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THE ROLE OF THE WORLD BANK IN THE NILE BASIN INITIATIVE; POTENTIAL SCENARIO OF SUCCESSFUL COOPERATION

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# Table of contents

I. Introduction:
   a. Water Scarcity  
   b. Foreign Aid in the Water Sector  
   c. Introduction to the paper, its purpose & methodology of research  
II. The World Bank:
   a. Overview of the World Bank Structural Adjustment Programs & Aid Loans  
   b. Description of the World Bank Water Policy  
   c. Conditionality  
   d. Selected Case Studies  
      i. A general overview of the scale of privatization of the World Bank/IMF  
      ii. Kenya’s Tana River projects  
      iii. Ghana’s loan  
II. The Nile:
   a. Background  
   b. Issues  
   c. The Egyptian Sudanese disputes  
   d. Disputes with upstream riparians  
   e. The Law  
      i. Upstream downstream relations  
      ii. The UN Convention  
      iii. Customary International Law of Transboundary Rivers  
      iv. Law of the Nile  
   f. The Nile Basin Initiative & possible scenarios  

IV. Potential Scenario for Success

Annex I: The Map of the Nile Basin

Annex II: Bibliography
I. Introduction

a. Water Scarcity worldwide

"Water is the driver of nature" Leonardo da Vinci

Water is considered the main indispensable natural resource. The constant and increasing use of available water resources will result in the expected water scarcity problem that will affect two thirds of the world population by the year 2025 at the latest (Adly, 1996). This alarming threat is not new, as it was already addressed in various international meetings, such as that of the UN Water Convention of 1997, The Earth Summit, Brazil, 1992, and Nations Conference on Environment and Development (Rio de Janeiro, 1992), in particular the Rio Declaration on Environment and Development and Agenda 21, as well as in the program for the further implementation of Agenda 21 (New York, 1997) and the consequent decision of the Commission on Sustainable Development on the sustainable management of freshwater (New York, 1998), and also the Ministerial Declaration of the Hague on Water Security in the 21st Century.

"Oil induces fear because we sense it can make or break empires; water has already made and broken quite a few." Although, in the 20th century, more wars have been fought over oil than over water, still the water's necessity far exceeds that of oil. Aaron Wolf refers that to reasons that fewer wars have been fought over water than over oil as being strategic in nature. The provoker of a conflict will have to be downstream, and has military power that surpasses that of the upstream riparian. The need of water in itself might have been a deterring factor for conflict. Ismail Serageldin has projected that the "the wars of the next century will be over water"

The official Egyptian Ahram Newspaper recently published an article entitled "world water declines to half after 13 years." The article mentioned that sustainable development plans will be adversely affected by the decrease in water supplies and that more than one third of the world populations would suffer from severe health problems resulting from water insufficiency.

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2 An Oregon State University specialist in water conflicts
3 Al Ahram newspaper; meyah al a'alam satankhafed bemo'addal al nesf ba'ad thalata'ashar a'aman, Mostafa Abdallah, March 30, 2002. (pp 6)
A Washington based research institute stated that water scarcity will become an issue of life or death in the very near future. The United Nations Development Program has already stated in its 1998 report that more than one billion human beings are already suffering from severe deficiency in water and its derivatives (Forum: War & Water). Adding to that factors of drastically increasing populations, as well as water mismanagement, the water problem can escalate even faster than predicted. In the Middle East and Africa, water is referred to now as the Blue Gold\(^4\). Not only is water scarce, as 97% of the drinking water on the planet is unsuitable for human consumption, it is also unevenly distributed among geographic areas world wide\(^5\).

The findings\(^6\) of the World Bank for the Africa region have demonstrated that over 300 million of Sub-Saharan Africans do not have access to safe drinking water; neither do they have adequate sanitation. Already in the Middle East and Africa, tensions have escalated over water resources. There are three basic areas of contention concerning water rights in the Middle East in specific. There is the conflict between Syria, Lebanon, Jordan, Palestine and Israel over the Jordan River. There is also the conflict between Egypt, Sudan and Ethiopia over the Nile. And then there is the Syria, Iraq and Turkey problem concerning both the Tigris and Euphrates. The Nile basin is the focus of this paper and it will be addressed in detail in the subsequent sections.

b. Foreign Aid in the Water Sector

Development aid has been a controversial issue especially over the last decade. Many developing countries have argued that although development aid finances some essential projects, such as infrastructure related projects, that otherwise could not be carried out, still aid can act as a lose rope in the hands of donors, or funding agencies (in particular if the aid is in the form of a loan), who can impose control over the countries receiving the aid (Danaher, 94). In the case of the World Bank (parallel to the IMF), it is harder for the recipient country to have so much bargaining power concerning any policies imposed by the World Bank as it is a case

\(^4\) (Ayad, 1996)
\(^5\) same as previous
\(^6\) www.worldbank.org, Findings, Africa Region, Number 74, October 1996.
of a condition or an austerity measure imposed in order for the loan to be granted (Holdar, 1993).

The World Bank in specific has received much criticism concerning the authority it designates for itself in return for providing a needy developing country with aid. This takes place through interference in the formulation of the country’s policies, specially concerning policies that might guarantee the Bank a cost recovery. The World Bank, being controlled by the wealth of its member states that have the control, can impose policies favoring the member states with more power. Consequently the World Bank tends to favor the agendas, ideologies or interest of its “creditors”\(^7\). Since development loan is almost three quarters of the Bank’s loans, the Bank argues that it has to secure its revenue. (Mosley, Harrigan & Toye, 1991)

Moreover, although the Bank’s mandate is to alleviate poverty, still it cannot be seen as a humanitarian agency, as a result, the Bank has to ensure its ability to recover the loans it grants developing countries as some of its loans are provided through private entities\(^8\). Accordingly, the Bank is irreplaceable when it aims at applying certain policy reforms in those countries to guarantee pay back of loans. In other terms, the conflicting issue at hand is that in some instances there is an inverse proportion between a developing country’s need for the development aid, and the criteria set by the Bank for a reimbursement of a loan\(^9\).

The World Bank has had many failures in water related projects, even with the formulation of its Water Strategy of 1993 (Mistry, 1996). Among the aims of the research is to investigate the World Bank’s capacity to carry out the Nile Basin Initiative, based on the World Bank’s previous experience in the Water Sector and whether such a project can guarantee both a reimbursement of potential loans and the intended benefits for the Nile riparians, and whether the potential policy reforms that will be attached to the Nile Basin Initiative projects will have adverse effects on the populations involved.

\(^8\) A lecture given by professor Trevor Parfitt at the American University in Cairo, January 1996
\(^9\) Same as previous
c. Introduction to the paper, its purpose and methodology of research

This paper is divided into three main sections. The First Section focuses on the World Bank, its loan based policy, conditionality, relation to the IMF and its water strategy, development policies in Africa and other developing countries and its concept of water privatization. Section Two deals with case studies of water projects carried out by the World Bank in brief, while focusing on the cross cutting issues involved in most of the projects, as well as project results. The Third Section is concerned with the Nile River, its riparians, politics involved as well as potentials for cooperation and the potential scenario for success. The Conclusion comes next as it provides assumptions and potential means that could lead to the success of the Nile Basin Initiative.

The purpose and methodology of this research is to examine issues of importance to take into consideration in the formulation of policy reforms for the Nile Basin Initiative, while deducing a model that can provide a potential for success in the Nile Basin Project in specific. The model for a “Nile Basin Successful Project” in the concluding section is the result of using World Bank critics remarks, OED evaluations of the World Bank Water Policy and previous projects’ analysis in order to conceptualize possible modifications to the Bank’s Strategy in Water Projects that might prevent future failures, namely in the Nile Basin. Also, a synopsis of the Nile riparian relations is necessary in order to estimate the potential conflicts or cooperation, and the terms under which cooperation could be possible. Sub issues involved include the possible benefits or losses that can be incurred by privatizing an essential element (good) such as water. Throughout this research, the following area is explored:

For the aim of debt reimbursement, water privatization is among the policy reforms induced by the World Bank, because the private entities can deliver the same or better services while recovering their costs. This could be applied to consumable goods, but essential goods, such as water (and its derivatives, such as agricultural products and sanitary services... etc), are questionable as they are a necessity to the whole population and a basic human right. Pricing water as well as privatization of the water facilities, could lead to a rise in the prices of all commodities whether be they essential or luxury items, which could unfavorably effect countries. When the
developing countries' governments provide such basic goods and services, cost-benefit considerations are not the aim of those governments because those elements are basic essential rights for the poorer sections of the population as well as the affluent ones. However, if water privatization is not applied, cost recovery of projects is not guaranteed and is likely not to be achieved. What is the missing part that can balance both, cost recovery and the improvement of the developing economies?
II. The World Bank

a. Overview of the World Bank Structural Adjustment Programs and Aid Loans:

Do structural adjustment programs achieve their aims? Mistry\(^{10}\) points out how GDP as used by the World Bank is not the right index for a success of a policy because it does not take into account such issues as income distribution. Apparently, the World Bank has utilized means of determining the successes or failures of a policy through an index that does not necessarily reflect the real output of their strategy, but rather an index that will prove the World Bank to be implementing the right policies, even if it was not in reality (Richard, 1996). Another important point that is very critical, if the World Bank decides that among the best solutions to get a country out of an economic crisis or debt is cutting government expenditure\(^{11}\). Cutting government expenditure entails so many problems among which is widening the gap between the rich and the poor. The problem with that is the fact that government facilities, such as medical services and clean water, will not be accessible to the poor any more in the case of expenditure cut. Besides that, the wages of the poor will keep decreasing as part of the plan. How can the poor who represent the majority in any LDC survive and maintain their human rights of the right to a good standard of living and health care, when their incomes are going down while their expenses are going up? Is this what the World Bank refers to as having to marginalize the poor for the sake of a better standard for the country\(^{12}\). If it is so, who in the country will benefit from this policy of marginalizing the poor? The elites will be the sole beneficiaries from implementing such policies, the rich who already do not have financial problems to start with. Cuts in educational government spending will lead the poor who can barely afford education to either get a very low quality of education or to abandon education to start with (Wright, 1990).

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This previously mentioned topic is among the three major reasons for the failure to create growth, which is the constraint on public finances. This is discussed further in this paper. The second reason is basically how in LDCs, there is a socio-political resistance to the imposition of any change in the system (Richard, 96). Which makes it very hard for both the government itself or any other agency to impose any structural changes because the work ethics or style of living in each country differs and have prevailed for years and that is why it is hard to change it specially when those countries are heavily populated. The third reason is the notion that market forces are the answer to the problems of the Third World.

A major criticism to the World Bank policies is the fact the policies suggested are not catered to accommodate the different needs of different societies, different social structures and the special stance of each LDC in reference to another LDC (Mistry, 1996). What the World Bank pointed out, as 'the right policies lead to growth' does not allow for viewing the different situations of different countries.

Another aspect is the fact that some countries that applied Structural Adjustment Programs (SAPs), slackened on the long term. Also, the countries that were at a good level for starters did not improve much, while those countries that started out at a very low stage demonstrated improvement. Most of the countries that demonstrated improvements were already on the way to improvement before the structural adjustments were launched. Therefore, these reforms cannot be attributed to structural adjustment in and of itself.

All the pitfalls of previous policies must be avoided and more in depth policies need to be formulated based on special studies on each country separately, if the stated objectives of the World Bank were to be addressed. "A Political Economy of the Middle East" points out how structural adjustment is not necessarily for the good of the country as it tries to implement austerity measures which will probably, in the future, lead to social up rise that will take place as a reaction to the policies affecting the poor which are basically placed below the living standards pointed out as the minimum in UN Human Rights Documents.

Suzan George, in “Faith and Credit” explains why the World Bank uses structural adjustment as a condition for receiving aid. It is basically to force governments to improve on their economic performance. The question posed by the World Bank is more of why did the countries go beyond their financial capacities? If countries decide to borrow from the Bank, the Bank has to ensure debt repayment. This could be a valid point, so long as the World Bank makes enough studies on the countries they are forcing to undergo SAPs, and cater policies that suit the borrower country, as a Japanese agency once noted “different conditions of different countries have to be taken into account.”

The SAPs did not achieve their objectives in the countries they were applied to. It is specifically mentioned, “Between 1973 and 1988 the growth rate is significantly reduced in IMF program countries relative to the change in non-program countries. The average annual growth rate over 1980-7 is 2% for the weak adjusters, 3.5% for the non-adjusters and -0.5% for the strong adjusters. Could the conclusion be clearer?”

The World Bank formally was established to enhance private foreign investment; nevertheless, the informal aim of the establishment of the World Bank and the IMF is to “integrate countries into the capitalist world economy” (Danaher, 1994). Although the World Bank’s mandate is to reduce poverty, however in reality the World Bank has been directed towards pulling vulnerable states to be part of a global economy ruled by Multinational Corporations (MNCs).

In her book, Patricia Adams focused on the question of the legality of the loans, as they are given under the name of poverty reduction, for the people, however, they tend to adversely, whether directly or indirectly, affect those precisely targeted people with no legal responsibility towards them. Such debts are considered “Odious”. Odious debts are those loans given to governments without the endorsement of their populations and when those debts are not directed towards clear and lawful targets.

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14 An analogy presented in a table in Richard, 1996
15 JICA
16 From a UNECA report of 1989.
17 The Doctrine of Odious Debts: Patricia Adams; Director of PROBE International, Toronto
The method in which the policies of the World Bank and the IMF were designed was to aid countries in their debt repayment. This method entailed that the resources of the countries receiving the aid are relocated to the accounts of developed countries bankers (Budhoo, 1994). Countries receiving aid have witnessed an aggravation of its previous status, such as higher rates of infant mortality and unemployment. Both Institutions do not demand those countries to reduce their military budget in order to ensure that the intended development policies are imposed. Although the World Bank and IMF continue to claim that their development policies are the road to better economic state of Third World countries, still there is a constant weakening of Third World economies who do implement those policies\(^\text{18}\).

Among those “Structural Adjustment” reforms imposed by the World Bank and IMF is privatizing state owned assets and service companies as well as increase prices for agricultural goods, and promote free markets, although those “Structural Adjustment” policies have over and over again proven to be a failure. For example in Sub Saharan Africa, the consequences of Structural Adjustment on thirty governments have had acute effects on the poor (Mekhaimar & Hegazy, 1996). Those effects have been characterized by the United Nations Secretary General’s report “Critical Economic Situation in Africa: United Nations Program of Action for African Economy Recovery and Development” in 1988 as having severely affected the most vulnerable sectors of the society, such as women, children, the elderly and the disabled. Moreover, those policies, although in essence targeted debt reduction, still Africa’s debt doubled after applying those policies in the early nineties than it was in the early eighties. Countries who experienced high growth, such as some Asian economies of Japan, China and South Korea have applied highly “state-directed economies”. Martin Khor, Third World Network Director, describes the IMF/World Bank role as a continuation of the colonial powers’ role concerning trade and economy.

“Structural Adjustment Programs (SAPs) are designed to reduce consumption in developing countries and to redirect resources to manufacturing exports for the repayment of debt” (Budhoo, 1994). In 1980s, the IMF/World Bank’s conditionalities

\(^{18}\) Kevin Danaher, in 50 years is enough, 1994.
for recipient countries have imposed cutbacks on education and health expenditures as stated by the UN Economic Commission for Africa, according to Davison Budhoo. When examining the United Nations Children’s Fund (UNICEF) records, United Nations Economic Commission for Africa and UNDP figures, it is appalling to note that as a result of failed programs imposed by the IMF and the World Bank and after the SAPs, since the early eighties mortality rates among children annually was estimated to be six million, more than a billion people live far beneath poverty lines and far beneath minimum humane standards of life, higher unemployment rates, and a widening of the gap between the prosperous and the impoverished. Those are mere examples and are not at all an exhaustive list of the negative effects of SAPs (Budhoo, 1994).

