



NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

Economic Assessment of the Semuliki Delta

Telly Eugene Muramira

Introduction

- this study was commissioned by the NBI as part of a global initiative on the Economics of Ecosystems and Biodiversity (TEEB)
- the initiative aims at mainstreaming the value of biodiversity and ecosystem services into decision making by including nature's values
- the study aimed at identifying, quantifying and valuing the key ecosystem services produced by the Semuliki Delta Trans-boundary Wetland in the broad framework of developing a management plan for the said wetland

The study area was a trans-boundary location (approximately 500 square kms) comprised of the Semuliki flats in Rwebisengo, Bweramule and Kanara sub-counties in Uganda and parts of Nyacucu, Kalyabugongo, Buguma, Rubungura, Kikoga and Nyanzige Groupings, Ituri Province in the DRC

The key ecosystem services found and evaluated in the area included

- Fisheries resources
- Wetland reeds (phragmites)
- Wetland vegetation for thatch
- Wetland vegetation for handicrafts
- Medicinal plants
- Palm wine
- Fuel-wood
- Dry season grazing
- Water supply for domestic and livestock use
- Fish breeding and nursery function
- Carbon sequestration

The overall picture was that most of the ecosystem services were reducing due to unprecedented wetland degradation resulting from human and livestock population pressure, unsustainable land use practices, overgrazing, river bank, lakeshore and wetland degradation, soil erosion, siltation of rivers and Lake Albert, pollution, invasive plant species and recently flooding associated with the impacts of climate change

Theoretical Framework

The study aimed to **determine** the baseline value of key ecosystem services derived from the wetland using the production function approach

