THE NILE BASIN DISEQUILIBRIUM

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Water is finite. Just 2.5 per cent of the world's water is fresh, rather than seawater. And most of the fresh water that does exist is locked in ice caps and glaciers. Of the remaining amount, some two-thirds is "lost" to evaporation. From what is left, some 20 per cent is in areas too remote for human access.1

The situation is even worse as 75 per cent of the remaining comes at the wrong time or place, through monsoons, hurricanes and floods, and can only be partially captured for human use.

The renewable fresh water supply on land —water made available year after year by rainfall— is less than one per cent of the total water on the planet.2 Of this tiny fraction of water available for human use, some two-thirds is devoted to agriculture, a figure that rises to more than 80 per cent, sometimes 90 per cent, in many developing countries, where the real water crunch is coming.3

IMBALANCE IN THE NILE BASIN RIPARIAN COUNTRIES

The Nile Basin is 3.35 million km2. The principal occupation of the people in the Nile Basin is agriculture. Pastoralism is a supplementary activity for both upper and lower basin countries. The upper riparians, namely, Ethiopia, Kenya, Uganda, Tanzania, Rwanda, Burundi and Democratic Republic of Congo (DRC) have made little use of the Nile River. Whatever use they have made of the river is confined to hydroelectric power generation. However, the lower riparians, Egypt and Sudan (Egypt more so) have exploited the water resources of the Nile extensively both for irrigation and hydro-power. In short, the upper riparians have been the suppliers and the lower riparian the users of the Nile water.

Commenting on the problem of upper riparians, Yacob Arsano, in an article entitled "Toward Conflict Prevention in the Nile Basin," writes, "the development initiatives and the enormous

potential of the water resources development in upstream countries have been frustrated, among other things, by fear of strategically untimely conflicts with lower riparians".4 Yet, the upper riparians are very much interested to utilise the waters of the Nile. Thus a basin-wide agreement is necessary to avoid potential conflicts and harness the water resources for mutual and equitable benefit. The necessary for harnessing the great potential of the Nile is underlined by the extent of its utilisation as can be discerned from the table below.

EXTENT OF UTILISATION BY THE NILE RIPARIANS: EGYPT

Egypt has made greater use of the Nile waters than all the riparian countries combined. This is due to the geographical, historic and economic circumstances which have obtained in Egypt. Except for the small Mediterranean strip and the narrow Nile Valley, the rest of Egypt is just a vast desert. Besides, as most of the Egyptian people are farmers, they depend on the Nile waters for irrigation. In fact, 98 per cent of the population lives in the Nile Valley. The Nile River for Egypt is, therefore, a source of life. This perhaps explains why Egypt is called "the Gift of the Nile."

More than 86 per cent of the Nile waters originate in Ethiopia. Hence, Egypt assigns a prominent place to her relation with Ethiopia although it has by no means been always constructive.

The Nile is dependent for the most part on Ethiopian rivers. Further, it carries fertile soil from the Ethiopian highlands with its annual floods. That is why when Khedive Isma'el was asked whether he intended to annex Ethiopia, he was reported as saying that nature was already sending him down the best part of Ethiopia with each flood of the Nile, that he had no desire for the residue.7

After colonising Egypt in 1882, and Sudan, Kenya and Uganda in the last decade of the 19th century, Britain tried through political and legal manoeuvres to ensure the unobstructed and continuous flow of the Nile River to Egypt. It signed agreements on behalf of its colonies pledging not to construct dams on the Nile River. It also signed agreements with Ethiopia, the Italian colony of Eritrea, and King Leopold II's colony of the Congo prohibiting them from constructing dams on the Nile waters without the prior consent of the British Government. The 1929 Nile waters apportionment agreement between Britain and Egypt, for example,

banned irrigation, power generation and other uses of the Nile waters by Sudan and other British colonies without the agreement of the Egyptian Government. This was to ensure that the quantity of water arriving in Egypt was not reduced.8

Britain signed this agreement, which failed to heed customary law as well as common sense, to soothe the anti-British nationalist anger in Egypt that had surfaced after World War I. However, this has resulted in lingering feeling of resentment against Britain and Egypt by upstream countries.