However, the adverse effect resulting in grave conditions of those debts of the South will inevitably affect the North either directly or indirectly. In order for debtor countries to pay off their debts, countries foster policies that are considered mere tools for debt repayment. Such policies include an intensified level of exports, as well as a reduction in social expenditure. Nevertheless, those policies have not yielded any improvements in the situation; on the contrary the debt situation has worsened. Susan George, author of “the Debt Boomerang” and other Third World Debt and World Bank related books, considers that there are six main debt boomerangs that affect both the North and the South. Those boomerangs are:

1- The Environment:
In order for indebted countries to pay their debts, exploitation of natural resources in ways that intensify global warming, which has adverse effects on both the North and the South.

2- Drugs:
Illegal international drug trade for certain Latin American countries such as Bolivia, Peru and Colombia has been a major tool for debt repayment.

3- Taxes:

Budhoo is a resigned IMF economist, also the Executive Director of the Bretton Woods Reform.
Taxes have been used by Northern Governments to give their Banks tax concessions to reduce debts of the borrowing countries, however, this method did not lower the actual debts.

4-Unemployment:
“Lost exports” as a result of the debt burden of the Third World countries, is among the reasons of unemployment in the North, as fewer goods are manufactured than those had the Third World been not as indebted as they currently are. Less exports signifies less employment in the North.

5-Immigration:
The influx of immigrants from the South to the North in order to escape a worsening economic situation in their home countries, as a result of IMF imposed policies.

6-Conflict:
Debt can lead to instability and provoke conflict that can affect both the South as well as the North.

There is a suggestion\(^{20}\) that SAPs should have the following embedded:
1-A broad framework and not a standard for all countries to provide flexibility and suit the different conditions of each country
2-Simple methods of implementation, rather than complex methods leading to a worsening of the situation
3-Adjustment with long term plans.
4-Involve people and not just elite policy makers
SAPs should answer the following questions:
 a-What are they adjusting to? (To a financial crisis or to a system of reform entailing diverse productive capacity-long term development and not merely balancing budgets)

\(^{20}\) Movement (BWRM)
\(^{20}\) African Alternative Framework to Structural Adjustment, UN Economic Commission for Africa (pp 169-178)
b. What are they adjusting? What aspects of life? (Domestic systems of government-nature of public sector-education-the know how-natural wealth-financial wealth-goods and services)

c-How to adjust? (to improve human welfare-public expenditure to satisfy people’s needs-institutional support for adjustment with transformation)

d-For whom and by whom (popular participation-for the majority of the people-access of the poor to products-employment opportunities-sharing of wealth, improving incomes and distribution)?

b. Description of the World Bank Water Policy

The World Bank’s water strategy provides a guideline for the World Bank’s participation and funding of water projects, on the national and regional levels:

1-A coordinated system that reflects an understanding between the government and all water activities.

2-The water management activities should include an assessment of the existing database and water availability for each activity as well as the suggested system of legislation. It is also necessary that stakeholders be part of the water management.

3-The national strategies have to be congruent with the regional and international strategies.

4-Assessment of the effects of water management is to be carried out in a certain sector on the environment and the beneficiaries.

5-Agreement between the basins riparians regarding surface water as well as groundwater. This is a necessity for development assistance for resolving river disputes.

The World Bank based its strategy on demand management, and used water pricing as a means of applying this strategy. There are two principles used:

The first: the consumer should pay for the real price of the good/service.

The second: the polluter pays.

21 Mekheimer & Hegazy, 1997
“Effective Implementation: Key to Development Impact” is a report prepared by Willi Wapenhans. This report surveyed around 1,800 World Bank projects in 113 countries. Results shown in this report included that more than a third of the World Bank projects in 1991 failed, and that another third that were still being implemented in the same year were problematic. The water supply and sanitation, and agricultural sector were the projects most gravely affected of more than 40% of such projects had many impediments (Micheals, 2002).

Among the misconceptions that used to prevail is that water is a free resource. However, with the increasing demand and the intensifying scarcity, it is becoming more and more an economic good. If a resource, so elementary and essential to the livelihood of human beings, becomes an economic good, then it basically means that it will be available to those who can economically afford to acquire it. Those who can afford to purchase this resource will be able to purchase it, while it will not be available to those of limited economical ability (Andersen & Snyder, 1997). Many scientific and political writings since the 1950s have been pointing at a real problem in potable (fresh) water, especially in some areas of the world, namely the Arab and Middle Eastern regions (Mekhaimer & Hegazy, 1990). This escalating problem of water scarcity forecasts other eminent conflicts. Those conflicts are resulting from disputes over the enjoyment of sovereignty over current available scarce water resources against the seizure of the limited water resources from those who rightfully and legally own them by virtue of the fact that those resources fall within their sovereign territories (Markaz Al Derasat Al Istrategia Wa Al Behouth Wa Al Tawthiq, 1996).

The most fundamental problem lies within the realm of the inverse proportionality of the scarcity of fresh water, and increasing world population, as well as the inequitable distribution of the water resources worldwide. Moreover, the uneven use of water per household varies drastically from one country to the other. The most apparent example to demonstrate that is the United States average household consumption reaches seventy times more the average in African countries in general (Star & Stoll, 1985).

23 Taken from “World Bank Failures Soar to 37.5% of Completed Projects in 1991”; Pratap Catterjee
When presenting the notion of pricing water, the expected effect will be that the countries who have water resources running within their own territory will be using water as an international good which is sold to the countries that can afford to buy it. The problem with this idea is, the mere fact that if countries share a common International Water Course, like for example Egypt, Sudan and Ethiopia\(^{24}\), decide to sell the water to other (non riparian) countries, it might lead to an extreme violation of the rights of the lower riparian states. It might deprive lower riparians of their access to water under the claim that it is the sovereign right of upper riparians to make use of their sovereign resources in any fashion that this country deems beneficial to its own goals\(^{25}\), regardless of other riparian rights involved.

Biswa\(^{26}\) outlined some realities, stating that:
1-It is quite likely that pricing water will become a reality worldwide.
2-Technology will be more able to utilize groundwater, and this can provide another resource that can supply more water, so while water pricing spreads, there will be more of a drive for more research concerning more technology for extracting groundwater.
3-The two previous factors are directly linked to more private sector involvement in water management that can be carried out via the World Bank.

Investment is needed not only for the management and development of water, but also for wastewater treatment and desalination, modernization associated with environmental, social and economic procedures for ensuring a return on the investment (Ayab, 1996). Since many previous World Bank projects have proven to

\(^{24}\) During a mission to the Occupied Territories and Israel, the author of this paper had an informal interview with a professor at the History Department at Tel Aviv University, and it was brought to the attention of the author the real close ties and financial support between Israel and Ethiopia. Considering the Political fragility of the region, it is not a far-fetched assumption that if water scarcity poses a danger to Israel, that Ethiopia can sell its waters to Israel, and this can have dire effect on the lower riparian states, Sudan and Egypt. This is just a hypothesis.

\(^{25}\) President Mubarak of Egypt’s proposal on feeding Nile Water into Palestine and Jordan, instead of flowing to the Mediterranean Sea was very welcomed by Arafat. But upper riparian states (especially Ethiopia) will want Israel to receive Nile Water as well, which fire up new flames of disputes. (In the Egyptian Newspaper Al Ahrarn, 7/4/2001, by Anis Mansour)

\(^{26}\) Water crisis; Current Perceptions and Future Realities, Asit K. Biswas (Member IWRA, Third World Center for Water Management, Mexico City, Mexico), water international, December 1999, Vol 24, No. 4
be failures at least in terms of their social impact, therefore, there was a reduction in funding water projects, however, World Bank investment in this sector is quite essential for avoiding an exacerbated water crisis in the 21st Century.

The OED evaluations of the World Bank Water Policy is concerned with the period from 1988-1999, with analyzing hundreds of water projects completed during this period. In 1993, due to the previous lack of a guideline or a policy to outline projects related to water, the World Bank 1993 Policy had to provide those two essential, but missing ingredients from the World Bank water related projects (Ma'alum, 1996). Further on, some case studies address the lope wholes in the 1993 Policy. The missing guideline and policy had led to the Bank to ignore the environmental factor as well as poverty considerations for sustainable development in order to respond to demands of the better off sectors of those societies. In order for the World Bank to recover the costs of such water projects, tariffs and privatization policies had to be imposed (Hussein, 1997). In the countries where such projects were needed, the rate of poverty was quite remarkable, so by imposing such charges, the economic state of the lower segments of the society worsened.

Realizing water scarcity, recipient countries were requested to implement many changes regarding water, such as better water management, policy reform and better planning. In the World Bank Water Strategy of 1993, as well as OED report, there was an apparent need for a comprehensive as well as country-specific strategy. The strategy embedded certain targets, such as utilizing water as a tool for enhancing the economic, social and environmental structure continuously. Another target is to decentralize and combine public and private investment in water (Gerster, 1994). The focus of the 1993 Strategy is to:

- "Build institutional and regulatory capacity in borrower countries sufficient to enable borrowers to implement and sustain the comprehensive approach to water-sector planning and management.
- Support international cooperation on management and use of international waterways and bodies, recognizing that a truly comprehensive approach to water-

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resource management extends beyond the borders of individual borrowers and beyond the timeframe of individual projects.

- Draw on the comparative advantages of organizations outside the Bank and involve stakeholders in decisions that affect them. Decentralization, participation, and partnerships are key instruments to increase stakeholder ownership and accountability, build capacity, and ultimately lower the cost and improve the effectiveness of operations, maintenance, safeguards, and monitoring and evaluation.

- Adopt water rights, pricing, and incentives (including adoption of new technologies and managerial approaches) to encourage rational and efficient allocation of water among competing uses, discourage waste, and ensure adequate water services.

- Ensure that water operations enhance human and natural environments with special attention to safeguards, social impacts (particularly on women), and meeting the needs of the poor.” (The World Bank Water Strategy, 1993)

The complexity of water reform was an obstacle to the full implementation of the core of the 1993 Strategy (Dolatyar & Gray, 2000). In addition, even though the Bank’s mandate is to alleviate poverty, still not enough time has been given for evaluating how to implement policies of water reform in a way that does not worsen the state of the poor. As will be mentioned in the Kenya case study, the construction of dams affects the flow of water, leading to harming the interests of farmers and herders. More often than not, studies that analyze the different users of water were not an important component of the water projects of the Bank.

Cost recovery through privatization has a potential of achieving its objective of cost recovery, but it still affects the vulnerable segments more and more. Water pricing is at the core of the 1993 Strategy, based on the fact that resources that are not priced correctly are usually wasted (Krishna, 1995). However, it is quite difficult to put a price on an essential natural resource that has been treated as a free resource by most developing countries and subsidized by their governments (The OED report). A possible way out is to balance between the water price and cost recovery without pressuring the poor combined with reallocating its uses. Management on a regional
level of a Transboundary river is quite a challenge, in order to overcome this challenge, institutional capacity building combined with good governance might be a step closer. Internally, the World Bank needs to be more organized as it is a massive bureaucracy without the ability to coordinate among its departments, so as a leading institution of such projects, the World Bank has to start reforming its internal fragmented structure. This is evident to also outsiders to the Bank. Internal conflicts over aspects of the policy make the policy seem frail.

This OED report provides certain recommendations for the improvement of the set up and application of the policy. The recommendations can be summarized in the following points:

1-Incorporate both social and environmental issues into project execution. This entails connecting poverty strategies to an assessment of project affects on the level of poverty, ensuring the accessibility of the poor to the water. Economic instruments are the cores to sustainability, so special attention in project formulation needs to address those instruments. Implementing safeguard policies is also as important as it is an aspect regularly ignored in the face of escalating project costs.

2-The full implementation of the strategy and its objectives can take place through a set up of the Bank resources as well as effective targeted partnerships. Modifying the Bank strategy to suit the specifics of each country and each river basin, with procedures and good practice notes attached. Redirecting capacity building to proper management.

3-Develop a wide-ranging management partnerships with entities that share the same objectives towards an integrated river basin plan. Analyses of the thin line between private and public investment in a way that best suits the consumers.

c. **Conditionality**

Conditionality is aimed at guaranteeing that a contract is carried out. Accordingly, since International Financial Institutions grant governments, rather than individuals, then those institutions cannot sue the recipient countries or take over

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physical assets from those countries in the case that the country is unable to reimburse the loan (Krishna, 1995). The only means of assuring repayment is to try and apply a policy reform that is expected to improve the economic condition of the recipients and ensure the payment of the debt. Conditionality is the core of the World Bank/IMF projects. Where the IMF conditionality provides that in the case that there is forecast of failure, the lender can be warned and the loan can be discontinued. However, the restrictions imposed by the IMF are quite debatable in terms of their inauspicious effects on the recipients (Mosley, Harrigan & Toye, 1991). While the World Bank has its own conditionality that used to be for the same objective as that of the IMF, recently, since the 1980s, its purpose has differed. The World Bank’s conditionality, which has a longer-term scrutiny period than the IMF’s, is more of a means to “enable the borrower to remove what the lender sees as fundamental policy-induced obstacles to economic growth”.

There are different categories for conditionality and there are differences between the World Bank conditionality and the IMF conditionality that causes the receiving country to be perplexed (Mosley, Harrigan & Toye, 1991). The IMF is usually directed towards performance indicators and accordingly the IMF discontinues the loan if the indicators demonstrate a negative result with no bargaining involved. While the World Bank does not follow the same route, as in the case that a country falls short of a positive indicator, reiteration of the intent of the borrowing country can provide for more chance for that country to implement those changes. Developing countries are not always aware of whose conditionality they failed to comply with. Additionally, experts from both Organizations could give contradictory recommendations depending on the policy reform or conditionality they are aiming to implement, as both institutions have different objectives with policies that could be fundamentally different and could be incompatible with the other’s policies. Over the past twenty or more years, there were many attempts to reconcile the Bank and the Fund’s methods for policy modification of the recipient countries (Mosley, Harrigan & Toye, 1991).

Many writers have argued both points of view. First that the Bank’s conditionality is usually executed and is enforceable in nature on the recipient and usually harms the recipients. Others argue that such conditionality has shared benefits
for both parties. However, the World Bank conditionality goes through different stages labeled "a game", as described in Volume One of Aid and Power by Mosley, Harrigan and Toye, as both arguments for and against the Bank are not plausible enough as it is evident that not all conditionality has actually been implemented. In addition to that, if the conditionality is for the favor of both the recipient and the lender, then the recipients will be the first to implement them in order to improve their own economic status.

The "game" is divided into three acts. An agreement between the donor and recipient on the terms of the loan, and payment of the first part of the loan, followed by Act 2, the implementation on the side of the recipient, the extent to which the recipient is willing to implement. Act three is either a continuation of the loan or a cessation, based on Act 2, the implementation of the recipient. During the first and third Acts, the loan might not be granted, or the recipients may not accept the conditions. The importance of such a division is the fact that the donor in Act three can use discontinuation of the loan as a threat to force the recipient to apply the conditions attached to the agreement. The extend to which the donor allows the recipient to slip below the expected outcome is the allowed slippage that the recipient will use in order to either elongate the time it takes to implement a condition or to apply it only partially. Therefore, the donor uses a termination of the loan as a threat to deter the recipient from slippage. (Mosley, Harrigan & Toye, 1991)

d. Selected case studies

The effect of privatization in Brazil is that the government sold the most productive state owned companies to private companies at very low prices. The experience of Japan and the United States while industrializing was economy protection. An economy with capitalism is at its center and has a main purpose of producing more and more, is an economy that is harmful to the environment. In this section two case studies, Ghana and Kenya are mentioned in detail, as well as some indicators from policies in other countries.

i. A general overview of the scale of privatization of the World Bank/IMF

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29 Brazil: Drowning in debt Marcos Arruda, interviewed by Multinational Monitor (pp 44-50) Coordinator of the Institute of Alternative policies for the Southern Cone of Latin America.
The IMF introduced the Poverty Reduction & Growth Facility (PRGF) scheme in the 1999. In principle, loans negotiated under the PRGF were supposed to resolve the dilemma of the IMF conditionality that in some ways impose impossible cost recovery terms on the borrowing countries, however research done on twelve of those countries proved that this reform has led to water privatization as well as more cost recovery, which has a diverse effect on the countries involved, already suffering from poverty.

