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Distribution of Water Resources: A Case Study of the Transboundary Nile River

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Abstract—A brief analysis is made of the 1966 Helsinki Rules on the Uses of the Waters of International Rivers, with a focus on the statement that each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin. It is shown that it is rare for most agreement to establish the rules concerning the use of international water bodies involving inevitable strict responsibility for any breaches thereof. A brief characteristic of the Nile river and its basin is provided. The main international agreements for the Nile river are highlighted. Prominence is given to the 1929 and 1959 Agreements where Egypt's "natural and historical" rights to the Nile waters were recognized. In spite of the fact that many States were dissatisfied with some provisions in the agreements, they continued to cooperate on various current and strategic issues arising in the basin. The Nile Basin Initiative that began with a dialogue among the riparian States was officially launched in 1999 by the water ministers of nine countries that share the river with the purpose of achieving sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile Basin water resources. In May 2010, the representatives of Ethiopia, Rwanda, Tanzania, Uganda and Kenya signed the Framework Agreement on the Nile Basin. In February 2011, the Agreement was signed by Burundi, and DR Congo is also expected to sign. It is the first multilateral agreement on the Nile Basin. Since the early 2000s Ethiopia has been active in the construction of hydropower stations on the Nile tributaries, including the largest station in Africa. The struggle of the States in the upper reaches of the Nile for revision of the unjust colonial agreement will necessarily result in accession of the other countries to the Cooperative Framework Agreement or to the preparation of a new agreement which would foresee an equitable sharing of the Nile water resources in the interests of all the Basin States.

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INTRODUCTION

The rules on the uses and protection of transboundary water bodies are defined by intergovernmental agreements which are based on international law. About 700 different treaties were signed between 1820 and 2007 which, in one way or another, concern water resources. They include 250 individual agreements applicable to 113 river basins [1].

The 1966 Helsinki Rules on the Uses of the Waters of International Rivers are among the most important documents [2]. They declare the equality of the States as regards the uses of the waters of an international river basin which must be exercised on the principle of a reasonable and equitable share of the useful utilization of the waters of a transboundary water body. Relevant factors to be considered when determining a reasonable and equitable share are listed in Chapter 2, Article V. The principal factors are: the geography of the basin, including the extend of the drainage area in the territory of each basin State; the hydrology of the basin, including in particular the contribution of water by each basin State; the past utilization of the waters of the basin, including in particular existing utilization; the economic and social needs of each basin State; the avoidance of unnecessary waste in the utilization of waters of the basin, and the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses.

However, most bilateral and international agreements are distinguished by a poor specification and usually have a recommendatory character. Only in rare instances do they establish the rules on the uses of international water bodies with unavoidable measures of strict responsibility for breaking them [3].

