THOUGHTS ON A NEW NILE WATERS AGREEMENT

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INTRODUCTION

Our objective in this chapter is to offer some thoughts about the possible content of a new Nile Waters Agreement. In our discussion we will assume a basic familiarity with the hydrology of the Nile, current water use practices in the basin, and the existing legal regime. We will also largely restrict our focus to the problems facing those riparians with a stake in the management of the Blue Nile water resources--Egypt, Sudan, and Ethiopia--because it is here that the problems are most pressing.

Establishing or changing the allocation of property rights for a major international river such as the Nile is always a political task of major proportions, and it is important to begin with an explanation of why it is necessary for these Nile riparians. There are several developments that necessitate the renegotiation of the 1959 Nile Waters Agreement in the medium to long term. The most important are the demographic trends in Ethiopia and Egypt. By the year 2025, Ethiopia is forecast to have a population of approximately 122 million, 20 percent higher than Egypt. This population increase will require that Ethiopia expand its food production dramatically. There are few avenues open to Ethiopia

for doing this. Environmental degradation in the Ethiopian highlands is proceeding at an alarming rate, and agriculture there is unlikely to be able to sustain its present output, much less support the projected huge population increase. Purchasing food supplies in international markets requires foreign exchange that Ethiopia will probably find difficult to earn.

One obvious way for Ethiopia to increase food supplies is to develop irrigation schemes in the western watersheds of the country and to irrigate them with Nile water. Abate (1992) has estimated that Ethiopia has 0.9 million hectares of irrigable land in the Blue Nile Basin and 1.5 million hectares in the Sobat basin (a White Nile tributary) that could be used for this purpose.[1] If we assume that this quantity of irrigable land is available, depending on the irritation technology and the intensity of cultivation, such an effort could require 20-30 billion cubic meters of water.[2] Yet currently Ethiopia has no water allocation under the 1959 Agreement, even though about 85 percent of the water that arrives at Aswan originates in Ethiopia.

With Ethiopia now apparently reentering the world community, it will presumably not be long before Ethiopia will seek international financing for some of these water development and irrigation projects. Before committing funds to such projects, international financing agencies such as the World Bank will require the Nile riparian countries to consider, and hopefully resolve, any disputes over water rights.

The population of Egypt is also growing rapidly and to meet its needs for increased food supplies, the current Egyptian Land Master Plan calls for reclaiming 0.58 million hectares in the near to medium term. Drainage water is to be used for irrigating the first 0.34 million hectares reclaimed, but additional water supplies will clearly be needed to proceed with the overall desert reclamation program. By the year 2000 agricultural water use in Egypt is forecast to increase by over 10 billion cubic meters (Abu Zeid and Rady, 1991).[3] These additional resources are assumed to come from the reuse of treated municipal wastewater, improvements in water use efficiency, groundwater from the Delta, Nile Valley, and western

deserts, and the completion of the first stage of the Jonglei project. With municipal and industrial demands for water within Egypt increasing, these ambitious plans will clearly push Egypt over the limit of its currently available resources. Sudan likewise has plans for expanded irrigation, although it has little chance of finding financing for them any time in the foreseeable future.

The basic problem facing Egypt, Ethiopia, and Sudan is thus a familiar one: there is not enough Nile water available to complete all the irrigation schemes on the drawing boards of these three riparian countries. Most international observers, and the riparian countries themselves, have generally conceived of the solution to this problem to be a collective agreement on how the average flow of the Nile should be allocated between the various parties. Although this formulation certainly captures some important elements of the problem, in this chapter we will argue that it is too limited a vision of the possibilities to serve as a basis for negotiation, and that a new Nile Waters Agreement should have several new dimensions that would make it quite different from the previous legal accords--the 1929 and 1959 Nile Waters Agreements.

POSSIBLE COMPONENTS OF A NEW NILE WATERS AGREEMENT

A new Nile Waters Agreement should address six major issues.