The IMF being the pinnacle of International Financial Institutions (IFCs), makes its conditionality quite momentous (Shalaby, 1997). Adding to that the fact that when a country conform with the IMF conditionality or "seal of approval", it is then considered by other sources of credit and investment as well as other financial institutions down the scale from the IMF. The "cross conditionality", for example, between the IMF and the World Bank is the best illustration of such a relationship, where the World Bank is responsible for such concerns as those of privatization. Wherever the World Bank is involved, normally IMF conditionality is always a parallel part, or the determining agent, of the World Bank's part of the projects revealed in the execution details that can lead to the mandatory streamlining.

The following are excerpts from the above mentioned twelve projects where privatization can be easily marked as a means of verifying how the IMF conditionality, which goes hand in hand with the World Bank implementation details.

In Angola, under the staff monitored program, modification of water tariffs occasionally was the center of the means to recover costs.

In Benin, under the above-mentioned PRGF, the policy induced was privatizing both water and electric power company (SBEE), privatization was to take place before the third quarter of 2001.

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31 Also available at www.imf.org
Guinea-Bissau, the post conflict policy dictated a transfer of electricity and water management to private company.

Honduras, under PRGF, private concessions in the provision of water and sewage services were indicated, law approved in December 2000.

Nicaragua, PRGF adjusts water and sewage tariffs to achieve cost recovery and offer concessions for private management in key regions.

Niger, PRGF lead to a privatization of the four largest government enterprises (water, telecommunication, electricity & petroleum) as an agreement with the World Bank in order for the proceeds to directly pay Niger’s debt.

Panama, Overhaul the water company’s billing and accounting systems, allow it to contract with private sector operators, review the tariff structure.

Rwanda, PRGF, Electrogaz, the water and electricity company will be put under private management as a prelude to its privatization that started in June 2001.

Sao Tome and Principe, PRGF, in May 2000 a study assisted by the World Bank was done for a selection of alternatives for the future of the water and electricity company (restructuring, leasing, concession, or full privatization)

Senegal, PRGF, encourage the involvement of the private sector operators in the water sector. Assess the possibility of private sector operation and financing of the infrastructure required to meet Dakar’s long-term water needs.

Tanzania, PRGF, assign the assets of Dar es Salaam Water and Sewage Authority (DAWASA) to private management companies.

Yemen, PRGF, implement formulas for automatic adjustments in tariff rates to ensure full pass through of product prices and full cost recovery; establish regional water authorities with private sector participation and independence to set regional tariff structures.
The World Bank loan conditions have also increased cost recovery requirements for water services imposed in loans to Tanzania, Mozambique and Uganda.

Bolivia: Water and sewage systems have been privatized, with the minimum wage of less than $65 a month, many of the poor paid of $20 or more for water alone.

Ghana: Downsizing and privatization of water and sewage systems

Honduras: 2000-2002 Privatizing water and sewage systems

Malawi: In 1997, a plan for privatization by 2004 of the Blantyre Water Board32

Privatization has been among the main features of World Bank agricultural projects in the past two decades in over 180 operations from Argentina to Zimbabwe33. Privatization has been increasingly a main condition for Structural Adjustment Loans. The UNDP has criticized this condition as a tool for multinational corporations to gain access to previously government owned enterprises at very low prices (El Sherbini, 1997). The World Bank’s argument is that although the immediate result of privatization is a worsening of the state of the poor segment of the society are the most adversely affected by such policies, still on the long term it will lead to poverty reduction and an economic development (Avery, 1994). As the UNDP states, “the long-term objectives of privatization may be to increase economic growth and human development, but the immediate effects (on human development) have been traumatic.”

In 1986, Mexico implemented a large scale privatization program under the auspices of the World Bank, however, this program has not fulfilled its intended ambitions as it was merely a transfer of monopoly from the public to the private sector as Carlos Heredia, an ex-deputy direct of international economics in Mexico’s Ministry of Finance and currently a director of a Mexican NGO (Avery, 1994). Privatization in Mexico has achieved two main objectives; enhancement of the fiscal situation of the new government, and demonstrated the government’s commitment to the private sector. However, other objectives such as improving efficiency and


33 Stealing from the State; Natalie Avery (pp 95-101)
quality of the services and the abolition of monopoly were not achieved. Still this is not taken into the World Bank's account of the program, on the contrary, the econometric model used to analyze the program is based on winners and losers. In this particular case, the consumers were worse off according to Ahmed Galal, a World Bank economist and also the Manager of one of Mexico's largest privatization projects, Telmex.

With all the previously criticized World Bank Policy of privatization, specially by the UNDP, still the World Bank is carrying out more pressure on countries to apply privatization on the World Bank's conditions. The aims and objectives of privatization as well as its target groups is a main determinant of whether a privatization policy is to succeed or fail (Abu Zeid, 2000).

In 1989, the United Nations Economic Commission for Africa (ECA) release a report entitled "African Alternative Framework to Structural Adjustment Programs for Socio-Economic Recovery" (AAFSAP). This report was quite critical of the SAPs of the IMF and World Bank "the substitution of the profitability criterion for the social welfare criterion in vital areas such as water supply in a continent where the majority of the population has no access to potable water." For a developing country to be open for private foreign investment, while forming a dependency on exports, as well as privatizing its main public companies, "structural adjustment ensures that these countries stay enslaved to the industrialized world" (Editorial: Brutal Banking, 1990). The ECA, in contradiction to the World Bank, deemed self-sufficiency, decreasing single-commodity export dependence and a diverse product capacity as more reliable methods of growth. The main focus of the report also called for more balance on different levels; public and private sectors, decision making base, military and social expenditures, and balancing income distribution. What both the World Bank and the ECA are missing is grassroots' development and participation. The author of this article believes that real structural adjustment has to start from the bottom to the top through a participatory mechanism, however, the author believes that it is quite a

34 Same as previous
35 The Egyptian Minister of Irrigation & Water Irrigatoin
37 Nancy E. Wright is a former research associate for the United Nations and a former consultant for the United Nations
difficult change to bring about and that without such a change, SAPs will remain far from their objective of development (Wright, 1990).

ii. Kenya’s Tana River Projects:38

The World Bank had funded conflicting projects on the Tana River. The result of those projects led to major ecological and social problems. The projects are the Kiambere hydroelectric dam and the Bura Irrigation project, upstream, and a biodiversity protection project downstream. The upstream projects are part of the Energy and Agriculture Divisions and the downstream biodiversity project is part of the Global Environment Facility. The World Bank, being a vast bureaucratic organization, has little coordination, which is a deficiency in institutionalization between its departments, as well as poor planning. As a result, the upstream projects had severe effects on the downstream environmental project.

While the World Bank requested that the Tarda conduct an Environmental Impact Assessment for the Kiambere hydroelectric dam, and resettlement issues came up, the Bank’s Energy Division did not decide not to push this aspect. As a probable result, a social survey took place three years after the EIA was conducted, after the dam construction was done. Displacement reached six thousand people, which far exceeds the initial calculations, without a resettlement plan, nor timetables nor evaluation of the adequacy of compensation.39 Neither has the electrical power generated by the dam benefited the lives of the local populations in near by villages. The Bank resettlement policy violations are not uncommon, as the World Bank’s reports outline.

The second project, the Bura irrigation project, exceeded its calculated costs, while social, health, forest and wild life protection components had been canceled, as the project costs escalated, consequently evergreen floodplain forests were destroyed. In addition to that, water has become major problematic issue as it was served through a muddy irrigation reservoir. The settlers became dependant on food stamps. The

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Bura project has resulted in a hindrance to the Kenyan economy with high interest rates, as it was a non-concessional loan, to be repaid in foreign currency. The best means of generating foreign currency is through exporting such items as flowers to the European markets, while the local populations suffer. This project lacked technical studies, and the conducted studies were marginalized.

The third and conflicting project, the Tana River Primate Reserve project, funded by the Global Environment Facility (GEF), entailed a restriction on the Pokomo villagers from approaching the fields, for the purpose of protecting the forest ecosystem, namely the monkeys. History shows that the Pokomo brought and lived peacefully with the monkeys hundreds of years ago. The monkeys exist in bigger numbers near the villages rather than deserted forests. The villagers have been gravely affected by the two other projects, the Kiambere and the Bura projects as they reduced the river floods. Protection of such an ecosystem required cooperation with the local populations rather than creating restrictions and harming the populations for the sake of protecting the monkeys. The missing component from this project is people’s involvement in protecting the monkeys, rather than preferring one over the other. The Bank had put the responsibility on the Kenyan government as well, however taking the fact that without the Bank’s funding, neither one of those projects would have been carried out. Also, Kenya, being a poor country, does not have the technical nor administrative capacity to conduct EIA studies, while its government wants to commence those projects. In addition to that, although the Bank has reformed many of its policies to incorporate the environment, still this was not implemented in most of its projects as when the project cost exceeds expectations, the environmental and social components are discarded to make up to free up more funding. EIAs should not be utilized as a legitimizing arm for projects, on the contrary, they should be employed as real assessments that can restrict the implementation of projects, or else they serve no purpose.

The Wapenhans report points out how “there is a built-in bias against small-scale, long-term endeavors that emphasize community participation and local knowledge in managing natural resources.” Have this bias be reverted, SAPs and other projects might have a better chance of serving their objective for sustainable poverty alleviation an improving the economy of developing countries, while the Bank’s preference for large-scale, capital-intensive projects complements the desires
of top government officials, as higher investments give way to more political power\textsuperscript{40}. Long-term projects based on environmental protection as well as applying a sustainable self-reliant economic system that includes grassroots participation can lead to more real success for the Bank’s projects, rather than either superficial success or failure.

iii. Ghana’s loan:

Sara Grusky\textsuperscript{41}, in her article to Multinational Monitor, discussed many facets to the World Bank/IMF water privatization loan conditionality. Towards mid 2001, the World Bank granted an SAP loan for Ghana. Among the stipulated conditions was a drastic increase on water tariffs for the purpose of cost recovery, with the rational that foreign private investors need a system where the consumers pay for all related expenses and profits (Grusky, 2001). Water privatization is a structural benchmark for the IMF’s evaluation and assessment of projects, and part of the performance criteria on which the continuation of loan disbursement depends. This has raised a campaign against the World Bank requesting that Ghanaians have the right to use clean, reasonably priced water. The income of employed Ghanaians on the average is lower than one United States Dollar. An increase in the price of the water buckets can be quite devastating for the employed Ghanaians, let alone the substantial number of the unemployed, which can consequently lead to less marketability of the water, and to a decrease in the use of clean water, leading to devastating health conditions as well as forcing families to prioritize between water, food, education and their health. This conditionality is not new to World Bank/IMF projects entailing water privatization as a quick method for debt recovery and for enticing foreign/private investment. There is a vicious cycle where the World Bank/IMF want to ensure debt repayment through privatization in order to ensure cost recovery, however, developing countries populations cannot afford higher prices for services as their average income is quite low.

\textsuperscript{40} "Water Privatization in Ghana: Government and World Bank Policies." \textit{Issue Briefings} 2001, September 2001

\textsuperscript{41} Sara Grusky is co-director of the Globalization Challenge Initiative, which supports citizen’s groups in developing countries struggling against undue interference from foreign donors and creditors, particularly the IMF and World Bank.
The World Bank/IMF rationale for water pricing is that it can enlarge the public's access to clean water and sanitation. World Bank officials commented; "We advise and assist countries in developing regulatory frameworks and in designing viable, clean transactions that reconcile the interests of investors and consumers, and recognize the needs of the poor." The infrastructure of developing countries is flawed in the sense that not all people are connected on a water piping system, and as a result, unconnected populations resort to paying a fee for tanker trucks, which is higher than the fees for piped water, and when tanker trucks are unaffordable, they resort to rivers and lakes, that are not necessarily clean or safe (Sara Grusky, 2001).

Grusky also mentions that John Briscoe, the head of the World Bank’s global water unit, points to the fact that the government subsidizes water and takes the entire financial burden on its shoulders. This leads to the fact that the government is unable to afford servicing the water pipes, or improving the water system infrastructure or extending it to all areas. Here, the vicious circle starts, if water privatization and price reform are carried out, this means that the poorer sectors of the society will still be unable to afford water and directly related services and goods, such as food. Also, if the populace cannot afford to buy the water, they will either cut down on their use or try to access free unhealthy water. The World Health Organization (WHO) has reported millions of deaths caused by unsafe water related diseases. The use of the poor of polluted rivers, as a result of water privatization, has also lead to an outbreak of cholera and killed thousands in South Africa, which is economically in a much better shape than Ghana and other African countries. This has also occurred in Latin America. How can the gap between water pricing and the poor be mended? How can the necessary water reforms be implemented in a way that does not harm vulnerable populations? Private investment can ensure safer water if the projects are carried out correctly, but in order for private investment to ensure safety, prices have to increase. Possibilities can include decentralized community/municipal partnerships, government subsidies with improved financial schemes as well as grassroots participation in managing water. In many countries, including Bolivia and Ghana, campaigns against such policies took place, but not necessarily achieving their objectives. (Grusky, 2001)

III. The Nile: (annex I: map for information on the Nile Basin Countries)

a. Background

The Nile River has so many distinctive features, such as the fact that it’s the World’s longest river system. Moreover, it flows through ten countries, each with different climates, which led the Nile’s hydrological nature to be an intricate one.43

Towards the end of the nineteenth century, two of the occupying powers at that time, Italy and Great Britain bilaterally acting on behalf of Ethiopia and Egypt respectively, agreed not to construct any dams on Atbara, a major tributary of the Nile "any work which might sensibly modify its flow into the Nile." (Shihata, 1998) Ethiopia later, at the turn of the Twentieth Century, made the same agreement with Great Britain but concerning the Blue Nile, Lake Tana or the Sobat. Four years later, France, Great Britain and Italy made a similar agreement, specifically to safeguard the interests of Great Britain and Egypt on the Nile Basin and not to conduct any activities that could affect the flow of the Nile (Adly, 1996). The following is an excerpt of the "Arrangement concernant l'Abyssinie"

... "se concerteraient pour sauvegarder: (a) les intérêts de la Grande Bretagne et de l'Egypte dans le bassin du Nil, et plus spécialement en ce qui concerne la réglementation des eaux de ce fleuve et de ses affluents ..."

A similar agreement was conducted with the then under Belgian control, the Congo Free State in the same year.

A few years later, in 1929, the Nile Water Agreement was administrated between Egypt and Great Britain. This agreement was one of the foundations of the concept of "natural and historical rights" of Egypt over almost 50 billion m$^3$, while the Sudan was granted two billion m$^3$. Moreover, the agreement gave Egypt rights to conduct studies over the Nile; while Great Britain guaranteed that none of the territories (Uganda, Kenya and Tanzania, and Anglo-Egyptian Sudan) under its control can precede with any Nile related projects unless Egypt approves, and provided that such territories would also assist in such studies.44 A positive sign in

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43 RIPARIAN ISSUES: The Nile Regime by Ibrahim F.I. Shihata; 01/09/1998
Another agreement was concluded in 1934 between Great Britain and Belgium, for Tanganika and Rwanda respectively regarding the return of the flow of the Kajira River, used for generating electricity, to the river flow (El Rashidy, 1994). Other agreements were conducted between Egypt and Great Britain to regulate the Owen reservoir in Uganda in 1949.