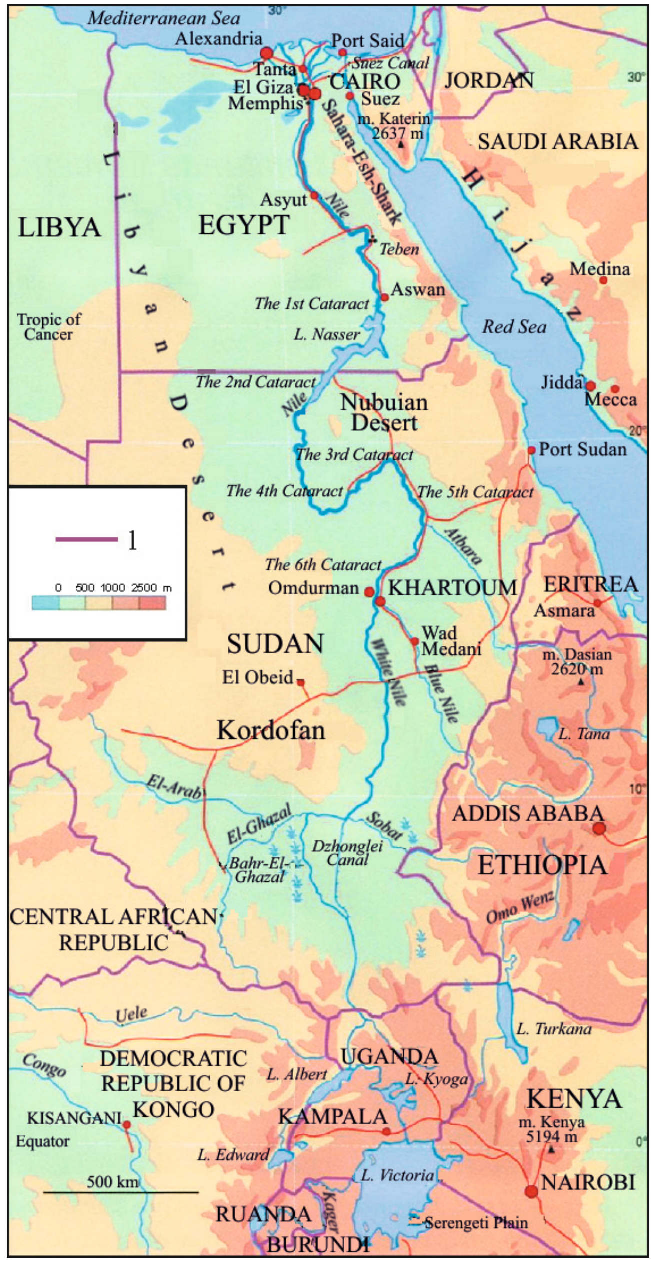
There are many examples in the world today where the upstream States in their water use practices act almost regardless of the interests of the downstream States. Such are the actions of China on the Irtysh and Mekong rivers, of Turkey on the Euphrates and Tigris, of Israel on the Jordan, etc. Below is an outline of the unique situation in the world practice where the upstream countries have very limited rights to the utilization of waters.

According to the set of statistical parameters (6695 km long, the drainage Basin of the Nile covering about 3.2 mil. km^2, the number of countries, and the total population size (nearly 300 million), the Nile is one of the world's largest transboundary rivers [4]. The existing international-legal regime does not constitute an effective tool for development and optimal use of the river's water resources, because most of the region's countries are not involved therein. The Nile Basin occupies an extensive geographical area, and includes 11 States: Egypt, Sudan, South Sudan, Ethiopia, Eritrea, Burundi, Rwanda, Kenya, Uganda, Tanzania, and DR Congo (see figure). All of them are developing countries, predominantly with poorly developed economic structures. The Nile has a tremendous potential of development, and almost all Basin countries have the right to use it, according to the fundamental principles of current international law. The Basin States are situated in different geographical zones and are distinguished by corresponding climatic, hydrological, soil and other characteristics. First and foremost the differences imply that the downstream countries (Egypt and Sudan) are utilizing the Nile waters mainly for irrigation of lands and electric energy generation. The upstream States are interested in the development of fisheries and navigation as well as in the tapping of the Nile hydroelectric power resources. They are not faced with an acute irrigation problem, because a significant territory of these countries enjoys sufficient rainfall [5].

HISTORY OF THE INTERNATIONAL-LEGAL REFIME OF REGULATION OF THE NILE WATER RESOURCES

The Nile Valley and Delta were since olden days the cradles of agriculture in Egypt. The Nile river was also the basis for economic well-being of the ancient civilization of Sudan: Meroe, the Sennar State. The arrival of colonizers in the Nile basin involved great changes concerning the distribution of rights and obligations, and determination of the region's boundaries. They created the conditions of artificial inequality among the Basin's states. This implied the institution of the inequitable legal regime by Great Britain regarding the utilization of the Nile waters. Such a regime was secured legally by the signing (at the end of the 19th–beginning of the 20th centuries) of a number of agreements stipulating for Egypt and, then, for Sudan the rights to use the Nile waters and, at that time, imposing on other countries the obligation not to undertake measures changing the flow in such a manner that this affected the situation in the downstream countries. The Nile Agreements that were signed at the time of England's presence in this region have had implications for the Nile Basin States till the present. The main international agreements concerning the territory of the Nile basin and flow and the water use conditions are provided in the table.

