

UNSOLVED TRINITY

THE CASE OF GRAND ETHIOPIAN RENAISSANCE DAM URANGOO BULGAMAA¹

This research aims to understand transboundary river conflict and cooperation in the context of the Grand Ethiopian Renaissance Dam. The study addresses the basin level legal environment and the reasons for unclosed deal from a perspective of power politics. The paper argues that power asymmetry affects cooperation in the absence of a quality institution. To mitigate such tension, benefit sharing principle needs to be introduced into the current negotiation, while Ethiopia should bring collaborative offers to downstream states in order to balance power. Furthermore, building common-ground through managing water-food-energy-environment nexus may protect each riparian from the negative impacts of counter-hegemony.

INTRODUCTION

The Grand Ethiopian Renaissance Dam (GERD), which has been currently building over the Blue Nile River in the territory of Ethiopia, is in conflict due to the fact that Egypt disagrees on the fill speed of the dam (water reservoir) planned by the Ethiopian government, as well as concerns its expected impact assessment to the downstream countries. Political tension is high. If the riparian countries fail to solve the conflict through diplomacy, it may danger regional peace and stability. Therefore, this case attracts international attention. Prior to going in detail, it is worth to provide background for the story.

In North Africa, the Blue Nile, as a major surface water resource, is long being used by Ethiopia, Sudan, and Egypt [World Bank, 2018]. The Blue Nile origins from the Ethiopian Lake Tana flows through Sudan towards Egypt where flows through the country and finally discharges into the Mediterranean Sea. In fact, the MENA is the most water scarce and water-conflict affected region in the world [Caroline A Sullivan, 2014]. Therefore, the role of transboundary water resources in regional development and peacekeeping is significant, particularly in the Middle East and North Africa (MENA).

The main driving forces making the situation into a conflict are often described as dependency on one major water resource, high population growth, and rapid urbanization, modernization and industrialization, migration, a history of armed conflict, and weak relations between the countries [Barry S. Levy, 2011]. Furthermore, future water issues are expected to be getting more challenging due to the impacts of climate change and rapid population increase [World Bank, 2018].

On this background, in 2011, Ethiopia announced its ambitious project so-called the Grand Ethiopian Renaissance Dam (GERD), a sustainable energy initiative, aims to build a hydroelec-

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tric dam with a capacity to generate 6000 megawatts electricity (annually) in the Eastern Nile Basin in the territory of Ethiopia [Gebreluel, 2014]. The GERD is estimated to produce energy covering full-domestic and some part of regional needs. The dam's construction work was expected to be finished in 2015. However, the project has been facing disputes so far due to a disagreement with downstream countries, mainly with Egypt. The main tension is that Egypt does not agree on Ethiopia's consideration – the dam would not affect Egypt's water share. Egypt's concern is that upstream Nile's reduced flow will potentially have a substantial negative impact on the downstream, particularly to Egypt due to the GERD filling period [Tawfeek, 2018].

The paper structure is as following. Firstly, it will introduce conceptual background, second, the paper will briefly review the Nile water treaties and agreements and analyze why the negotiation is long being on hold in regard to the GERD. Finally, the paper will be concluded.

1. CONCEPTUAL BACKGROUND

This research aims to better understand transboundary river conflict and cooperation in the context of the Grand Ethiopian Renaissance Dam. The study addresses first, the Nile Basin water agreements, second, the reasons for the unclosed deal (unsolved trinity) & impact of power asymmetry on cooperation. The analysis is conducted from a perspective of power politics to approach the problem, therefore, this session is briefly covering conflict and cooperation of transboundary rivers, hydro-hegemony, the concept of integrated water resources and river basin management.

In water politics literature, the transboundary water conflict and cooperation address relations between the states sharing water resources. The main logic is that when you are managing scarce water resource – then you are managing conflict (the scarce water resource and conflict has a direct relationship). The key problem in this regard is water allocation [Kliot, 1994]. Furthermore, the question may arise is - in which situation does water conflict occur? Water conflict generally occurs as a result of a new dam and water infrastructure development in upstream countries and a lack of institutional capacity to mitigate the impacts caused by upstream to the downstream countries [Petersen-Perlman, Watson, & Wolf, 2018]. This condition intensifies already existing competing behavior of sovereign states that are driven by increasing water demand coupled with population growth and climate change risks for relatively scarce shared water resource.