The Aswan Dam raised tension between Sudan and Egypt to reach military confrontation towards the end of the 1950s. Sudan as well ignored the 1929 agreement and raised the Sennar Dam. Fortunately, the new Sudanese regime signed an agreement in 1959 for full utilization of the Nile. The intended Aswan high dam in 1959 was thought to save over twenty billion m$^3$ to be divided as two thirds for Aswan and one third for Egypt, with the 1929 Agreement as their reference, which did not lead to concrete conflicts with other riparians, still Ethiopia affirmed that it is not obligated under the earlier two agreements of 1902 and 1906. Moreover, Ethiopia declared that the 1959 agreement should not affect its share to the Nile waters, however there was no reserve in this agreement regarding any of the upstream riparians. Anonymous source: In the 1970s, the Aswan Dam was finished; also many cooperative agreements took place. Among which is the Jonglei Canal Scheme.

Egypt endeavored to set up a cooperative framework (the Undogo) among Nile riparians for a more efficient use of the Nile waters in the 1980s. Ethiopia maintained an observer status. Only certain objectives were outlined, with no other accomplishment developed. Because of the Nile, Egypt has a major interest in Ethiopia, Uganda and Zaire. Egypt has always been alert to the Ethiopian intentions to construct dams (Bulloch & Darwish, 1993).

Although in 1993, Egypt and Ethiopia agreed to have a cooperative framework to ensure that whatever activities either party proceeds with will not affect the interests of the other, still in 1997 “Ethiopia sent a note verbale to Egypt, copied to the Bank, protesting the carrying out in Egypt of new projects utilizing the Nile
waters.” Egypt invited Ethiopia to discuss its complaints, even though Egypt claimed that it was only utilizing its share of water under the 1992 agreement.

In 1993, the Council of Ministers (COM) was formed when six of the Nile riparians (Egypt, Sudan, Rwanda, Tanzania, Uganda and Zaire) signed an agreement to develop the utilization of the Nile waters. COM formed a “Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE).” While the four other riparian states, Ethiopia, Kenya, Burundi and Eritrea favored to be observers only.

Two years later, the Canadian International Development Agency and the United Nations Development Program (UNDP) supported TECCONILE to develop a Nile River Basin Action Plan, which included over twenty projects, among which was one for forming a cooperative framework for managing the Nile basin.

The Egyptian Deputy Prime Minister, also the chairman of the Council of Ministers (COM) called for the World Bank to initialize a process of donor support for the Nile Basin Action Plan in 1997 with the support of UNDP and CIDA. This process including a review of the Nile Basin Action Plan using criteria set by the Bank and approved by COM, with selected projects accordingly as well as introducing the findings to COM, and a Consultative Group to attempt to mobilize the financial support for the projects.

It has been noticed that the Ethiopian position has always been disinclined to be involved in a cooperative framework in the Nile, mainly because it has always retained that its share of the Nile waters is not equitable. Although only a small part of Ethiopia is low enough to use the Nile waters for irrigation, still Ethiopia has shown more interest in the use of the Nile water in generating electricity.  

Ethiopia’s policies over the past two decades and more, in addition to the military advisors, agricultural and irrigation experts delegated by Israel have escalated

45 RIPARIAN ISSUES: The Nile Regime by Ibrahim F.I. Shihata; 01/09/1998
46 Memorandum from Mr. Ibrahim F.I. Shihata to James D. Wolfensohn, dated January 9, 1998
tension between Egypt and Ethiopia to an extent whereby Egypt considered an African military action to protect the Nile flow. However, after Sadat’s assassination Egypt, called for the coordination of the Undogo group in order to discuss the Nile and all related issues such as the problems and methods of cooperation. “Cooperation between African countries is essential in order to make the best use of the Nile River,” As Dr. Boutros Ghali commented in a 1989 conference in Cairo.

b. Issues

Ethiopia stated its intention to construct two dams on the Nile as a result of the population explosion, drought and tight economic condition, which led to a confrontation with Egypt as a result of the water situation with Egypt. However, the real political motive that underlies this statement is Ethiopian concern about the governing system in Sudan (El Tahry, 1991). Also, Egypt received information that Ethiopia disapproves the enlargement of Egypt’s share in the Nile waters, so that Egypt will cease to request more and more water as a result of agricultural expansion. Ethiopia has applied a water strategy that ranges between a threat and a phase of negotiation, to control the Nile waters in the future (Godana, 1985). Ethiopia always asserts its objection to Egyptian construction of the High Dam. Ethiopia always reaffirms Egypt’s weak geopolitical location as it happened in the United Nations Conference in Laplata, 1977, and in Lagos Economic Summit, 1980. During the United Nations Conference for Less Developed Countries, 1981 Ethiopia had officially criticized Egypt and Sudan’s division of the Nile waters among them both without the consultation of any of other Nile riparians, who contribute more water to the Nile than Egypt or Sudan (Khalil, 1998).

In June of 1996, Ethiopia signed a contract with a French Company to design a project for a new Dam for generation of hydroelectric power. Later, the World Bank approved the construction of two Dams after the approval of the Ethiopian Parliament (Kheider, 1997). Ethiopia did not abide by its Agreement with Egypt of 1991, about the use of the Nile waters, cooperation and consultation in projects with common benefits, with a duty not to cause harm based on International Law Principles.
While Ethiopia initiated those projects, Egypt decided to peacefully deal with the issues involved. Egypt requested clarifications about Ethiopia’s intended projects. Then Egypt submitted a copy of the Treaty of 1902 to the World Bank in order for all involved parties would abide by the legal conditions set out in the Treaty. This is the third request presented by Egypt to the World Bank relating to the issue of funding Ethiopian projects (Sharma, 1996).

Egypt called for a meeting of all Arab Ministers of Irrigation in order to take a collective decision against the proposal that was presented to the United Nations relating to the modification of International Treaties relating to River Waters.

Egypt has made development plans in Sinai and other regions within Egypt, however Egypt planned to make use of recycled treated water ground water, and the Nile’s surface water as well as cutting down on water consumption through awareness campaigns, without having to affect its share of the Nile waters.

There is no Treaty concerning the effects of Ethiopia’s construction of Dams on the Nile waters on Egypt’s share of the Nile. This can be viewed from two perspectives. First perspective is that Ethiopia’s use of the Nile water cannot affect Egypt’s share because of its legal obligations based on the International Agreements for water regulation, like the Protocol of 1891 between Britain and Italy which identifies the areas of influence for both colonial powers in Eastern Africa and with an obligation that none of the Italian Government projects will not affect the flow of the Nile to Egypt (Teclaff, 1997). In 1902, the Agreement between England and Ethiopia entails a commitment by the Ethiopian King to the British Government not to cause any obstruction to the flow of the Nile into Egypt, unless previously approved by the British government and Sudanese Egyptian Government. The official exchange of notes in 1925 between the Italy and Britain also reaffirm the first perspective where the Italian government acknowledges Egypt and Sudan’s water rights to the White and Blue Niles and guarantees not to construct any projects on the upper Nile, which can obstruct or affect the flow to either country. Naturally those Agreements/Treaties are binding from a legal perspective. According to International Law, Treaties are not limited to a current government but are binding by the countries themselves. Ethiopia’s topographic nature allows for the natural flow of the Nile to the down
stream countries. Also, the Ethiopian interests in the Nile are quite different from those of Egypt.

The second perspective is that the Ethiopian projects might actually affect Egypt in two directions. First in the case that all proposed projects on the Blue Nile are completed, then there is a projected decline of the flow of the Blue Nile water by almost 8.5%. What backs up this argument is that when one of the Dams on the Blue Nile was constructed, Fincha Barrage on the Blue Nile, the Nile waters declined by half a billion m$^3$ annually (Khassawneh, 1995). Ethiopia intends to use those dams for the generation of Hydroelectricity at a capacity that far exceeds the capacity of the Egyptian High Dam. There is a probability that Ethiopia might also benefit from this project by selling electrical power to neighboring African countries.

A common river is not only affected by water scarcity or wasteful use, but also in the political relations between its riparians, which is a main determinant of a potential scenario for a conflict over the river water or a potential framework for a cooperative use of the river water (Dellapenna, 1995). At the same time, Transboundary water related tension could cause the political relations among riparians to worsen$^{47}$.

Therefore, settlement of disputes or tensions between riparians should be a core for possible cooperation among riparians for the use of river water. One element cannot be functional without the other. Water and Political disputes among riparians are two sides to the same coin, and once they are settled under a legal framework, then there is more potential for a sustained success of peaceful allocation of the water resource.

There is a continuous projected drop of the share of water per person in the Arab countries as a whole and in African countries in specific. For example, Sudan’s share per person, declined from 892 m$^3$ in 1990 to 424 m$^3$ in 2025.

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The River Nile is considered one of the oldest rivers in the world. It extends to approximately 670 Km from its source in Central Africa where it first originates from Kagera, Burundi, and its stream is called Kagera (including Kagera River and Luferonozza), then it goes to Lake Victoria where its stream is now called Victoria Nile till Lake Albert in Uganda (Swain, 1997). From Lake Albert, the Nile takes the name Nile Albert till it reaches Sudan at Mongala, then its name then becomes Al Gabal river, till Malakal, Sudan, where three important Tributaries merge into the River Nile, where the Sobat Tributary, from Ethiopia receives four other tributaries, and then it continues to Khartoum as the White Nile, and at Khartoum it receives another major tributary, 'Atbara' from Ethiopia. Then it continues its stream as the "Nile" and after Cairo it splits into Rosetta and Damietta till it reaches the Mediterranean Sea, where it drops (Scudder & Wilde, 1994). Therefore it is possible to say that the River Nile is an International River as its stream goes across Burundi, Rwanda, Eriteria, Kenya, Uganda, Zaire, Tanzania, Egypt, Ethiopia, and Sudan.

Ethiopia has always claimed that previous Agreements are no longer legally binding as they were made by colonial powers, and not by the free will of the countries under occupation (Frey, 1993). In other words, those agreements have expired just as colonialism ended and cannot extend after those countries have been freed from the colonial powers. This claim brings up certain issues regarding its legality under International Law regarding the Law of Succession of Treaties. It is normal that the regional developments in a country affect its position in certain issues and its sovereignty. Such developments can lead to important consequences, due to conflict of interests. The Laws that have been recognized as custom have been codified in two main International Treaties; The Succession of States in 1978, and the Treaty of Succession of countries in issues relating to money, archives, and debts in 1983. Regional developments vary from a cooperative framework or a union, to a division, also the independence of an occupied region. The main issue is the continuity of Treaties under regional developments. In the case that Treaties are not succeeding, then how will this affect the other countries that are party to a Treaty with

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48 "Succession of states" refers to the fact of replacement of one state by another in the responsibility for the international relations of the territory.

a country whose government changed? The problem lies in the inconsistency of opinions regarding this issue. Some legal experts consider that for a Treaty to succeed from one government to the next, or from a colonizing power to the newly independent country, it has to be with the absolute free will of the new government or state and not involuntarily enforced on the new state. Others reject the idea of instituting a general rule regarding this issue, but more of a case-by-case approach. Other experts prefer to use the aim of the treaty as a yardstick for deciding on the issue of its succession.

The Vienna Convention on the Law of Treaties for 1969 and 1986 concerning Treaties between countries and Treaties concluded by International Organizations states that a Treaty does not extend or pass on to third party (Henkin, 1993). However, can a succeeding country or government be considered another? Or does a new government or state inherit all from the previous government including Treaties?

There are two types of Treaties, one of individuals, or subjective (in peronam), meaning that the individuals signing the Treaty are the main concern of the signature of the Treaty. Meaning that this personality is the core of the Treaty and a reason for its application, for example Treaties of Friendship and Reciprocal Representation. The other type of Treaties is the objective treaty, in rem, concerns Treaties regulating regional issues, such as boundary related Treaties and use of common rivers and lakes (Henkin, 1993). Individual Treaties are limited to the individual government. Treaties regarding regional issues are not affected by regional developments that take place during the succession of governments.

The ILC concluded the lack of a general rule that is applicable to all Treaties and all conditions regarding International Succession (Weston, 1980). The Treaty of 1978 concerning the Succession of countries in Treaties, were Article 11 stated that Succession does not affect the obligations set out in a Treaty regarding a boundary system. The Vienna Convention on the Law of Treaties of 1969 states in Article 62 that core changes in conditions does not terminate boundary treaties (El Morr, 1995). Therefore, a newly free state cannot terminate previous treaties concluded by the previous governments. Article 12 of the 1978 Treaty, concerned the Law of Succession states that Succession of countries does not affect the obligations of the
use of any region if stated by a Treaty regarding any state that is adjoined to other regions. (This applies to the Treaties mentioned in the chronology of the Nile). Although some of the previous Nile riparian Treaties were concluded by the occupying powers, still since those treaties concerned obligations that are regional and geographic in nature, and the protection of the rights of the Egypt and Sudan to a continuous unaffected flow of the Nile, therefore those treaties are not to be affected by the succession of a previous colonizing government to a newly free government (Storer, 1995). The only means of modifying such a Treaty is through the formulation of a new Treaty with the endorsement of the countries that are part to the previous treaty. Therefore, Egypt has brought to the attention of the World Bank the previously signed Agreements between Egypt and Ethiopia, especially that of 1902 while the World Bank considers financing Ethiopia’s intended dams without the consent of Egypt and Sudan (Krishna, 1995).

The current tension between Nile Basin countries and the use of its waters is analyzed through; the Egyptian Sudanese disputes and the disputes with upper stream countries.

c. The Egyptian Sudanese disputes:

The problem arises from the lack of investment of shared Nile resources, and not from the waters’ scarcity. With the permanent irrigation methods, the issue of Nile water distribution was brought up, where Britain informed Egypt in 1913 its intention to construct the Sennar Storage Dam to use it for the farming purposes. Egypt feared possible effects of this project on the amounts of water that reaches Egypt (Hegazy, 1996). The Egyptian stance has led to the British government to search for the best means for full control over the Nile Waters and guaranteeing the future water needs of Egypt and Sudan. The 1929 Agreement instituted a model for the regulation of the Nile waters for the benefit of both the Egypt and Sudanese populations. This Agreement was said to be a political agreement meant to give Britain the right to use the water of the Nile to seek revenge from Sudan for the murder of Sir Lee Stack, a leader of the Egyptian Army and the general governor of Sudan. However, this Treaty was sure to be a regulatory treaty for historical and natural laws.
Although with the independence of Sudan in 1956, the Treaty of 1929 was rejected by the newly independent Sudan, and was considered by Sudan as non-binding, as from a Sudanese perspective the 1929 Treaty was no more than a political settlement with an entity other than Sudan itself and without its approval. Accordingly, it’s a unilateral agreement and not a bilateral agreement. Moreover, the 1929 treaty awards Egypt the right to Veto and the hydrological control on the Nile basin, and all basin projects, and therefore, it does not take into consideration Sudanese interests. Consequently, Sudan later objected to construction of the Egyptian High Dam. Thus, Egypt opposed Sudanese proposal of the construction of a number of small dams on the Nile. In 1958, boundary clashes over Halayeb was brought into the attention of the Security Council by Sudan. Tension continued to escalate until later in the same year when a coup took over Sudanese government led by General Abboud, who declared a closing of the artificial gap between Sudan and Egypt, and so an agreement was reached in 1959 for the full utilization of the Nile waters, known as the Treaty of 1959. The 1959 Treaty is a good example of good sharing of a common resource based on sound scientific grounds on the concept of compatibility rather then competition or domination for either party.

d. Disputes with upper stream riparians:

Upper stream riparians, and in particular Ethiopia, in times of tension, tend to deem the idea that they have absolute sovereignty over the Nile waters, and what is left of their use, can then go to the down stream riparians. In view of that, Ethiopia presented its claims to the UN Conference for Developing Countries in 1981, stating that it is not party to any agreement regarding water division and that accordingly, it reserves its rights to the full access and use of Nile water, and construction of dams as it deems necessary for its future projects. Following that, Ethiopia initiated its plans of constructing the Fincha Barrage, as well as conducting studies of three other projects. Those four projects, if carried out, can affect the flow of water into Egypt of up to 7 billion m$^3$ annually.

