



The Grand Ethiopian Renaissance Dam (GERD) A Catalyst for Cooperation on the Nile

KEY POLICY MESSAGES

- GERD can provide a catalyst for further cooperation on water among the Nile Basin states.
- Potential benefits extend beyond energy and could trigger regional integration and foster sustainable economic development across the basin.
- At the same time, the GERD is a large-scale project and mitigating its associated potential negative impacts will require close collaboration.
- If riparian countries, particularly in the Eastern Nile Basin, can continue to work jointly to establish a suitable legal and institutional framework, there can be a significant payoff in the transparent, sustainable and equitable implementation of water-related infrastructure and development plans.

■ GERD Main dam and upstream natural flooding due to high rainfall, July 2016 © Ana Cascão

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The GERD presents an unprecedented opportunity to catalyse cooperation in the Eastern Nile Basin. This large-scale project in Ethiopia, scheduled for completion in 2017, promises to deliver increased water and energy security to riparian states of the Eastern Nile and beyond. The significant opportunities for equitable and sustainable regional cooperation that this project offers necessitate implementation of appropriate legal, political and institutional arrangements. Multidisciplinary contributions to a Water International Special Issue highlight reforms that will be essential for the GERD to contribute to regional development.

A NEW LEGAL ORDER

Salman recommends capitalizing on the 'new legal order' that is emerging from the GERD, to further enhance cooperation at the basin level. Exploring relevant legal instruments and the history of dams in the Nile basin, he provides a detailed account of the sequence of negotiations that led to the Declaration of Principles (DoPs) and the December 2015 Khartoum Document signed between Ethiopia, Egypt and Sudan. In contrast with the prevalence of unilateral dam development in the Nile basin, Salman argues that the DoPs and the Khartoum Document, founded on contemporary principles of international law, represent a major step forward in the evolution of a legal regime for the Nile.

FOCUS ON FAIRNESS

A new regime requires adoption of new principles. Yihdego and Rieu-Clarke examine the fairness principle, both as a framework for substantive and procedural equity, and as a tool for promoting compliance with new legal arrangements. They maintain that instruments that largely satisfy the requirements of fairness, such as the DoPs, are more likely to be complied with by all states concerned. Finally, a basin or regional approach to cooperation, particularly if it engages with non-state actors at multiple levels, may help rectify the current unfair distribution of resources in the (Eastern) Nile basin.

NEW NORMS OF COOPERATION

Reaching a permanent legal or institutional framework that is accepted by all co-riparians remains a key challenge. Cascão and Nicol provide a comprehensive and critical assessment of the GERD both as an outcome of change and as a catalyst for future change. The GERD, and related norms and processes, are outcomes of changes in transboundary



■ The Grand Ethiopian Renaissance Dam (GERD)

relations that have been taking place since the mid-1990s. Cascão and Nicol also consider the GERD as a shaper of future cooperation; providing opportunities to enhance shared economic benefits and trade in the field of energy, and as an opportunity to expand regional development and integration in the Eastern Nile Basin region. They stress that cooperation within sub-basin and basin-wide forums can co-exist, but in the long-term this might entail high transaction costs, hence the GERD provides a unique moment, a strategic opportunity on multiple levels to foster a basin-wide transboundary water regime.



BENEFIT SHARING

Tawfik questions whether the steps taken for the GERD coordination imply the application of benefit-sharing in the sub-basin. Ensuring future negotiations between Nile riparians endorse and apply a benefit-sharing paradigm addresses both equity in economic development and helps to negate downstream impacts. She finds that the dam could bring economic development for Ethiopia, increased water flows to Sudan, evaporation reduction from the Aswan Dam and electricity provision to Egypt and Sudan. Nonetheless, she cautions that the GERD's downstream impacts, particularly those affecting Egypt, are unknown and will depend on dam filling and operating strategies. Tawfik's findings reveal that the GERD, a unilateral project financed, owned and managed by one of the parties, has not yet progressed from water-sharing to benefit-sharing. Addressing historical mistrust among the parties, promoting transparency in negotiations and formulating new national water policies and priorities in Egypt that consider upstream developments are some of the factors that will determine the success, or failure, of future negotiations. The article emphasises that, despite the absence of any guarantee that benefit-sharing will take place, forthcoming negotiations need to look beyond the GERD to address questions of economic integration and river protection.

