

IN DEFENCE OF ETHIOPIA'S DAM AND ITS NATIONAL INTEREST

BY MINAS T.G 06/20/14

Ethiopian experts who defended the building of the Ethiopian Dam and Ethiopia's national interest were referred as "faceless, consciousless experts who did hatchet job, dogs of Dam war, crackles of Hyenas in pissing context building a white Elephant" An Ethiopia/American(?) Blogger

*When Egypt faced exactly similar campaign to stand on Egypt's way to build Aswan High Dam Gemal Abdel Nassir, the Egyptian leader at that time (1960) said
"WE WILL BUILD AND COMPLITE THE DAM AT ANY COST"
They did and the Egyptian people stood behind him.*

I. **INTRODUCTION AND BACKGROUND:**

Ethiopia, one of the eight upriver states and the source of 86% of the Nile water, is building a large dam located on the Blue Nile, twenty five miles from the Ethiopian border with Sudan. The Grand Renaissance Dam (Hedassie Gideb as it is called in Ethiopia) begins a new chapter for Ethiopia just like the Aswan High Dam did for Egypt.

The Nile is part of a vast river system with dozens of tributaries, streams and lakes, stretching from the Mediterranean Sea to the remote mountains of Burundi, in tropical Central Africa, and to the highlands of Ethiopia. Spanning more than 4,200 miles, it is the longest river in the world. The volume of water which flows through the Nile is a mere 2% in volume of the Amazon, and 15% of the Mississippi, 10% of the Congo and mostly is from Ethiopia (86%).

Ethiopia and Egypt have a long history of relationship. Ethiopians do understand that the Nile has been and is still essential for Egypt and Sudan. Without that water, there would have been no food, no State and no historical monuments like the Pyramids. Ethiopians do recognize and appreciate the river's central importance to Egyptian and Sudanese life.

The long cultural and historical relationship between Egypt and Ethiopia was institutionalized when the Axumite King Ezana converted into Christianity in 330 A.D. This historical relationship was not properly nurtured and effectively exploited for the mutual benefits of these two historic people that have a lot in common.

Contention and conflict between Ethiopia and Egypt over the Nile existed for a long time since the Egyptians have attempted and to deny Ethiopia the right to use its share of the Blue Nile water. The conflict is often conducted often as proxy wars on Northern and Eastern Ethiopia's border lands. The sixteenth century invasion of Ethiopia by Ahmed Gragh, was seen as Egyptian-instigated, financed and armed. In the nineteenth century, Egypt and Ethiopia fought over control of the Red Sea and Egyptians' attempt to control the Nile Basin. The climax came in 1875 and 1876 at the Battle of Gundet and Gura in present-day Eritrea where the Ethiopians delivered a humiliating defeat to the Egyptian army.

The European partition of Africa in the 1880s added huge complexity to the conflict. Egypt was colonized by England in 1882. Ethiopia defeated the Italians at the Battle of Adwa in 1896 becoming the only African country to keep its independence during the scramble for Africa. Colonization created many new states in the Nile Basin area (Eritrea, Uganda, Rwanda, Burundi, Kenya and Tanzania) and set-off new competition for resources and territory that complicated Ethiopia's life. One of which was its relations with Egypt over the usage of the Blue Nile water.

Egypt was prized for the Nile Delta by the colonialist, a region unsurpassed in agricultural productivity. After the completion of the Suez Canal in 1869, Egypt also offered access to the Red Sea and the Indian Ocean. For the British, control of Egypt meant more profitable trade with India, one of its richest colonies. For the French, the Canal offered quicker access to Indochina, its very lucrative colony.

In the late nineteenth century, since controlling Egypt was the key to Asian wealth, and since Egypt depended on the Nile, controlling the source of the Nile became a major colonial goal. The French-English competition for control of the Nile Basin climaxed in 1898 at Fashoda.

The French conceived of the idea of building a dam on the whole Nile, so as to undermine British influence further down river and establish East-West control of the continent. They organized a stupendous pincer movement with one group of soldiers travelling from East Africa across Ethiopia and the other from West Africa across the Congo.

The British heard of the French expedition and having just captured Khartoum ordered a fleet of gun boats and steamers with soldiers under the leadership of General Horatio Herbert Kitchener upriver to Fashode, the site of the proposed dam. With fewer than 200 men, the French were embarrassed. In 1899, the two colonial powers reached an agreement which designated to France the frontiers of the Congo River and to England the frontier of the whole Nile. What is surprising is that with colonial arrogance an Independent African State's interest (Ethiopia's) as a source of the Blue Nile was totally ignored and moved ahead and shoved aside. But Ethiopia continued asserting its right and legitimacy of usage of the Blue Nile water resource.

Thinking that most of the Nile water came from the equatorial lakes (Victoria, Albert, Kyoga, Edwards), the English spent enormous energy on plans to increase the Nile water flows. The British tried to create the Jonglei Canal to maximize water transfer through the great swamp where half of the waters evaporate. One of the most expensive engineering projects in Africa. It was terminated in 1984 by the Sudan People's Liberation Army because of the severe disruption it brought to the lives of the upper Nile people. If the 300-mile-long Jonglei Canal has been completed, it would have increased water flows by nearly 4 billion cubic metres into the White Nile (Another mega project the International Rivers Network never opposed. Was it because of who designed it? One wonders.).

Treaties and agreements about Nile waters started during the colonial era as England tried to maximize agricultural productivity in the Nile Delta. In 1902, the British secured from the Ethiopian Emperor Menelik II an agreement to consult with them on any Blue Nile water projects – which

Ethiopia repudiated in 1941 because of British recognition of the aborted Italian Conquest of Ethiopia.

After achieving its independence in 1922, Egypt negotiated the Nile Waters Agreement of 1929 with the British on behalf of the British East African Colonies. This accord established Egypt's rights to 48 billion cubic meters of water flow and veto power over any upriver water management projects. Sudan was accorded rights to 4 billion cubic meters of water. Ethiopia was not consulted.

Sudan became independent in 1956. In 1959, the Nile Water Agreement between Egypt and Sudan was completed before all the upriver States achieved their independence – Tanzania (1961), Uganda (1962), Rwanda (1962), Burundi (1962) and Kenya (1963). The signatories of the 1959 Agreement allocated Egypt 55.5 billion cubic meters of water annually while Sudan was allowed 18.5 billion cubic meters, the remaining balance as release to the Mediterranean. Ethiopia, that contribute 86% of the Nile Water was not consulted and deliberately ignored.

The Treaty so negatively affected the upriver States that it provided the inspiration for the Nyerere Doctrine, which asserted that former colonies had no obligation to abide by treaties signed for them by Great Britain. The Egyptians do not seem to realize how much their agreement with Britain irritated and affected the sensibilities of these nations and violated their legitimate interest and the request that the issue should be addressed in a mutual respect, cooperation and beneficiary way. Time to come to their senses rather than making match statements and threats of war talk and military action which will not scare the upriver countries.

Emperor Haile Selassie of Ethiopia was offended by Egyptian exclusion of Ethiopia in the Nile Water Agreement with the Sudan and also opposed the planning for building Aswan High Dam. By way of signalling its displeasure Ethiopia divorced the Ethiopia Orthodox Church from the Orthodox Church of Alexandria ending 1,600 years of institutional marriage. **Ethiopia also began planning for several dams on the Blue Nile and tributaries, contributing \$10 million from the Ethiopian Treasury towards a study of the US Department of Reclamation resulting in a seventeen volume report completed in 1964, and titled "Land and Water Resource of the Blue Nile Basin: Ethiopia".** Long before the so-called International River Network (IRN) was established and became self-appointed experts in dam building in Ethiopia.

Nasser (Egypt) responded by encouraging Muslims in Eritrea (reunited with Ethiopia after World War II) to secede from Ethiopia. He also encouraged Somalia to fight for Ethiopia's Ogaden region. Ethiopia won the war with Somalia in 1977-1978. The 30 years of civil war in Eritrea, supported materially and financially by Egypt and her allies, ended in Eritrea's secession at a tremendous cost making Ethiopia became a landlocked country with the blessing of EPRDF and which will haunt EPRDF for a long time to come. Although Ethiopia still possessed the headwaters of the Blue Nile, the conflict was extremely costly and prevented Ethiopia from building the planned dams to overcome its energy supply shortage, increase agricultural productivity through powered irrigation and concentrate on growth and development to alleviate its people from poverty. .

In the middle of the 1980s, rains failed in the Ethiopian highlands, causing a serious water crisis upriver and downriver. Hundreds of thousands of Ethiopians died as a result of drought and famine.

The impact of the drought affected the entire Sahel Region. However, Egypt, because of the Aswan Dam and Lake Nassir, fared better and did not starve.

In the 1990s, Hosni Mubarak redoubled efforts begun during the Sadat Administration to build the Toshka Canal, one of the world's most expensive and ambitious irrigation projects to establish the Second Nile Valley Delta. This is a follow up to the water transfer scheme towards Senai, that diverted Nile water from its natural course ignoring the concerns and needs of the upstream countries. This plan would take 10% of waters from the Nile to irrigate Egypt's sandy western desert, increasing Egypt's need for the Nile Water even if they maintained their 1959 Treaty share of 55 million cubic meters. The historical pattern of deliberately ignoring Ethiopia's natural interest continued.

In anger and disbelief, Ethiopia through Prime Minister Meles Zenawi protested saying that "while Egypt is taking the Nile Water to transform the Sahara Desert into something green. We in Ethiopia – who are the source of 86% of the water – are denied the possibility of using it to feed ourselves."

He then began plans for the Grand Renaissance Dam. The process started under the code name project X which was latter transformed into GERD. All the strange actors opposing the Dam started coming out of the wood works. Some genuine commentators, some using the motto of the "enemy of my enemy is my friend" and some confused and misinformed.

II. HISTORICAL FACTS AND EVIDENCE IN PUBLIC RECORD:

What can we learn from it:

1843: Mohammed Ali constructed the first barrage in Egypt to divert the natural course of the Nile. Ethiopia and Nile River Basin countries were not consulted.

1865-1885 Khedive Ismail obtained Massawa from the Sultan with objective of controlling the source of the Blue Nile from Sudan and Eritrea/Ethiopia.

1867 Sir Samuel Bakes (British) dreamt of complete control of the Nile by building a single dam above the first cataract at Aswan – an idea Egypt worked to translate into action.

1872-1884 Egypt occupied part of present day North Western Eritrea with the source of the Blue Nile in its mind.