However, conflict can turn to cooperation. The main question is when cooperation occurs? It is often contradicted to competition or conflict, which is described as goal-seeking behavior that reduces the gains available to others or fulfills their satisfaction [Milner, 1992]. From a perspective of international cooperation theory, it is described that

“cooperation can only take place in situations that contain a mixture of conflicting and complementary interests. In such situations, cooperation occurs when actors adjust their behavior to actual or anticipated preferences of others” [Axelrod & Keohane, 1985: 22].

Therefore, there is a drawn conclusion that adaptive capacity is an important factor in resolving transboundary water conflict and facilitating cooperation. From a perspective of power politics, Zeitoun & Warmer [2006] explained an interaction between water, power, and conflict by the theory of hydro-hegemony.

“The term hydro-hegemony is a hegemony at the river basin level, achieved through resource control strategies such as resource capture of integration and containment, so that the balance of power ultimately determines riparian interactions over shared resources” [Zeitoun & Warner, 2006:450].

The theory concerns the key issue who benefits from this relationship over the water. They argued that hydro-hegemony can engage in the roles what they prefer through a certain type of strategy, and it can result in either positive or negative form of hegemony.

As it is explained theoretically, positive/dominant hegemonic cooperation appears when hydro-hegemony engages in guiding role and it tends to result in an execution of an integration strategy. Yet negative hegemonic cooperation normally exploits other riparian countries, and hegemon state dominantly benefits from water use [Zeitoun & Warner, 2006]. Such situation challenges right to water of other riparian and causes inequality.

Later, Tawnik [2015] studied the hydro-hegemony in the context of the Grand Ethiopian Renaissance Dam, highlighted the advantages and disadvantages of the tactics used by counter-hegemony, Ethiopia. Her main argument is that even though the GERD is a game changer, Ethiopia's approach engaging this relationship increased uncertainties, thus political tensions around the project has increased even after the Declaration of Principles (for reducing tension) signed, therefore it may lead the countries to a new order - "contested control" rather than "shared control" over the Blue Nile. Tawnik suggested building trust between the riparian states and turning the 2015 Declaration of Principles into a benefit-sharing deal.

P. Perlman, Watson and Wolf [2018] further argued that managing transboundary water is often attached with interest and power politics, thereby, it attempts to solve the problems of politics through diplomacy among the riparian states. These sovereign states thus often prioritize national interest rather than favoring the neighboring countries. When it comes to management of such sensitive resource, the individual states pursue their own national interests, thus it tends to mismanage the river (water resource) in the absence of strong basin wide institution. Aggarwal and Dupond [2014] also elaborated that individual action in an interdependent circumstance done by the states often does not yield the desired outcome, but, it can be facilitated by creating an international institution.

How does institutionalism (creating rules through building international treaties and river basin organizations – regime theory) help in managing conflict or cooperation over the transboundary waters? As several water conflict/ cooperation scholars agree that

"Effective institutional presence may encourage a greater distribution of benefits and may offset incentives for unilateral exploitation of the shared resource. Cooperative mechanisms can reduce the potential for conflict in ways such as providing a forum for joint negotiations, considering different perspectives and interests, building trust and confidence, making decisions that are much more likely to be accepted" [Petersen-Perlman, Watson, & Wolf, 2018:487].

The question of how states manage transboundary water resources/conflicts certainly attracts many scholars to find a solution in the field. Particular problem identified in the transboundary river management between riparian states is the upstream state has no immediate interest in cooperation [Dombrowsky, 2007]. In an essence of such circumstance, finding common ground and building shared value would particularly pay off as based on rational thoughts. To promote the states to have more willingness towards cooperation, there is a need for incentives together with robust treaties and effective river basin organization.

As a central answer to question how conflicts on water resources can be avoided, the concept of Integrated Water Resources' management (IWRM) and River Basin Organization have been promoted [Dombrowsky, 2007]. This concept has been developed since 1990s as a newly born but widely accepted framework to manage the fragmented water issues. As the Global Water Partnership described:

“Integrated Water Resources Management (IWRM) is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment” [Global Water Partnerships, 2000:14].