The primary objective of the Italy–United Kingdom Protocol (Anglo Italian Treaty) of April 15, 1891 was to establish the boundaries of the colonies within the



Schematic map of the Nile river.
1 – state borders.

Nile basin. Besides, Italy undertook not to carry out any operations on the Atbara river (tributary of the Nile) which could change the Nile flow appreciably. On May 15, 1902, Great Britain, representing the interests of Egypt and Sudan, single in Addis Ababa the agreement, according to which the Emperor of Ethiopia (Abyssinia) undertook not to construct any hydraulic structures on the Blue Nile and Lake Tana or the Sobat river which would present obstacles to the existing flow of waters, except in cases agreed upon with the Government of Great Britain and the Government of Sudan. Some legal scholars argue that this agreement is not legally binding on Ethiopia because it was not

Main international agreements on the Nile river

Name of Document	Date of signing	Brief summary concerning the influence on the Nile flow or water use conditions
Italy United Kingdom Protocol	04.15.1891	Italy undertook not to carry out irrigation operations on the Atbara river which could change the Nile flow appreciably
Anglo-Ethiopian Treaty	05.15.1902	Ethiopia undertook not to construct any hydraulic structures on the Blue Nile river, Lake Tana or the Sobat river which could decrease their streamflow
Agreement between England, France and Italy	12.13.1906	The countries undertake not to use any measures which could lead to a decrease in the amount of waters flowing toward the main Nile
Agreement between Great Britain and Egypt	05.07.1929	Egypt and Sudan shall use, respectively, 48 and 4 km^3/year of the Nile river flow. The Nile flow during a dry season shall be retained by Egypt. Egypt reserves the right to impose a veto on any construction projects which would adversely affect its interests
Agreement between Great Britain and Egypt	05.30.1949 and 07.16.1952	The use of the Owen Falls Dam, hydroelectric power plants and irrigation facilities shall not inflict damage to the interests of Egypt
Agreement between Egypt and Sudan	11.08.1959	The flow of the Nile river in the Awan Dam site is divided between Sudan and Egypt in the volumes of 18.5 and 55.5 km^3, respectively. Annual losses of water due to evaporation and other factors in the amount of about 10 km^3 were agreed upon. This volume should be deducted from the Nile flow until the parties embarked on the determination of the share for Egypt and Sudan
Agreement on the Nile River Basin Cooperative Framework	14.05.2010	The countries undertake to cooperate for an equitable and reasonable share in the beneficial uses of the water, not to inflict damage to the riparian respective States, and exchange information on a regular basis treated in the aggregate

ratified. The London Agreement between England, France and Italy of 12.13.1906 signified, in fact, the division of Ethiopia into the spheres of influence, and it was signed without its participation. The sphere of England's interests encompassed the northwestern and western parts of Ethiopia which include the rivers within the Nile basin. Article 4a declared that the countries shall work jointly on the provision of water utilization from the Nile tributaries as well as not undertake any measures which would lead to a decrease in the amount of waters flowing toward the main channel.

On May 7, 1929, Egypt and the United Kingdom (with Uganda and Kenya being its protectorates) signed the Nile Agreement for the purpose of sharing the Nile waters; the UK acknowledged Egypt's natural and historical rights over the Nile based on prior use. Besides, it provided for an obligatory preliminary consent of the Egyptian party in dealing with any issue related to the water use regime. The Agreement includes, among others, the following provisions:

– Egypt and Sudan shall use, respectively, 48 и 4 km^3/year of the Nile river flow;

– the Nile flow during a dry season (January 20–July 15) shall be retained by Egypt;

– Egypt reserves the right to exercise control over the Nile flow in upward countries;

– Egypt reserves the right to implement Nile-related projects without coordination of actions with upper riparian States, and

– Egypt reserves the right to impose a veto on nay construction projects which would adversely affect its interests.

