually recruiting the number of diverse actors desired at or that subsidization policies are actually helping the poor more than others in a society. Monitoring is, of course, not only important for the proposed policy recommendations outlined in this thesis, but for all the policies and programs implemented by the NBI. Whether they are specific policies on water-use for certain sectors or general policies on communication programs with the public, progress monitoring will be key to the long-term success of the NBI's programs.

This is not to say that programs are not currently being monitored. In most project and program documents, it is easy to spot the organization's monitoring objectives. However, much of the monitoring is to be done by national bureaucrats. While this may be fine for some programs, the introduction of monitoring by independent groups that are more clearly unbiased would help to mitigate the occurrence of resource capture with respect to water in a society. Currently, it seems that unbiased monitoring is particularly needed for the collection of socio-economic bases, the lists which details the patterns and uses of Nile water. The monitoring or verification of the validity of the lists, presently collected by national government officials, would help to ensure the quality of the information collected and, hence, lower the chances that poor a QoS would go unnoticed.

## **5.5 Conclusion**

Until such steps are taken, we cannot trust that projects conducted under the aegis of the NBI are sufficiently addressing the needs of all the riparian stakeholders, and in

particular the needs of the communities who are most vulnerable to water scarcity. Though the most recognized challenge that the NBI faces is, by far, to ensure sustained cooperation between the states of the Nile, what is often overlooked is the equally important challenge of making sure that the program succeeds in its human development objectives, even in the short-term. The review of the organization's *modus operandi* has demonstrated that the NBI's structure is currently inadequate to ensure that gains made in the amount of water available to the riparian states will result in improvements in the conditions for the water poor. The policy recommendations outlined in the last section of this chapter, however, provide concrete steps that can be taken to remedy this situation in the short and medium-terms.

## **Conclusion: Connecting the Experience of the Nile Basin to General Hydropolitics**

This thesis has argued that hydropolitics, as practiced on the Nile, suffers from the same shortcomings as those that can be found within the literature of the field in general. We have seen, through our exploration of the literature in chapter two, that the study of hydropolitics has become de facto limited to the study of conflict or cooperation between states bordering transnational water resources, with only a few authors daring to step outside of the sanctioned discourse. These current limitations correspond to the scope of the larger field of security studies, which has traditionally been circumscribed to the realm of international relations. Because non-traditional concerns, such as environmental issues, have only recently been incorporated – and not without controversy – into the concept of security itself, the inclusion of issues that many consider as even more controversial has been slow to come. In short, hydropolitics has yet to break free from the disciplinary shell from which it developed.

The pursuit of institutions which will facilitate the establishment of a lasting framework for cooperation has become the sole goal of the field. In the Nile basin, this pursuit has led to the creation of the recent Nile Basin Initiative. The establishment of this organization is, in itself, a major accomplishment given the history of basin relations. The review of historical relations between basin states, presented in chapter three, showed that the basin regime which has been in place since the end of colonialism has been a highly inequitable one imposed primarily by Egypt, with Sudan as a lesser partner, and maintained by the threat of the use of force on all other eight riparian states. Attempts at cooperation have, until now, largely been regarded as failures for their inability to produce meaningful dialogue and a more equitable agreement between basin states. Additionally, recent

statements made by water management officials in many of the remaining eight states indicate the intention to change this situation regardless of Egypt's desires. Under such circumstances, it is easier to understand why the international community has been so preoccupied with creating cooperation in the Nile basin. If the riparian states manage to hammer out an agreement on the sharing of the Nile waters, they will have achieved something which has eluded the region since the formal creation of the states themselves.

Yet, in this region, as in the literature, there has been a consistent lack of vision with regards to the impact that any such water agreement might create beyond the realm of international relations. Chapter four has demonstrated the need for this to change. By looking at determinants of water poverty in the Nile basin, it has shown the devastating impact that water scarcity already has on many people living in the region. It has also shown that though an increase in the absolute amount of water may, to some extent, ameliorate the situation for these populations, the systemic inefficiencies and inequities that exist at the national level must be incorporated into the discourse and addressed in order to bring about significant change.