The IWRM approach facilitates riparian countries to manage shared waters (which are often identified collective action problems) through signing international water treaties (IWTs) and establishing river basin organization (RBOs). RBO is the most common approach as providing key forums among actors [Gerlak & Scheiemer, 2018].

All in all, there is a conclusion drawn that transboundary water conflict in the Blue Nile basin needs to be mitigated through effective institutionalism and diplomacy.

2. ANALYSIS

2.1 A SHORT REVIEW ON WATER TREATIES AND AGREEMENTS IN THE BLUE NILE BASIN

There is a history of several water treaties and agreements dedicated to the Blue Nile Basin. During the colonial era, an earlier arrangement made between Egypt and Great Britain (behalf of Sudan) was the Nile Waters Agreement in 1929. This agreement gives predominant power to use Blue Nile's water to Egypt. [Salman.M.A, 2016]. This agreement extended in 1959, two countries decided to use entire water flow of the Nile with the Agreement for the Full Utilization of the Nile Water in which who uses how much water is precisely written as 10 BCM for evaporation, 55 BCM for Egypt, 18.5 BCM for Sudan annually [Salman. M.A, 2016].

This agreement allows Egypt to form hydro-hegemon in the basin due to much dominant water utilization and having control through resource capturing. It also leads form to negative exploitative hydro-hegemony due to no fair share recognized to other riparian countries. Furthermore, equal right to water of each riparian including Ethiopia is strongly questionable. Such a situation caused historical dispute among riparian states over sharing the Blue Nile [Salman.M.A, 2016].

In 1993, Egypt and Ethiopia signed on a general cooperation agreement, agreed on the principle that they will not modify the Blue Nile if it causes any harmful impact another country, furthermore, to consult and cooperate on future water initiatives which potentially bring mutual benefit [Dennis Wichelns, 2003]. However, none of these agreements did involve other riparian countries along the basin like the Nile Basin Initiative², and any of the clear framework or legal regime was described [Dennis Wichelns, 2003].

In 2010, the Cooperative Framework Agreement was signed but not in force [Salman. M. A, 2016]. In 2015, three riparian states, Egypt, Sudan, and Ethiopia signed on the Declaration of Principles on the Grand Ethiopian Renaissance Dam Project with a commitment to regional

² The Nile Basin Initiative (NBI), the first river basin international body was founded in 1999, among 11 countries along the Nile Basin, which includes Uganda, Burundi, Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, and Tanzania. The initiative was commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). NBI aims to facilitate dialogue and advance cooperation on the joint water management projects in the Nile Basin. (The Nile Basin Initiative, 2019)

integration in general. This event is significant in terms of its potential effects on building trust between three countries, improving benefit sharing, and addressing common challenges in the basin [Rawia, 2016]. The declaration of principle has signed to reduce tension between three countries, however, the tension arises [Tawfik, 2015]. Based on this legal background, there is a strong need to revisit the international water treaties and agreements to fulfilling current needs, recognizing fair share of the Blue Nile River, and providing more equitable and just mechanisms.

2.2 REASONS FOR AN UNCLOSED DEAL – UNSOLVED TRINITY

The negotiation on the GERD project has been going on since 2011, it has been taken already 8 years, the deal is far from the final solution. In detail, Egypt disagrees on the fill speed of the dam (water reservoir) planned by the Ethiopian government, as well as concerns its expected impacts to the downstream countries during the reservoir filling period. Particularly, Ethiopia's plan to fill the dam is in 5-6 years (strategically), thus it will reduce Nile's flow by 25% during the filling period, while Egypt prefers this process in 12-18 years to take [as cited in Abdulrahman, 2019]. This is a mirrored process regarding the project deal informed, however, there are other reasons behind it.

When we look at Egypt's position in the basin, it dominantly captures most of the river flow at an expense of other riparian states, thus Egypt created a hydro-hegemony in the basin, even though Egypt's high dependency on surface water causes its vulnerability. Furthermore, Egypt has formed a negative dominant hydro-hegemon as engaging in an exploitative role, although it is downstream, since 1929 when the Nile Waters Agreement acknowledged Egypt's water utilization with a direct impact of British colony. Later this situation got worse in 1959 due to the Agreement for the Full Utilization Treaty (see session 2.1). However, Egypt's long-lasting hegemon has been challenged by Ethiopia which announced the GERD hydro-electric project in 2011. The GERD comes as a disruptor (so-called counter-hegemon) of an upstream riparian to Egypt's dominance as asking its fair-share of the Blue Nile waters.