1875 The Egyptians occupied the Islamic Centre of Harar in Eastern Ethiopia and simultaneously worked to strengthen the land route between the Port of Massawa and the Sudan with the objective fragmenting Ethiopia and control the source of the

Blue Nile. The encouragement of Ahmed Gragne to conduct a military campaign was born at that time

- 1875-1876 The Egyptian Army was defeated by the Ethiopian counterpart. This led to the fall of Khedive Ismael (the battle of Gundet and Gura)..
- 1888-1902 Aswan Low Dam was constructed by British engineers
- 1902 Anglo Ethiopian Treaty (including Sudan) over the Blue Nile.
- 1906 Britain, France and Italy addressed the issue of the water of the Nile among themselves. The result was that Ethiopia was deprived of its sovereignty over the water resources of the Blue Nile.
- 1917 Teferi Mekonnen (Emperor Haileselassie) sent Dr. Workeneh Martin to discuss and recruit American Engineers for the Lake Tana development plan to counter colonial ambitions on the source of the Blue Nile and its surroundings.
- 1922 Egypt became independent
- 1925 The Sennar Dam was constructed in Sudan by British Engineer and Ethiopia was not consulted and wonders why Egypt is making an issue about Ethiopia building a Dam in its territory if it does not find it necessary to consult the source of the river in the first place when it makes repeated similar decision before.
- 1925 Britain exchanged notes with Italy over the waters usage of Blue Nile to the dismay of Ethiopia.
- 1929 Agreements signed between Egypt and Great Britain, the latter on behalf of the Sudan, Kenya, Tanganyika, and Uganda. The treaty stipulated that no work of any kind may be undertaken on the headwater of the Nile without the consent of Egypt. The agreement infuriated the East African nations and they asserted their rights by rejecting it after their independence.
- 1930 Ethiopia-US cooperation led to the commencement of the physical survey of the Blue Nile. Hello International Water Network.
- 1936 The Jebel Aulia Dam constructed. No one questioned it and Ethiopia was not even informed.
- 1941 Ethiopia repudiated the 1902 Treaty over the Blue Nile because Britain recognized the abortive Italian "Conquest" of Ethiopia.
- 1956 Sudan became independent.
- 1956 Ethiopia asserted that it reserved (then and in the future) the rights to utilize the waters of the Blue Nile, without recognizing any limitations on its freedom of

actions. Exactly similar assertion by Nassir was made when he wanted to build the Aswan High Dam.

- 1957-1962 The 1930 Survey on the Blue Nile implemented. It involved studies and stream flow, soils, hydroelectric power potential and land use. A United States engineering firm, Bolton Hennessey and Partners conducted a comprehensive study of the Abay (Blue Nile) River under the contract of the Ethiopian Government. Hello again international water Network and the “white Elephant critics”.
- 1959 Nile water apportionment agreement between Egypt and the Sudan signed. According to the Agreement, 55.5 BCM was allocated to Egypt and 18.5 BCM to the Sudan. Ethiopia and the other Nile Riparian States were excluded from the Agreement. Illogical arrogant and unrealistic. Egypt starts active effort to destabilize and fragment Ethiopia.
- 1960 The Eritrean Liberation Front was established in Cairo. Propaganda radio broadcast from Egypt started. A clear intention and gross interference to dismantle Ethiopia and the beginning of the active operation to destabilize and dismember.
- 1962 Rosaris Dam constructed. Ethiopia was never consulted.
- 1964 Khasim el-Geba Dam constructed. Ethiopia was never consulted.
- 1968/1970 The Aswan High Dam construction completed.

No one bothered Egypt or Sudan in these construction projects. 117,000 Nubians in Southern Egypt were displaced and resettled because of the Aswan High Dam. The famous Ramsi the Second Abusimba Temples and others were lifted from Lake Nasir and relocated with the help of UNESCO, Germany, France and Holland financing. Interesting to observe that these countries refused to give support to the dam which has significant impact on the welfare of Egyptians but provided resources for rescuing the statues and obelisks.

- 1973-1974 A drought-induced famine killed hundreds of thousands of people and led to the collapse of the Haile Selassie Government in the middle of plentiful water resources and cultivable land. **(YE ABAYEN LIJ WUHA TEMAW).**
- 1988 The USD 300 million Tana-Beles project started. Egypt influenced the blockage of the loan from the ADB requested for this purpose.
- 1993 Ethiopia and Egypt reached a framework agreement of cooperation with a special emphasis on the water of the Blue Nile. Encouraging effort that needed to be sustained and continued.
- 1993-1994 Two meetings at the level of experts drawing from Egypt and Ethiopia took place. The two sides agreed on the principles guiding the consideration of the Blue Nile

issue. The meeting also focussed on the allocation and efficient utilization of the Blue Nile.

- 1997 An Aide Memoire was sent to Egypt by the Government of Ethiopia asserting that the 1959 Water Apportionment Agreement between Egypt and Sudan was not binding on Ethiopia.
- 1998 Prime Minister Meles Zenawi paid a working visit to Egypt upon the invitation of President Hosni Mubarak. During the visit, the two leaders discussed ways of strengthening the bilateral relations of Ethiopia and Egypt. Meles asserted Ethiopia's right to use Blue Nile water but in cooperation with Egypt for their countries' mutual benefit.
- 1999 Ethiopia asserted once again its right to the waters of the Nile at the UN Conference on water resources.
- 1999 The Nile Basin Initiative, which Egypt and Sudan were party to and backed away at the final stage of 10 years efforts, the delivered Comprehensive Frame Work Agreement (CFA) is formed. CAF is based on principles of equitable utilization of the Nile, no appreciable harm, cooperation, win-win and similar principles.

Ethiopia, Burundi, Congo, Kenya, Rwanda, Tanzania and Uganda have signed the agreement that re-wrote the 1959 treaty that favours Egypt.

- 2009 Completion of Merowe High Dam in the Sudan, in which Ethiopia never consulted.

III. THE LEGAL ASPECT: ETHIOPIA IS RIGHT ON TARGET ON THE LEGAL GROUND

I. The Nile and international rivers under Public International Law.

Ethiopia has carefully and thoroughly looked into and followed international law on the issue of the Nile and those who are interested on the issue should carefully look into and examine all the legal documents and avoid uninformed, pre-determined expression of opinionated ideas and for that matter "insults" and blind opposition of the Dam Ethiopia is building.

Ethiopia has followed relevant principles of international rivers law as a foundation of their case and in their legal and political dealings and development in the Nile Basin and Blue Nile waters.

There are three international bodies that contribute to the codification of the rules and regulations of international rivers. The Institute of International Law (IL); the International Law Association (ILA); and the International Law Commission (ILC) of the United Nations.

IL has adopted two resolutions on the use of International Non-Maritime Waters in 1961 in Salzburg and the Athens Resolution on the Pollution of Rivers and Lakes and International Law in 1979. The 1961 resolution declares that a state's right to make use of shared waters is limited by the right of used by the other States concerned with the same river or watersheds. It provides that any dispute as to the extent of the respective states rights shall be settled on the basis of equity, taking into consideration the respective needs of the States, as well as any other circumstances relevant to a particular case. The provision affirms the principle of equitable utilization of water. In addition, the resolution provides for advance notice of new users and negotiations are called for in the event of objections to such use. Hello Egypt. This put all the Nile Basin countries on a solid ground – particularly Ethiopia in the current context of the Dam controversy. A solid body of international legal authorities of high repute support a flexible approach to international water problems. They emphasize the need for regular communication and establishment of mechanisms within which experts from Ethiopia and Egypt can work together. Ethiopia was exactly doing that while Egypt was on and off operating with the perception of my way or the highway.

The International Law Association (ILA). Among its best-known products are the articles adopted in 1966, known as the "Helsinki Rules on the Uses of the waters of International Rivers" (Helsinki Rules). It is clear from the Helsinki Rules, and subsequent work of ILA, that this organization regards the dominant principle in the field of international water resources to be that of equitable utilization or apportionment. Article IV of the Helsinki Rules provides that States are entitled to a reasonable and equitable share of the beneficial uses of the waters of an international drainage basin. The commentary to the Helsinki Rules themselves makes clear that an existing use may have to give way to a new use in order to achieve an equitable apportionment of shared water resources. The definition of the terms "equitable" and "fair" are vague and subject to different interpretations on what is "equitable" and "fair" to Ethiopia may be unfair to Egypt or vice-versa. However, to say it will not allow a drop of water to be lost is not the way the international norms and rules expect nations to behave. Hello Egypt again. Ethiopia has made clear and joint studies have also proved that the Ethiopian Dam will not harm Egypt. Ethiopia has been careful to protect and address the reasonable Egyptian concerns. However, Egypt should take note of its Aswan High Dam experience and that Ethiopia is legally capable of doing what Egypt has done on Aswan .

The International Law Commission (ILC) of the United Nations (UN) in 1991 completed its draft articles on "the Law of Non-Navigational Uses of International Watercourses. The General Assembly adopted the draft in 1997. This broadly known as UN Water Convention is expected to come to force in August 2014, as it has been ratified by the needed 37 nations recently. Under the ILC's articles, the obligation not to cause harm to others States prevails over that of equitable utilization in the event that the two comes into conflict. The Commission's commentary to Article 7 "Obligations not to cause Appreciable Harm" states that "a watercourse state's right to utilize an international watercourse in an equitable and reasonable manner has its limit in the duty of that State not to cause appreciable harm to the other watercourse state. Ethiopia has perfectly understood and has always been sensitive and accommodate to that appreciable harm. But that definitely does not mean a monopoly to Egypt, ignoring Ethiopian intent in all the treaties, dam construction and usage of water. Ethiopia has always been ready for the necessary accommodation with specific agreement with Egypt as well as Nile Basin countries.

II. The Nile and Conflicting Legal Theories of Drainage Basin Rights:

The following are the main legal themes relevant one way or the other on the Nile and the Ethiopia/Egyptian contention. These themes clearly show that Ethiopia and Egypt require reconciliation by treaties and other peaceful means the conflicting interests they have. International legal experts have formulated numerous theories by way of trying to address these conflicting interests, manifests not only between Ethiopia and Egypt, but also with many other numerous countries and entities such as Indo-Pakistan, Syria-Jordan, Israel-Jordan-Palestine, United States-Canada, Mexico-US, Egypt-Sudan, Turkey-Iraq etc.

a) The Theory of Absolute Territorial Sovereignty

This is called the “Harmon Doctrine” that says each State, because of the absolute sovereignty it exercises over its territory, may use water of international rivers within it as it pleases, without regard to the damage which may be caused to the other Riparian States. A State, as “master of its own territory” may adopt, in regard to water courses within its territory, all measures deemed suitable to its national interest, “irrespective of their effects beyond its borders.”

