

DAM CONSTRUCTION FLAWS AND THE RECEDING LAKE VICTORIA – UGANDA

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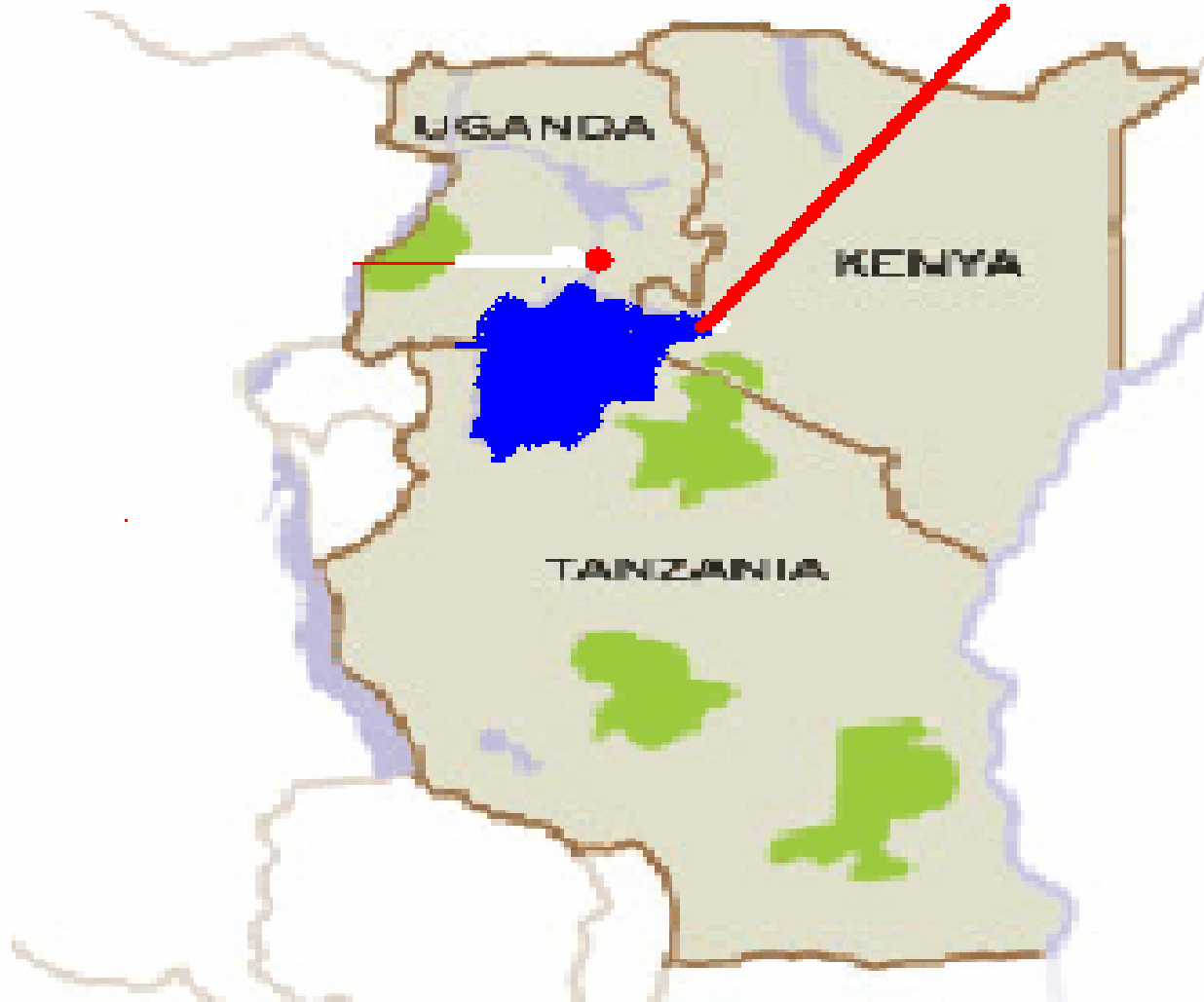
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TO BE COVERED

- INTRODUCTION
- DAM CONSTRUCTION & OPERATION
FLAWS
- EFFECTS REDUCED WATER LEVELS
- RESPONSE TO THE PROBLEM
- WAY FORWARD