The 1959 Treaty between Egypt and Sudan received criticism based on two levels; the International Law does not accept acquired rights or the permanence of one country over an International River, also that the Ethiopian government has clarified to Egypt and Sudan that it intends to use its lawful share of the Nile waters and that it
is ready to negotiate with all the Nile basin countries for an equitable distribution of the Nile waters.

**Uganda:**

Located within the basin, with lakes Victoria, Kyoga, Albert, Edward and George in it, Uganda tends to be among the riparians mostly interested in cooperation schemes, and also has the role of facilitating dispute resolution among riparians. Uganda is also implementing a decentralized system of management for the Environment. Uganda believes that a cooperative system of management of the Nile could be a step towards poverty alleviation and a chance for an overall development opportunity for all Nile Basin countries (Moyini).

**Kenya:**

Kenya contributes to the Nile water because of six tributaries that discharge into Lake Victoria, still two thirds of Kenyan land is arid or semi-arid, thus any development projects for Kenya have to include water transfer and use in agricultural reform programs. Since the independence of the Nile Basin countries, no agreements regarding the use of the Nile waters was signed, and even the 1959 agreement between Egypt and Sudan was signed as all the other agreements in the absence of Kenya, or preceding the independence of those countries, therefore such Agreements are not binding. A possible division of interests can accordingly be drawn, Kenya and Tanzania on one side and Egypt and Sudan on the other. Egypt was not concerned with the interests of upper stream riparians, but had been merely concerned with Sudan, neither had Egypt consulted the upper riparians, with the exception of Uganda in the case of the Owen Falls. With the independence of Kenya, it granted Egypt a two year grace period allowing the application of the Treaty of 1929, with reciprocity, and after the lapse of the grace period, all previous Agreements that Kenya was not part of were considered void to Kenya starting in 1965. Kenya can use the rivers that discharge into Lake Victoria, and this will suffice Kenya, and this can affect Egypt's share to the Nile waters.

**Tanzania:**

50 Uganda's Role in the Use and Management of River Nile – A Transboundary Regional Resource, Dr. Yakobo Movini. A paper submitted at a Nile Basin Committee meeting, 2000

51 according to the opinion of Dr. Odidi Okidi, Dean of the faculty of Environmental Studies, Moi University, Kenya.
This makes it imperative for a cooperative framework between Kenya and Egypt in order to benefit both. This also applies to the case of Tanzania as it also has its own development plans, such as the "Smith Sound" project. Tanzania officially declared the 1929 inconsistent with Tanzania's independence, as this Treaty intended to limit the freedom of Tanzania by imposing a condition of receiving Egypt's approval before implementing any irrigation or electrical power projects on Lake Victoria and its tributaries. Tanzania also gave Egypt a two-year grace period till the Treaty is annulled, for preparation of the institutionalization of new conditions approved by both countries. Egypt insisted on the validity of the 1929 Treaty.

**Zaire, Rwanda and Burundi:**

Zaire and Rwanda and Burundi have development plans, as well as water policies, still it is difficult to judge their future water needs, even though it is clear that all three will need more water shares with their population increase.

**Zionist ambition in the Nile Waters:**

Indirect ambitions: Israel aspires to have a share of the Egyptian share of the Nile waters as well as Sudan's share. Thus, in 1989-1990 news spread that 400 Israeli experts arrived to Ethiopia to assist Ethiopia in the construction of dams, as well as more news of a spread of Zionist influence in other Nile riparians. Despite the official disclaimer of such news by the concerned capitals from Addis Ababa to Cairo to Tel Aviv about the extent to which there is an Israeli role at the Nile sources, still this have not yet been proven\(^52\). There are, however, some news given by Arab and International media as well as local reports concerning this issue.

In July 1991, a report of the Arab Affairs Committee at the Egyptian People's Assembly stated that Israel assisted the government of Addis Ababa when their relations with Egypt deteriorated, and it is now carrying out six dams on the Nile sources, which directly affects Egypt's share of water (Blier, 1997). The motive behind the Israeli involvement with Ethiopia, from the point of view of Egyptian media, is to decrease the flow of the Nile waters to Egypt and Sudan as a tool to pressure both countries.

The future:

\(^{52}\) "Nile Water to Israel?—Part Two."

42
Although there are some conflicts that escalate every now and then among Nile riparians, still such conflicts do not reflect a conflict of interests regarding the issue of water, since most water conflicts involved mainly political conflicts. This was clearly demonstrated when Sadat announced the possibility that Egypt can supply Israel with the Nile water. Despite the fact that this announcement was just a negotiation tool to tempt Israel to accept the Peace Accords, still Ethiopia objected that Egypt is abusing its share of the Nile waters. Therefore, Ethiopia presented a complaint to the African Unity Organization in the 1980s.

The Egyptian previous United Nations Secretary General predicted that the next Middle East war "will be over the waters of the Nile, not politics."

e-The Law

When the UN Charter on Human Rights was founded, it outlined in numerous articles what was assumed then as a human right that people could be deprived of under certain conditions such as dictatorship, war, ethnic cleansing, and even under peaceful conditions. Such rights included the right to food and shelter and an adequate standard of living. Although food and water are two sides of the same coin, there was no mention back then of water as a human right. The reasons underlying that are numerous. Among which, the abundance of water, while there was no awareness that even if it is abundant, it is still scarce. Also the fact that water was presumably the main component of any human right, as without it; there is no human life. As time progressed, it became clearer and clearer that water is no longer just a right underlying all rights, and could be also derived from other rights, but also it became evident that the expected war of the new millennium will be a water war. Stemming from the right to water is the right to Health, to food and to all daily basic human activities.

The Universal Declaration of Human Rights was laid down in 1948, and it advocated such concepts as dignity, equality, all kinds of freedom, the right to life, etc. Article included the right t "a standard of living adequate for the health and well-being of himself... including food..." There is no mentioning anywhere in the

http://www.jce.apc.org/desip/WilNile2.html (September 1997)
Universal Declaration of Human Rights of a right to water. Since the right to water is such a right that is the basis of all other rights, then it could be taken for granted that as long as there is human life, then there is water that preserves this life. It is the inseparable part of all the other rights. If a human being is deprived of water, he is also deprived of food, good health, the ability to exercise any freedom, and moreover, the right to life in itself.

Taking that into consideration, water is basically a human right, even though it is not overtly mentioned, but is inferred. Water in that case is not a derivative right; it is a basic right that is in no need of mentioning as an obvious right that underlies all other rights and is the base to all other rights (Lein, 2000).

So the Universal Declaration did not fail to mention water, however has highly stressed it by stressing other rights that are inseparable from water. When a resource becomes a mean so basic to survival, it earns the state of a human right rather than a derived human right. The right to water is the right to life, then how could the right to life be considered a human right, while water is not. With the deteriorating state of water resources in the world, where only 3% of the water is potable, and only 0.8% of this 3% is accessible, water should be the equivalent of life. By giving water a human right status, we are basically giving effect to the right to life.

Why should the right to water be classified in a category by itself as a human right and not as a derived right? If water is a clear and identified human right, it becomes an obligation on each state to assure that it does not perform actions that would deprive any human beings, including its own citizens, of that right. When examining two dominant documents on Human Rights, being the International Covenant on Economic, Social and Cultural Rights and the International Covenant on Civil and Political Rights, water is not a prevalent element in either, however it is clearly the one and basic right that leads to the rights incorporated in those two...

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Human Rights Instruments. Article 6 of the International Covenant on Civil and Political Rights mainly focuses on the right to life. In order to achieve such a right, which is human life, water is the indispensable element for attaining and sustaining such a right, while the right to an adequate standard of living, contained in both the Declaration on Human Rights and the International Covenant on Economic, Social and Cultural Rights, is a more sophisticated form of the right to life.

Stepping back to a much more fundamental right than the right to an adequate standard of living, is the right to Health. The relationship between health and water is clear, when inspecting article 12 of the International Covenant on Economic, Social and Cultural Rights:

"1- The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

2- The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for:

...  
(c) The prevention, treatment and control of epidemic, endemic, occupational and other diseases;"

Since water is important for hygiene, lack of it increases the spreading of diseases and epidemics, specially in warmer regions, like Africa for example. Furthermore, Article 2 of the same Covenant calls for the obligation of the member states to ensure the application of the articles included in the Covenant. When assessing and analyzing many International Instruments, such as, the Declaration on Human Rights, the Covenants, to the end of the other Human Rights related Principles, it is undoubtedly clear that the right to water underlies all the rights encompassed in those instruments. This applies even if not mentioned clearly as "clean/safe drinking water."

55 Israel ratified this Convention in 1991.
The UN Convention on the Law of Non-Navigational Uses of International Watercourses\textsuperscript{56}, 1997, refers to water as a “vital human needs,” which outweighs the use of water for other purposes, including development.

I-The Right to Natural Resources\textsuperscript{57};

The Universal Declaration of Human Rights, 1948:

The General Assembly proclaims this Universal Declaration of Human Rights as a common standard of achievement for all peoples and all nations. This is in order to achieve that every individual and every organ of society, is keeping this Declaration constantly in mind, ... to secure their universal and effective recognition and observance, both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction.\textsuperscript{58}

Article 3
Everyone has the right to life, liberty and the security of person.

Article 21
(2) Everyone has the right of equal access to public service in his country.

Article 25
(1) Everyone has the right to a standard of living adequate for the health and well being of himself and his family, including food, clothing, housing and medical care and necessary social services...

\textsuperscript{56} Israel had not, for evident reasons, signed this convention. Still this convention provides grounds for Customary International Law. From the ruling of the Israeli Supreme Court “the right to water is substantive right... It does not have to be created by statute necessarily, but can be grounded on other foundations, such as agreement, custom, or any other manner.”

\textsuperscript{57} This aspect of the problem is discussed at later parts of this document, concerning violations.

\textsuperscript{58} The reason for highlighting this part of both among the peoples of Member States themselves and among the peoples of territories under their jurisdiction is to emphasize how whether the relationship between Israel and Palestine is an occupier and an occupied territory, or as one territory falling under the rule of the Israeli state, either way it is still an obligation on the part of the Israeli government to ensure that the Palestinians have access to adequate water in terms of quality and quantity.
The UN regulations, principles and instruments delineate that citizen's rights are still protected even under occupation\textsuperscript{59}. The Hague Regulations Respecting the Laws and Customs of War on Land of 1907:

"23 (A) that it is forbidden to employ or poisoned weapons. This provision primarily relates to poisoning of wells serving the enemy. Article 54 (2) of the First Protocol of the Geneva Conventions, of 1977, prohibits attacking or destroying objects that are indispensable to the survival of the civilian population, and expressly prohibits attacking drinking water installations and irrigation works. Also, international practice indicates that water sources and installations are generally immune from attacks during war. The Hague Regulations impose certain limitations on the occupying state's use of requisitioned property, including limitations on the use of natural resources of the occupied area\textsuperscript{60}.

i. Upstream-downstream relations

The position of a downstream state compared to that of an upstream state is that of a vulnerable to a weak position, as the upstream can easily obstruct or affect the flow of water to the downstream state, whereas the contrary is not possible. However, as the river stream is longer, states can have a different position. States can be both an upstream to other states and downstream to others, if located along the middle of the river stream\textsuperscript{61}. Also, a state can be part of two different basins, where its location can also be different in reference to the river stream and to other riparians. As water scarcity is an issue of greater importance in the Middle East, being among the most arid zones of the world and the water resources are exploited, the Middle East and its downstream states are the most vulnerable. Adding more to this vulnerability, the sharing of river basins means that the downstream riparian is to some extend subject to the quality and quantity of water that the upstream supplies, as well as the major effects of the changeable climate of the basins in this region, like dry years and temperature fluctuations (Shaplan, 1995).

\textsuperscript{59} Please refer to the section on Belligerent Occupation for more details.
\textsuperscript{60} Position Paper July 2000 Jerusalem: Thirsty for a Solution: The Water Crisis in the Occupied Territories and its Resolution in the Final-Status Agreement. B'tselem The Israeli Center for Human Rights in the Occupied Territories.
\textsuperscript{61} Water in the Middle East; Legal, Political, and Commercial Implications. \textit{Policy Options for Downstream States in the Middle East}, Greg Shapland.
On a different level, politically the interstate relations among Middle Eastern countries are not ideal, to be more precise, hostility and lack of trust are among the main features that characterize the relations. Lack of or weak communication is another feature, as well as the presence of ineffective regional organizations that do not even include upstream countries, such as the Arab League that does not include Nile upstream Ethiopia (Al Zo‘eby, 1991).

Despite all the above, downstream countries nonetheless, have other mechanisms that they can apply in order to safeguard their water. Among those mechanisms are:

a-Initiating a framework of cooperation among riparians. In 1991, Sudan and Ethiopia signed an agreement not to cause harm to one another, and Ethiopia showed a more cooperative approach towards any initiatives of cooperation with other riparians.

b-thwart projects or plans intended by the upstream riparians. A good demonstration of this method is to use an International Organization for this mechanism, for instance when Sudan wanted to construct the Roseires Dam, while objecting Egypt’s construction of the High Dam, Egypt informed Sudan that Egypt can voice its rejection of the construction of the Roseires Dam to the World Bank, should Sudan continue to object to the construction of the High Dam.

Nonetheless, it is more beneficial for downstream riparians to choose a cooperative framework rather than the obstruction of projects for the upstream riparians, if only for the guarantee of a certain share of water annually. However, in the case of Egypt and Sudan, since both countries have been using most of the Nile water with a modest share to upstream riparians, it might not be for Egypt nor Sudan’s best benefit to arrange a cooperative framework or a treaty where by their use of water might be outlined and definitely might be much more limited that they have been getting without a formal agreement. In this case, it is easier for downstream riparians to block intended projects of upstream riparians and maintain a current favorable condition for their interests, rather then cooperate with the upstream riparians.

62 (Shaplan, 1995)
Treaties already exist on the Nile, the only problem is that most if not all have either been bilateral, like between Egypt and Sudan, or between colonial powers (the latter is discussed in another section of this paper). The bilateral type is not beneficial in a basin containing almost ten riparians. Also the Egypt and Sudan Treaties have been between two downstream riparians, which does not guarantee the position of the upstream riparians, for example Ethiopia that contributes most of the water pouring into Lake Nasser. A river system with multi-users should have a multilateral treaty framework. There are other means of cooperation, rather than formal agreements with water shares such means include data exchange, and the creation of an informal friendly environment.

Means of obstructing upstream riparians include: Diplomatic, legal, economic, subversive and military.

1-Diplomatic & legal means:

There are many Treaties and agreements, as well as exchange of notes among the Nile riparians or their colonizing states. The Treaties undertaken by colonizing states have gained rejection by the newly independent states, however there are other agreements that have been concluded by Nile riparians in the period following their independence.

ii. The UN Convention:

Also, reference can be made to the UN Convention of 1997 when needed, however, the articles of the Convention have some controversies and can serve the arguments of both upstream and downstream riparians. Absolute sovereignty and acquired/historical rights usually contradict in use among riparians, for instance. The framework of the 1997 Convention leaves room for much to be desired and a set of different self-interest based interpretations. However, it provides for more of an outline to provide premises for negotiating agreements tailored specifically to each basin.

Two indefinable terms used to reach more of a middle ground between absolute sovereignty and acquired/historic rights is "equitable utilization" and avoiding "appreciable harm".