In fact, when we look at the pattern of Nile Water share and contribution, Ethiopia uses 1% of the water, while it contributes 80% of the water; Egypt uses 80% of the water but contributes nothing [Kliot, 1994]. Such an adverse disparity in the basin illustrates how Egypt has been engaging in water exploitation. Principally speaking, Egypt's historical dependence on only one water resource should be taken into account, however, it should not block other riparian development effort, need and fair-share of water in the basin [Kliot, 1994; Tawfik, 2015].

From a perspective of Sudan, the Sudanese government supports the GERD as it will normally regulate the flood, and provide the electricity for agriculture, in this way it meets Sudan's need. Economically, the net economic benefit of the GERD for Sudan and Ethiopia is expected to increase in case of better cooperation [Mohammed Basheer, 2018], however, environmentally, Sudan will be at high risk of flooding that potentially is caused by the dam's damage [Mohamed Mostafa Mohamed, 2017]. From a perspective of two countries tie, Sudan has a warm relation with Ethiopia due to the fact that, first, Ethiopia has a role to mediation during the Sudanese civil war [Gebreluel, 2014], second, Sudan's preference is playing a mediation role in the dam's negotiation while securing an energy deal (hydro-electricity) with Ethiopia in case of the dam's operation starts [Petersen-Perlman, Watson, & Wolf, 2018]. Moving beyond a need of sharing benefit in the basin, there is a further question arises.

– If the GERD is a counter-hegemony, whether granting its operation would really shape basin level water cooperation in a sustainable and equitable way?

Having reflected on this question, we need to take a relationship between power asymmetry and effectiveness of cooperation into consideration. Some scholars assumed that a power asymmetry impacts cooperation opportunity between the states in a way that one who has a greater power will more likely be securing its interest on the treaties [A. Zawahri, 2018], while Dombrowsky [2007:7] argued that upstream countries have no immediate willingness to cooperate.

Based on such a linear relationship as observed by Zawahri and Dombrowsky, Egypt might continue to disagree on the deal for the GERD's operation as it is certainly negative to its egoist interest and hegemonic position, thus Egypt is gaining time from prolonging the deal for somewhat amount of time. Prolonging deal is a possible case in the practice as Aaron T. Wolf³ mentioned that “water conflict resolution is a long process that takes 10 years, 30 years and 40 years, meanwhile water resources are being mismanaged and people are struggling and the environment is degrading”. The statement was based on his empirical studies over the international waters' conflict and cooperation, and delivered during his presentation “International Waters: Global Experience” at the international conference in India [Lewis and Clarklaw, 2013]. Therefore, Egypt needs to stop looking at national security at first but considering basin-wide solution while not hindering its well-being. There are scenarios studied which can be win-win for each riparian based on the GERD project and its operation [Habteyes, Hasseen El-bardisy, Amer, Schneider, & Ward, 2015; Reem F. Digna et al., 2018]. Therefore, Egypt should recognize Ethiopia's need of and right to water, and introduce benefit sharing principle into the current negotiation.

On the other hand, an impact of power asymmetry is another reason to think about how to be avoiding negative potential impacts from the GERD and making sure the cooperation and management that meet other two riparian needs. This is why it needs to build up a strong basin-wide institution, which is capable enough to coordinate different interests and needs.

Furthermore, finding common ground among riparian states will have positive impacts on cooperation. For this reason, water-food-energy-environment nexus may facilitate three countries to manage their one shared water resource in a more equitable and sustainable manner. Because the GERD project is not only water issue but also connected to food, energy and environment issues in such ways that water collected in the reservoir will be used to irrigate agriculture and also generate electricity. Water collected in the reservoir could either mitigate climate and flood risks or cause shortcomings. Thereby, water-food-energy-environment nexus is an interconnected set of issues that define each riparian common security and common interest [Petersen-Perlman, Watson, & Wolf, 2018]. Furthermore, Ethiopia needs to stop its coercive and unpredictable geopolitical game as it would not help to build trust with Egypt, instead, Ethiopia should invite Egypt to collaborate on the GERD in that way it would help to create common value, balancing power, and limiting possible negative impacts of the counter-hegemony.