1. Exploitation of Opportunities for Joint Gains

Nile water management is not strictly a zero-sum game. There is some scope for cooperative behavior that would increase the long term yield, and a new agreement could ensure that such possibilities are fully exploited. The most promising possibility is the construction of the Blue Nile Reservoirs in Ethiopia (Guariso and Whittington, 1987). One of the numerous advantages of these reservoirs is that they would enable over-year storage to be shifted from the Aswan High Dam Reservoir upstream where evaporation losses would be much reduced. These reductions would be realized both through lower evaporation rates (in the upper Blue Nile region evaporation rates are approximately 50% of those in

Sudan and Egypt) and the lower surface-to-volume ratios in the canyon sites of the Blue Nile reservoirs (United States Bureau of Reclamation, 1964). At present there are only crude estimates of the possible savings that would result, but they would likely be on the order of 4-5 billion cubic meters per year. Another opportunity for regional cooperation is the elimination of the Jebel Aulia Reservoir on the White Nile, where annual evaporation losses are currently about 2.8 billion cubic meters (Whittington and McClelland, 1992).

Any new agreement on the allocation of the long term yield of the river among the riparian countries could be made contingent on the completion of these two opportunities for increasing available supplies. For purposes of discussion, we will assume that the increase in long term yield from both the construction of the Blue Nile Reservoirs and the elimination of evaporation loses at Jebel Aulia is 6 billion cubic meters. If we initially take the conservative position that none of the other water conservation projects on the White Nile will be completed due to environmental and political concerns, then based on the historic record of the last century the available long term yield can be estimated at about 80 billion cubic meters (measured at Aswan, after deduction for the remaining evaporation and seepage losses from the Aswan Dam Reservoir).

2. Allocation of the Long Term Yield

Once the long term yields are estimated, the traditional problem remains of negotiating the shares of Egypt, Sudan, and Ethiopia. Two general approaches suggest themselves. First, the parties could agree to split the difference between Egypt's long held position that Ethiopia's share should be minimal because it has other sources of water and Ethiopia's position that it should be entitled to develop its total irrigable area (for argument's sake, say this would require 20 billion cubic meters measured at Aswan). Such a compromise would result in an Ethiopian allocation of about 10 billion cubic meters. Because the 1959 Agreement requires that any allocation to upstream riparians not included in the agreement be deducted equally from Egypt's and Sudan's share, Egypt's allocation is reduced to 53.5 and Sudan's to

16.5 billions cubic meters.

A second line of reasoning might be that Ethiopia's share of Nile water should be at least equal to Sudan's, based on the argument that both countries have more potentially irrigable land than can ever be used given the limited water supplies, and that Ethiopia's population is approximately twice as large as Sudan's. This approach results in somewhat more water for Ethiopia, with the following approximate allocation: 52 billion cubic meters for Egypt, 14 billion cubic meters for Sudan, and 14 billion cubic meters for Ethiopia.

Let us split the difference between these two calculations and assume for purposes of illustration that Ethiopia receives a water allocation of 12 billion cubic meters measured at Aswan. This would reduce Egypt's share to 52.5 billion cubic meters and Sudan's to 15.5 billion cubic meters. Table 1 compares this new allocation to the allocation under the 1959 Nile Waters Agreement and the country of origin of the Nile water.

****Insert Table 1****

A reallocation of Nile waters of this order of magnitude would appear to be a plausible deal for all three parties. Current water users in the basin could sustain their existing water uses. Egypt gives up only 5 percent of its existing allocation in return for Ethiopia's acknowledgement and guarantee of its historic rights to the majority of the Nile waters. Sudan would face a substantial reduction in its current allocations under the 1959 Agreement (from 18.5 billion to 15.5 billion). Since Sudan is not currently using its full allocation, this reduction would all fall on future users. However, within Sudan there is still much highly fertile and easily irrigable land, given adequate river control. Thus, while the construction of the Blue Nile Reservoirs would be a major benefit to Sudan because they would control the Blue Nile flood and provide overyear storage, other incentives (as discussed below) may also be required to reach consensus on a new allocation.

This new allocation is clearly dependent on the 6 billion cubic meters in increased long term yield

estimated to result from reduction in losses at Jebel Aulia Reservoir and the construction of the Blue Nile Reservoirs. Although it would take several decades to complete the construction of the Blue Nile Reservoirs, it will also require several decades for the development of Ethiopia's irrigation schemes. It would be possible to structure a new Nile Waters Agreement so that some portion of Ethiopia's share only becomes available as the Blue Nile projects are completed. Such a deal would allow Ethiopia to obtain international financing for irrigation schemes and the Blue Nile Projects without interfering with existing water use in Egypt or Sudan.