Egypt clearly used and practiced this theory when Egypt and Sudan signed their 1959 Agreement about the Full Utilization of the Nile Water and also when Egypt built the Aswan High Dam. In response, the Ethiopian Government both in 1957 and 1978 issued a statement asserting and reserving for itself the right to exploit Ethiopia’s natural resources, particularly, the water of the Blue Nile. All along, Ethiopian position with regard to the division of the waters of the Nile was consistent and legal. Sitting upstream, Ethiopia never asserted the absolute territorial sovereignty that gives her the 86% Nile water, but recognized the needs of its downstream neighbours

b) The Doctrine of Absolute Territorial Integrity:

According to this doctrine, a lower Riparian State claims the right to the continued uninterrupted or natural flow of the waters from the territory of the upper Riparian States. Lower Riparian States like Egypt, naturally favour these principles of absolute territorial integrity. The proponents of this theory have been Max Huber and Judge Lauterpacht. Egypt Jumped on this doctrine. In its “Country Report” presented at the Meeting of International River Organizations held at Dakar in 1981, Egypt argued that in the absence of treaty stipulations to the contrary, “each riparian country has the full right to maintain the status quo of the rivers flowing in its territory”, and that “it results from this principle that no country has the right to undertake any positive or negative measure that could have an impact on the river’s flow in other countries.” The country report further added that “a river’s upper reached should not be touched lest this should affect the flow of quantity of its water” and “in general any work at a river’s upper reaches that may affect the countries at lower reaches are banned unless negotiations have taken place.”

This kind of attempt to monopolize the use of River Nile by Egypt has been totally rejected by all Nile Basin Countries and as early as in 1925 by the Nile Commission rejected Egyptian stand that it had an absolute right to the natural flow of the Nile river Waters. There is no evidence of any state even having accepted a diplomatic settlement based upon this theory. Nor has an international arbitral decision even applied it in any dispute between co-basin States over the use of the waters of

international rivers.

c) The Theories of Limited Territorial Sovereignty and of Limited Territorial Integrity:

These two theories are complimentary. They assert that every State is free to use the waters flowing on its territory, on condition that such utilization in no way prejudices the territory or interests of other States. This means that States have reciprocal rights and obligations in the utilization of the waters of their common international drainage basins. In other words, a State may use the waters of an international drainage basin flowing through its territory, provided that such use does not cause an unreasonable harm to the interest of other Basin States.

Ethiopia all along followed this logic ever aware and never to harm the Egyptian people. Today, legal writers and several national and international scholarly association, as well as State practice, have accepted the two theories.

d) The Doctrine of Riparian Rights

This doctrine stems from the Roman Law principles that water is a *“res communes”* and has incorporated into the civil and Common Laws. Under the Common Law, the landowner who is in the upper Riparian must allow the water to go down in its natural channel, undiminished in quantity or unimpaired in quality to the Lower Riparian. The Upper Riparian may, however, make reasonable use of the water while it is traversing its land. The rule recognizes that the Lower Riparian is entitled to the natural flow of the water from the Upper Riparian State(s).

This doctrine has never been accepted as a basis for the solution of international water law disputes although it has been invoked and relied upon at both quasi-international and international level. Egypt relied upon this doctrine in support of her special claim to the water of the Nile, although it has not directly invoked the doctrine.

e) The prior Appropriation doctrine:

Under this doctrine, a permanent right to the water on an international river may be acquired by simple prior appropriation, the person first making such appropriation becoming entitled forever to the exclusion use and control to the water to the extent of his appropriation. And the reason behind the adoption of this doctrine as a substitute for the riparian rights was that the water in the river is not sufficient to meet the needs of all the riparian users.

In international law, the argument against the doctrine of prior appropriation has been very strong as a strict application of the rule might block the beneficial uses or improvement of uses in the future. The 1929 Nile Water Agreement which sought to protect Egypt's *“natural”* and *“historic”* rights to the water of the Nile is a sort of reflection of the doctrine. Even this cannot work in the case of Ethiopia since Egypt diverted the Nile water to Sinai and is trying to divert it in Southern Egypt to establish the second Nile Valley while opposing Ethiopia's natural rights as well as the Nile Basin countries. Above all Ethiopia has been opposing and warning and also making legal appeals and statements saying that its interest cannot be ignored when Egypt tried to enforce the Appropriation Doctrine.

f) The Theory of Equitable Appropriation:

According to this theory, each co-basin State is entitled to a fair share of the waters on an international river, if this entitlement is justified. An improvement of this theory is expressed in the doctrine of equitable utilization which is the most accepted today with the exception of insignificant number of countries like Egypt.

g) The Theory of Equitable Utilization:

This is the most commonly accepted doctrine of customary international law in connection with international water resources. It is reflected in three similar sets of rules, which were developed by international legal entities (The Helsinki Rules, the Law of Non Navigational Uses of International Watercourse, and the rules of the Convention concerning equitable and reasonable utilization of shared water resources). Ethiopia is fine with this while Egypt has a problem with it.

III. Other theories such as Priority of Existing Users' Acquired Rights or Vested Rights, the Responsibility of States under Public International Law, other factors and criteria like local customs, effective utilization of rivers, geography and hydrology, length of the frontage of the riparian States on the river, and contribution of water to the flow of a river by the Basin States – all correspond with Ethiopia's stand and accommodative position.

Egypt disputes Ethiopia's protest and warning and aide memoire of September 23, 1957 and its 1956 Communique, emphasizing Ethiopia's right. Egypt went ahead with the 1959 Agreement for the Full Utilization of the Nile Waters with Sudan. It proceeded with the construction of the Aswan High Dam.

Ethiopia, therefore, has fulfilled its international obligation and has done its level best to address in a mutually beneficiary and cooperative manner. It is Egypt's call.

IV. **ASWAN DAM AND THE LESSONS WE LEARN:**

It is the largest rock-filled dam in the world. A massive project that took three years of Nile water-flow to fill it. If broken or let loose, it can wipe out the entire Egypt within a day. One thousand (1,000) miles long and twelve (12) miles wide fertile stripe in a relentless desert. Aswan Dam helped Egypt address the common stories of many years of drought, hunger, flood. It helped to provide irrigation, water management and electricity. The silt from the Nile and all the way from the highlands of Ethiopia gave Egypt one of the richest farm land in the world. It produces world-best cotton in the silt delta water of the Aswan Dam.

Egypt faces exactly similar challenges and problem as it is giving to Ethiopia today when it wanted to build Aswan High Dam. July 23, 1952. The Free officers led by Abdul Nassir took power and decided to build a world-class Dam changing the landscape of the Nile. This was a symbol of new Egypt. The "Security of Egypt" needed that Dam according to Nassir. In 1952, Germany proposed to design, raise finance and construct the Aswan High Dam to ease Egyptian led Arab opposition

to Germany's proposal to give \$3 billion Deutsche Mark to the newly established state of Israel by way of compensating Hitler's atrocities.

Building Aswan Dam was an ambitious and bold plan that was changing the landscape of the Nile Valley in Egypt, the course of the Nile and the building of canals and channels. Nassir and Egypt declared nothing will be allowed to stand in the way of the Aswan High Dam. A very correct and courageous stand. It is ironic that Egypt is doing everything to block and stand in the way of Ethiopia building its own Dam with similar benefit to the Ethiopian people.

The World Bank that was eager to engage in the activities of large infrastructural project to move a developing nation forward on the path of development agreed to finance the construction of the Aswan Dam. The US also agreed to support. West Germany's design was completed and work was about to start.

However, at the same time conflict between Egypt and Israel broke out. In addition Nassir's left-leaning programmes, friendly gesture toward USSR, official recognition of China led the US Government to withhold the financial support from the World Bank and put pressure on West Germany not to commit to the project. The offer from the West and the World Bank was withdrawn. Nassir and the Egyptian elite were angry and the action intensified their determination to rely on themselves to build the Dam.

Nassir and Egypt designed their own way of financing the Dam by nationalizing the Suez Canal. The revenue for the canal was to finance the construction. Britain and France joint beneficiaries and shareholders of the Suez Canal reacted angrily to the nationalization and invaded Egypt in cooperation with Israel. With American and Russian opposition to the invasion they were forced to withdraw. Egypt's resolve and assertion of its independence resulted in the fulfilment of its desire to implement the project that will have a significant impact on its future wellbeing. The Egyptian should take note that Ethiopia is doing the same and Ethiopia's resolve should not be questioned. Ironically today Egypt want the US and others to put pressure on Ethiopia and deny Ethiopia World Bank money and other resources knowing this kind of policy will not succeed and will increase the determination and resolve of the Ethiopian people.

In 1958, USSR offered to assist in building the Dam. Russian engineers took over the German design, modified it and started work on it. Nassir and Egypt got their Aswan High Dam just as Ethiopia is determined to get its own. Work on the Dam started at the 2000 year-old town of Aswan from miles south of the upstream low dam constructed many years previously. Ethiopia which contributes to 86% of the Nile water not consulted. The International River Network (IRN) that opposed the Ethiopian Dam and others that always question any significant project in developing countries if they do not control it were nowhere at that time.

Egypt constructed a lake behind the Dam and called it Lake Nassir. Used silt, sand and rock to solidify it. The High Dam is a rock-built Dam and not concrete. The Lake has 170 billion cubic meters of water. No one bothered to ask any questions. For fear of Israeli aerial bombardment, Egyptians were taking maximum precaution in the construction. It is interesting to note that they publicly talk

of bombing the Ethiopian Dam with the infamous Morsi gathering that lead Egyptian politicians to discuss the Ethiopian Dam or Anwar Sadat threatening war.

By building the High Aswan Dam, Egypt showed its resolve in its cause of self-determination. Ethiopians also have the resolve and no one else more than Egypt should be able to understand that. Egypt completed the Aswan High Dam in 1970, ten years after it started. Western countries and the World Bank refused to finance, but Egypt got it done. Egypt increased its agricultural productivity by 30%. It started producing three times more electricity and provided electricity to 20,000 villagers who never had it before. It cost \$1.2 billion and the lives of 1,000 workers. Industrialization began to take shape with the availability of energy. Egypt's survival as nation and its rapid move to be a middle income country was on firm ground. Unlike few of ours who called GERD a white elephant the entire Egyptian population was behind the project no matter what the internal differences, no matter if the Free Officers movement overthrew King Faruk and the old ruling class. Aswan Dam was called Nassir's Pyramid. What do Ethiopians learn from this? Get money, weapons and propaganda support from Egypt and Eritrea to fight each other and fulfil the Egyptian and Eritrean design of dividing, fragmenting and destroying us using the logic of the enemy of my enemy is my friend. The Egyptians will take us for a ride. No matter what the opposition is to the current Ethiopian government or our own disagreement to it, we should be careful not to throw the baby with the bath water. Do we need to be part of the campaign against the Dam? Fighting someone's battle?

While some of us are arguing and opposing the GERD Egypt is working to establish the "Second Nile Valley" by diverting part of the Nile starting from Toshka. Egyptian experts say that this is a work far ahead into the future for the coming generation – and easing the population pressure from the Nile Valley and as "supply Africa with food as they say..." while actively opposing Ethiopia's efforts to use the Blue Nile (Abaye), build a Dam etc.