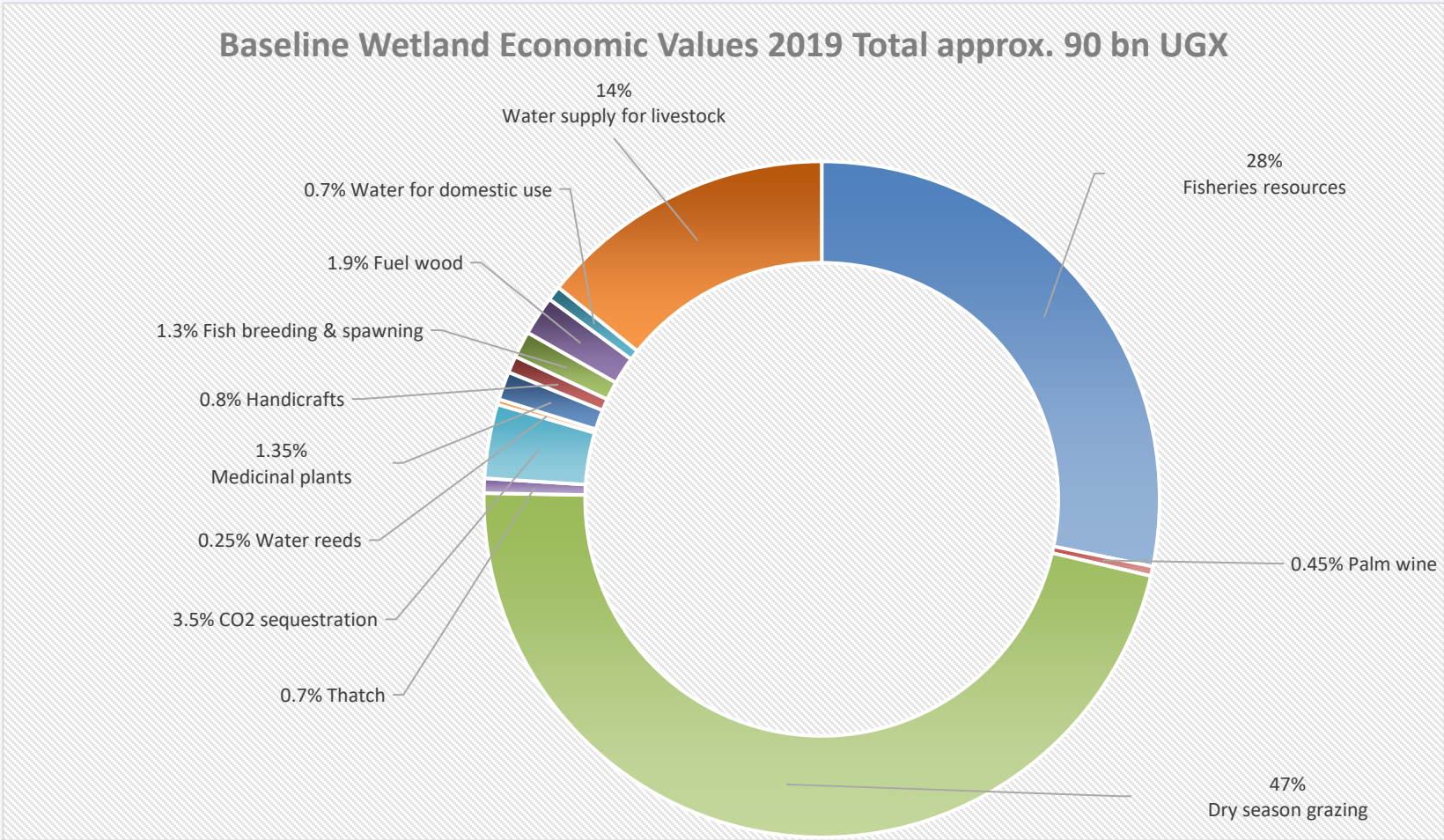
$q = \Phi(x_1, \dots, x_2, Q)$ where

q is outputs of ecosystem services

x_1, x_2 are inputs of private goods and labour

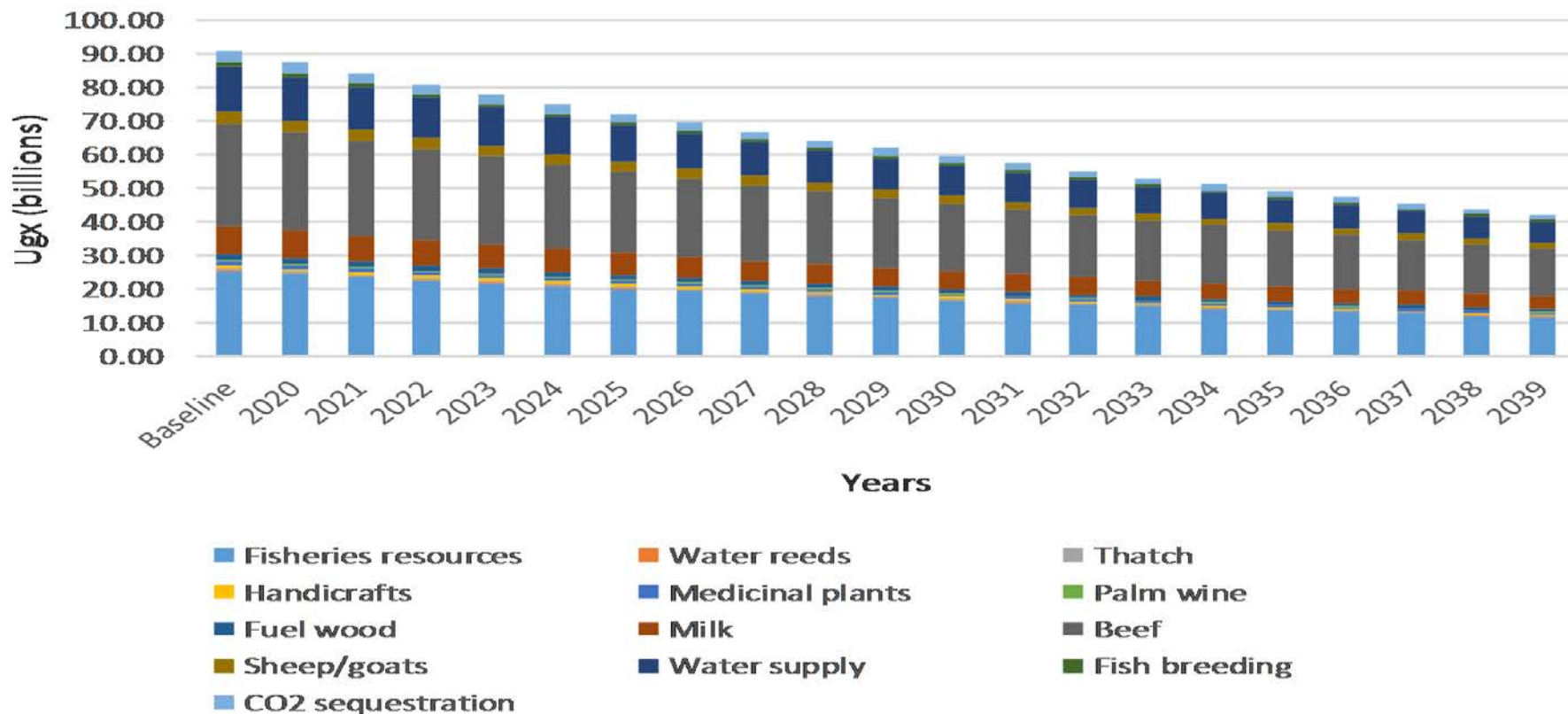
Q are wetland resources while Φ is a household production function

Baseline wetland economic values



The impact of wetland degradation on ES values

Chart Title



Total and discounted cost values over a 20 year period

Total cost of degradation = Ugx
569,873,134,931

Discounted cost value = Ugx
150,128,949,293

indicative figures that could be invested
to stop degradation



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