Another possible side deal regards the allocation of any future benefits from the completion of the Jonglei I and II projects. Since a share of 12 billion cubic meters would satisfy Ethiopia's needs for Nile water far into the future, Ethiopia might agree that any future water savings from White Nile projects (other than reduction of losses at Jebel Aulia Reservoir), including Jonglei I, would be split solely between Egypt and Sudan. Such a provision would substantially increase these countries' water allocations if the political problems in southern Sudan are resolved and if future agreements could be reached with Uganda and other White Nile riparians. This would not, of course, preclude Ethiopia from taking part of its 12 billion cubic meters from White Nile tributaries.

3. Management of Water Shortages

Little attention was paid in the 1959 Nile Waters Agreement to the problem of managing water shortages. The agreement simply specified that any temporary shortfalls in yield would be split equally between Egypt and Sudan. A new Nile Waters Agreement will have to more carefully address the issue of how reductions in yield will be handled by the major riparians. The problem is complicated by (1) the possibility of long term climatic change in the basin, and (2) the potential of the Blue Nile Reservoirs to withhold some water from downstream riparians during dry years.

The possibility of the Blue Nile Reservoirs being operated during a drought to strategically withhold water from Egypt and Sudan is an ancient nightmare of Egypt, and Ethiopia must offer specific

and concrete proposals to allay Egyptian fears in this regard. In fact, it is difficult to envisage a situation in which it would actually be in Ethiopia's economic interests to add water to reservoir storage on the Blue Nile during a drought. This is because (1) withholding water would reduce hydroelectric output, and (2) since the location of these potential reservoirs are in deep canyons well below the irrigable plateau they are not expected to contribute to water storage for irrigation use in Ethiopia.

Two possibilities suggest themselves as ways of assuring Egypt and Sudan about the security of their water supplies during droughts. First, specific operating rules for the reservoirs could be developed and agreed to during negotiations. Second, the parties could agree to abide by general principles for water sharing and to submit to binding arbitration if they were unable to reach a consensus. Such agreements could be conceivably be countersigned by the United Nations as a means of guaranteeing Ethiopia's compliance.

4. Establishment of Regional Water Markets

In their March 28, 1992 issue, the editors of The Economist suggested that "for Egypt the cheapest way to get more water may be to pay Ethiopia to use its offtake from the Nile more frugally." Since Ethiopia is not currently using any significant amount of Nile water, such a trade is not now possible. However, once property rights are assigned and Ethiopia receives a legal allocation of Nile waters, then at least conceptually it would be possible for Egypt, Sudan, and Ethiopia to buy and sell water rights from each other. The establishment of a mechanism for basin-wide buying and selling of water would be the single most important innovation that could be introduced in a new Nile Waters Agreement.

The establishment of a regional water market would have numerous benefits. Foremost among these is the ability of a market to allocate water to areas where it will have the highest economic returns, thus promoting regional economic development. Much new (and valuable) information on the returns to Nile water in different locations and to different users would emerge. Second, it would reenforce

agricultural liberalization policies because farmers who can make their own decisions on crop selection and who can sell their products in markets would be willing to pay more for water.

Third, if a new treaty guaranteed that a certain proportion of each country's share of Nile water would be available to be traded, then it would probably be easier to reach agreement on the allocation of the long term yield between Egypt, Sudan, and Ethiopia. For example, if a regional water market existed, a new Nile Waters Agreement that gave Ethiopia an allocation of 12 billion cubic meters would not necessarily preclude Sudan and Egypt from expanding their irrigated acreage because both countries could purchase water from Ethiopia. Fourth, water markets could be used to assist with rationing water during times of shortage.