RESERVOIR FILLING: KEY TO COOPERATION

Dam filling and management is critical to cooperation. Zhang, Erkyihum and Block address two key features of initial dam management: characterizing inflow and reservoir filling strategies. Their modeling

of various streamflow conditions that may occur during filling provides an improved understanding of likely shifts toward wetter or drier conditions during the critical initial phase. In addition, they propose analyses of various reservoir filling strategies and the associated impacts on upstream and downstream countries, including who bears the risks associated with natural streamflow variability. To date, no agreeable filling strategy has been established between the countries. Accordingly, this research highlights that close coordination among the three riparian countries, not only regarding reservoir filling, but also with respect to the long-term management of hydraulic infrastructure, is essential for purposes of fostering development and regional integration. Agreements concerning dam filling and management must take into consideration users across all levels of the basin in a way that maximizes collective benefits and decreases the risk for all countries involved.

PROPOSED FILLING STRATEGIES

- Impounding a fraction of stream flow each month;
- Only impounding excess flow, when streamflow conditions are wetter than average; or
- Filling within a predefined number of years.

TRADE-OFFS

Ethiopia has an incentive to fill the reservoir rapidly to begin generating hydropower, while downstream countries would favor slower filling rates to minimize impacts. A rapid filling strategy is likely to induce sharp reductions in streamflow to Sudan and Egypt over that period, thereby increasing the potential of conflict between the three countries. Conversely, a staged and measured strategy would reduce potential conflict but limit hydropower-generation. Cooperation will require a compromise solution, with filling and hydropower generation occurring at moderate rates. Underlying climatic variability requires flexibility to be integrated into the chosen strategy.

■ LEFT: Blue Nile River downstream before the dam construction, February 2013 © Ana Cascão

■ RIGHT: Looking at the future reservoir area, July 2016 © Ana Cascão



■ GERD main dam under construction (and before closure), July 2016 © Ana Cascão

TOWARDS A FRAMEWORK MODEL FOR FILLING

Wheeler and others emphasise that a solution concerning the most appropriate filling strategy should not be confined to technical considerations. Rather, it needs to incorporate a framework model that champions accuracy, flexibility and transparency. This would equip the three countries with enhanced analytical capabilities and assist in choosing the most appropriate solution. Wheeler and others suggest a 'hydro-policy modelling framework'. Such an approach recognises the significant opportunity offered by the GERD to translate the principles of cooperation into action and demonstrates that an agreement can incorporate varying degrees of cooperation including fixed annual releases and/or adaptive releases that respond to downstream conditions.

The waters of the Nile Basin have long been a focus of tension and conflict. The GERD can be a catalyst for greater cooperation and benefit sharing, but only through:

- Continuous negotiations and commitment based upon a common understanding of established principles of international law.
- Promoting the project to be a catalyst for cooperation at basin and sub-basin levels.
- Maximizing the benefits of the GERD while taking measures to prevent significant harm to all parties involved.
- Fostering transparent and participatory decision-making at all levels.

In the long run, the GERD promises significant benefits for all countries. Yet these will only be realized with a robust scientific base, fair and long-reaching legal and policy frameworks and continuous political will.

INTER-GOVERNMENTAL COOPERATION

Nanni shows the potential for effective intergovernmental cooperation based on the Intergovernmental Authority on Development (IGAD)'s endeavours to adopt a regional protocol and water policy, which will be implemented in eight countries of the region. These initiatives are based upon modern rules of international water law including the principle of equitable use and participation, the duty to prevent significant harm and the obligation to protect ecosystems. They attest to the establishment of legal frameworks across multiple levels of law-making and the associated cross-fertilisation of legal norms. The IGAD process and other Nile initiatives complement each other in a number of ways, showing promise in strengthening water law and policies in a harmonised manner.

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Editors: Elia Guy and James Nickum
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