V. PLANNED AND PERCEIVED EGYPT'S MEGA PROJECTS ON THE NILE:

Egyptians have planned mega projects such as "another Aswan Dam" on the River Nile, Western Desert, New Axis project, Sinai Desert development projects.

The Blue Nile Basin specifically includes Egypt, Sudan and Ethiopia, and the Nile Basin in general additionally includes South Sudan, Tanzania, Uganda, Kenya, Rwanda, Burundi, DR Congo and Eritrea. Given the existing geopolitical chemistry, the above-mentioned projects are not without impact to Ethiopia and the entire Nile Riparian countries. If the Egyptians aggressively oppose the Ethiopians building their dam, one wonders what kind of hydro political avenue Egypt is following.

The four Mega projects are directly linked to River Nile. Particularly Blue Nile that comes out of Ethiopia with 86% share of the Nile water. The new Aswan type High Dam will store water of the River Nile in the Sahara Desert. The stored water will be used for Western Desert New Axis Project and multitudes of projects in the Sinai Desert. These three locations are deserts of scorching sun where life barely exists. In this part of Egypt, the loss due to evapotranspiration will be excessively high. Agricultural development in the Sahara Desert will definitely require enormous amounts of

water. Given the flow of the river is both erratic and limited, such planned usage of water will make the Nile water for other nations scarcer and will require a total denial of water for the other countries. The available water will not be able to change the mere desert to a green field. The idea of planning agriculture in the middle of the Sahara desert while opposing similar development on the temperate zone of fertile land of Ethiopia is non-comprehensible to say the least. This is leading to confrontation with upper Riparian countries particularly Ethiopia.

In this water-stressed region, all Nile Basin countries seem in need of having Nile waters. However, Egyptians were not only trying to monopolize the use of the Nile water, but they have been intentionally generous in offering the Nile waters to countries outside the Nile Basin. Anwar Sadat, during his visit to Jerusalem in 1979, promised two billion cubic metres of water for Israel while threatening to bomb Ethiopia if she dares to use the Blue Nile. Some media outlets have reported in the past that they have been secret discussions by the late Gadhafi of Libya and Mubarak of Egypt in diverting the waters of the Nile to the other water-scarce countries of the former. It is also possible to infer that the Egyptian-Saudi Arabia Bridge on the Red Sea Project will not be a mere bridge alone. Given Egypt's generosity to its non-Nile Basin neighbours, thinking the inclusion of heavy-duty water pipes from Nile to Saudi Arabia along the bridge will be more reasonable assumptions than speculation. According to one keen observer, it was stated that this purposeful sole Egyptian generosity will water the holy places of the three great religions: Jerusalem, Mecca and Medina, bringing a totally new geopolitical and religious dimension in the already volatile region.

Unlike the proactive generosity to non-Riparian countries, Egypt's reaction to its southern neighbours is clouded by aggressiveness and contempt. It is observed sometimes with military threatening and more often with clandestine disruptive and subversive acts. To Egyptians, every development issue regarding Nile has to be concluded maintaining this hegemony. According to their hitherto approach, their southern neighbours must always bow down to the terms and conditions. If not, they posture the military option. The perverse logic here is that for Egyptians to use the waters of the Nile extravagantly, Ethiopians should willingly accept death from poverty and hunger than death through military aggression.

The military posturing can only be useful for a psychological war. Ethiopia is no "Banana Republic" that can easily be overrun by Egyptian military might. History and the survival of Ethiopian independence are living proof. Egyptians have never been successful in this expressionist ambition and the Battle of Gundet and Gura are historical lessons. However, Egyptians have been more successful in the clandestine operations than in the military front. They were successful in assisting the Eritrean secessionists which culminated in their favour. Their covert assistance to the State of Somalia in the 1970s engulfed the lives of tens of thousands of Ethiopians and Somalis. So did the brotherly people of Eritrea and Ethiopia. They were successful in blocking Ethiopia's loan requests from all bilateral and multilateral sources. Egypt was also successful in making black Africans – Sudan, Djibouti and Somali – members of the Arab League extending its political influence even beyond the Basin to pressurize, dismember and fragment Ethiopia. The Egyptian intelligence service is doing all these things.

Some Egyptian politicians may think this approach aligns Saudi Arabia and Israel including Libya along the interest of Egypt. By extension, it may be possible that friendly countries and allies like the

US will help reinforce Egyptian interests. Before the turmoil in Libya and Egypt, the assumption was Libya and Saudi Arabia, two oil-rich countries, finance these ambitious projects and the Military Junta turning itself civilian may still think that way.

If the scenario holds, the poor Nile Basin African countries, Ethiopia in particular, will be confronted with the diplomatic, security, financial and military muscle of the various actors.

VI. **THE CASE ON INTERNATIONAL RIVER NETWORK(IRN)**

- They argued that member of affected communities by the construction of the Dam were not consulted.
- They stated that anybody even suspected of opposing the dam risks suffering serious consequences.
- They made the point that accountable government and public participation in decision-making are the elements of social and economic development which I agree and no one is contending that. They argue that the Ethiopian government makes a mockery of these concepts.
- IRN Campaigned against China to halt any funding of the Ethiopian Dam taking note of the economic cooperation between the two nations.
- Urged Donors not to give funds to Ethiopia since they are used to oppress people again strange to the Terms of Reference of IRN..
- Encouraged picketing Ethiopian Embassies
- Joining hands with the robust opposition from Egypt which is trying to control its monopoly over the Nile.
- Campaigned against Salinai (an Italian Company) which won the contract to build the Dam and Companies affiliated to and favoured by IRN lost. Understandable frustration on vested interest and this is not new in the cut throat business of lucrative contracts in Africa.
- IRN threw everything it has on Ethiopia to disrupt the Dam building. It has also opposed Gilgel Gibe III

The demand and issues raised is out of touch with the Ethiopian reality and no dam in the world is built in the way IRN is advocating. Decision on Dam building in Ethiopia will not be made by IRN. Proud and Independent People who have survived the onslaught of colonialism and Italian Fascism do not ask the permission of self-appointed Think Tanks like IRN to make a decision on what kind of economic and engineering decisions they take. No matter how arrogant and self-aggrandizing their self-image is. It is not credible to think that Ethiopians will bow down for this cooperative effort with Egypt and IRN. I saw the IRN analysis on "China's role in financing African infrastructure" (by Peter Bosshad – May 2002). It talks about the concern about China's role in Africa, the role of China's Exim Bank, on the package deal, and how China is a free rider or OECD debt in relief to developing countries. This clearly shows the driving motives of IRN and makes one laugh when they talk about the indigenous people. The best solution to address the fear of China is to request and encourage the US and other Western "Exim Banks" to finance development projects in countries like Ethiopia without much fanfare, conditionality to support the development efforts

which will be beneficiary for all. No point in wining about China. Ethiopia's relations with China, as well as its relations with the US, Britain, Russia etc.. is based on National interest.

The decision to build the GERD was a public process and IRN and Egypt are not part of Ethiopia's public process. While the technical aspects are done by technical experts, the social and public participation is addressed through the active support and participation. The Ethiopian People are financing the Dam. When Ethiopians decide to finance it through domestic means the critics come out saying it is too much money, stiffing money from the private sector, it is taking away money from other sectors, and is a white elephant etc. Damned if you do, damned if you don't. So preferable way is to ignore them and focus the national objectives and move on. Face the music when and if necessary.

The decision on the Dam is not made on greed but in a rational process. It is not self-serving decision for one Ethnic group as implied by some. Trying to stretch the ethnic arithmetic and inter-ethnic rivalry to this limit is not useful for Ethiopia while we should stand for a fair and equal treatment of all Ethnic groups. The Dam are located in the southern and western parts of the country. It is not made by a dictator who wants the project, but a follow-up to a series of studies since 1968s by US, Russia, World Bank and others. The last two governments and including the current one all worked on it one way or the other. It is a decision to protect Ethiopia's usage of the Nile before it is too late and our cross river partners to start consulting and cooperating for mutual benefits.

Almost all beneficiaries in the surrounding do not belong to the alleged Ethnic group that is accused of exploiting the Dam construction. Do not forget that all ethnic groups living in Ethiopia are Ethiopians who deserve their fair share of our common resources when and if need be. We do not need individuals or external actors to fan ethnic hatred and we Ethiopians have to be left alone to resolve our internal issues in mutual respect and accommodation. This magnanimity and give and take has to start somewhere if we want to save our nation. Enough error is already committed and time to genuinely find a solution to the growing ethnic centered thinking at the expense of the overall all national needs and interest. We should by all means work to avoid the ethnic conflict feast artificially created for us to slaughter one another. We would rather forgo the "provision of grains and tents" for refugees centres in the name of humanitarian Aid after the pain and destruction and address our differences peacefully without that kind of cost. Syria, Iraq, Egypt itself, CAR, DRC, Rwanda, former Yugoslavia, and now South Sudan as well as the old story of Somalia are good enough lessons. Look at what is happening around us. Look at the damage, death and destruction.

Our engineers and technicians are equally educated in western universities with all the know-how and experience needed. May be much better than IRN experts who self-congratulate themselves without much practical experience on Ethiopian ground.. There are around 500,000 dams built throughout the world, and building dams is not some kind of a mysterious activity. Google and you will see various architectural designs, detailed analyses, computer assisted graphics and calculated precision Dam enforcements etc. Honestly, those with prejudice will always believe that they are the only ones who know better.

Ethiopia's options for economic development are limited. With over 90 million people it is the most populous land-locked country in the world and one of the poorest. The ten world's highest dams in

Switzerland, Russia, Tajikistan, Georgia, Mexico, India, China and Columbia are built without IRN permission or involvement. Large dams have produced economic miracles in the USA, Canada, China, Turkey, India, Brazil and of course Egypt. While IRN actively oppose Dam building in Ethiopia, the country IRN is located (the United States) and its industries people get water from their tap, benefited from the economic and social development resulted from their Dams. Arizona, Nevada and southern California's growth was funded by nine large Dams that diverted the Colorado River water, helping turn this and the west into a lush and lucrative green. Colorado, Nevada and Las Vegas also prospered from the Hoover Dam.

According to the World Bank, hydropower constitutes 13% of electric power in the US, 99% in Norway, 75% in New Zealand, and 70% overall in Latin America. Hydropower is clean, renewable, reliable, cheap source that produces 19 gigawatts of electricity as 500 barrels of oil or 150 coal power plants, and prevents the emissions of over 200 million tons of carbon dioxide annually. Hydropower is efficient. World Bank figures show that it converts mechanical energy into electrical energy at 85% efficiency, compared to 50% efficiency for gas turbines. Once constructed, hydro plants are inexpensive to run.