It is interesting to speculate about how such water markets might work and the resulting terms of trade. In the immediate future Ethiopia has no means of withholding or using its new share of Nile water. Egypt and Sudan of course know this and would not be inclined to agree to purchase water from Ethiopia without compensatory agreements in other areas or unless such a sale was required as a condition of the new Nile Waters Agreement. As Ethiopia gradually expands its irrigated acreage, negotiations over water sales would become more complex. Unless Ethiopia uses its water allocation, it flows downstream to Sudan and then Egypt. Ethiopia could give its allocation to either (or a portion to each). Egypt and Sudan would obviously have an incentive to agree among themselves and offer Ethiopia a very low price for its water. But such a strategy might induce Ethiopia to simply pursue its own irrigation plans and not sell its water allocation.

Ideally water markets would develop in which groups of farmers and other users would be able to buy and sell water, rather than have central government ministries negotiating the terms of sales. Clearly much thought and planning needs to be given to how best to establish and regulate regional water markets, but the potential benefits to all riparians are very large, and this work needs to begin.

5. Water Quality Concerns

Compared to many major river systems, the Nile is remarkably unpolluted over most of its length, and thus water quality concerns are not likely to play a major role in future negotiations in the medium term. Nevertheless, a new Nile Waters Agreement does offer an opportunity to establish the principles that will be used to address future water quality management issues. For the foreseeable future, the most serious water quality problems will continue to be in the Egyptian portion of the Nile, particularly north of Cairo. These problems can be dealt with by Egyptian authorities without the involvement or cooperation of upstream riparians. There are few effluent loadings from upstream point source discharges, and they pose no immediate threat to downstream quality.

The most serious water quality problem created by an upstream riparian is the large sediment loads that result from soil erosion and deforestation in the Ethiopian highlands. A new Nile Waters Agreement might well include a provision to assist Ethiopia in the implementation of a specific program to reduce such sediment loadings. If the Blue Nile reservoirs are to be built, such a program would be even more clearly in Ethiopia's best interests.

6. The Incorporation of Non-water Issues in the Agreement

Another important question to consider is whether or not building accords and understandings around more than one "good", i.e. water, would enhance the stability of a new Nile Waters Agreement (Waterbury, 1992). Given the physical nature of rivers there is generally an inherent asymmetry in the benefits that upstream and downstream riparian states can draw from cooperation. Voluntary cooperation may be impossible when some stand to gain much more than others when dealing with a single good. Straight monetary compensation by those that benefit most from a particular development to other riparians might buy cooperation. But compensation in other goods–access to markets, military cooperation, diplomatic support, etc.–might enhance the prospects for stable voluntary cooperation even more. Also, single-good agreements may set thresholds of compliance and non-compliance too clearly,

leaving little room for manoeuvre and forcing one or more parties to take punitive action or to cancel the accord. Multi-good arrangements with complex contingencies may allow the parties to play on more than one register. In multi-good agreements parties can emphasize compliance in some or most areas of the accord even while failing to comply completely in any specific area.

Regimes (either formal or informal agreements) entail interdependencies, and when these involve vital resources, potential participants tend to see what they might lose rather than what they might gain. One could argue that complex interdependencies will give everyone an incentive to avoid conflict and maintain the regime over the long run. But if one party acts "irrationally" after the interdependencies have been established, the results could be catastrophic. Within national boundaries and across them, the systems for water storage, delivery and flood control, as well as bridges, power grids, and pipelines are virtually undefendable. If a multi-good regime entails integration of water delivery systems, oil pipelines, and power grids, the prospects for havoc are enormous. A major reason for Nasser's advocacy of the High Dam project, was to avoid this type of vulnerability, thus maximizing Egyptian control of water storage.

Egypt's strategy over the last few years has been to try to persuade all the upper Nile riparians that they would forego important opportunities for economic development if they fail to cooperate in what the Egyptians have depicted as a multi-good game. The multi-good bargain that Egypt is advocating does, of course, include water, (mainly for Egypt's benefit) but also electrical energy, improved transportation in the basin, collective collateral as it were among the riparians to raise external development assistance, the provision of engineering and monitoring expertise, improved tourism, and so forth. The cooperative regime envisaged by the Egyptians is one of basin-wide development involving all domains of the riparian economies.

The argument for such multi-good agreements is particularly strong when there are large asymmetries in the costs and benefits of agreements concerning a single good. This is largely not the

case for the three riparians we are considering as negotiating parties to a new Nile Waters Agreement: in the long run cooperation on water seems clearly preferable to unilateral actions by everyone. Still, it is important to consider how at least one other good might be incorporated into a new Nile Waters Agreement: electricity.

