

# Perspectives on Sharing the Nile Basin

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# The Nile: a unique river basin

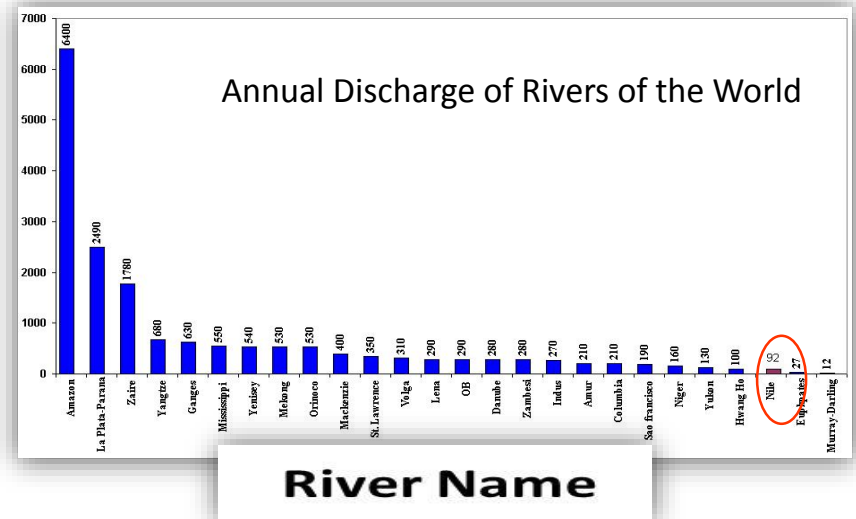
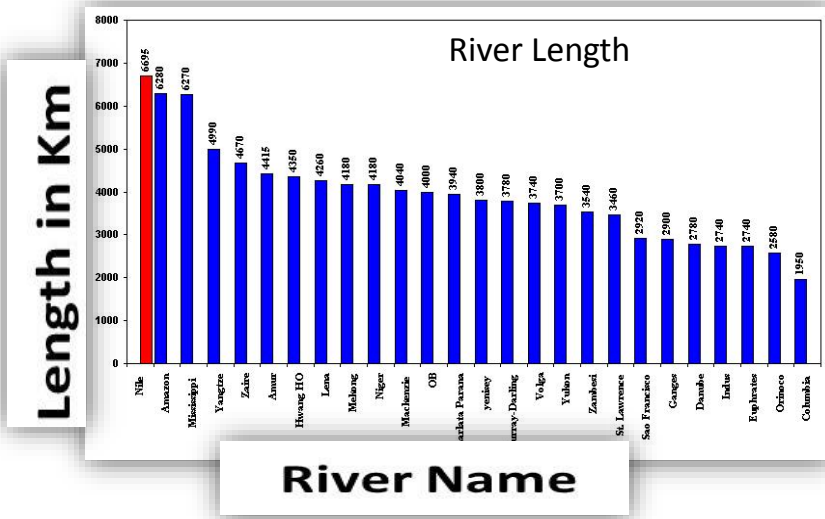
- Long river, complex geography and hydrology – many tributaries with different characteristics, uneven rainfalls levels, different climate zones and environmental characteristics
- Two main sub-systems: Equatorial Nile Lakes (White Nile) and Eastern Nile (Blue Nile)

## Basic Facts:

- Basin Area: 3.2 Mill km<sup>2</sup>
- Ca 250 Million people live in the basin;
- Ca 480 Million people in all riparian countries
- Shared by 11 countries



# The Nile compared to Large Rivers of the World



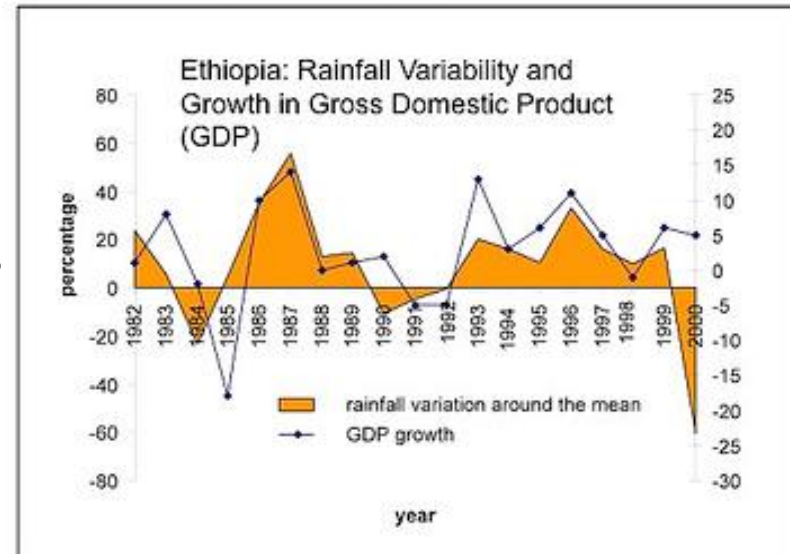
River	Discharge (BCM/y)	Ratio to Nile flow
Nile (@ aswan)	84	1
Mississippi (@ St.Louis)	155	2
Yangtze (@ Hankow)	748	9
Congo* (@ mouth)	1294	15
Amazon (outlet)	6312	74