INTRODUCTION

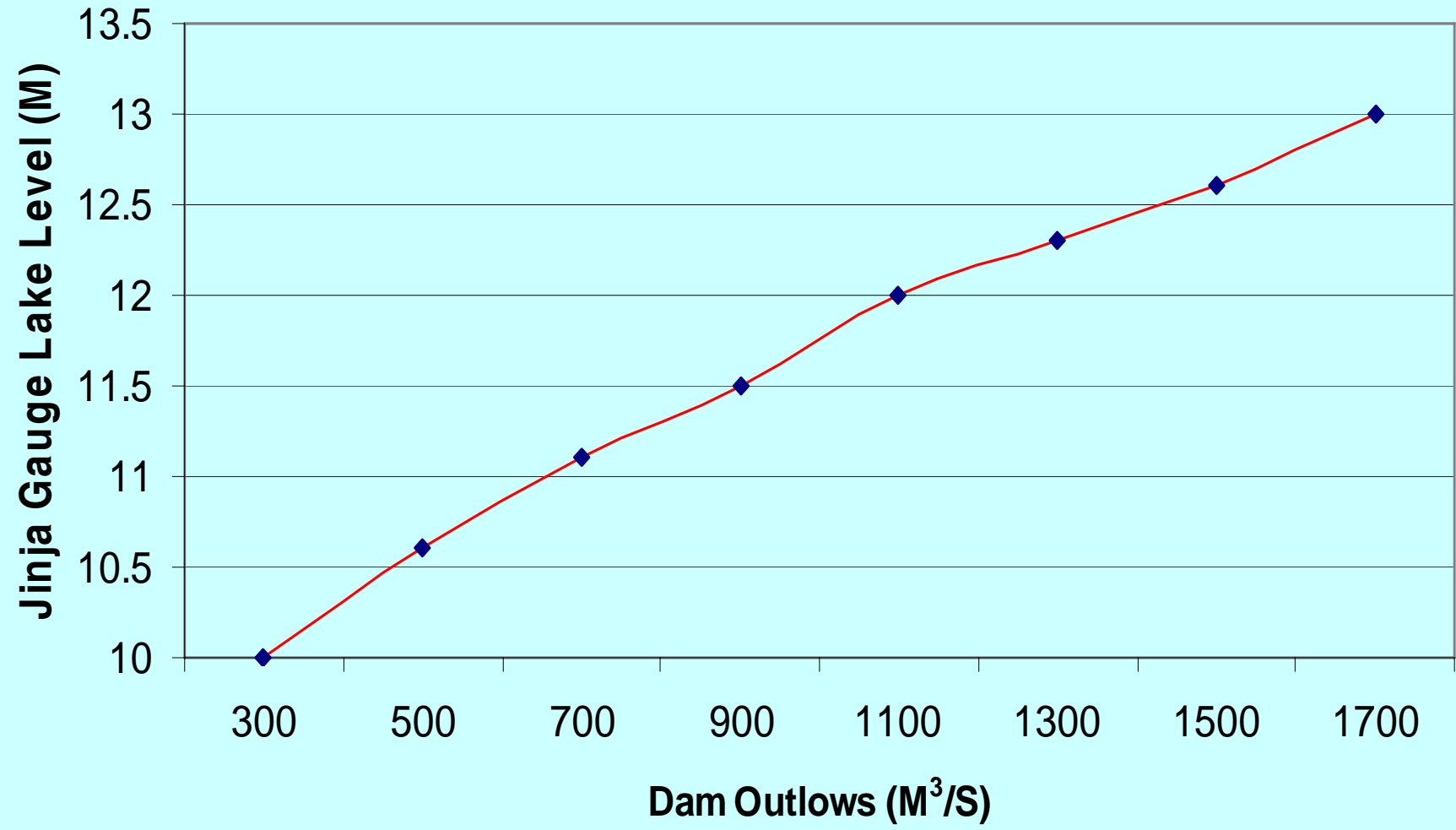
MAP OF EAST AFRICA – LAKE VICTORIA



- 2nd World's largest fresh water Lake with:
 - Surface area of 68,800 km²
 - Catchment area of 193,000 km².
 - Shared between Kenya (6%), Uganda (43%) and Tanzania (51%).
- It supports livelihoods of about 30 million inhabitants within its the basin.