The hydropower of Western Rivers helped the US win World War II. The Bonneville and Grand Coulee Dams fuelled enough aluminium processing to build 60,000 planes, and the power plant on the Hanford Reservation near Richland, Washington. Energy from the Columbia River produced the plutonium that ended the war even if not pleasant. Therefore, developing countries like Ethiopia cannot spend all their time explaining themselves and arguing and justifying what they do to self-appointed philanthropists or self-interested consultant types who make millions out of us. However, the author do recognize that there are substantial number of decent, God fearing non-political genuine agencies and philanthropists that work and contribute to the development and wellbeing of developing countries like Ethiopia.

The accusation of Lori Poitlinges of IRN that there is inadequate hydrological impact study, inadequate understanding of how the dam will affect people and ecosystem downstream, much larger group of people will suffer the consequence of the dam is not based on fact but common assumption she and her likes make based on their generic and elementary observation without specific and deep understanding of what goes on in the part of Ethiopia where the Dam is built.

The Ethiopia Dam is located in Benishangual-Gumuz Region of Ethiopia, about 40 km (25 miles) east of the border with Sudan. In your propaganda leaflets Miss Poitlinges you confuse the people of Benishangual & Gumuz with the people of Nyagathu – located near Omo River. So much for your knowledge of the indigenous peoples of Ethiopia. The social, economic and environmental impact will overall be positive. Ethiopians knows better than California-based "Freelance Anti Dam operators" established in 1985 who never grasped the historical, cultural, geopolitical struggle and survival of the people in that part of the world. It takes more than the superficial effort to understand the survival of and the independence of Ethiopia and Ethiopians in that part of the world for people who grew up with the image of "Tarzan in Africa" and who suddenly became knowledgeable and concerned about our "indigenous population". If it is from the heart, there are many ways of helping and supporting these indigenous people (if they are not thinking that "these exotic people have to remain that way they are for their amusement ") with the provision of

electricity that will bring light to their houses, change their energy consumption from wood and animal manure to modern electric energy transforming the society, helping schools, clinics (refrigeration for medicine) and electricity for provisions of medical care, supporting water supply system etc..

An independent assessment estimated that at least 5,100 people will be resettled from the reservoir and downstream area. A solid plan is in place for the relocated people and those who have already been resettled. They were given more than what was expected in compensation. Most of the indigenous population have never seen a dam or electricity before. Community meetings and explanations as well as consultations have been conducted. Almost all locals expressed their hope that the project will bring something of benefit to them in terms of education, health, electricity supply, job opportunities, livelihood options etc based on the information available to them. If more work and additional consideration is needed it is the responsibility of the Ethiopian government and Ethiopians to fulfil it. The government cannot drag its feet. There is no question that in addition to the use and advantage of the overall project development, the government has to take special consideration to make sure the local population gets a sustained and long lasting tangible gains.

The area around the reservoir will consist of a 5 km buffer zone for malaria control that will not be available for settlements. In some upstream areas, erosion control measures will be undertaken in order to reduce the situation of the reservoir. Millions of Ethiopian's are now campaigning and putting their labour and energy to reverse land degradation in the watersheds of the Abbay and increase sustainability of their dams.

What is the motive of IRN to publish a leaked report of the International Experts? It was Egypt in the first place that insisted the document should not be public. It was then leaked to IRN to publish. Is this a coincidental cooperation? IRN has been opposing Gilgel Gibel, II and III. A bit of misguided obsession as opposed to deliberate and realistic reasoning.

What makes the IRN assume that their so called "experience in studying on mega Dams in Africa reveals their project has consistently failed to reduce poverty" apply to the Ethiopian reality? It sounds like we need IRN "Californian Angels" to come and rescue us from our poverty rather than ourselves try hard and get over it as China did for 500 million Chinese or Brazil did for 35 million Brazilians or even the US during the time of President Lyndon Johnson. Why do we have to grapple with IRN intervention? We know many come to meddle in our domestic affairs covered up under the clothing of many different entities. We cannot ignore the teaching of history. Lori Poitlinges claims the dams in Africa have been costly and ineffective solution for increasing access for the millions of people on the continent, and therefore Ethiopia shall not build the dam. According to her, she believes that there is a decentralized energy solution for Africa and Ethiopians should stop the dam and listen to her expertise and know-how that has no grasp of the Ethiopian reality. Mega Dams in USA, Brazil, Russia, China, worked but has to be overzealously opposed in Africa and Ethiopia with IRN missionary zeal. IRN has called a halt to the "hurried" construction of the dam, pushing for Egyptian delaying tactic from finalizing it. Ethiopia cannot sit idle and get another fait accompli on the Second, Nile Delta diverting scheme while the need for electricity, irrigation and agricultural productivity needs are pertinent for the Ethiopian people. We never hear of IRN talking about the

wasteful usage of the Nile Water by Egypt – industrial contamination with bio-chemicals, such as fertilizers, the salination, the silt destruction of the tuna fishing industry etc. After Egypt violated all rules and regulations of international water, and after refusing to cooperate with all Nile Basin countries, IRN is saying “Ethiopia escalated tensions by their poor planning process”. What a balanced statement and what a logic. The country that threatens war, the country that violated all norms and rules is excused and Ethiopia is accused for escalating tension by IRN and they say they are neutral.

Ms. Lori P. Poitlinges of IRN is telling us our dam is poorly planned. The fact shows Ethiopian experts, and international experts (US, Italian and Russian experts)– did in depth assessment of the Blue Nile Basin. The 18 volume study by an American Company and the state of the art technology we are using – are all much better than what is used in Aswan or Hoover Dam built more than 50 years ago, and

Madam, we knew a long time ago the challenge of energy security and building dams is a compound of challenges of power production, mobilizing financial resources and addressing socio-economic issues.

An estimated 50,000 large dams now exist in the world. There are 300 major dams – giants – China has 19,000 dams, Brazil, the US (5,500), India, Japan, Russia (516). They are all food self-sufficient and with sufficient supply of energy. Out of the top 54 largest dams, 12 are in China, 6 in Brazil, 3 in Venezuela, 6 in USA, 7 in Russia, 8 in Canada, 1 in Pakistan, 1 in Argentina, 1 in Paraguay, 1 in Tajikistan, 1 in Mexico, 1 in Turkey, 1 in Vietnam, 1 in Malaysia, 3 in Iran, 1 in Romania, 1 in Vietnam, 1 in Malaysia, 1 in Tajikistan, 1 in India.

There are now 23 new, largest dams under construction. These include 12 in China, 2 in Brazil, 2 in Pakistan, 2 in Myanmar, 1 in Ethiopia, 1 in Venezuela, 1 in Tajikistan, 1 in India.

What does these two set of lists of Dams tell us? Their economic growth? Level of industrialization? Availability of power? Population size? Level of poverty and the number of people they lifted out of poverty? For example, China lifted 500 million people out of poverty within a few years. What is the record of IRN in regard to these Dams? How many of them it moderately approved? Do these Dams belong to developed or developing nations? Who needs the Dams most? For how many of them does IRN engage in leaking confidential studies and documents? The answers will be telling. Every Tom and Jerry want to come to our kitchens and cook; want to tell us what to do and how our engineers are incompetent and their knowledgeable. However United States completed John Jay Dam in 1949, Hoover Dam in 1936/39 and then uplifted in 1961; Russia completed Samayskaya Dam in 1957, and Bratsk Dam in 1967. Brazil completed Ilha Solteira Dam in 1973 etc. After those, many years and technology have advanced. Almost most engineers engaged in the new dams are trained in world class universities, companies like Salinis of Italy working in R.D. are known for their know-how and experience. I do not think the IRN experts can question Italian know how on construction (experience since early Roman Empire). The Egyptian engineers have shown their talent when questioned and disagreed on some issues with the Russian engineers to accelerate the process and proved to be right in the process of building Aswan.. Same way Ethiopian engineers are well qualified and cannot be evaluated by so-called profession of political science whose judgement is

blurred and focussed as well as obsessed in opposing EPDRF. Ethiopian experts cannot and should not be called dogs in such self-degrading and racist manner. The equipment they use, the tools they implement are much better and improved each year, they more sophisticated and have better usage than the ones used in the old Dams mentioned such as the ones completed in the 1950s. The GERD uses better equipment, better tools and better trained professional and more experienced engineers than the ones used in the Aswan Dam with all due respect and brother gesture to the Egyptian brothers.

Surprise, surprise. So what makes the IRN – the new kid in the block born in 1985 – the expert to make the judgement on the design, quality and know-how of building the GERD. What makes them more concerned for the “indigenous peoples” of Ethiopia living around the site of the Dam more than the Ethiopian engineers and the Ethiopians. One wonders!

Guys get real. The equipment and engineering skills used to build the Chinese subway system or the bullet train; the Franco-British bullet train is much more superior than the New York subway system and the US rail network. That does not mean they are better than American engineers or technology. It is just a technology transfer. The same applied to Ethiopian Dams. Salini has access to all the state of the art technology. Maybe IRN needs a reality check on understanding of the complex issues, the propaganda skills of many sophisticated operation, the Egyptian and Eritreans intelligence operations. For example, Eritrea agents in cooperation with Egypt have been in active internet and e-mail campaign by the fellow Abrehet Gebre Selassie – Freedom for Ethiopia – that collects, channels and distributes anything that can damage Ethiopia, divide and destroy. After all Ethiopian experts are names dogs of dam wars, crackle hyenas in pissing contest, whack bush cadres by vulgar critic and IRN so-called experts to get out of its state of confusion. The venomous attack has no boundary in trying to degrade Ethiopians. This will not deter the Ethiopian experts but increase their resolve to get the job done. History is a witness.

VII. ECONOMIC LOGIC OF ETHIOPIA'S DAM

So far, Ethiopia has paid 27 billion birr (891.9 million pounds or US\$1.4 billion) of a total project cost of 80.7 billion birr for the Dam, which will create a lake 246 km long.

It is the biggest part of a massive programme of public spending on power, roads and railways in one of Africa's fastest growing economies.

Ethiopia's output has risen at near double digit rates for a decade luring investors from outside. This progress has to be backed up by the most needed energy to sustained it. Sustainable development is the name of the game and we should resist detractors.

The argument that says: “The project will stifle private sector investment and will restrict economic growth and squeeze private sector investment,” which according to this argument would hurt future growth prospects and the ability to pay for other infrastructure, is questionable. There is plenty of

evidence that productive public investment in infrastructure does not crowd-out private sector investment; rather it crowds in private sector spending, if the projects are well managed and implemented. A key consideration for private sector investment is risk. Any uncertainty depresses private sector spending, so efforts to destabilize the public investment programme will depress private sector investment, both domestic and external. Ethiopia has a small private sector and it is impossible to raise fund for infrastructural development without the role of the State. The conditionality and cost of investment from external private sector needs is time consuming, complicated and not that helpful for rapid development. The external private sector will be more attracted and internal private sector will also rapidly grow over once the energy and road infrastructures are addressed.