The ICJ cannot consider cases unless parties to the case agree to accept its jurisdiction; also the issue of yielding sovereignty constitutes a block for states to resort to the International Court of Justice.
2-Financial constraint:

All Nile riparians are poor/developing countries, at different degrees. For any of those countries to construct a dam or implement a project, outside financing is essential. The main source of financing for such projects is the World Bank. The World Bank’s policy regarding financing such projects is to ensure the approval of all concerned riparians. A downstream veto cannot completely block a project in the case that the project is of essential necessity for the requesting country and that the project will not pose harm to the flow of the water to the other country. This mechanism is not always as powerful as it can be.

3-The military strategy:

Superiority of the military capabilities among riparians is the decisive factor for whether or not this strategy can be applied. Egypt has quite a strong military superiority in comparison to other poorer riparians; however, if Egypt resorts to such a strategy it will forsake its status as a peaceful country and will lose its position as the core of diplomacy among Middle Eastern countries. Also, when a military threat concerns water, it becomes a two edged weapon. A war over water is be a means of deterrence for both, the country being threatened and the country posing the threat itself.

The aforementioned methods are mainly for supply protection. There are other methods however, whereby the supply can increase, or utilized more efficiently. For the increase of supply, the use of other sources of water available within the boundaries of a riparian can reduce its dependency on the shared source. Also, desalination and importation of water might provide other solutions. When considering the Nile riparians and their economic status, it is difficult to visualize their ability to fund any of the latter options, save the assistance of an International Organization or a more affluent nation.

Controlling water consumption and a more efficient use of water can be other methods for protecting supply. Among the ideas is a shift from agricultural water use, to a domestic use. The problem with this approach is that it creates a dependency on food imports and it contradicts a possible self-sufficiency for the African countries, which pose an impediment the development process of those developing countries, and can make those countries more vulnerable and easily exposed to embargoes.
However, a better approach can be a more efficient use in the agricultural sector as well as apply more up to date technological methods of irrigation and agriculture can control water consumption and efficiency of use. In addition to technological methods, changes in the use can deem very beneficial. Such changes include irrigation by night, producing crops that are less water consuming and use of pipes rather than open channels.

The UN Convention of the Law of Non-Navigational Uses of International Watercourses, 1997:\(^{63}\)

In this section\(^{64}\), analysis of the most important segment of the UN Convention will be addressed. Those segments are the ones most relevant to the issues relating to the Nile region.

The Principle of Equitable Utilization:

The principle is more concerned with prioritizing the benefits incurred. This principle is one of the few principles that actually apply to groundwater. It also permits all riparian states to benefit from the water within their boundaries. This concept serves as a merger between the two fundamental principles to be mentioned successively in detail, as the interests of both upper and lower riparian states are taken into consideration. The priority is given to the need and the benefits acquired. The factors of geography, demography and others as outlined in the Helsinki Rules are taken into consideration. This principle leads to the sixth principle that this background paper is concerned with. It also deals with the share of the water to be used by each state. Factors to be considered when applying this rule are numerous, but among which are:

1.1. Natural factors (the environment and weather conditions as well as possible drought or evaporation of the water, the geographic location of the state and the water source, the flow of the river)

1.2. Changes in the usage of the river water by the riparian state, whether increasing due to population increase, or new projects utilizing the river water.

1.3. Historical uses of the water.

\(^{63}\) For the complete Articles of the Convention, refer to the annexed documents.

\(^{64}\) This section was done under the supervision of the Negotiations Support Unit to the Palestinian Authority, Ramallah, April 2001.
1.4. Other sources of water available in the region, and the rate of dependency on this watercourse.

Although the above-mentioned factors could be sufficient to prioritize the use of water in cases of conflicts, still a major problem with simply applying such factors is the mere fact that they cannot be efficiently calculated.

This is specially if the countries involved have either common historical or other rights to claim, as well as the fact that the watercourse is shared among poorer countries with heavy populations who have similar human needs to that of water. The most essential principle of the UN Convention of the Law of Non-Navigational Uses of International Watercourses of 1997 is by far this principle, the principle of equitable utilization. Article 5 specifically states the following:

"1- Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

2- Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the development thereof, as provided in the present Convention."

Article 6 then goes on to give a much deeper explanation of what is “equitable,” by taking into account the dynamics involved, including other water resources, politics and any other variables, including environmental factors, that can affect the equity of the use of the watercourse.

The reason for outlining this principle of Article 5 as the core of the 1997 Convention is that it is the Article that is most central for conflict resolution among States. This principle basically puts the limits on the use of territorial
sovereignty when it comes to natural resources. When interpreting this principle in term of International watercourses such as rivers and lakes, it is clearer for application than in the case of Groundwater. Article 2(a) states that a “watercourse is a system of surface waters and groundwater constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus.” Although the 1997 UN Convention has mentioned groundwater in the previously mentioned Article groundwater, still groundwater is still an issue that needs a lot of clarification. In order to clarify why the inclusion of groundwater is necessary, it is important to understand the importance of groundwater first of all, and how it is composed. In this section, the particular application of the UN Convention of 1997 on water and groundwater is discussed through the analysis of the principles involved.

Principle of Absolute Territorial Sovereignty:

This principle allows a state to have unlimited use of the international waters passing through its territory. In this instance, if the state’s use of its water has any effect on other riparian states, it is still its sovereign right and the other states receiving the water have the right to do the same, under no obligation to guarantee the quality or quantity of the water that will reach the other states. This should bring an obvious relevance to the Harmon Doctrine, which suggests that in the instance that there is no other law or custom to oblige a state to be limited in its uses of the Transboundary water that crosses its territory.

This concept, the Harmon Doctrine, was rejected in the Lake Lanoux case, as it was asserted that upper riparian states do not possess such rights as the rights of the lower riparian states should be taken into account, as the water flowing into their borders and their possible or customary use of it should be preserved, in the lack of a

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65 The listed factors in Article Six are not thorough though and are not prioritized. For the complete Articles of the Convention, refer to the Annexes.
66 For this particular information, refer to the section on Groundwater.
67 This principle, referred to as the Harmon Doctrine for the US attorney general who suggested this stance in 1895 regarding a dispute with Mexico over the Rio Grande, argues that a state has absolute rights to water flowing through its territory.
68 This doctrine was immediately rejected by Harmon’s successor and later officially repudiated by the US, was never implemented in any water treaty (with the rare exception of some internal tributaries of international waters). Was not invoked as a source for judgment in any international water legal ruling.
treaty or a project that is agreed upon by both states. Another aspect brought by the Harmon Doctrine was that efforts should be made in order to resolve such disputes.

**Principle of Absolute Territorial Integrity:**

This principle negates or opposes the previous one, as it gives more emphasis on the rights of the lower riparian states of having the water flow into their territories to be maintained at the same level and that the use of the lower riparian states of the water (the natural flow of the river) that passes by should not be affected by any projects or intentions of the upper riparian states. This principle, on the other hand allows the upper riparian states to have control over the water passing within their territories. Although this principle is more favorable among law makers, however it has an obvious preference for lower riparian states and does not offer a means of compensating upper riparian states for any projects, specifically developmental projects they might have to old back or annul in order to keeping the natural flow of Transboundary water into lower riparian states.

Limited Territorial Sovereignty\(^6\) is one of the main guiding principles of the use of International Water Resources. This Principle encompasses another set of rules that should be taken into account.

**Principle of Sic Utre Tuo Ut Alienum Non Laedas and the Obligation Not to Cause Appreciable Harm**

One of the major problems with the UN Convention is that the language use is quite vague and open for a multiplicity of interpretations. Such a principle as this third principle does not also specify clearly a definition of appreciable harm. However, in comparison to the first two mentioned principles, is more accepted. It is more of a mid way between both previous concepts. It gives the upper riparian state the right to use the water passing through its territory so long as there is no appreciable harm caused to other lower riparian states. This principle has gained a lot of acceptance and is used in many treaties.

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\(^6\) Principle 21 of the Stockholm Declaration of 1972 and other International Treaties as well.
In the Trail Smelter case, though it concerned Transboundary air pollution, was ruled that states do not possess the right to pollute, or cause appreciable harm into other states’ territories. Needless to mention, this principle is also applicable in all cases relating to Transboundary resources/pollution.

Harm is intended to be considerable, which is still not enough to identify how harmful should an upper riparian state actions inflict on lower riparian states to be considered “appreciable.” The only mention of an explicit description of appreciable harm is when it has a direct effect upon the health and economy or the environment of other riparian states. How much is the intended affect is not clear. It is pointed out in Article Ten of the Helsinki Rules, as “an injury is considered substantial if it materially interferes with or prevents a reasonable use of the water.”

Appreciable harm is applicable to both the quality and quantity of water, and used in a sustainable manner. In the recent years emphasis has been put on assessing the environmental needs that can allow the water source to sustain and this practice is usually referred to as Environmental Impact Assessment. The Harm caused to the water sources of one country has to be substantial and not caused by natural factors.

The Duty to Cooperate:
This principle encompasses both a duty to share the information and data regarding the river concerned, as well as notifying other riparian states of any intentions one state has regarding any changes in its use of water that might affect the water flowing into the other state. (The duty to cooperate should be in the form of river committees, this is demonstrated in the Nile Basin Initiative.) This duty to cooperate should, from a utopian point of view act as a tool for conflict prevention, especially in the case that state aims at instituting a project that might have effects on the flow of the water into other riparian states. Therefore, prior notification and the approval of other riparian states whose water flow will be affected; in that case the dam or the project intended could be approved.

The Principle of Peaceful Dispute Settlement:
Article 33 of the UN Charter implies negotiations and the application of conflict resolution mechanisms in order to resolve conflicts through peaceful means.
and negotiations rather than resolving to violent conflicts over the International Watercourse. The problem of using such a principle is that some states fear a danger to their own sovereignty.

**Principle of the Community of Interests:**

This principle is more of a way of formulating a concept of establishing a community of riparian states sharing the Transboundary resource within a specific scheme or system. This principle deals more with how to effectively use the river water in a way that will benefit all riparian states in the most efficient way possible. Unfortunately, in most cases, this concept is hard to apply specially if the states concerned already have years of wars and conflicts, as it is the case in the Jordan River Basin.

**Principles of Prior Notice and Good Faith Negotiation:**

An emphasis on the exchange of data on the use of the river water and prior notification to other states of any plans of developing or affecting the river water among riparian states. The communal states have a right to investigate and estimate whether such a project might have adverse effects on their own share of the river water. The principles number four and five are more of a development of each other, to lead to principle six. In order for this principle to be effective, a series of negotiations and good faith should be involved in order to bring it to effect, which is not always the case.

**Criteria for assessing water rights**

Rights-Based Criteria: Hydrography vs. Chronology

**Extreme Principles:**

The most evident examples of clashes resulting from arguing those two opposing concepts, is Egypt and Iraq, as lower riparian states have historically been using the river water as they are not benefiting from other sources such as rainfall or others. While on the other side of the coin, Ethiopia and Turkey are both arguing

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70 "Hydrography," i.e. from where a river or aquifer originated and how much of that territory falls within a certain state, or on "Chronology," i.e. who has been using the water the longest.
upper riparian positions of a hydrographical point of view as the river water originates and lies on their sovereign territories.

**Moderated Principles:**

The Principles of Absolute Territorial Integrity and Absolute Territorial Sovereignty have been addressed in the Lac Lanoux case. The “doctrine of limited territorial sovereignty” which came out of the ruling of the Lac Lanoux case is almost equivalent of the principles of “reasonable and equitable use,” and the obligation not to cause “significant harm.” The is basically states that upper riparian states have the right to use the river water lying within their territory, while maintaining a more or less natural flow of the river, unaffected by the use of the upper riparian. The 1997 Convention has not yet settled a distinction that sets a preference of one of the two over the other, and the limited sovereignty aimed at resolving that conflict, yet not specific or clear enough.

**Applications in the Middle East:**

With all the previously mentioned principles, doctrines and criteria, the main principle that is applied resolution, mostly in the Middle East, is Needs. Taking the agreements between Egypt and Sudan signed in 1929, due to the fact that Egypt has a larger population and extensive irrigation works, it was allocated a larger share of water. In 1959, Sudan and Egypt then divided future water from development equally aiming at resolving conflict. The nature of negotiations is the main reason behind that. Negotiations go through the following stages, as Amery & Wolf (2000), among others, point out:

“A- The adversarial stage, where each side defines its positions, or rights;
B- The reflexive stage, where the needs of each side bringing them to their positions is addressed; and
C- finally, to the integrative stage, where negotiators brainstorm together to address each side’s underlying interests. The negotiations here seem to follow this pattern from rights to needs and, occasionally, to interests. Where each negotiator may initially see him- or herself as Egyptian or Israeli or Indian, where the rights of one’s own country are paramount, over time one must empathize to some degree to notice

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71 Irrigable land, population, or the requirements of a specific project define “Needs.”
that even one’s enemy, be he or she Sudanese, Palestinian, or Pakistani, requires the same amount of water for the same use with the same methods as oneself.”

As mentioned before on the vagueness and conflicting nature of the UN Convention of 1997, if upper and lower riparian states argue on the basis of their rights granted by the UN Convention, then there will not be any means of determining whose rights are more prevalent, as the Convention did nothing except codify the status quo. However if needs are assessed referring to agricultural, developmental and population needs of each riparian, then it is easier to draw the line and grant each state its rightful amount based on its needs.

Often bilateral or multilateral international agreements on water management concentrate and require significant institutional building that many Middle East states do not consider as their primary concern which is arrangements to govern their Transboundary surface waters. However, Middle Eastern states have kept water and water facilities immune to direct conflicts, and have negotiated cooperative water arrangements, as they consider water as a critical resource.

International law practitioners have been unable to put into effect their doctrinal schemes of institutional management regarding Transboundary relations, because already formulated structures created by political actors were not taken into consideration. However, some models created by efforts of diplomats and international lawyers have succeeded, where as others needed adaptations to concentrate on the problems of Transboundary water management in the Middle East with an insight of building peaceful relations and trust with the region.

iii. Customary International Law of Transboundary Rivers

International law operates through customary rules consisting of the practices of states undertaken due to legal obligations that develop through a process of claim and counterclaim between states. These customary international laws include treaties or other international agreements, decisions voted upon in international assemblies or international courts or arbitrators or even unilateral actions of states.
Through legitimating claims and limitations, the customary international law empower international actors by circumscribing the claims they make in the presence of neutral enforcement mechanism.

The customary international law of Transboundary Waters

With regards to Transboundary waters, customary international law states that only riparian states- states across which, or through which, a river flows- have any legal right, absent of agreement, to use the water of a river. The uppermost-riparian states base their claims on 'absolute territorial sovereignty', claiming the right to do whatever they choose with the water regardless of other states. Contrary to downstream states who claim 'absolute integrity of the river', upper states can do nothing that affects the quantity or quality of water that flows down the watercourse. Such claims have allowed no prevailing solutions to such a problem.

'Restricted sovereignty' concept was found to be the most effective solution. Its theory states that each state recognizes the right of all riparian states to use some water from a common source and the obligation to manage their uses so as not to interfere with like uses in other riparian states. As such, the quantities of water are often defined according to a selected historic pattern of use. This theory has become the customary rule of international law in many treaties, international judicial and arbitral awards.

Pronouncements of international organizations

The best-known studies made on the customary international law of Transboundary Water Resources were made by the International Law Association. In 1954, the Association attempted to codify the law relating shared uses of international rivers, which resulted in the 'Helsinki Rules on the Uses of the Waters of International Rivers' in 1966, including all tributaries (as well as groundwater) and not only the primary international watercourse itself. The Helsinki Rules also comprised the concept of restricted sovereignty through adoption of 'equitable utilization' within a drainage basin.
This led to the development of what some consider as another principle governing the management of internationally shared water resources. The principle states that each nation not cause 'substantial damage' to the environment or the natural condition of the waters beyond the limits of the nation's jurisdiction. Section 601 of the Restatement (Third) of Foreign Relations Law also declares that states must take such measures as may be necessary, to the extent practicable under the circumstances, to avoid injury to neighboring states.