On the other hand, Egypt has continued to construct barrages and dams without consulting upstream riparians. Arsano writes, “during the 19th and the 20th centuries, the desire of the Egyptian Government was to control the Nile waters in such a way that the floods would remain within the banks, secure the availability of the water through out the year for permanent irrigation and for expanding land under irrigation”.9 Yet, the needs of the upstream riparians were not taken into account by the Egyptian Government.

In 1959, Egypt and Sudan signed an agreement for the full utilisation of the Nile waters without including other riparians in the agreement. According to this agreement Sudan would get 18.5 Billion Cubic Meters (BCM) and Egypt 55.5 BCM of water. After this agreement was reached the construction of the great Aswan High Dam went ahead as of 1960.

The Aswan High Dam is the first largest man-made lake with a reservoir which is 591 km long and capable of releasing 1500 tons of water every second for irrigation during times of drought. It was estimated that the new dam would expand cultivated land by 1.3 million acres (526.11 hectares) and result in the application of permanent irrigation on 700,000 acres (283.29 hectares) using the basin system. It was envisaged that it would make Egypt secure from the fluctuations of the Nile waters. Moreover, the dam would designed to provide considerable hydro-electric power as well as improve navigation below the dam. While constructing such immense dam, Egypt did not bother to consult upstream riparians except Sudan. The needs of the other upper riparians were simply ignored.10

Further, the recently inaugurated Sinai and Kharga/Dkhala water diversion projects were constructed without prior consultation with upstream riparians. The El Salam project requires 4.45 BCM annually of the Nile water in Sinai. The new artificial lake in the valley of Kharga and Dkhala began in 1981.

The El Salam canal links the Nile and Lake Nasser to the new artificial lake with a reservoir of 600 km2 and capacity of 120 BCM. It was also planned that 200,000 hectares of land

would be under irrigation. Such unilateral actions on the part of Egypt have also encouraged upper riparians to act unilaterally in utilising the waters of the Nile.

EXTENT UTILISATION BY THE NILE RIPARIANS: THE SUDAN

Sudan is the second country that has made greater use of the Nile waters. Modern agricultural schemes started in Sudan in the 1920s. The Gezira scheme started in the 1920s. It is supplied with water from the gigantic Sennar Dam which was built on the Blue Nile in 1925. Initially a quarter of a million acres were put under irrigation.

Other dams were also built subsequently. For instance, Jebel Awlia Dam was constructed on the White Nile in 1937. The Rosaries Dam was built on the Blue Nile following the 1959 agreement with Egypt. Its storage capacity is 2.4 BCM km2 It was completed in 1962. It is equipped with 250,000 Watt generators. The Khasim el-Gerba Dam was completed in 1964. It has a capacity to irrigate 100,000 hectares.

The Gezira Scheme alone constitutes 12 per cent of the total area cultivated in Sudan. It produces 75 per cent of “long staple cotton”, which is the country’s main product. It also accounts for 12 per cent of the country’s production of Durra, 15 per cent of ground nuts and 50 per cent of wheat.

This scheme which covers 2.3 million acres (930,810 hectares) between the Blue Nile and White Nile produces about 350,000 tons of cotton in 1977-78. In addition, in the Rohad Valley a project costing $34.6 million was also designed in 1977 to irrigate 820,000 acres (331,854 hectares).