The property rule conferred monopolistic access to the Nile on Egypt during a dry season when water is the most necessary for irrigation. Also, it strictly limited the amount of the river waters for Sudan and did not foresee the share of the flow for any of the riparian States.

On the basis of the exchange of the Notes of May 30–31, 1949 and July 16, 1952 between Egypt and Great Britain, the agreement was reached as to the construction of the Owen Falls Dam in Uganda. According to the document, the subsequent utilization of the dam, the power plant and the irrigation facilities shall be accomplished without adverse effects on the interests of Egypt. Hence, the upstream countries were unable to utilize the Nile waters, their needs notwithstanding.

In the early 1950s, Egypt planned to construct the Aswan High Dam in order to fully accumulate the Nile flow, considering it would be appropriate to have Sudan's guarantee and international recognition for funding the dam construction prior to project implementation. One of the funding donors, the International Bank for Reconstruction and Development (IBRD), set forth the condition that the water share for Sudan should be ensured and that the population should receive compensation for relocation from the zone of dam construction.

In 1956, Sudan gained independence and desired to alter the provisions of the previously signed agreements which it considered inequitable for the country. At the beginning of the negotiations both parties demanded supplies of larger volumes of water for their development. Thus, Sudan had a claim to 44 km^3 of the Nile waters for irrigation of 2.22 mil. ha. The debates around the demands for water retarded the signing of the agreement, but, no matter whether Sudan agrees or not, the construction of the Aswan Dam was regarded by Sudan as a priority of national development. In any event, Sudan had to agree on Egypt's conditions.

On November 8, 1959, Sudan and Egypt signed the Agreement for the Full Utilization of the Nile Waters (Nile Waters Treaty). This was done without having received any consent from the other riparian countries. The 1959 Agreement was based on the 1929 Agreement between Great Britain and Egypt.

The 1959 Agreement included, among other things, the following provisions:

– the average flow of the river is considered to be 84 km^3/year in the Aswan Dam site;

– the average annual Nile flow was determined, with 18.5 and 55.5 km^3 allocated for Sudan and Egypt, respectively;

– evaporation and seepage were considered to be about 10 km^3; this volume shall be deducted from the Nile streamflow before the parties have determined the shares for Egypt and Sudan;

– Sudan, upon agreement with Egypt, may implement projects which would increase the Nile flow and prevent evaporation losses in the swamp of the Sudd within the White Nile basin. The cost and profits of such projects shall be divided equally between the parties. If such proposal is submitted from other riparian countries of the Nile and in excess of the shared volumes of the Nile water resources, Sudan and Egypt shall consider it;

– if the proposal is accepted and if the Nile waters are to be shared also with another riparian State that has established the volume of water, it shall be deducted from the shares of Sudan and Egypt in equal parts as determined for the Aswan Dam site;

– Egypt is granted the right to construct the Aswan High Dam which can completely conserve the volume of annual flow of the Nile;

– Sudan is granted the right to the construct the dam on the Blue Nile and to develop irrigation and hydroelectric power capacities within its share, and

– a Permanent Joint Technical Committee to resolve disputes and jointly review claims by any other riparian would be established. The Committee would also determine allocations in the event of exceptional low flows [6].

The signing of the Agreement served as a turning point in the regulation of the international-legal regime of the Nile by legally stipulating the exceptional possibilities for the economic development of both countries. On 01.17.1960, a Permanent Technical Commission of representatives of the two countries was set up for monitoring and supervision of the implementation of the Agreement.