³ Aaron T. Wolf is a professor of Oregon State University and expert for the interaction between water science and water policy, particularly as related to conflict prevention and resolution. He is responsible for the research: conflict and cooperation along international waterways (which analyzed 261 international waters, its period covers 50 years after World War II) and many more.

3. CONCLUSION

The paper analyzed the GERD project and its impact from a perspective of hydro-hegemony because the main issue is politically attached to sovereignty and security of the riparian states due to the dam building and its further impacts. However, the GERD is a dream of Ethiopia, and its expected developmental impact on the country and the region is immense. The project clearly needs to move on but it is important to build basin-wide cooperation through diplomacy. Therefore, building an institution – in other words - bringing integrated water resources and river basin management into the discussion would serve as an effective tool for cooperation and collaboration. Concerning the empirics reviewed, the study is written based on the peer-reviewed articles, books and book chapters.

To sum up, Egypt's dependency on the Blue Nile river together with the support of Great Britain made it hydro-hegemon in the basin and it remains so far. Nevertheless, the GERD is coming to the reality as becoming a counter-hegemony due to its expected operation, amount of resource capturing, hydro-electricity generation as well as its upstream location. This phenomenon has caused a low-intensity conflict since 2011 in North Africa. To reduce the tension, creating value and building trust are recommended, particularly, it is important to help them recognizing mechanisms that possibly enable the win-win opportunities from the GERD operation. For current negotiation, the countries agreeing on benefit sharing principle and specifying operational and management rules would be a significant progress. Furthermore, balancing power is a next round of issue that actors need to address. This could be facilitated by creating common ground, particularly the water-food-energy-environment nexus is highly recommended by the international scholars.

Road to consensus may start from recognizing other riparian's need of water aside from its right to water, which is more human centered approach. Cooperation building may start with acknowledging benefit sharing principle to continue their further collaboration. Furthermore, it is important, particularly to Ethiopia, that making the operational and management rules clear to other actors (Sudan & Egypt) during the period of both filling and operation. To avoid negative hegemonic cooperation, Ethiopia may introduce joint-management to the GERD project with riparian states. It can be either inviting them to invest in certain portion of stocks or sealing a deal on energy trading.

Further research is needed in terms of assessing an impact of power asymmetry on treaty design as empirical studies currently show conflicting results, thus more refined measurement, more accurate databases to identify basin hegemons and asymmetry of power [A. Zawahri, 2018].

4. REFERENCE

- Abdulrahman, S. A. (2019): „The River Nile and Ethiopia's Grand Renaissance Dam: challenges to Egypt's security approach” *International Journal of Environmental Studies*. 76(1): 136–149. <https://doi.org/10.1080/00207233.2018.1509564>
- A.Zawahri, N. (2018): „Managing Transboundary Rivers”. In: K. Conca, & E. Weinthal: *The Oxford Handbook of Water Politics and Power* (pp. 451-478). Oxford University Press, New York
- Aggarwal, V. K., & Dupond, C. (2014): „Cooperation and Conflict in the Global Political Economy”. In: J. Ravenhill: *Global Political Economy* (pp. 50-73). Oxford University Press, New York
- Axelrod, R., & Keohane, R. O. (1985): „Achieving Cooperation under Anarchy: Strategies and Institutions” *World Politics*. 38(1): 226-259.

