

Thesis Project Portfolio

**Quantifying the Economic Impact of the Grand Ethiopian Renaissance Dam on the Nile
River Basin**

(Technical Report)

Politics of the Grand Ethiopian Renaissance Dam: The Role of Egyptian Farmers

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

The danger of water scarcity and subsequent human harm in Egypt and Sudan due to the filling of the Ethiopia's Grand Ethiopian Renaissance Dam (GERD) motivates this research. The project team reviewed the conditions of the Nile through data analysis to determine potential negative effects of the GERD on downstream economies and well-being. The dam affects a complex transboundary political arena which necessitates careful consideration of the potential for unrest resulting from the human consequences of water scarcity. The region is already experiencing volatility from civil wars and political unrest, which the dam could serve to exacerbate as it is used as a political pawn. The dam is a highly political asset to Ethiopia, so the understanding of conflict and assessment of harm to Egypt is better viewed from the lens of techno-politics. Techno-politics addresses the inherent power dynamics imputed to technologies. The method employed to research this conflict was a case study on Egyptian farmers as a social group that has a unique positioning within the water-management community and Egyptian political balance. Findings illustrate the vulnerabilities of Egyptian farmer's livelihoods to the operation of the GERD and its inherent politics, as well as illuminate the specific implicit political power afforded to Egyptian farmers within the broader Nile system. With data to show the real-world effects of the filling of the GERD coinciding with the social and political outfall of those effects, the impact of this research is to show the benefits of cooperative transboundary river management, as well as the danger of non-cooperation to marginalized social groups such as Egyptian farmers.