- Up to 1954 before the construction of Owen Falls Dam (Nalubaale), the outflow from the lake through **River Nile** was naturally controlled by Ripon Falls.
- Ripon Falls was submerged thus an **“Agreed Curve”** was developed to dictate lake outflows
 - The Agreed Curve outflow is the natural flow which would occur if Ripon falls was not submerged. (Agreements 1949, 1953 & 1980)

Figure 1: Agreed Curve for Water Release at Owen Falls Dam



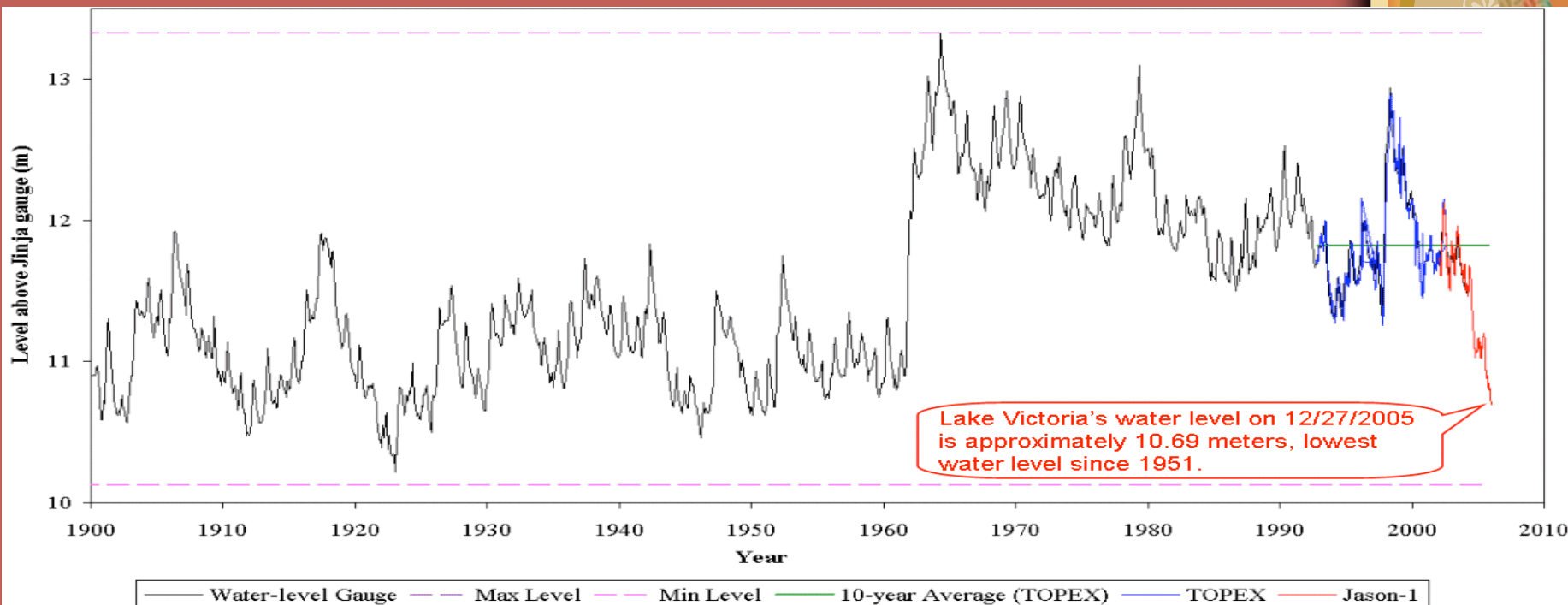
INTRODUCTION continued

- The need for more power in Uganda resulted in a parallel 200MW Kiira dam extension being added one kilometer from the existing Nalubaale.
- A 1.3 km canal above Nalubaale dam diverts water to Kiira dam in such a way that the two dams in combination control the Lake Victoria water outflow.

DAM CONSTRUCTION FLAWS

■ Incomprehensive analysis of 100 year time series data.

■ Cost benefit analysis limited to only the high water inflows experienced 1965 to 1998



Data Source:

Historical water level gauge data from Jinja, Uganda (near Lake Victoria's outlet).

Satellite radar altimeter data from USDS/NASA/UMD at:

http://www.pecad.fas.usda.gov/cropexplorer/global_reservoir/



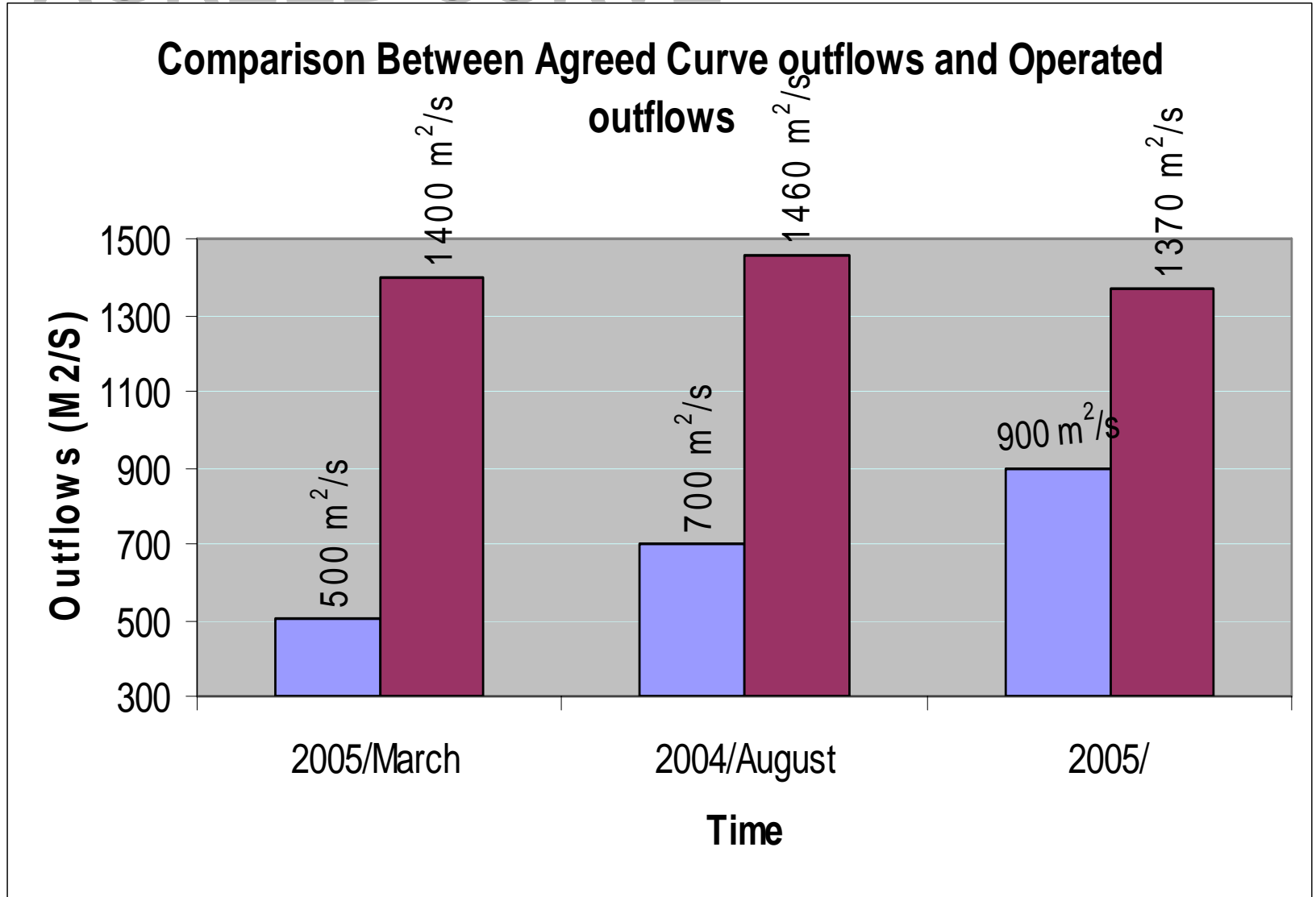
U.S. Department of Agriculture (USDA)
Foreign Agricultural Service (FAS)
Production Estimates & Crop
Assessment Division (PECAD)

DAM FLAWS cont'ued

- At dam design phase World Bank cautioned the project against basing cost benefit analysis on short time series data (advise was ignored)
- In 2002 at the on set of receding water level World Bank concluded that the two dams were over designed