Sudan also uses the Nile as a means of transportation. Egypt and Sudan had also agreed to dig a canal called the Jongelli between Malakal and Jongelli to decrease the loss of water in the Sudan (at the Sudd) due to evaporation. This was aimed to increase the water flow to the lower Sudan and Egypt, and to draw the surface water into the bank of the canal so that swamp land could be reclaimed for agriculture in the upper Sudan. Besides the canal would facilitate navigation between Jongelli and Malakal. However, the canal digging activity has been disrupted since 1983 due to the civil war.11

EXTENT UTILISATION BY THE GREAT LAKES RIPARIANS

The upstream riparians in the Great Lakes region, namely Uganda, Kenya, Tanzania, Burundi and Rwanda were unable to benefit from the Nile waters during the colonial era because their hands were tied by injudicious treaties entered on their behalf by Britain with downstream riparians.

For instance, “In Kenya, in the early 1950s, a small area of the Kano plain was developed for rice production. By 1957 some 4,000 acres (1,691 hectares) were cultivated by irrigation”.12 A study in 1954 identified 29,892 acres (12,097 hectares) irrigable land in Kano plain. However, because of the uncooperative behaviour of Britain, the irrigation project was postponed. Hence, a small fraction of the irrigable land is cultivated.

In Tanzania, before the start of World War I, Germany had planned to develop a large scale cotton farm covering two million acres in Sukumaland. The water was to be obtained from Lake Victoria via a canal or tunnel. Nevertheless, as Germany was defeated in World War I, Britain became the new colonial master. However, since Britain was interested only in the benefit of downstream riparians, the irrigation plan in Tanzania was shelved to ensure that Sudan and Egypt got an undiminished flow of the Nile waters.

Commenting on why political consideration was important with respect to the Nile waters, Arsano writes, “when the Suez Canal crisis was at its peak, some revived the intention to take up the Sukumaland project. This was not, however, intended for Tanzania’s economic development, but a political consideration to punish Egypt”.13

In Uganda, the Victoria region of the county is highly suitable for agricultural development. Nevertheless, Uganda has used her waters only for hydroelectric power. The Owen Fall Dam completed in 1954 produces 700 million Kilowatt Hours (KWH) of hydroelectric power annually. If the whole regulated flow of the Victoria Nile were available for power generation, the annual production of energy would be 921 million KWH.

EXTENT UTILISATION BY ETHIOPIA

Ethiopia is the main source of the Nile waters. More than 86% of the water of the Nile originates in Ethiopia. Nevertheless, it is a country that has made the least use of the Nile waters. During the colonial era, Ethiopia was engaged in struggles to maintain its territorial integrity and political independence against metropolitan powers. Hence, it had neither the time nor the resources to utilise the Nile waters.

Yet, Ethiopia has always maintained the desire to utilise the Nile waters. In 1927 King Teferi Mokonen sent a special envoy, Workneh Martin, to the United States. One of the objectives of this diplomatic overture was to obtain American engineers for the Lake Tana development project.

As a result, of this effort J. G. White Engineering Corporation was sent by the US Government. The Corporation commenced physical survey in 1930 and estimated the total of work at $8,878,000. The work included the Lake Tana outlet and a high way from Addis Ababa to Lake Tana. However, the project failed to materialise due to opposition on the part of Britain and the impending Italian invasion of Ethiopia.

In the 1950's, Ethiopia contracted a US engineering firm, Balton Hannessey and Partners, to conduct a comprehensive study of the Abbay (Blue Nile) River. The survey was conducted from 1957 to 1962. The survey involved studies of stream flow, soils, hydroelectric power potential, land use, marketing, communications, dams and irrigation.

At the time, Egypt and Sudan were engaged in negotiation regarding the full utilisation of the Nile waters. Ethiopia was not included in the negotiations. The Ethiopian Government asserted the countries right for the utilisation of the water resources within the country's borders.