- Barry S. Levy, V. W. (2011, May): „Water Rights and Water Fights: Preventing and Resolving Conflicts Before They Boil Over” *American Journal of Public Health*. 101(5): 778-780.
- Caroline A Sullivan, Hatem Jemmali. (2014): „Toward understanding water conflicts in MENA region: a comparative analysis using water poverty index”, In: *Working Paper / Economic Research Forum: 859/2014.Egypt*
- Dennis Wichelns, John Barry, Jr, Martini Muller, Megumi Nakao, Lisa D. Philo, Adam Zitello (2003): „Co-operation regarding water and other resources will enhance economic development in Egypt, Sudan, Ethiopia and Eritrea” *Water Resources Development*. 19(4): 535-552.
- Dombrowsky, I. (2007): *Conflic, Cooperation and Institutions in International Water Management: An Economic Analysis*. MPG Books Ltd, Bodmin, Cornwall, Leipzig
- Gebreluel, G. (2014): „Ethiopia's Grand Renaissance Dam: Ending Africa's Oldest Geopolitical Rivalry?” *The Washington Quarterly*. 37(2): 25-37.
- Gerlak, A. k., & Scheierner, S. (2018): „River Basin Organizations and the Governance of Transboundary Watercourses” In: K. Conca, & E. Weinthal: *Water Politics and Policy* (pp. 532-548). Oxford University Press, New York
- Global Water Partnerships. (2000): *Towards Water Security: A framework for action*. Global Water Partnerships. <https://www.gwp.org/en/GWP-CEE/about/why/what-is-iwrm/>. Accessed: 2019. 04. 12.
- Habteyes, B. G., Hasseen El-bardisy, H. A. E., Amer, S. A., Schneider, V. R., & Ward, F. A. (2015): „Mutually beneficial and sustainable management of Ethiopian and Egyptian dams in the Nile Basin” *Journal of Hydrology*. 529(Part 3): 1235–1246. Retrieved from <https://ceuedu.sharepoint.com/sites/itservices/SitePages/vpn.aspx>
- Kliot, N. (1994): *Water Resources and Conflict in the Middle East*. Biddles Ltd, Guildford and King's Lynn, London & New York
- Lewis and Clarklaw, O. S. (2013): „International Waters: Global Experience” [Recorded by A. T. Wolf]. India.
- Milner, H. (1992): „International Theories of Cooperation Among Nations: Strengths and Weaknesses” *World Politics*. 44(03): 466–496. <https://doi.org/10.2307/2010546>
- Mohamed Mostafa Mohamed, S. I. (2017): „ Remote sensing of the Grand Ethiopian Renaissance Dam: a hazard and environmental impacts assessment” *Geomatics, Natural Hazards and Risk*. 8(2): 1225-1240.
- Mohammed Basheer, K. G. (2018): „Quantifying and evaluating the impacts of cooperation in transboundary river basins on the Water-Energy-Food nexus: The Blue Nile Basin” *Science of The Total Environment*. 630: 1309-1323.
- Petersen-Perlman, J. D., Watson, J. E., & Wolf, A. T. (2018): „Transboundary Unbound” In: K. Conca, & E. Weinthal: *Water Politics and Policy* (pp. 479-506). Oxford University Press, New York
- Rawia, T. (2016): „Changing Hydropolitical Relations in the Nile Basin: A Protracted Transition” *International Spectator*. 51(3): 67-81.
- Reem F Digna, Mario E. Castro-Gama, Pieter van der Zaag, Yasir A. Mohamed, Gerald Corzo, & Stefan Uhlenbrook. (2018): „Optimal Operation of the Eastern Nile System Using Genetic Algorithm, and Benefits Distribution of Water Resources Development” *Water*. 10(7):1-22. <https://doi.org/10.3390/w10070921>

- Salman, M.A. (2016): „The Grand Ethiopian Renaissance Dam: the road to the declaration of principles and the Khartoum document” *Water International*. 41(4): 1941-1707. <https://doi.org/10.1080/02508060.2016.1170374>
- Tawfeek, F. (2018): *Egypt Independent*. <https://www.egyptindependent.com/president-sisi-calls-on-countries-not-to-politicize-water-issues/>. Accessed: 2019. 03. 12
- Tawfik, R. (2015): „Revisiting hydro-hegemony from a benefit-sharing perspective: the case of the Grand Ethiopian Renaissance dam”. In: *Discussion Paper / Deutsches Institut Für Entwicklungspolitik: 5/2015*. Dt. Inst. für Entwicklungspolitik, Bonn
- World Bank. (2018): „Beyond Scarcity: Water Security in the Middle East and North Africa. MENA Development Report” World Bank. Washington, DC: World Bank.
- Zeitoun, M., & Warner, J. (2006): „Hydro-hegemony – a framework for analysis of trans-boundary water conflicts” *Water Policy*. 8(5): 435–460. <https://doi.org/10.2166/wp.2006.054>

APPENDIX

“Unsolved Trinity – the Grand Ethiopian Renaissance Dam”