The Note (Letter of Protest) of the Ethiopian Government regarding its intention to participate in the negotiations as early as 1957 indicates that there was a possibility of signing the general basin agreement which could establish a common legal regime concerning the regulation of Nile water utilization. Meanwhile the political disagreements turned out substantial to such an extent that, as a result, the Ethiopian party was not able to sign the agreement at all and, later, was deprived of the possibility of utilizing the Nile waters in its national interests.

Egypt, with its 98% of the population living in the Nile valley, is most vulnerable as regards its freshwater supply. The river accounts for 85% of the freshwater consumed in the country; the other amount of water is provided by groundwater, the repeated utilization of drainage waters after irrigation, and purified sewage waters. In maritime areas, desalination of sea water is used at an increasing pace. On the other hand, Egypt has no other real alternative, but for the Nile, in the foreseeable future. The largest water user is agriculture accounting for more than 85% of water supply [7]. Currently, however, the increase in the demand for water comes largely from the industrial sector, a dynamic process of urbanization and development of new lands on the Sinai Peninsula and in the Western Desert.

The implementation of the South Valley Development Project (also known as the Toshka Project) foresees irrigation of large areas of the Western Desert, which will require approximately 5.5 billion cubic meters of water from Lake Nasser (Aswan reservoir). The emergence of this project is largely due to the fact that the population of Egypt, according to forecasts, will reach about 120 million by the year 2030. The significant importance of the Nile for Egypt is determined not only by the demographic and economic factors but also by also by the geopolitical factor.

COOPERATION OF THE NILE BASIN STATES AT THE POST-COLONIOCALEPOCH

In spite of the dissatisfaction of many States as to the provisions of the 1959 Agreement protecting the monopoly of Egypt and, partly, of Sudan over the Utilization of the Nile waters, the countries continued cooperation on various current and strategic issues arising within the basin. In the early 1980s, with assistance within the United Nations Development Program (UNDP), a series of hydrometeorological investigations was conducted on the territory of Egypt, Sudan, Kenya, Tanzania and Uganda. In December 1992, upon a series of consultations, representatives of the Ministries of Water Resources met in Kampala to approve the setting up of the Technical Cooperation Committee for the Promotion and Environmental Protection of the Nile Basin (TECCONILE). The activity of the Committee is aimed at a further development of the Basin States on an integral, stable basis through comprehensive cooperation and equitable sharing of the Nile waters. Its primary objectives are to develop the infrastructure and technologies and create the potential for governance of water resources as well as developing national plans and integrating them into the Nile Basin Action Plan [8].

TECCONILE began to work on January 1, 1993, following the signing of the Agreement by the ministers from Egypt, Sudan, Rwanda, Tanzania, Uganda and Zaire (after 1997: Democratic Republic of Congo). Ethiopia and Kenya refused to join as full members because, in their opinion, the Committee was unable to resolve the fundamental problem of equitable sharing of water. The Action Plan for the Nile Basin was developed, foreseeing, along with other measures, the creation of the basin entity for furthering legal and institutional mechanisms. A next attempt to set up a joint body to assume responsibility for revision and perfection of the existing agreements on the Nile was made in 1997 when the Nile Basin States, with assistance from the UNDP, organized a forum for establishing the interstate dialogue on legal and organizational aspects of the future Nile negotiations. Later, the document was prepared; however, no consensus was reached at that time.

The Nile Basin Initiative (NBI) was formally launched on February 22, 1999, at a meeting of the water ministers of ten countries (as well as Eritrea as an observer) in Dar es Salaam. The World Bank has a mandate to support the work of the NBI, as lead development partner and as administrator of the multi-donor Nile Basin Trust Fund. The NBI is a regional intergovernmental organization which, through partnership among member States, aims at their sustainable socioeconomic development, including through equitable utilization of the common water resources of the Nile basin. The NBI was originally conceived as a transitional institution until a Cooperative Framework Agreement is signed and a Permanent Joint Commission on Nile Waters is set up [9].