Treaties as Instruments for Managing Internationally Shared Water Resources

Even if interested riparian states agreed that the administration of shared waters requires sovereignty of each state to be limited to the water, there would still be dispute would still arise over the proper application and common standard which would lead to the Law of Vendetta. A diplomatic mechanism for proper investigation and resolution of the disputes distinctive of the restricted sovereignty theory need to be formed. The need to reach orderly and peaceful administration of the shared water resources have led nations towards a more restrictive model based upon 'community property' in the watercourse.

This model treats a water basin as a jointly developed and managed as a unit regardless of international borders, but with agreed sharing of the benefits of, and equitable participation in, that development and management, which is one of the guiding principles in the establishment of the Nile Basin Initiative.

Article 26

Management

1. Watercourse states shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism.

2. For the purpose of this article, 'management' refers, in particular to:

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Arrangements, Joseph Dellapenna


(a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted, and

(b) Otherwise promoting rational and optimal utilization, protection, and control of the watercourse.

Measures short of allocating the water between the states

Sharing of information about the uses of water in a factor that recognizes interrelationship between states. Such agreements are limited because sharing of such information become helpful when there is enough water available to satisfy all, or potential users. Determination of water uses during direct conflict cannot fall into the sharing of information as it does not prevent or resolve the conflicts between the users and their governments. Hence, information-sharing agreements have been designed to prevent direct conflicts between competing hydraulic projects. Therefore, no hydraulic project may be carried out without the consent of involved states.

Current studies have demonstrated that there is a potential that the Middle Eastern countries will require multiples of the currently available water resources to cover their basic water needs. Water is not only essential for domestic use and the production of food, but also for most economic purposes.

Since the early nineties, the International Law Commission (ILC) has adopted the draft articles for the Non-Navigational Uses of International Watercourses, and even prior to the UN Convention of 1997, the work of ILC was useful for the purposes of negotiation. In order for the Commission to resolve the dilemma of the differences among all rivers and regions world wide, a framework approach was applied. Although a framework approach provides more elasticity, however, its main criticism lies in this elasticity. There needs to be a legal code among which rights are measured, rather than a framework which provides different codes for different situations, a standard should be applied even though rivers are diverse in geographic locations and vary in all other factors affecting the nature of a river. The distinctive nature of politics involved could be a reason for the ILC to choose a framework approach. Countries enjoying an advantageous location or

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77 Draft Articles, Supra note 8, arts. 8, 26.
78 Allan, Mallat, ed. Water in the Middle East: Legal, Political and Commercial Implications, 1st ed. (Taurus Academic Studies, 1995)
79 Khassawneh, Awn; The international Law Commission and Middle East Waters (Allan, Mallat, 95)
military or economic power objected to a set of regulations that can be more confining in nature than would such a more flexible framework approach. The degree to which the articles of a Convention or an agreement are obligatory depends on their specificity.

iv. Law of the Nile

1- Treaties that Ethiopia abides by; and they are four Treaties:
   a- Protocol of 1891 between Britain and Italy
   b- The group of Treaties in Addis Ababa in 1902
   c- Exchange of notes between Britain and Italy in 1925, with the Italian government declaring the acquired rights of Egypt and Sudan over the waters of the Nile
   d- The Cairo Agreement signed by Mubarak of Egypt, and Milis Zenawy of Ethiopia, in 1993 for the development of sources of the Nile waters and the harmonization of the economic and political interests. Both parties agreed not to cause harm to the interests of the other party, and the responsiveness for beneficial projects for the implementation of comprehensive development projects. Both countries signed this treaty, unlike previous Treaties, as independent entities, so Ethiopia’s claim for previous Treaties as being void for having been signed by the colonizing powers does not apply to this Treaty. This Treaty signifies that Ethiopia acknowledges Egypt’s historical rights to the Nile waters, and it opens the door to more important and general Treaties for all the Nile Basin countries.

2- Treaties that are binding for Upper stream Countries:

   Upper Stream countries Zaire, Uganda, Kenya, Tanzania, Rwanda and Burundi respect historical and acquired rights of downstream riparians, and not to cause harm or obstructions to the downstream riparians projects, under the following treaties:
   a- 1906 Agreement between the Free Congo Government (currently Zaire) and Britain.
   b- 1929 between Egypt and Britain (on behalf of Sudan, Kenya, Tanzania and Uganda)
   c- London Treaty of 1934 between Britain (on behalf of Tanzania) and Belgium (on behalf of Rwanda and Burundi) regarding Kagera River.
d-Exchange of notes between Egypt and Britain (on behalf of Uganda) between the years 1949-1953 regarding the Owen Reservoir

3-Agreement between Egypt and Sudan:

1-1929 between Egypt and Britain (on behalf of Sudan, Kenya, Tanzania and Uganda) mainly exchange of notes between Egypt and Britain, stating that no projects are to be constructed on the Nile, which can affect the flow of the Nile waters to Egypt without the prior consent of Egypt. When Sudan became independent later on in the 1950s, it wanted to annul the 1929 Treaty based on the fact that it was made by the colonial powers for the interests of Egypt. However, even if it the Treaty was concluded for political reasons, under the Law of Succession, it should still be binding on both countries.

2-1959 between Egypt and Sudan.

This treaty required full cooperation between Egypt and Sudan for the construction of projects for the regulation of water and increasing the flow of the Nile for the sake of both countries. This Treaty proved that both Egypt and Sudan had an acquired right to the Nile waters even before gaining any other benefits from the new projects. The Treaty approved Egypt's construction of the High Dam and Sudan's construction of the Roseires Dam on the Blue Nile and any other projects it deemed necessary. Communal benefit of the High Dam and the net benefit from the High Dam were to be divided between the two countries in addition to their original share of the water. Compensation was to be paid to the inhabitants of the region that would be badly affected or relocated by the construction of the Dam. The Treaty also included many other levels of technical cooperation and support in other projects relating to a more efficient use of the Nile waters. Moreover, the Treaty incorporated articles relating to the relationship between the two governments concerning any research done between them and other riparians. This Treaty according to some academics concerns Egypt and Sudan’s the historic and acquired rights after the passage of water from Jongoli Channel. It is noteworthy that other riparians did not object to this Treaty, with the exception of Ethiopia. Ethiopia reaffirmed that any Treaty has to guarantee its rights to the Nile water, without any objection to the technical cooperation aspect of the Treaty.

The legal perspective for upstream states towards Nile Treaties:
One month after Sudan's independence in 1956, Ethiopia's government declared its full rights to the Nile waters in the future. Ethiopia sent this declaration to all Diplomatic Missions in Cairo, regardless of the needs of other riparians. When negotiations started between Egypt and Sudan in 1959, Ethiopia's government and the United States agreed to make a study concerning the resources of the Blue Nile in irrigation and hydroelectricity generation for the satisfaction of its own needs. The studies recommended that certain reservoirs can be made on the Blue Nile to satisfy the needs of Ethiopia, nevertheless, it also entailed that the annual flow of the Blue Nile will cease as a result of the construction of those reservoirs, which will reduce Sudan and Egypt's share of the Nile waters, therefore, Egypt insisted on the construction of the High Dam to guarantee its own reservoir of the Nile water, without the consultation of Ethiopia. Tension lasted between Egypt and Ethiopia till 1993, when the Cairo Agreement resolved the conflict.

During the African and Oriental Studies Conference, University of London, 1990, Dr. Zewdie Abate, and Ethiopian water expert, stated “the countries that have been benefiting from the Nile water should compensate those countries who have not been utilizing the water for the past decades.” The looser countries are mainly the upstream riparians who benefit by a very low percentage of the Nile waters. Not only had the Ethiopian perspective set its own rules on historical use of the Nile, but also in 1980 it announced that Ethiopia has the right to identify the stream of the river in the downstream riparians. The Ethiopian government announced that an International River boundaries lie at the extendable high areas, and that the Egyptian lands are plain till the Sinai Mountains, and this is what should be considered the borders of the Nile. Accordingly, Ethiopia objected to the establishment of the Peace Channel, as it should not exceed the Sinai Mountains to Port Arish. Ethiopian rationale was that the River water should be flowing naturally and not be mechanically pumped. However, this rational has ignored that historically, the Nile waters naturally extended to Arish, and that the technological advances have made some modifications to International Law.

The perspective of the Nile Equatorial riparians on the Nile Treaties

The principle that Tanzania cannot construct any projects without the approval of Egypt according to the Agreement of 1929, which Tanzania objected to as much as Ethiopia did was entitled the Nyerere Doctrine. When Egypt rejected the grace period
given by Tanzania, Tanzania annulled that agreement in 1964. When Kenya became independent, it also had a similar position as Tanzania, in 1965. Uganda also followed the Nyerere Doctrine on the day of its independence. Until now, the statements by the three countries acquired neither a political nor a legal stance. This was due to the fact that Egypt and Sudan’s shares have not been modified. Furthermore, none of these statements were brought to any International Court or Organization. Additionally, no political or technical disputes took place between any of those riparians. Egypt’s legal view is that since there has not been any new Treaty to annul the previous Treaty of 1929, and no further bilateral agreement was concluded between Egypt and the upstream riparians who declared the previous Treaty void. Egypt’s stance is based on the legal premises that no country can unilaterally annul or conclude a bilateral Treaty, and since Egypt did not react to the above mentioned declarations of the three newly, at the time, independent countries, then a new treaty had not been concluded.

However, when Sudan and Egypt signed the 1959 Treaty, the 1929 Agreement became void, and therefore the 1929 Agreement can only at this instance, the approval of all parties to the agreement, be considered void for all countries.

Egypt was only concerned with the interests of Sudan, and none of the other upstream riparians, with the exception of Uganda in the case of the Owen Falls. The Treaty of 1959 has significance as it is an unprecedented cooperative framework among Nile riparians, and presents a model for a proportional water distribution between Egypt and Sudan.

The Egyptian Legal Perspective and Egypt’s Role in instituting a cooperative framework between the basin states:

The division of the waters of any International River is considered to be of quite an importance. It is even considered a historical right, because it represents the base of the economic and social structure for the riparian countries. Any change in this division leads to a change in the economic and social state of those countries. This is considered a ground of International Law, which is binding to all parties. The Egyptian water rights that are outlined in previous agreements and treaties are acquired rights according to the rules of International Law. Egypt’s total dependency on the Nile throughout history is a base for International Law and Customary Law confirmed during the Vienna Convention of 1978, when Ethiopia resorted to the Law
of Succession to assert its border rights against Somalia's request. On the other hand, the nature of a shared basin rejects Ethiopia's claim that it has absolute sovereignty over the Nile water.

Egypt used the fact that while digging the Ismaelia Lake, there was no objection from any other Nile riparians, accordingly extending the Nile water to the Sinai Desert should not require a duty to inform the other riparians since it is within the same share of the Nile and not exceeding it.

The most important features of the Nile Treaty system are:

1-Since there are waterfalls and ponds and natural obstacles in the Nile stream, so navigation in the Nile is not its main benefit.

2-The Succession of States

3-The 1959 Treaty between Egypt and Sudan (a great model of cooperation), and the 1993 Cairo Treaty between Egypt and Ethiopia (an important treaty since Ethiopia, as an upstream country, provides 85% of the Nile waters) are considered the most important Treaties in the History of the Nile as they are concluded between independent states.

All those treaties gave more weight for acquired rights than any other rights. Each country can develop its use of its share without harming the other riparians, polluting the water nor blocking the share of another riparian. Accordingly the Nile has to be treated as a unit. There is no multinational treaty that incorporates all countries, however there are some sporadic Treaties that are binding to the Nile riparians separately. Therefore, there is a lack of basin wide cooperation outlining rights and obligations. The basin also lacks a regional organization to coordinate among countries and settle disputes.

Egyptian diplomatic efforts through the Undogo group:

African diplomacy has a continuous effort to bring the Nile basin countries into a cooperative framework. Egypt had managed to form the Undogo group, which in Swahili means brotherhood. The foreign Ministers of the Undogo group countries met seven times. The intended objectives of the Undogo group were:

1-Consultation and coordination

2-Support Cooperation in the field of development and confronting geographic and historical challenges

3-Exchange of expertise and perspectives
4-Cooperation on a bilateral and multilateral levels in the political, economic and technical fields

The legality of extending the Nile waters outside the basin countries

No country other than the basin countries can extend river waters to a country that is not part of the basin unless all basin countries give their consent. This is not likely and has no precedence. Israel had ambitions in the Nile water and attempted throughout a century to get a share of the Nile waters. Theodore Herzel presented a request to the British government in 1903 to extend a share of the Nile water to Sinai to make a home for the European Jews in Sinai. Britain approved and directed the project to the Egyptian Works Department, which completely rejected the project on legal, technical and economical grounds.

Israel did not cease its attempts, as after the visit of Sadat to Jerusalem, Israel presented the project of Peace Waters. Sadat did not have reasons to be against it. This request contradicted the Laws of the Egyptian Constitution and of International Law. Egypt has the right to use the water but Egypt does not have absolute sovereign rights over the water, and this is according to the previous Treaties and to the UN Convention of 1997. Connecting Israel with the Nile waters makes Israel a third party to the Nile, which was never stated in any of the Nile Treaties. According to the 1959 Treaty, if Egypt has excess water, then the basin countries have the right to it. This is because water distribution between Egypt and Sudan was based on real economic needs. The estimated share of water for Egypt and Sudan could be subject for change accordingly to the changes in the conditions of the Nile or the need of the two countries, and that in the case that any of the two countries is overly exploiting the Nile waters, or has a surplus, then it is the right of the other country to reconsider the agreement. Providing Israel with Nile waters is considered is an illegal act as it constitutes harm to the other riparians. The right of irtifaq\textsuperscript{80} to the whole river, means that if any riparian wants to use its share of the Nile waters for supply a non-basin country, it has to get the approval of all basin countries. Accordingly, Egypt does not have the right to supply Israel with its share of the water unless all riparians give their consent. Based on this commitment, Egypt consulted the Ethiopians about the most

\textsuperscript{80} A principle in Islam entailing that riparians of a river have the right to the whole river.
efficient use of the Nile waters. In addition, Israel requires a considerable amount of water, as it has been using the Jordan River and attempted at using the water unilaterally. Therefore, if Egypt supplied Israel with the Nile waters to the Naqab desert, then this represents a danger to Egypt’s share of water, which is not even sufficient for Egypt’s use alone. Moreover, if Egypt does supply Israel with the Nile waters, then it will be considered an acquired right and Egypt will not be able to later on cease to supply the water and this would have been considered a breaching on Egypt’s side of the Peace Accord. Since the Nile has been an African River over the past 70 million years, then an attempt to divert it towards Israel will be considered a shift of its natural African flow of the Nile to an Asian country. This affects the relations between the African countries and presents more danger to Egypt and the Arab countries’ security, as if Israel cultivated the desert, then it will settle immigrants as well as bring more and more immigrants which will present a threat to Egypt’s security.

From the perspective of the Egyptian Constitution concerning supplying Israel with water:

Extending the Nile water to Israel collides with the Egyptian Law:
1-This is considered an external decision related to security and can create a permanent state that cannot be reversed later. An external decision is either procedural (like choosing and ambassador for diplomatic representation) which provides the President with a limited freedom; or a decision regarding National Security, as extending the Nile waters to the Naqab desert, the President is merely a tool for execution and does not have the right make the decision himself.

2-The Egyptian Constitution distinguishes two types of Treaties:
a-Regular Treaties: The President has the right to unilaterally conclude such Treaties.
b-Treaties regarding Alliances, Trade and others, have to be approved by the People’s Assembly.