Ethiopia is capable of financing few mega projects. The Dam's cost of more than \$4 billion is roughly 12% of Ethiopia's annual output and stretched over several years is possible to finance. With the participation of the public, it is attainable and also sends a clear message to Ethiopia's partners and others alike.

The Dam will help to control seasonal floods that devastate the rural population, improve irrigation, aiding fisheries (adding fish to the population diet), regular water supply etc. The supply of fossil fuel in the area is diminishing and the dam will provide the cleanest and effect as well as environmentally-friendly hydropower energy. The region and Ethiopia's environmental problems are not Dams, but deforestation, soil erosion and seasonal drought. Sub-Saharan Africa's challenge is underinvestment and lack of development of only 9.8% of its hydropower potential is developed or merely 5% of its cultivated land is irrigated. To address this, water management, storage development with the help of the dams are the best solutions.

The dam and its related activities – irrigation, sustainable agricultural production, sustained availability of electricity to schools, clinics and households' uses and help lift people out of poverty. The Dam will help rural infrastructure logistics and supply improvements.

Economically-speaking, hydroelectricity is cheap to produce. It is a renewable, sustainable, form of energy that does not generate greenhouse gases. The cost of building the dam is much less than the many years of economic and social benefits, as well as its transformational impact. If all energy output of GERD is marketed, it earns about a Billion Dollar a year and can easily recover its cost in five years. In general, hydropower produces little carbon dioxide, except for the cement and steel used for construction.

Ethiopia has no other choice of meeting its growing energy needs. It cannot meet its needs by importing hydrocarbon fuel. Too expensive and not affordable the more the economy grows. Hydropower is the best and may be the only options it has to meet its energy need. The energy needs has a lot of impact on other societal needs such as agriculture, health, education, home economics, transport and small and large-scale industrialization. Electricity is the more efficient and cheaper source of energy for Ethiopia than hydrocarbon (oil and gas) or fossil fuels (wood and animal manure).

The purpose of our dam is not to harm anyone or any other country. It is to improve the life of the people, provide drinking water to increase agricultural productivity and food security and above all to produce electricity to generate power for domestic use and export to earn badly needed foreign exchange for our economy. The irrigated fields of Western farmers feed the US and other parts of the world, and Indian irrigation systems have enabled the countries to be self-sufficient in food production. So why not Ethiopia? In addition, in many parts of the world, dams have helped to remedy life-threatening problems such as poverty from lack of economic development, famine as a result of drought, devastation from floods and continued disease from lack of portable water supplies.

For Ethiopia conscious, effort is being made and there will be no significant disruption of ecosystem, or decline of fish stock (thesurrounding people who are not fish eaters, will have a chance to add fish to their diet); no forced resettlements. So there will not be disastrous or ecological and social impacts.

The Dam's reservoirs will be critical for community water storage in a society where women have to travel hours carrying a bucket on their backs fetching water.

As to the criticism that says "the reservoirs could be ideal breeding grounds for mosquitoes, snails and flies with diseases such as malaria, schistosomiasis and river blindness', the response is that. these diseases already exist and actually the Dam and the related activities will help to eradicate them. In addition, Ethiopia for the first time has built rural clinics and trained rural health workers to help combat these diseases already as part of its economic transformation plan. In addition there is a five kilometre buffer zone for Malaria control that will not be available for human settlement.

Ethiopia's majority population relies on traditional methods of fuel, firewood, charcoal, certain crops or manure. Therefore, the dam has significant contribution towards energy self-sufficiency as well as environmental sustainability.

In short. the Dam will help Ethiopia launch rural electrification. Well-planned, carefully targeted and effectively implemented rural electrification programmes will provide enormous benefits to rural people. Providing electricity supply will only make significant contributions to sustainable rural development when the other necessary conditions are present. Ethiopia has closely recognized that and is systematically working to fulfil those conditions. Availability of agricultural inputs, access to health and education services, reliable water supply, road infrastructure, access to markets, and adequate dwellings are the more obvious of these conditions.

The Ethiopian Electric Power Authority Cooperation (EPCO) and the Ministry of Water, Irrigation and Energy (MoWIE) have done the proper background work on capital investment costs, level of local contribution, number and density of population, and the likely demand for electricity. It recognizes that cost recovery is the single most important factor determining the long-term effectiveness of rural electrification. It also recognizes the importance of operational subsidies for the rural and urban power users. Putting rural electrification tariffs at a realistic level is considered

critical. Lowering the barriers to obtaining a supply and such as initial connections charges are seen as important.

Ethiopian experts are relentlessly working to address the concerns expressed and identifies in relations to the Dam. They have looked into lessons learnt from previously built large Dams, rivers and the environment. The Dam, availability of electricity and irrigation water will address environmental problems such as deforestation and soil erosion, flooding etc. . Ethiopians are making sure that cultural life style, languages of the people are respected, but they are lifted out of poverty from wood consumption for energy to electric consumption, provide drinking and irrigation water from the dam, provide water to grow cattle feed and agricultural productivity. A kind of thing strange for Californian IRN experts who think of us as mosaic and exotic people who should stay the way we are to amaze them and to take pictures and pity us with little donations to keep us aid-dependent.

- Ethiopians have concerns for marginalized societies, poor farmers and indigenous people. People who have irrigable land, electricity in their houses, will create jobs and indigenous businesses will flourish. This is a policy move as well national economic behaviour by the people
- Ethiopians are working with nature. What Ethiopians are trying to do is to build resilience and reduce the natural environmental costs, while providing energy and water as well as irrigation for agricultural productivity and animal husbandry. Blue Nile, when it is in Ethiopia is a healthy clean river with fresh water and has a healthy watershed not used much by the people. IRN should ask Egyptians about the pollution.
- The concern of salination of soil and water in the part of Ethiopia where the dam is built is out of question. It does not exist in Ethiopia but only in Egypt and Sudan. The extreme high rate of evaporation and desert encroachment is non-existent in Ethiopia where the Dam is built. The chances of over irrigation like Egypt and Sudan is out of question again. The area is not salty, and no need to flush the salt as in Egypt. The water that could be used in Ethiopia for irrigation and drinking is very limited with no significant impact on Egypt and Sudan. We learnt from the lesson of the Aswan High Dam's impoundment of 120 million tons of silt from Ethiopia's Blue Nile, that vastly depleted the Egyptian sardine industry's fish stocks, which once fed an organism that were nourished by the 30,000 tons of silt deposited each year in the Nile delta.
- Ethiopia's effort to build the dam is public. Environmentalists, utilities organizations, engineers, socio-economist, local administration representing the people in the area have all participated. The author is not claiming as some readers might twist the argument saying Ethiopia is a Democratic state with American, British or Scandinavian model. I am not. Ethiopia is not a Democratic state by that standard or by many. But that does not prevent us from doing what is claimed has been done here in the process of constructing the Dam. All the segments of the society mentioned above have participated as stated in the process of constructing the Dam. It may be hard for some to accept but I believe the majority of Ethiopians support the Dam and many have contributed money. Just like Aswan Dam with the dedication of the Ethiopian people the Dam will be built.

VIII. QUESTIONING ENGINEERING AND TECHNICAL CAPACITY:

There is always room for continued improvement and progress in any engineering project. So if there are technical problems it will be addressed and fixed. Even NASA the most advanced engineering entity engaged in extremely sophisticated devices make adjustment and fix problems. So technical issues should not be dramatized and be the reason to stop building Ethiopia's dam. It is a simple propaganda ploy to stop and disrupt construction.

Ethiopia is building a gravity dam. The site for the Grand Ethiopian Renaissance Dam (GERD) was identified by the United States Bureau of Reclamation during a Blue Nile survey conducted between 1956 and 1964. Studied through master plans completed in 1998, The Ethiopian Government again surveyed the site in October 2009 and August 2011. The same and other sites in the Abbay gorge have been identified as part of the priority multipurpose sites for Eastern Nile Technical Regional Office (ENTRO), which is a Subsidiary Action Programme (SAP) for NBI, which Egypt and Sudan were party to.

Engineers have laid compacted concrete to the foundation on the barrage that will stand 145 meters high and whose turbines will throw out 6,000 megawatts – more than any other hydro dam in Africa. Ethiopians won pyramid. It is not a white elephant.

Ethiopia has made a comprehensive assessment of the Dam; devised an approach with good strategic planning, the impact on all angles including the community, are well assessed and considered.

Dams emerged following the development of the turbine in 1832. In late 18th century and early 19th century, hydro plants based on dams were operating in the US, Italy and Norway. Improvement in turbine design ushered in the mega-dam boom in the 1930s. So the Ethiopia Dam was being built beginning 2010 after tremendous technical and technological advancement using the state of the art equipment and experienced Italian contractors Salini. This was done under Engineering Procurement and Construction (EPC) and internationally accepted procedure for dam study and construction. That proves that the technical excuses and counter arguments are political than technical. Delaying or disruptive tactics.

The equipment used are much more modern and sophisticated than the equipment's, architectural designing tools, engineering software available when the Hoover Dam (1938), Aswan High Dam (1956-1970) or other dams on the Danube, Zambezi, Yangtze and the Ganges were built. Ethiopia had the opportunity to learn lessons from the last century of mega-dam building. Ethiopia clearly knows and understands the concerns that upriver countries and has drawn lessons from the impact building mega-dams have on downstream countries based on lessons from Hoover Dam on Colorado River flow to Mexico, the Ataturk Dams in Turkey and its impact on Syria and Iraq, China's control over multiple rivers flowing downstream to India, Pakistan, Myanmar, Bangladesh and Vietnam.

The US \$4.8 billion contract was awarded to Salini Costruttoria, an Italian Company with good experience and know-how in dam construction in Ethiopia.

Italy's Cable Manufacturer Tratos Cavi Spa has been awarded a multi-million dollar contract to supply low and high voltage cable to the Grand Ethiopian Renaissance Dam (GERD).

Alstom has signed a Europe € 250 million contract with Metals and Engineering Corporation (METEC) to supply turbines and generators for GERD. Alstom will supply and supervise the installation of all electromechanical equipment for the plant; including eight 375 MW turbines and eight generators for the first phase. The contract also includes engineering and power plant commissioning. Alstom will oversee a programme to develop skills locally and know-how in the area of hydroelectricity. ALSTON has been active in Africa for 80 years and has numerous hydro-electrical projects to its credit across the continent – in Mozambique, Angola, Ghana, South Africa, Uganda and Zambia.