The institutional structure of the NBI consists of three key institutions. The first of them is the Council of Ministers (NILE-COM) of Water Affairs of the Nile Basin States. It provides general political guidance of the NBI and takes relevant decisions. The NILE-COM Chairperson is substituted on a rotation basis every year. The next organization is the Nile Technical Advising Committee (NILE-TAC) consisting of 20 senior government officers (from each State two representatives). It is responsible for technical advising and assistance to NILE-COM. The NBI Secretariat provides administrative support to NILE-COM and NILE-TAC. The Secretariat is located in Entebbe (Uganda). The NBI s headed by the Executive Director elected on a rotation basis for a term of two years.

The Shared Vision Objective (completed within the NBI) developed an impressive range of institutional and human resources capacities, created networks of stakeholders and enhanced dialogue throughout the region. The Program also hitherto invaluable wealth of knowledge, promoted an integrated and comprehensive approach to the management and development of the common Nile Basin water resources and helped establish an enabling environment for investment.

The NBI includes three components. <u>Component 1:</u> 'Advancing Nile Basin-Wide Cooperation and Analysis' is implemented by the Secretariat based in Entebbe. This component aims at supporting activities at the NBI Secretariat related to its core functions of Facilitating Cooperation and Water Resource Management.

<u>Component 2:</u> 'Promotion of Sustainable Development and Planning in the Nile Equatorial Lakes Region is implemented by the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) based in Kigali, Rwanda. This component supports NBI in its efforts to advance investment opportunities in the Nile Equatorial Lakes region. NELSAP-CU facilitates identification, preparation and implementation supervision of two sub-programs comprising a number of projects. The two sub-programs are:

(1) The Water Resources Management and Development sub-program

(2) The Power Development and Trade sub-program.

Projects under the Water Resources Management and Development sub-program include: the three River Basin Management Projects of Mara, Kagera and Sio-Malaba-Malakisi; Lakes Edward and Albert (LEAF) Project; Nile Equatorial Lakes (NEL) Water Resources Development Project; Gestion Integrie des Ressources en Eau Transfrontaliere du Bugesera (GIRET) Project; and the NELSAP Climate Adaptation Mainstreaming Project. Projects under the Power Development and Trade sub-program include: Interconnection of Electric Grids of the Nile Equatorial Lakes (NEL) Countries; Regional Rusumo Falls Hydroelectric; Kenya-Tanzania Interconnection; Iringa-Mbeya Transmission Line; Uganda-DR Congo Power Transmission Line; and Mbeya (Tanzania)-Kasama (Zambia) Interconnection Study.

It is envisioned to construct a number of hydroelectric power plants with a total installed capacity of about 60–80 MW.

<u>Component 3</u> focuses on dam safety related initiatives; watershed management; water resources data, information and knowledge base; integrating social and environmental issues; expanding the stakeholder base to enrich the dialogue and build consensus; enhancing awareness and communicating benefits of

cooperation. This Component is implemented by the Eastern Nile Technical Regional Office (ENTRO) based in Addis Ababa.

The NBI is funded via support from international pecuniary institutions, such as the World Bank WB), the Global Environment Facility, the African Development Bank Group as well as via investments from the participating countries. In 2003, the Nile Basin trust Fund, managed by the WB, was established.

On May 14, 2010, in Entebbe (Uganda), representatives of four upstream States (Ethiopia, Rwanda, Tanzania, and Uganda) adopted the Agreement on the Nile Ribver basin Cooperative Framework (CFA) known as the Entebbe Agreement. On May 19, it was signed by Kenya. The CFA consists of 44 Articles and two Annexes [10]. It does not provide any concrete figures concerning the sharing of the water resources. Nor does it include any mechanisms of dispute settlement. The CFA sets forth a number of principles to be obligatory for all signing States. Such principles include cooperation for equitable and reasonable uses of water, the principle of preventing the causing of significant harm to other States of the Nile River Basin, and the principle that the Nile Basin States exchange information on planned measures trough the Nile River Basin Commission.

