

## Towards Sustainable, Smart, Equitable and Incremental Resolution of The Eastern Nile Water Conflict

MIT, Cambridge USA, April 2018

A new **sustainable, smart, equitable, and incremental** agreement on the Nile water is needed for the 21<sup>st</sup> century. The following elements should be integrated into any future agreement.

1. **Sustainable:** First priority is a commitment by Egypt, Ethiopia, and Sudan on curtailing the rate of human population growth! A specific target of a low population growth rate of about 1% in each of the three countries, reached within a pre-specified period is essential to bring the population “crisis” under control. Education is probably the best approach to address this problem. A goal of educating all girls until secondary school level should be adopted, especially in Ethiopia and Sudan.

The countries of the Eastern Nile Basin should develop a common regional approach to address potential positive and negative impacts of future climate change on water and agriculture.

Recent observations document a small increase in the Eastern Nile river flow (~10%), a “new” water, due to land-use change and climate change. Climate models’ projections suggest that this trend is likely to continue into the future due to climate change, although additional storage may be needed to capture this water. This “new” water offers an opportunity for easing tensions now and in the future. Countries should collaborate to add new storage capacity.

2. **Smart:** A commitment and coordinated effort from the three countries to invest in new agricultural technologies such as better seeds, fertilizers, efficient water use technology, and water-efficient crops are necessary. Partners with interest in stability of this region should enable a significant level of adoption of agricultural technology in order to reduce demand on water, supporting vertical expansion of agriculture instead of horizontal expansion.
3. **Equitable:** There is a need for a change of heart from all sides of the conflict. Egypt should support Ethiopia’s economic development, and in return Ethiopia should insure Egypt’s water security. Given natural topography of Ethiopia and the associated hydropower potential, Egypt and Sudan should support the Ethiopian plan for developing its hydropower. The two downstream countries (especially Egypt) should commit to play the role of a reliable customer for Ethiopian electricity. This collaboration would insure a sustained flux of financial resources upstream, supporting urgently needed development.

Given disparity in the distribution of rainfall across the region, Ethiopia should emphasize development of its hydropower potential and its rain-fed agriculture, while ensuring an annual flux of water downstream, close to the 20<sup>th</sup> century historical flow into Sudan and Egypt.

4. **Incremental:** An agreement between Egypt, Ethiopia, and Sudan is a practical first step that can be pursued, later extended to include South Sudan, and then all Nile basin countries. Consistent with this incremental approach, a new sustainable, smart, and equitable agreement should address sharing of water, and hence help in easing current tensions by allocating 55.5 Km<sup>3</sup> to Egypt, and 18.5 Km<sup>3</sup> to Sudan (including South Sudan’s share) while allocating some of the “new” water to Ethiopia (order of 5 Km<sup>3</sup>). This formula for sharing of water is consistent with the findings of studies by ENTRO on the potential for irrigation expansion in countries of the Eastern Nile basin, reflecting the variations of climate, hydrology, soil, and topography across the basin.