The Abbay (Blue Nile) River Basin has considerable irrigable land. In the face of drought induced famine that afflicts Ethiopia, constantly it is necessary for the country to utilise the waters of the Blue Nile for irrigation. In the 1970s, there were plans for irrigated agriculture in the Blue Nile basin. Arsano comments, "Regarding the irrigation of the Ethiopian Nile Basin, 1,600,000 hectares of land, including 115,000 hectares around Baro (Sobat) River and 400,000 hectares of land around Abbay (Blue Nile) was planned to be under irrigation for agriculture."14

Moreover, most of the rivers in the Ethiopian Nile Basin are suitable for generation of hydroelectric power. The rivers of Ethiopia also have the potential to produce 56,000 million KWH of hydroelectric power. Therefore, it behoves Ethiopia to harness her hydropower potential to conserve the meagre foreign exchange which it spends on imported oil. Given the above situation, "Ethiopia has no option but to harness its water resources for consumptive and non-consumptive purpose. There is no legal or institutional obligation which limited Ethiopian policy makers as well as planners from fulfilling this duty in the best interest of their people."15

There is no legal or institutional obligation limiting Ethiopian policy makers and planners in fulfilling this duty in the best interest of their people.

KEY ISSUES OF POTENTIAL CONFLICT IN THE NILE BASIN

One fundamental issue of conflict is related to the equitable sharing of the Nile water resources: Ethiopia, while providing the lion's share of the waters of the Nile, utilises almost nothing of it. This brings the question of justice to the fore. This point is further elaborated upon by K. Abraham below:

"The predicament of other riparian countries is the same. It applies to the Sudan which, after all, sees it self as a junior beneficiary. For Ethiopia the obvious question is and for the long time to come will be: why should the country which provides 85 per cent of the water of the Blue Nile be deprived of its fair share? Finally, nevertheless, even those countries which have endorsed the argument of historical rights which have leverage over banks and other financial institutions will vote for justice."16

Utilisation of the Nile waters is based neither on law nor on common sense. Yet, the lower riparians (Sudan and Egypt), contribute nothing to it, but consume most of it. In contrast, the upper riparians hardly utilise anything. This happens under the circumstances of institutional and legal void.

The said status quo cannot last. The upper riparians are certainly going to use some of their water resources while the lower riparians want more water above their current needs. Describing how this may lead to conflict Arsano, observes:

"With the sharp increase of population in the coming decades … every riparian country may not only feel more need but also the obligation to utilise its water resources to maximum level. Such demands are already soaring beyond the level of available water resources in the entire basin. Egypt and Sudan have projected their water needs for agriculture alone at 65.5 BCM. This amount is 12.26 BCM higher than the total available water in the Nile Basin. This is a clear indication that when all riparians come up with their respective national water master plans the available water resources and national demands will be at irreconcilable variance."17

Population growth alone is not merely the problem, although it is one of the contributing factors. (See Table 3). The other important source of conflict is that there is no basin-wide legal mechanism on the basis of which water apportionment can be made and regulated. The existing treaties are bilateral and unduly favor downstream countries. K. Abraham has emphasised the point in the following passage:

"The complexity of the problem of the equitable sharing and utilization of the waters of the Nile is underscored by the nature of past agreements such as the 1902 Anglo-Ethiopian agreement and the 1929 and 1959 Nile water agreements signed between Egypt and Sudan in which both countries agreed to allocate the net historical yield of 74 BCM at the Aswan Dam between themselves on the basis of 55.5 BCM for Egypt and 18.5 BCM for the Sudan. Ethiopia was excluded from these negotiations and none of the total amount water was made available to it."18

The compelling imperative of population growth which is likely to put pressure on both upper and lower riparians to demand more water need not be overemphasized. The table below which is indicative of the current situation and future trends of population growth highlights the point very well:

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3 Ibid.

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6 Ibid.

7 Ibid.

8 Ibid.

9 Ibid.

10 Ibid.

11 Ibid.

12 Ibid.

13 Ibid.

14 Ibid.

15 Ibid.

16 Dr Kinfe Abraham, op. cit.

17 Yacob Arsano, op. cit.

18 Dr Kinfe Abraham, op.cit

19 Yacob Arsano, op. cit