Art. 14 stipulates that in ensuring that their utilization of the Nile river system water resources is equitable and reasonable, Nile Basin States shall take into account all relevant factors and circumstances: geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; the social and economic needs of the Basin States concerned; the effects of the use of the water resources in one Basin State on other Basin States; existing and potential uses of the water resources; the contribution of each Basin State to the waters of the Nile river system; the extent and proportion of the drainage area in the territory of each Basin State, and other provisions. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

The adoption of the Agreement was explained by the countries by the fact that nothing had been agreed upon for the 13 years of negotiations, and they had, as before, to obtain a preliminary permit from Egypt to use the Nile river water for any development project (such as irrigation) as is required by the Agreement signed in colonial times between Great Britain and Egypt and duplicated by the Agreement as of 1959 [9]. Egypt declined the Agreement by declaring that it would not enter into or sign any agreements influencing its share. Consensus was not reached as to Art. 14 (b), stipulating that the countries shall not adversely affect, to a substantial extent, the water security of any other Basin State. Egypt suggested that this Article should read thus: "not to adversely affect the water security and current uses and rights of any other Nile Basin State".

The signing of the Agreement in a different format was already planned in the course of the meeting of the ministers in 2007, but it was postponed at the request of Egypt, and repeatedly postponed later. It was declared that Egypt and Sudan stood in greater need of water than the upstream countries where precipitation amounts are larger and the soils are more fertile [11]. In February 2011, the Agreement was signed by Burundi, and DR Congo is expected to sign. The fact that the CFA has already been signed by six countries renders it the first multilateral agreement for the Nile basin. Legally, the Agreement will become effective once it is ratified by the Parliaments of the six participating States.

Ethiopia holds the key of 85% of the Nile sources and plans to construct hydroelectric power stations on the Blue Nile, which would lead to a decrease in the streamflow by 9%. Today, Ethiopia consumes an average of 1 km^3 of water, although its contribution to the total Nile streamflow is tens times larger. By 2020, the country's population may well be 110 million, and this would require a substantial increase in the consumption of the Nile water. In this connection, the Ethiopian Government prepared the master plan of development of the Blue Nile basin. Ethiopia's aspiration for playing a greater role in the governance process of the Nile water resources and for implementing its own programs is contrary to the principles of Egypt-Sudan cooperation on the Nile. Ethiopia committed itself to the role of leader of the "offended" countries in the upper reaches of the Nile; it seeks to establish a fixed share of the water resources for each State, on the basis of the norms of international law, proposes to revise the Agreement between Egypt and Sudan, and carries on a relevant promulgation campaign [12].

At the end of the 1990s, based on summarizing the various projects of economic utilization of Ethiopian rivers, the Government prepared the document formulating the strategic program of development and utilization of national hydroresources. It was ratified in spring 1999. As regards its hydro-energy potential, Ethiopia has an undoubted advantage over its neighboring States. It would, to a significant extent, cope with the poverty problem, if it were able to materialize, at least partially, this potential by constructing additional electric energy generating facilities and subsequently exporting electric energy to other countries [13].

Until the end of the past century, foreign investors regarded in a reserved manner the projects of this country on the rivers of the Nile basin because of their high capital coefficient and counteraction of a number of neighboring countries. The situation began to change in the 2000s when, with financial and technological support of Italy and China, the construction of the hydroelectric power plants became target-oriented and systematic. In 2004, the first stage of the cascade of hydroelectric power plants on the Omo river was commissioned, namely Gilgel Gibe I Power Station with 185 MW generating capacity. The year 2009 saw the commissioning of the Tekezé Power Station with 300 MW generating capacity; it is located on the Tekezé tributary of the Nile. In 2010, the second stage of the cascade on the Omo river was put into operation: Gilgel Gibe II Power Station with 420 MW capacity as well as the Beles Power Station with 460 capacity. The regulating reservoir of the latter power station was constructed by using a large lake, Tana (the source of the Blue Nile).