However, despite all of this, hydropoliticians and NBI officials have somehow managed to leave questions pertaining to efficiency and equity in sub-national water management out of the debate. As observed in chapter five, the structure and operation of the NBI thus far does not match up to their rhetoric for meeting important stated development objectives. There has been little emphasis on the implementation of concrete steps for the improvement of water distribution systems particularly for the poor and very limited participation from groups who are not affiliated with state agencies. The inability of hydropoliticians to take into consideration the sub-national level, in effect, equates to a refusal to account for the ultimate impact of the decisions made under any such cooperative

framework. The very grave conditions of the water poor in the Nile and other basins demand that more attention be given to the ensuring of security for the most vulnerable, and there is no better time to promote the inclusion of these concerns than during the construction of water-governing institutions like the NBI. The new scope and policy recommendations proposed in this thesis will hopefully provide the political and academic communities with a starting point for the further exploration of these concerns.

*A. Room for Growth: What can be Added to the Scope*

We have seen through our case study of the Nile basin that hydropolitics can realistically incorporate the social and technical aspects of water management at the national and local levels. More than a hypothesis or a suggestion, this is a fact that has been confirmed by the growing number of statements and recommendations issued by international organizations regarding national water management practices. The World Bank, in particular, has demonstrated on several occasions its concern about the adequacy of public water management practices and has voiced its support through various reports and forums for the privatization of national water markets. Far from protecting the interests of the water poor, this recent trend, which is developing outside of the official hydropolitical debate, may be regarded as a deliberate attempt to extract greater profits from national water markets for the benefit of the private sector. In this respect, the case of Cochabamba and Bechtel is edifying.

Ideas about national water management practices cannot be allowed to insidiously penetrate the field of hydropolitics. This topic must become an essential component of the hydropolitical debate both in the literature and in practice so that scarce water resources can be used efficiently to improve the welfare of the entire population of a basin instead of

serving the interests of a few. For this to happen, the scope of hydropolitics must be critically analyzed and urgently redefined. As explained throughout this thesis, this will involve a much more microscopic perspective similar to that originally proposed by Turton, which will take into consideration every facet of the role that water scarcity plays in the welfare of a region and possibly of the planet.

Once a new definition has been agreed upon, it will be necessary to analyze a series of water-related topics in much greater detail. In this regard, it is important to realize that this thesis has barely scratched the surface of the complex field of national water management. Social equity and productive performance are not the only issues that water governance brings to the hydropolitical debate. An in-depth analysis would require not only the further examination of the core political, economic and technical aspects of water management, but also an examination of the environmental issues that are linked to the sharing of transnational water resources. These analyses are crucial for the understanding of the impact that water allocation decisions have on the population of a region. It would, for example, require looking at how decisions pertaining to water use and allocation might impact the sustainability of the natural source itself, or how the adaptability of various water management technologies used by the NBI or other organizations might influence the ability for water poor communities to locally control water levels. However, because of the breadth of these topics, this thesis cannot explore all of these issues. Instead, it has examined the issues which I consider to be the most urgent for a large number of people living in the region. It is my hope, however, that any continued exploration of this topic would include greater in-depth analysis of these and other related concerns.



## *B. Call to Action*

As stated throughout this thesis, two groups in particular have the capability to change the way hydropolitics has been studied and practiced: those who study hydropolitics within the academic community and those international organizations involved in the basin institutions and the water projects that they produce. The call to action is therefore intended for both. In the short-term, international institutions involved in financing the endeavors of basin organizations can push for the inclusion of national water management concerns into their framework as funding conditions. In the case of the NBI, these agencies can do so by pushing for the implementation of the recommendations proposed in the last chapter. The successful application of even just some of the recommendations could certainly be regarded as heading in the right direction. The incorporation of comparable policies into the framework of other basin organizations would similarly push the field in a positive direction. In the meantime, researchers in the field of hydropolitics can accelerate this evolution by deepening their analyses to further explore the links that exist between the mechanisms of water poverty, environmental degradation, water management, and security. The result of which, I suspect, will be a much more complex, yet comprehensive understanding of how each of these are interrelated. Hopefully, this thesis will motivate more researchers to create the momentum needed to achieve this transformation.

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