Egypt's development may be constrained more by lack of power than lack of water. The importance of the Aswan High Dam in meeting Egypt's base load power needs has been declining ever since it was built. The High Dam currently supplies about 20% of Egypt's total power needs, which are growing by about 6% per year. By the year 2000, the High Dam may supply no more than 10% of national consumption. There is very little more hydropower that Egypt can generate and none at the High Dam itself. The point is that early in the next century the reservoir at the dam site need no longer be operated so as to maximize base load power generation. This possibility opens up an array of choices for Egypt including operating the Aswan High Dam Reservoir for peak loan power generation and for purposes of irrigation in tandem with new storage facilities upstream.

Because of Egypt's growing demands for electricity, the Blue Nile Reservoirs may be more valuable for their hydroelectric power generation than for water regulation and storage. The potential annual hydropower generation is roughly three times as large as that of the Aswan High Dam. It is difficult to foresee when Ethiopia could use this much electricity. The most obvious markets for the electricity generated by the Blue Nile Reservoirs are in Egypt and Sudan. A mutually beneficial deal would thus appear to be possible with respect to water and power, whereby Egypt would agree to Ethiopia's water allocation and to the construction of the Blue Nile Reservoirs on the condition that a certain percentage of the electricity it generated would be sold to Egypt at a specified price. Such a deal has the added advantage that it would create an incentive for Ethiopia to operate the Blue Nile Reservoirs to maximize hydropower generation, and thus establish an incentive to release water on a regular basis.

Also, the elimination of the Jebel Aulia Dam proposed above would raise pumping costs for the

many irrigation schemes south of the Dam that are currently relying on its seasonal storage. Assurances for the sale of a fixed amount of electricity to Sudan at specified prices to compensate for these additional costs may make the negotiations more attractive for the Sudanese.

BARRIERS TO A NEW NILE WATERS AGREEMENT

Despite the long term necessity of negotiating a new Nile Waters Agreement, there are numerous barriers to such an accord in the near future. The first is the inability of both Sudan and Ethiopia to make credible commitments to Egypt due to their political and economic instability. The Egyptian government needs assurance that any concessions it makes today will be worth the domestic political price it must pay for halting or reducing its desert reclamation efforts, and that Ethiopia and Sudan will not expect such concessions to be the first of many.

Second, the upstream riparians have very few people with the necessary hydrological expertise or knowledge of the history of Nile water management efforts to participate effectively in negotiations. For example, none of the upstream riparian countries have operational computer simulation models of the entire Nile basin that they can use to examine the consequences of different management plans. Upstream riparians are thus fearful of being out-negotiated by an Egyptian team with a much better understanding of Nile basin issues.

Third, in all of the riparian countries Nile water issues are being handled by essentially two groups of people: water engineers and diplomats. Individuals with other perspectives and disciplinary training need to be drawn into the policy debates. For example, many individuals stand to benefit from the establishment of regional water markets, but their interests are poorly represented at present. In fact, water markets will inevitably entail a transfer of power from senior bureaucrats in national water and irrigation ministries to decentralized groups of water users. One should not be surprised to find many government officials resistant to such changes.

BREAKING THE IMPASSE: THE ROLE OF THE INTERNATIONAL COMMUNITY

The role of the international community in facilitating a new Nile Waters Agreement is, in fact, rather modest. Nothing will happen until the riparian countries judge the time to be right to begin discussions. This may not, however, be far off. On December 23, 1991, Ethiopia and Sudan issued the "Ethiopia-Sudan Peace and Friendship—Khartoum Declaration." In this declaration, Ethiopia and Sudan agreed that they "believe in and affirm equitable entitlements to the uses of the Nile waters without causing appreciable harm to one another," and that they would seek to establish a Nile Basin Organization.