Therefore, a decision such as extending the Nile waters to Israel is considered constitutionally null.

3-The Egyptian Law prohibits withholding, owning, or selling public property as it is not considered the ownership of the present generation, but rather the future generations.

4-Any law or decree aiming at reducing Egypt’s share of the Nile water is considered absolutely null and void.
In addition to water scarcity, the Nile is suffering from other problems such as continuous environmental deterioration as a result of the lack of environmental awareness and lack of coordination of development plans and ad hoc projects without taking into consideration its effects on the river. With the acceleration of the development process, the deterioration of the river environment increases. The legal applications are facing many complexities from the point of view of the rights of the countries involved. The legal application can no longer hold a pressure on the basin countries, on the contrary, with the sensitivities of relationship between the basin countries, resorting to the application of the law can raise more issues than resolve them, given that the Treaties signed during the days of occupation are not considered binding by most basin countries. Therefore, historical sensitivity forces the issue of previous treaties better left notwithstanding.

Among the suggested solutions is an integrated development process of the basin under a framework of cooperation and organization for the national plans of the basin in a comprehensive plan for optimum use of the Nile for an equitable benefit for its riparians. The Mekong river development project is the closest model where the obstacles of previous conflicts and sensitivities between the four Asian countries forming Mekong basin; Vietnam, Cambodia, Laos and Thailand, were overcome. The relationship between the four countries was among the most hostile, and has been that way over centuries. Currently many cooperation projects are being implemented including dams and electric power stations and others. This project has turned the river into a tool for political closeness between the Mekong riparians. Can the same model be applied to the Nile basin? How can this strategy be applied when the Nile basin has had many conflicts and issues among its riparians?

It is possible to apply this to the Nile basin. It is prime time for applying this framework in the Nile basin. The possibilities occur from the following:

1-The International course tends to favor integrated regional development especially in the field of river basin development, which makes a Nile cooperation project compatible with the International drift.

2-Scientists and experts confirm that such a framework of integrated cooperation is quite beneficial to all riparians on a regional level.
3-Such projects require enormous financing whether for generating electricity and agricultural cultivation. Given that the African countries on the Nile basin are among the poorest nations in the world, then not a single country can handle the expenses of such projects. For instance, in the 1991 the World Bank requested that Uganda enters into negotiations with Egypt in order for the World Bank to finance the increase the height of the Owen Dam.

4-No international organization will opt for funding a project that requires such kind of financing unless more guarantees regarding cooperation and political stability as well as approval among the riparians is ensured.

5-There is a consensus that hydrological projects have adverse effects on the environment and indigenous people, so in the case of financing such projects, many studies have to be carried out in order to prevent such drawbacks. Such projects are classified as type A in the World Bank classification of projects, which reflects the risks involved in such projects. Such risks are political, social and economic. Therefore, integrated regional cooperation projects are the most acceptable grounds for financing hydrological projects, rather than financing unilateral projects.

The African tendency is heading towards cooperation and the Nile Hydrologists do realize the importance of cooperation. The application requires an institutional development framework for the formulation of a regional strategy. There are three scenarios:

a) Each country prepares a national plan outlining its needs and priorities for its resource development. Then a basin authority or commission formulates an overall plan based on the national plan of the countries, which resembles the framework of the Mekong river model.

b) Support a regional cooperative framework based on the existing cooperative framework or a revival of the Undogo framework and Nile 2002. This could be useful to preserving, continuing and building on the present dynamics.

c) Formulating bilateral or multilateral agreements concerning certain areas of cooperation whether hydroelectricity, political or legal cooperation or others. Such separate agreements are useful in a gradual transformation to a higher degree of cooperation.

The previous scenarios are complementary and can as a whole lead to a network of cooperation that is gradual and progressive, in a more balanced fashion.
A Transboundary river should not be merely defining the running water of the river, but also all the environmental surroundings are taken into account. Currently a Transboundary watercourse is viewed as a force capable of causing changes in the use of water among riparians is causing a more open-minded acceptance of forming an agreement among Nile-basin states. The term International drainage basin, of the Helsinki rules of 1966, encompasses the Transboundary River including all surrounding areas, including groundwater as well as other environmental features of the surrounding region (Tamarat, 1995).

Egypt’s reliance on the Nile as its primary and almost only source of water, has given Egypt over the years the status of the main beneficiary of the Nile water, followed by the second downstream country, Sudan.

e. The Nile Basin Initiative and possible scenarios

There are eight non Arab countries in control of the river origins: Ethiopia, Turkey, Guinea, Iran, Senegal, Kenya, Uganda, and Zaire control 85% of the water resources in the Arab world. Remarkably, although Ethiopia provides 85% of the Nile water, still it is suffering from food scarcity and thirst. Groundwater exploitation in the region has led to the major environmental degradation, such as salinity increase, deficient agricultural methods leading to the loss of water and poor pipeline structure and network losses. In addition to the importance of rivers for riparians, but in the case of a Transboundary river, its main importance lies in the international relations of its riparians.

The Nile could be an example of bargaining and threat when interpreting Ethiopia’s use of the Nile waters as a weapon of pressure on Egypt and Sudan. Israel, in the 1980s, has sent hydrological experts to Ethiopia and Uganda for executing research for the establishment of irrigation projects.

The Nile countries have come together to form a win-win cooperative framework. All Nile basin countries are developing countries, and some of the Nile

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81 Information on the Nile Basin Initiative was obtained from the official website of the Nile Basin Secretariat, www.nilebasin.org
riparians are even among the ten poorest countries in the world. Despite the fact that the region is quite poor with an accelerated population growth, still if the right cooperation framework is applied, the basin will have a great potential of development and immensely benefiting its riparians. For this purpose, the Nile riparians, in 1999, came together and launched the Nile Basin Initiative. A Shared Vision “to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources” guides the Nile Basin Initiative. In order to carry out the Shared Vision, a Strategic Action Program encompassing a number of projects was formed by the Council of Ministers:

- Nile Transboundary Environmental Action
- Nile Basin Regional Power Trade
- Efficient Water Use for Agricultural Production
- Water Resources Planning and Management
- Confidence-Building and Stakeholder Involvement (Communication)
- Applied Training
- Socio-Economic Development and Benefit-Sharing.

There are also sub-regional programs in the Easter Nile (Egypt, Ethiopia and Sudan) and the Nile Equatorial Lakes region (Burundi, D.R. Congo, Egypt, Kenya, Rwanda, Sudan, Tanzania, and Uganda) under the (Subsidiary Action Programs). The project is currently in the process of preparation. Partners supporting the Nile Basin Initiative include the United Nations Development Program, the Canadian International Development Agency, and the World Bank as well as other donors that are increasing, while the Nile riparians are in charge of the Nile Secretariat. Currently the aim is to secure donors for the initial phase of the project, around 200 million USD, to kick off the start of some of the Shared Vision Programs, in preparation for seeking future investment. The main objectives of the project are the development, cooperation and efficient management of the watercourse in a manner that secures prosperity and poverty alleviation and protection of the basin against conflicts, and its implementation.
There are sub projects under the Share Vision Program in order to foster a more cooperative framework:

1-Nile Transboundary Environmental Action
2-Nile Basin Regional Power Trade
3-Efficient Water Use for Agricultural Production
4-Water Resources Planning and Management
5-Confidence-Building and Stakeholder Involvement (Communication)
6-Applied Training
7-Socio-Economic Development and Benefit-Sharing

The Nile countries do realize that in order to carry out such massive projects, substantial investment and grants need to be available for carrying out the projects. Donors/lenders are more likely to support the project if the Nile basin countries demonstrated enough potential for the willingness to cooperate and the stability needed for investment. The NBI has formed a partnership entitled ICCON. ICCON includes the riparians, donor community, lenders, investors, civil society, professional organizations, and NGOs. The purpose of ICCON is to promote a dialogue and opportunities for the Nile basin. The World Bank chairs and coordinates a sub committee under ICCON, ICCON-CG, which is a Consultative Group including mainly the partners supporting the project financially, whether donors or lenders.

Among the issues of great importance to the Nile Basin Initiative, is how to apply a framework that is suitable for all the diversity relating to the Nile, such as what are the terms of cooperation that suits all development objectives of the Nile Basin countries; how to suit the diverse nature of the Nile; and how to share Nile waters in the case of severe scarcity.

IV. Potential Scenario for Success:
Although there are two main targets of the establishment of the World Bank, one of which and most importantly was the reconstruction of Europe after the Second World War, still those European countries in specific did not want to get loans that entail interest for projects that need long term plans to be prepared and executed. Post war Europe benefited more from the US Marshall Plan for reconstruction mainly.
Question: Europe itself did not want interest-bearing loans, then how would those loans affect poorer African countries?

The answer to this question lies in the reform of the World Bank system specially regarding Structural Adjustment Programs, Conditionality as well as the Water Strategy. The SAPs have been extensively discussed with suggestions on how they can be improved. Conditionality should still be used, but together with the reform of the Water Strategy and the general approach of the Bank towards Development Aid. When reforming the Bank’s method for Aid, many aspects have to be taken into consideration:

1-Detailed study of the country (or countries as for the NBI), regarding all social, environmental and economic issues involved. This is currently being carried out in the Nile Basin Initiative. The current phase is mainly targeting extensive studies.

2-Privatization can be applied but in a way that can guarantee the protection of the poor. A possibility is applying the same system as progressive taxation. Where as people with higher income can be more for the expenses related to potable water, such as the environmental aspect involved and proper pipelines. Also, the population can be given certain water allocations for the normal low price, and then any excessive use is to be paid for at a high price. Special arrangements should be made for agricultural purposes. Estimation on water use should be done carefully depending on the needs attached to it. Herders and farmers require much higher amounts of water than household would. If farmers can use enough water efficiently, then the prices of agricultural products will not rise. In developing countries, it is a feature that populations are not environmentally aware, resulting from illiteracy and economic burdens. Instituting such a system of control that can still benefit the poor through progressive pricing, as well as awarding a certain sufficient amount of water at the normally low price for certain segments of the society, can balance the issue of privatization and subsidy. “If privatization can guarantee a commitment to increasing employment, improving efficiency, facilitate the involvement of the population in the economy and a transfer of skills and technology to the populations themselves, and not like the previous World Bank projects as a vehicle of transfer of a country’s resources and money out of country.”
3-Regional cooperation requires reconciliation between national and regional plans, goals and needs. In the case of the Nile Basin Initiative, this is actually being studied currently. Each country has set its own national plans and needs and the regional plan was set, putting into consideration the needs of each country.

4-Reviewing the history of the involved countries should be done carefully. The Egyptian Ethiopian relation is an example of how the political situation among riparians requires a detailed cooperative framework that covers issues of water division in order to guarantee that conflict does not arise. Israel’s continuous support of Ethiopia raised doubts for Egypt, when putting the Arab Israeli conflict in mind. Doubts can develop into sensitivities, leading to disputes. A clear legal framework needs to be created to ensure that each Nile riparian is aware of its full obligations and rights.

5-A mechanism for conflict resolution has to be incorporated into the Nile Basin Initiative that can guarantee that once the project is fully implemented, it can succeed, and is not threatened by possible conflicts.

6-The NBI requires sufficient funding. Should funding of the implementation be in the form of loans, the NBI countries have to ensure that they do not fall into the trap of the conditionality game, otherwise the project can become another failure in the history of the World Bank.

7-The World Bank has to guarantee that the conditionality it intends to attach to any possible loans has a long-term development purpose and that loan repayment as well as cost recovery will have to take its time, and apply this in its choice of cost recovery methods. Cost recovery should be applied in a method that guarantees the sustainability of the project and not just a short-term policy option that can paralyze all the Nile Basin countries, who are already among the poorest of the world. Among the means to close the gap between the World Bank’s and the IMF’s is through extending the Policy Framework Paper (PFP). “PFP is a document drafted by the IMF and amended and agreed by the Bank and the borrowing government, which sets out a joint understanding of the economic situation of the borrowing country and the policies necessary for successful stabilization and adjustment. It is the bare bones
of an economic development plan, containing agreed projections and planning assumptions about future policies." PFP is a good basis for a beginning of a close cooperation between the World Bank and IMF only if it is followed up with a frequent consultative process in order to bring the policy objectives of both organizations towards a close enough direction that does not cause confusion to the recipient countries.

8-Also a better alternative to the conditionality game mentioned in the section on conditionality might be that in Act I, the negotiation phase between the World Bank and the recipient should be quite flexible in order to avoid applying the threat of Act three, which will still not yield the results intended of the loan in the first place. If the World Bank attaches conditions that will not over burden the needy recipient or request a policy reform that will affect the poorer part of the population, policies that will lead to more production benefiting the recipients, then the recipients will be enabled to implement the conditions of the loan. The World Bank can also be flexible with the longevity of the application of the conditions and make the dates suitable for both, studies to be conducted, as well as enough time for the country to modify or shift its policies direction, as it takes populations of developing countries more time to adapt to changes in policies. Also, on the side of the recipient's side, the government can also have a set of possible policy reforms it can implement with a somewhat big margin for the Bank's conditionality and offer it to the Bank in Act One.

9-Another issue to keep in mind is that the market forces did not prove capable of achieving economic efficiency in the management of resources, however a failure in the water sector carries more severe risks, socially, economically and politically. Water is too vital a resource that failure in its management can be fatal. Also, water pricing and commercializing it can lead to more riparian conflicts, as the conflict will not be merely based on acquired rights, but also for the share of water sale. It is not also possible to apply a similar model for water management, nor for the law itself as each country and watercourse have distinctive features.

10-Qualitative considerations rather than quantitative commitment of resources, need-oriented sense for the project design.

11-The countries themselves should be the focus for policy design rather than solely a condition imposed on it.

12-The country should feel the importance of the project and believe that its for its own benefit, in cases like these, there is more obligation on the side of the country to implement the project.

13-People's and NGO participation is essential for determining which projects should be carried out.

14-Transparency and accountability to the public (Accredited NGOs can observer the meetings as the case in the Montreal Protocol)

15-Project appraisal should be viewed as a factual analysis, rather than project promotion.

16-More technologically advanced methods of irrigation as well as water conservation techniques.

17-Raising environmental awareness among the populations of the Nile riparians is of utmost importance, in order to guarantee water conservation and environmental protection. Also Environmental protection should be a main consideration and a determining instrument for the choice of projects to be implemented.

18-Avoiding allocating benefits to the affluent, as the majority of the populations involved are impoverished.

19-Efficient water use-Development, upgrading and repairing of water networks- Upgrading the efficiency of the agricultural irrigation-Changing the crop cycle based on studies regarding the cycles of different crops as well as the water availability, as well as decreasing the cultivation of higher water consuming crops (example sugar
cane and rice and replacing them with less consuming crops such as corn/maize and turnips, which can produce three times the crops with the same amount of water.

development of irrigation systems such as sprinting and other methods-Dams and reservoirs-decreasing evaporation loss from reservoirs and water pipes-adding new water resources such as traditional (surface water-groundwater) and new unconventional artificial sources (wastewater recycling and reuse-desalination).

Possible points of cooperation on the Nile:
1-Supplying economic means for combating problems such as effects of population explosion (food, services, environmental protection), rural-urban migration
2-Connecting Nile countries with an electrical net
3-Avoiding overlap in planning and implementing development programs and giving priority to already existing projects
4-Fact finding mission realized that there is a need for more water than now.
5-Improving fisheries, fishing methods, especially in Sudan, Rwanda and Burundi
6-Combating deforestation and desertification
7-The project is too complex and needs extensive studies to ensure that all aspects based on the conditions of the Nile riparians be covered, as well as the World Bank’s lessons learned from previously failed water projects.83

83 The World Bank after the Wapenhans Report—What Now?: Richard Gerster. (pp 139-145)
Annex 1

Nile River Basin Map
http://www.nilebasin.org/nilemap.htm
Annex II

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85