The issue of water loss for Egypt: Cairo's worries and concerns of the years of filling the new dam's 74 billion cubic meters reservoir will cut the river's flow and the surface water evaporation from the huge new lake will then reduce it permanently are unfounded and addressable with mutual agreement. From the current share of water Egypt receives, it loses about 12% of it due to evaporation, while the water is stored in Lake Nasser for 10 months between the flood time and irrigation needs. Ethiopia has a lesser evaporation ration (almost half of Egypt's) and the electrical dam will redistribute the hydrology to more uniform flow the rate of what Egypt receives, thus making sure that the water that gets stored in Lake Nasser arrives in storages and thus decreases Egypt's evaporation rate considerably. This will lead to an actual reduction in lost water and an increase in actual water by 5%. Storing the water in Ethiopia before it reaches Egypt will actively lead to an increase in Egypt's water supply. The reservoir, located in the temperate highlands and up to 200 meters deep will experience less evaporation than downstream reservoirs as Lake Nasser. The construction of the GERD will bring new water to downstream saved not only from evaporation but also from loss of water due to flooding in the plains of Sudan. The net effect, as Ethiopian and genuine Egyptians argue will bring significant new water in the system. The useful IPOE recommendation to analyse the hydrology of the Nile as one system including all Dams using sophisticated models and primary data obtained from the three countries handy handy here.

In the last 150 years, the lowest recorded flow at Aswan Dam was 42 BCM (1913-1914) and the highest was 150 BCM (1878-1879), whereas the mean annual flow from 1900 to 2004 was 85.3 BCM. The flow has oscillated between 117 BCM to under 50 BCM in the half century 1960 to 2010.

The fluctuation in the flow of water courses are likely to increase in the 21st century. The Nile River Basin is witnessing a change in rainfall patterns with changes in seasonal periods, and shorter bursts of intense rains that are too rapid for agricultural growth. The dam built by Ethiopia has taken that into account.

Climate change models predict increase or decrease of 15-20 per cent precipitation on an annual basis. However, most models concur that irrespective of the overall annual quantity, erratic patterns of rainfall and concentration over fewer days would affect productivity of agriculture.

It is expected that temperature across the Nile Basin will increase by 1.5-2.1 per cent by 2050. Almost the entire Nile region may become arid to semi-arid in the next 30-40 years which will significantly reduce agricultural land. Gradual expansion of arid and semi-arid area initially surrounding the Nile Basin will eventually be encroaching upon the Basin itself. The continuation of this trend is bound to lead to the narrowing of fertile land. Therefore if Ethiopia, Egypt and Sudan cooperate on the Blue Nile Basin, the dangers of food insecurity, shrinking agricultural land and agricultural productivity could be tackled and the Ethiopian Dam will play a central role. The center of the Blue Nile Basin is the Ethiopian highland and the Blue Nile gorge.

Floods and droughts have caused immense damage to the Nile River Basin. Between 1900 and 2012, there have been almost 140 incidents of floods in the Nile Basin. More than 100 of them occurred in Ethiopia, Sudan, South Sudan, Kenya and Tanzania. During this period, more than 10 million people living in the Nile Basin were affected by floods with around 4,000 casualties. The Ethiopia Dam will definitely and radically reduce the floods for Sudan and Ethiopia.

Drought in the Nile River Basin have proved to be even more fatal than the floods. Between 1900 and 2012, there were almost 70 incidents of drought. Out of them about 55 incidents took place in Ethiopia, Sudan, South Sudan, Kenya and Tanzania. Around 170 million people have been affected by drought in the last century with a half million lives lost.

From 1970 to 2004, Tanzania, Kenya, Sudan, South Sudan and Ethiopia have met more than 10 droughts. The experience of the last 30 years indicates that the five countries have greatest exposure to risks from floods and drought in the next 30-40 years as well. Egypt was not affected because of the Aswan High Dam.

The climatic problem in Ethiopia and its surroundings are land degradation, soil erosion, and desertification.

Food deficit within the Basin has created the need for food aid. Over 25 per cent of the population in Rwanda, Burundi and Ethiopia is food insecure and depends on food aid. About 25 per cent of Kenyans and Tanzanians lack adequate access to food and risk dependence on external aid. Egypt has been receiving subsidized food grants as a part of its bilateral security relationship with the US. In order to improve food security, the countries in the region will need to improve farm productivity and expand irrigation, including drip irrigation on a large scale. There is potential for increasing irrigated area by almost 7-8 million hectares in upper Riparian countries such as Ethiopia and the dam Ethiopia is building has tremendous value. Famine in Ethiopia has occurred several times at a high cost and the population is rapidly increasing with Ethiopia having the second largest population (more than 90 million people) in Africa, next to Nigeria and overtaking Egypt

IX. MILITARY ASPECTS:

Numerically and in terms of armament the Egyptian Armed Forces have an edge over Ethiopia. So was the Soviet Union in Afghanistan, USA in Iraq and Vietnam, the Arabs in the 1967 Arab Israeli war. Military might is important as one of the key factors in getting one's way but not the only factor.

There are other critical factors. What one can do and achieve with that military power is a totally different thing.

Egyptians have talked about military strikes on Ethiopia – screaming “we are too strong and powerful for Ethiopia to mess with”. Never mind that Ethiopia was never conquered in any war and Egyptian military never fought in the south, and the Ethiopian military is battle tested formidable force which will not kneel in front of Egyptian military might.

Sadat in 1979 threatened war and the current leaders of Egypt vowing not to “lose a drop of water”. Some of the top brass in Cairo could be looking for a fight with Ethiopia for reasons other than the Dam. Egypt’s domestic crisis coupled with diminishing international clout could make war a costly necessity in the minds of Egyptian Generals. For them Egypt is in a state of political uncertainty and finding an external threat to rally the country behind could bring much needed stability. Unconfirmed speculations and reports indicate that Egypt may be laying the ground to destroy the Dam. Egypt’s military options are analyzed in the context of air power, possible usage of Sudan, South Sudan, and Eritrea as a staging ground or proxy. Ethiopia is beyond the combat radius of Egyptian air power and that is why a staging ground will be necessary. In military reality this is a littlefarfetched at least in the short run. Operating from these countries will politically and security wise be complicated and will have repercussions on these fragile nations (Eritrea and Sudan) as well as international implications, even if one wonders the impact of international implications when we see what goes on in Syria, Egypt, Iraq, CAR and South Sudan. The real thing is in the area Ethiopia is a formidable military power from whatever angle one looks at this. The Ethiopian air defence and anti aircraft capability has to be penetrated too.

Another military option is to insert special operation forces again from Eritrea and Sudan. The plan could be the forces to cross the border and attempt to destroy or sabotage the Dam or use surrogates to do the job. Special operation forces or surrogate forces would face their own serious of obstacles in trying to destroy the Dam or cause major damage. The Dam is a critical infrastructure and is routinely well protected. Especially with all the contention, Ethiopia is likely to be well prepared for all probabilities. So the special operation forces or surrogate (proxies) units will need luck and skill to gain access to the Dam successfully. Few scouts who were sent to gather information have already been captured. There is also the problem that a small team of ground force no matter how elite would likely be physically unable to carry enough ordinances to critically damage and destroy the Dam. The key problem is Ethiopia’s capability and the way the Ethiopian military is organized. All the cores and divisions can make standalone operation without critical support from other section of the army. The mobile helicopter gunships provide excellent coverage with additional homemade Drone capability doing the reconnaissance. The issue of mobility and self-sufficiency are critical for major multiple operations and these units can operate and have operated deep into neighbouringcountries territories in hot pursuit or primitive strike. In addition the relations of these countries with Ethiopia will be damaged and will have both a long and short term consequences which is not worth the risk for Egyptian interest. However, knowing the erratic behaviour of some of the leaders nothing could be ruled out.

Ethiopia has various options if its Dam is bombed. From direct retaliation at the choice of its own time and target to intensive diversion and usage of all the blue Nile tributaries, the smaller streams

one by one in the different parts of Ethiopia and radically reduce the Blue Nile flow. Egypt would not want that and can never be able to control it. If they want to do something about that they have to bring their troops to the Ethiopian border and invade. That is an unlikely scenario.

Ethiopia, at least for now has a better chance to conduct protracted military operation than Egypt. The following are the historical encounters the two countries militarily had. That time as now the Egyptian army was superior in weapons. In December 1874, a force of 1,200 Egyptian troops from Kassala, under the Commander Muzinger, occupied Keren then Ginda with about 700 soldiers. In early November 1875, 3000 Egyptians trying to occupy Ethiopian territory crossed the frontier en route to Gonder. On November 14, 1875, the Egyptian force led by Colonel Avendap was attacked at Gundet to which place the 3,000 Egyptian soldiers advanced. This column was armed with Remington rifles, 12 mountain guns, and included a number of European and Egyptian officers. The Egyptian force was completely annihilated. 2,200 Remington rifles and 16 cannons were captured. 550 Egyptians died and 400 wounded. After the defeat at Gundet, the Egyptians sent another much larger force to attack Ethiopia in 1876. The Egyptians advanced to Gura and built a fort there. On March 10th Rashid Pasha and Osman Bey Neghib led an attack with 5,000 soldiers. The Ethiopians and both officers were killed and thousands of Egyptian soldiers died. On March 12th, an amnesty was arranged and the survivors of the Egyptian army were sent out through Massawa. Invading forces never had luck on Ethiopian grounds.

However, time has changed and the sophistication of weapons and military technology and military science easily fill the historical gaps and tactical errors. Therefore, the lessons of history is just to remind that invading Ethiopia is not a piece of cake but with all modesty one has to recognize also that Egypt is well equipped by the US and friendly Arab countries and is a formidable Military force with a superior arms and organization than Ethiopia. The key point is that superiority is unlikely to be a complete guarantee to attack Ethiopia without consequences and which in return has a formidable military capacity to defend and retaliate. If the Ethiopian Dam is attacked Even Aswan can be an open game for retaliation. Things can escalate and spin out of control.

The solid fact and reality on the ground, therefore, is as follows: The current Ethiopian Army is quite formidable and capable of dealing with a neighbouring countries used as a staging ground or proxies who volunteered for Egyptian military operation. The current Sudanese government is in agreement with Ethiopia on the Dam issue. South Sudan's survival without Ethiopia's support and good will and Ethiopia's genuine effort to stabilize it is extremely low. Last summer two Egyptian generals visited Somalia under the pretext of studying ways to rehabilitate the Somali National Army and tried to bring in Somalia into the equation. The Somalis refused to get involved and informed Ethiopia about it. That option is not there at least for now. Ethiopia is capable and ready to deal with Isayas and what is left as a fighting force to defend his adventure. He knows that and if he had a military option he would have taken it some time ago. The Eritrean as well as the Ethiopian people do not want war. More than ever they have learnt the hard way the importance of the brotherly relations and the need for leaving together of the Ethiopian and Eritrean people with the exception of fanatics. Ethiopia is also, at this stage, capable of fighting three front wars for a time as long as it is not protracted and dragged.

The other scenario is Egypt signing a defence pact with Eritrea and get involved in Ethio-Eritrean border dispute, use the dispute as a pretext to attack Ethiopia to destroy the dam or make it difficult for Ethiopia and use this as a bargaining tool. Egypt has been providing support for Eritrea in the dispute. This will have its own complication and the dynamic of internal Eritrean issue, the way the highland Eritrean started to look at their future survival and the growing internal opposition and demand for peace does not permit that kind of adventure.