In 2011, Ethiopia announced the construction project of the Grand Ethiopian Renaissance Dam in the upper reaches of the Blue Nile, nearby the Sudan border. The cost of the project amounts to about 5 billion US dollars. The generating capacity of the hydroelectric power plant is 6 thou MW, which would make it the largest on the African continent. This would provide a possibility of meetings its own needs for electric energy and selling it to neighboring countries (Kenya, Sudan, and Djibouti). The reservoir will be one of the largest in Africa (with the planned volume of 65 km^3). Salini Costruttori S.p.A. (Italy) will serve as the General Contractori [14].

Furthermore, for increasing the manufacture of food products in conditions of the ongoing demographic growth, Ethiopia sees no alternative but to intensively develop the irrigation measures [15]. In the future, a further four power plants with a total generating capacity of 6900–7700 MW can be constructed on the Blue Nile.

Egypt and Sudan immediately raised objections against the construction of the dam, apprehending that the water supply from the Nile would decrease substantially once the dam was completed. It is anticipated that, after the reservoir impounding, from 11 to 19 km^3 of water would be lost every year, which would lead to a decline in the generation of electric energy by the Aswan hydroelectric power plant, and to losses of incomes for two million farmers. Ethiopians point to the favorable influence of the reservoir on the situation with floods, which is important for all the downstream States, as well as emphasizing a considerably smaller evaporation from its surface when compared with Lake Nasser in which 12% of the entire Nile flow is lost due to evaporation. In their opinion, this would increase water supply of Egypt by 5% as well as Sudan.

On June 13, 2013, the Ethiopian Parliament unanimously ratified the Agreement. It had been postponing this step for a long time to meet the requests of Egypt's new authorities that the text of the Agreement should be studied in detail. In response to the ratification, Egypt's President Mohamed Morsi declared that he would not allow the water supply of Egypt to be jeopardized.

In October 2014, Ethiopia's President announced that 40% of the Ethiopian Renaissance Dam was completed and that the first hydroelectric generating sets would be commissioned in June 2015. He added that Egypt could participate in co-financing of the project. In the last several months, the relations between Ethiopia and Egypt began to improve: Egypt's President met with the Premier of Ethiopia at a session of the United Nations General Assembly, and the Irrigation Minister of Egypt visited the dam construction site [16].

After Ethiopia, the Cooperative Framework Agreement was ratified by the Parliament of Rwanda. On 10.08.2014, the Cabinet of Tanzania recommended that the Parliament should ratify the Agreement next month. Kenya, Uganda and Burundi are also in the late stages of CFA ratification [17].

CONCLUSIONS

The analysis showed that the problem of regulation and use of the waters of the transboundary Nile river is highly multifaceted. To cope with this problem requires resolving an array of political, legal and socioeconomic challenges as well as taking into consideration the hydrological characteristics and integrity of the water system. As a transboundary river, the Nile has a relevant international status. This means that all Nile Basin States without exception have the right to use its waters, in accordance with the generally recognized standards of international river regulation. However, today's modality of Nile water resources use is difficult to recognize as fully complying the international rules.

The 1959 Agreement on the Nile Basin is a unique example in the world practice where most of the water resources were distributed in favor of the downstream States, whereas the upstream States where the major portion of the streamflow is formed exercised very limited rights to use its waters. These States, within the framework of the Nile Basin Initiative, have been struggling during many years for revision of the unjust colonial agreement. This struggle is to necessarily involve the other countries in the cooperative framework agreement or in the working out of a new treaty providing for equitable sharing of the water resources of the Nile river in the interests of all the basin States.

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