

**Weshareit**

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Onencan, Abby; Enserink, Bert; Kortmann, Rens; Thissen, Wil

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### 34. Weshareit: A Nexus Approach To Nile Basin Water Resources Management

Abby M. Onencan, a.m.onencan@tudelft.nl, Delft University of Technology, Netherlands

Bert Enserink, B.Enserink@tudelft.nl, Delft University of Technology, Netherlands

Rens Kortmann, L.J.Kortmann@tudelft.nl, Delft University of Technology, Netherlands

Wil Thissen, W.A.H.Thissen@tudelft.nl, Delft University of Technology, Netherlands

#### ABSTRACT

The Nile river is the longest river in the world with a basin area of 3,176,543 km<sup>2</sup>. The basin is shared amongst 11 countries, namely Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Eritrea, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda. The rising Nile basin population continues to put extreme pressure on the quantity of the Nile water resources. The current population of 437 million is projected to increase by 52% in 2030. The forest area in the basin has shrunk by 18% from 2005 to 2009. A significant number of watersheds and ecosystems have been highly degraded, thereby drastically reducing the water flow from rivers and springs. According to the United Nations Economic Commission for Africa, none of the eleven Nile Basin countries will be able to meet their water needs by 2025, unless major changes are made to address the water security challenge.

The Nile basin water managers lack clear information on how much water will be available at a particular place, date and time, to support their decision-making. Science on such a complex issue as water may never provide such a clear print. One of the biggest challenges for scientists is to acknowledge that there will never be a clear print and focus on supporting decision making amidst deep uncertainty. This requires a new way of thinking, also known as the nexus approach. The nexus approach views water as cross-cutting: water is linked to Energy, Environment, Land, Health and many other sectors.

The purpose of this paper is to assess whether serious gaming can enable learning on the value of a nexus approach. WeShareIt is a computer assisted board game designed to explore the tensions between energy, food and nature within the Nile Basin. The game comprises of five select boards for countries that share the Nile Basin, namely Egypt, Sudan, South Sudan, Ethiopia and the Nile Equatorial Lakes Region. The goal of WeShareIt is to gain as many “happy faces” as possible. The game is played in multiple continuing rounds comprising of a payout round (A) and a water allocation round (B). In round A, crops, wood fuel and hydro-electric energy are harvested, bought and sold. In round B the players can adjust their water allocation strategies with the aim of making their citizens happy.

The paper presents the findings of designing and testing of the game. The paper assesses the contribution of serious gaming in supporting decision making amidst deep uncertainty. The result of playing the game was an instructive group experience and a better understanding of the interplay between food, energy, nature, water and trade.

The paper concludes that serious gaming holds a promise in supporting change of perceptions on water to support decision making in complex basins when the future is very uncertain. Future work will entail the improvement of the game, based on comments received and the application of the game in the Nile Basin.

**Keywords:** River Basin Management, Uncertainty, Decision Support, Serious Gaming, Tradeoff Analysis, Nexus Approach