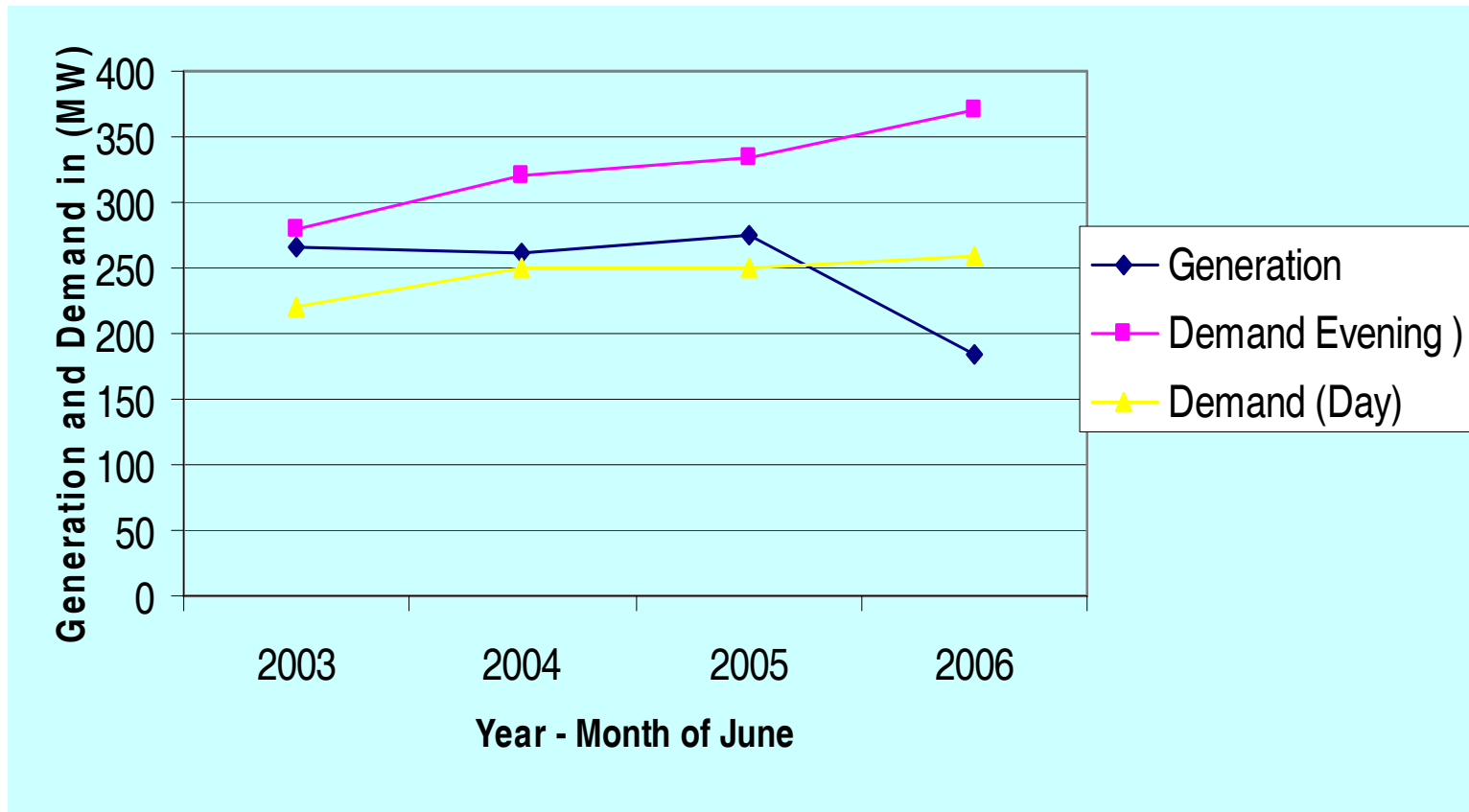


HIGHER OUTFLOWS ABOVE AGREED CURVE



EFFECTS OF LOW LAKE LEVEL

- Hydropower crisis. Power production dropped to less than 185MW in 2006 from 265MW in 2003 leading to:



EFFECTS Cont'ued

- Regular power cuts affecting domestic and industrial activities
- Loss of Foreign Exchange Earnings from power exports to Kenya and Tanzania
- In September 2005, a loss of US\$ 8.14 million was recorded due to a slump in power consumption

EFFECTS cont'ued

Impediment to use of docks



Disrupted shoreline infrastructure like this small dock.

(Photograph courtesy USDA [Foreign Agricultural Service.](http://www.fas.usda.gov/)); <http://www.fas.usda.gov/>

EFFECTS Cont'ued



Majanji fish landing site, Uganda left on dry land due to low lake level www.eac.int/lvdp/lake_victoria_waterlevels_apr_06.pdf

EFFECTS Cont'ued

- Alteration of lake ecosystem - attracting conflicting activities



Conflicting uses facilitated by shallow shorelines as a result of low lake levels.

(Lake Victoria Basin Commission 2006)

RESPONSE TO DAM FLAWS & LOW WATER LEVELS

- **Public Response:** The population is slowly beginning to demand for Social Accountability *(Most needed now after a long sleep)*
- Civil Society Organisations have taken a lead on empowering communities to hold government accountable. This is done through:
 - Workshops, seminars, Press Conferences, Radio and Television talk shows

Government Response

- Characterised by:
- Concealing public information on the dam flaws and dam operation data
- Denial of its mistakes on dam construction & operation flaws
- Top government Officials have been giving contradictory accounts of the low water levels of the lake

- A Public demonstration against conversion of Mabira forest - Lake Victoria's catchment



The Army containing a public demonstration against destruction of Mabira Forest. Photo taken on the on 12th May 2005.

WAY FORWARD

- Civil Society empowerment requires much attention for it to demand for social accountability from government.
 - “The population has to be moved from shouting to counting”...
- Access to information on dam operations is needed for public use

THANK YOU