Because the process of appraising water resources development projects in Ethiopia and of reaching international agreements on Nile water allocation will take a long time, it is not in Ethiopia's interest to delay, despite a shortage of expertise and trained personnel. Ethiopia is thus likely to force the issue of its appropriate allocation of Nile waters by seeking international financing of irrigation and hydroelectric projects in the Blue Nile basin. Egypt and Sudan need to consider carefully how they will respond to such an initiative. The international donor agencies can make a positive contribution to this process by making it clear to Egypt (and Sudan) that they cannot block international financing of Ethiopian water resources development by simply refusing to negotiate with Ethiopia. A serious effort at compromise must be made by all parties, or international financing of Ethiopian water resources projects should proceed anyway.

A second constructive step that the international community can take is to assist with the training of the next generation of Nile water experts in the riparian countries. Part of the required strategy might be to create an MSc. program in water resources planning and policy in one of the upstream riparian countries. A certain number of fellowships could be allotted to each of the riparian countries in order to ensure that the student body is broadly representative. Part of the core curriculum could be a year-long intensive course in river basin planning with a special emphasis on Nile system planning. As part

of their standard training students would thus all become familiar with the existing computer models available for Nile basin planning. International experts in water resources systems analysis and Nile management should be attached to such an MSc. program in its early stages. One of the most valuable side effects of such an academic program would be the creation of an informal network of individuals in the Nile basin countries with personal relationships and shared understanding of Nile management issues.

NOTES

1. These estimates of irrigable land are speculative and Egypt will certainly request more information than is currently available on the economic feasibility of potential irrigation projects in Ethiopia. In turn Ethiopia may ask for the same information concerning Egypt's proposed desert reclamation schemes.

2. Jovanovic (1985) uses an even highter estimate of potential Ethiopian water Withdrawals: 40 billion cubic meters. (For further discussion, see Whittington, 1986; Jovanovic, 1986).

3. Other estimates are even higher. Recent statements by the Egyptian Minister of Public Works suggest Egypt will be using 72 billion cubic meters buy the year 2000.

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REFERENCES

Abate, Z., 1992. Observed Context of Environment and Development in Ethiopia: An approach that Needs Development. Working Paper, Centre of Near and Middle East Studies and the Centre of African Studies, University of London. 48 pages.

Abu-Zeid, M.A., and Rady, M.A., 1991. Egypt's Water Resources Management and Policies. Paper presented to the Comprehensive Water Resources Management Policy Workshop, The World Bank, Washington, D.C.

Guariso, G., and Whittington, D., 1987. Implications of Ethiopian Water Development for Egypt and Sudan. *International Journal of Water Resources Development*. Vol. 3, No. 2.

Jovanovic, D., 1985. Ethiopian Interests in the Division of the Nile River Waters. *Water International*. Vol. 10, No. 2.

Jovanovic, D., 1986. Response to Discussion of the Paper Entitled "Ethiopian Interests in the Division of Nile River Waters. *Water International*. Vol. 11, No. 2.

United States Bureau of Reclamation. 1964. *Land and Water Resources of the Blue Nile Basin*. United States Department of the Interior, Washington, D.C.

Waterbury, John, 1992. Three Rivers in Search of a Regime: The Jordan, the Euphrates, and the Nile. Paper presented at the 17th Annual Symposium of the Center for Contemporary Arab Studies. Georgetown University, April 9-10, 1992.

Whittington, D., 1986. Discussion of the Paper Entitled "Ethiopian Interests in the Division of Nile River Waters. *Water International*. Vol. 11, No. 2.

Whittington, D., and McClelland, E., 1992. Opportunities for Regional and International Cooperation in the Nile Basin. In: Le Moigne, G.; Barghouti, S.; Feder, G.; Garbus, L., and Xie, M. (Eds.), Country Experiences with Water Resources Management: Economic, Institutional, Technological and Environmental Issues. World Bank Technical Paper No. 175. World Bank, Washington, D.C.

Table 1
A Comparison of the Origin of the Nile Waters, Water Allocations under the 1959 Nile Waters Agreement and a Possible New Nile Waters Agreement
(in billion cubic meters)

	Origin of Water	1959 Nile Waters Agreement	Possible New Nile Waters Agreement
Useable Long Term Yield	–	74	80
Egypt	0	55.5	52.5
Sudan	Minimal Net Contribution	18.5	15.5
Ethiopia	72	0	12.0
Other Riparian Countries	12	0	0
Losses to Evaporation and Seepage	–	10	6

Source: Whittington and McClelland, 1992