On the broader seen If Egypt picks up a fight with most Nile Basin countries the story will be different. It is already isolated in the Nile Basin. Ethiopia has overtaken Egypt as Africa's second-most populated nation. This total population of the upstream countries is 240 million against 130 million for the downstream trio of Egypt (85 million) and Sudan (31 million) and South Sudan (14 million). Protracted and long term military operations will not work for Egypt. That lesson I hope is learnt in Yemen. So confronting all the Nile Basin countries will not help.

However, Egyptians have been more successful in the clandestine operations against Ethiopia than direct military operation. They seem to be focussed on Intelligence and covert operations, financing of clandestine opposition armed groups and to wage protracted warfare on Ethiopia. Financing and training willing opposition through Eritrea and providing resources and technical assistance for psychological warfare, propaganda and provision of military training and weapons seem to be going on. Egypt is also utilizing its influence in the Arab and Islamic world to isolate Ethiopia as an anti-Arab, pro-Israel country and encouraging religious based opposition and division in the country to bleed it. This has somehow worked for Egypt or at least costly engaged Ethiopia. Egypt is also organizing a new office in the name of development assistance focussing on the Nile Basin countries for its clandestine operations in addition to its Embassies. This will have a significant impact if sustained and the other side does not get a counter solution.

HOWEVER, MILITARY SOLUTION IS NO OPTION. IT WILL MAKE BOTH THE ETHIOPIAN AND EGYPTIAN PEOPLES' LIFE MUCH WORSE WATING MOANEY AND FORMENTING ANIMOSITY. THE PAIN AND SUFFEREING OF PEOPLE IN THE SURROUNDING, THE HERENDOUS DISTRCTION OF LIFE AND PROPERTY THAT WOULD TAKE MANY YEARS TO REBUILT IS ENOUGH LESSONS TO AVOID MILITARY MADNESS. THE EGYPTIAN ALREADY HAVE SUFFERED AND SUFFERING ENOUGH. ETHIOPIA HAS TESTED THE COST OF WAR AND CONFLICT FOR MANY YEARS. ETHIOPIA IS ON THE PATH OF SUSTAINABLE DEVELOPMENT AND THE WAR WILL DISRUPT THIS AND THE CHANCE TO ECONOMICALLY GROW WILL NOT COME EASILY IN THE CONTEXT OF THE CURRENT INTERNATIONAL ECONOMIC STRUCTURE. SETTLING RELIGIOUS SCORES, ETHNIC SCORES, POWER STRUGGLE SCORES WILL DESTROY THESE NATIONS. WE HAVE TO HAVE A COUNTRY AND PEOPLE TO EVEN DISAGREE. REMEBER THE MILLON OF CHILDERN WHO ARE IN REFUGEE TENTS IN THE SURROUNDING, REMEBER THE NUMBER OF OUR YOUNG PEOPLE TRYING TO ILLIGALLY MIGRATE TO GET EMPLOYMENT, REMEMBER THE NUMBER OF PEOPLE BELOW POVERTY LINE. THE MONEY SPENT ON TANKS, FIGHTER PLANES, ARMOURED CARS, BULLETS AND ROCKETS , ARTILERY PIECES ETC. COULD HAVE MADE OUR PEOPLE MUCH MORE PROSPEROUS, EDUCATED, TOLERANT AND CIVILIZED.

X. **PRACTICAL SOLOTION AND CONCLUSION:**

- Ethiopia's objective is to transform the country (one of the poorest) into a regional hydropower hub. To be in command and control of the Renaissance Dam just as Egypt was on the Aswan High Dam. To export across the power-hungry region of the Nile Basin countries and Egypt is very welcome to share that. This is in line with consensus of African leaders for their plans of infrastructure development in Africa that include dams, roads, railroads, Africa regional and continental power pools.
- The dam is now one third built and Ethiopia will start producing its first 750 megawatts of electricity by the end of the year or a letter. Ethiopia is already supplying Djibouti, negotiated and building transmission lines to supply Sudan and Kenya. Rwanda and Yemen are included in the long term vision of contributing to East African Power pool and African energy grid.
- Ethiopia has asked for a collaborative comprehensive and sustainable solution to the Nile usage, and a recognition of Ethiopia as a legitimate beneficiary since 86% of the Blue Nile water comes from Ethiopia.
- Ethiopia along with other Nile Basin countries encourage the idea of Nile water being used as an instrument of peace, cooperation and regional development. Ethiopia is ready to overcome political and legal hurdles and build technical cooperation.
- Ethiopia's objective to cooperate is not only on water but also on climate, food security, health, electricity, industrialization, social stability and natural security of all countries in the Nile Basin. It wants further cooperation on climate change, evaporation, flood and droughts, land degradation, water quality, food security.
- Egypt Should understand that it has no veto over Ethiopian Dam.
- Pushing hard for further studies on the dam's design and impact on downstream countries is a delaying tactic to which IRN failed for by mistake or design.
- Egyptian society and media have been hysterical over Ethiopia's construction of its Renaissance Dam. It may be an attempt to rally people to overcome the current internal polarization. Ethiopia and Ethiopians perfectly understand Egyptian dependency on the Nile and also will not work against a fair and understandable share on the Nile water by Egypt. However, Ethiopian policy makers should also state the facts from the very beginning in the ongoing discussion that Ethiopia should not and cannot restrict itself only to electric generation. It can and will use the dam for irrigation and agricultural purposes in a way that will keep Egyptian interest in mind.
- Egypt demanded that Ethiopia cease construction on the dam as a precondition to negotiation is not likely to work. Same Egypt never consulted Ethiopia on all its activities regarding Blue Nile including building Aswan High Dam, diverting the Nile, negotiating treaties with Britain and Sudan.

- Egypt has taken diplomatic initiative and trying to leverage its strategic importance and alliance to undermine support for the dam in the region as well as in other countries like USA, China, Italy, and Norway etc. However, with the Nile Basin countries having one stand against Egypt the likely action of those who see Egypt as a strategic ally is encourage dialogue and finding mutually acceptable solution according to International Law.
- The Nile countries plan to install additional capacity of at least 30,000-35,000 megawatts over the next 20-30 ears for domestic consumption. Ethiopia alone accounts for 50-60 per cent of this projected expansion. The cumulative cost of investment in power sector for the Nile counties is expected to be \$60 billion. It will be mutually-beneficial and a win-win strategy if Egypt gets involved investing in it and bring other from its Middle East allies and benefit from the joint venture and regional cooperation and developments.
- Both Ethiopia and Egypt as well as all the Nile Basin countries are facing critical challenges for their future and they should engage themselves in a consultative manner and Egypt should stop bullying and flexing its military and diplomatic muscles to a wasteful effort. All governments of the Nile Basin countries have agreed to work together except Egypt. Egypt has to join the joint efforts based on the principle of cooperation and benefit sharing among all the countries that presently constitute the Nile Basin.
- The Nile Basin countries require in excess of US \$100 billion for the development of hydro-electricity (US \$60-65 billion), irrigation (US \$50 billion) and water infrastructure over the next 20-25 years at almost US \$3-4 billion per year. Egypt is the only Nile Basin country that has a relatively developed private sector, a better experience and know-how on hydro-electricity, irrigation and water infrastructure compared to the others. Egypt could play a critical role and benefit out of this through cooperation.
- Egypt and Ethiopia are the two main countries in the Nile Basis and through the path of cooperation a lot could be gained. The 1929 and 1955 Agreements that ignored Ethiopia and other Nile Basin countries cannot continue. Ethiopia is asserting its right to use the water of the Blue Nile for power generation and agricultural productivity. It does not have a problem in addressing the inclusion of “current uses and rights” that addresses the needs of the upper Riparian countries, while recognizing the future needs of the lower riparian countries as well.
- Egypt and Ethiopia should work together in cooperation on trade and joint investments in power sector, hydro-electricity, agriculture, early warning and data management in drought and floods, water usage and water treatment, reforestation and soil conservation, desalination.
- Learn from the experience and cooperation of Senegal River and Rhine River on trans boundary water management. Learn from the experience of Southern African Development Community and the EU for regional cooperation principles. From South Korea on restoration of rivers; from Singapore for urban waste management and waste water treatment; Indus Water Commission

for arbitration mechanism; Israel on drip irrigation; Mekong for cooperation in data management.

- Egypt should may also have to consider its vast ground water resources, which by some experts estimated sufficient to supply its needs for 500 years.
- Egypt should learn to treat its southern African neighbours with respect, dignity and the right for development. It is better to seek more formidable opportunities on how Africa's vast water resources could be cooperatively used in river linking programmes such as Congo and Nile, navigation of Victoria to Alexandria, power and transport corridors transgressing Cape to Cairo, and other transformative agenda. Egypt a comparatively better positioned member of this community and an economic power house has to play a leading and constructive role in this African transformation effort .
- Given Egyptian experience at building and maintaining the Aswan High Dam, it would be useful for the Egyptians to share their experience with Ethiopians the management experience large dam and use the lessons and experience they accumulated to mutually use the power generated from the new Dam. Avoid costly mistakes and negative environmental impact as time progress and the surrounding area develops and human habitat brings its own environmental impact.
- Renegotiation between Ethiopia, Egypt and Sudan the usage of the Blue Nile water in a way that naturally accommodates the three countries' needs will permanently solve the problem. Joint agro industrial operation in the area that benefit the people. Learn from others to avoid unnecessary confrontation, costly conflicts, arms race and destruction and focus on the well being of the brotherly people. We have had enough of conflict, being proxy to external actors and for a change focus on the wellbeing of the people. If we monetize the amount of money and young people life spent and wasted on perpetuating conflict it would make these three countries the richest countries on earth.
- Having the dam will leave Ethiopia with almost 4,000 MW of electricity for export at a time when Egypt needs the electricity. Egypt could get a long-term deal that will be beneficial to Egyptians. Sudan already is on board.
- Ethiopia has seriously ambitious agricultural plans, and Egypt has a shortage of land to farm. A joint venture on agriculture, agro-industry, and food processing will be extremely beneficial for both countries as well as ensuring food security for their growing populations, and export to the lucrative markets of the Middle East and Africa.

Notes;

1. All the legal arguments presented in this article are credited to Gebre Tsadik degefu and taken from his book " The Nile: Historical and legal development.

2. Other critical references uses:
 - A. J. Gebeto, Petros; The Nile
 - B. Video Modern Marvels on History Channel: Awan Dam where the Past Comes Alive.
 - C. Abrahan, knife: Nile Dilemmas
 - D. Bekele, Sileshi; Smakhtin, Vladimir; Molden, Davis; and Peden, Don: The Nile River Basin
 - E. Several articles and Debates in the Internet expressing different opinions were also referred.