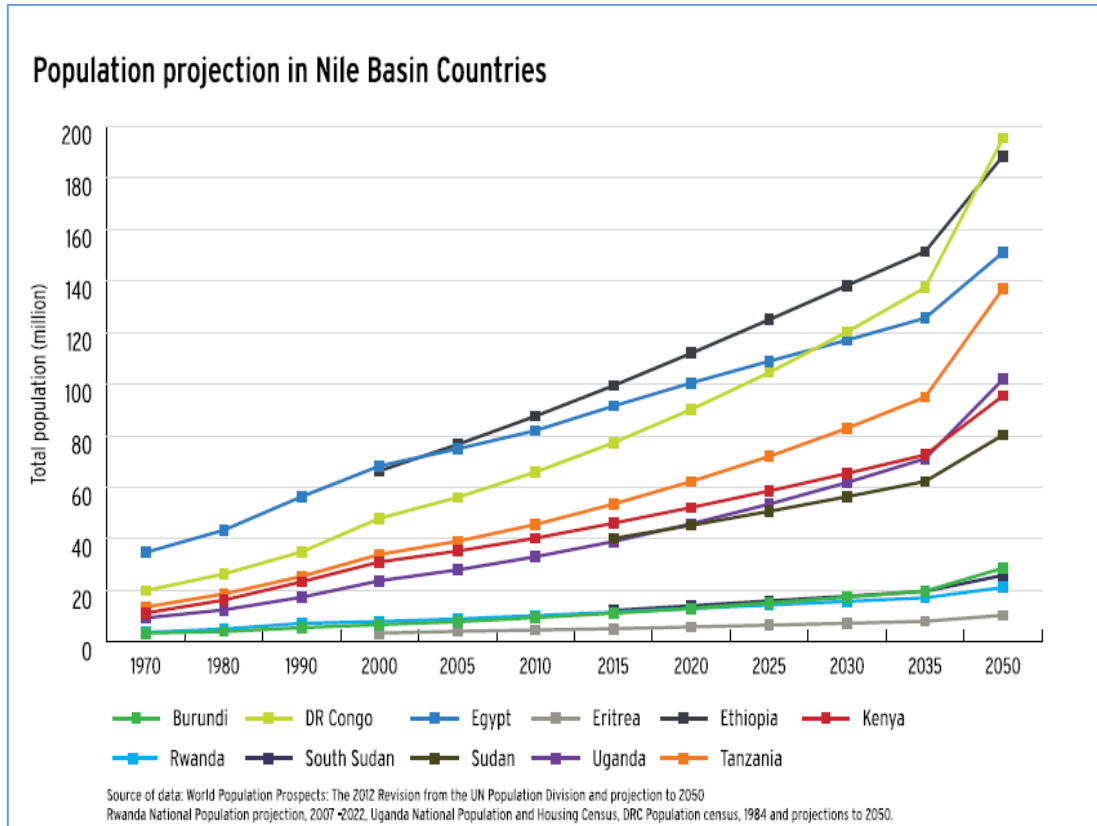
# Rainfall distribution



- There is substantial variation in rainfall distribution in the basin
- **Upstream** parts of the basin receive annual average rainfall that ranges from **1500 – 2000 mm**; but uneven over time
- Economies of most upstream countries are highly dependent on rain-fed agriculture
- **Downstream** parts of the basin have very little rainfall → annual average **25 mm Cairo**  
Nearly totally dependent on Nile waters (*irrigated agriculture is a must*).



# Population growth in Nile basin countries

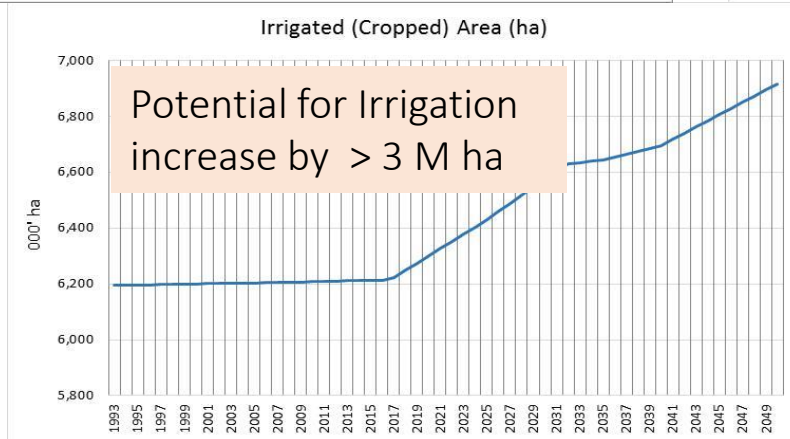
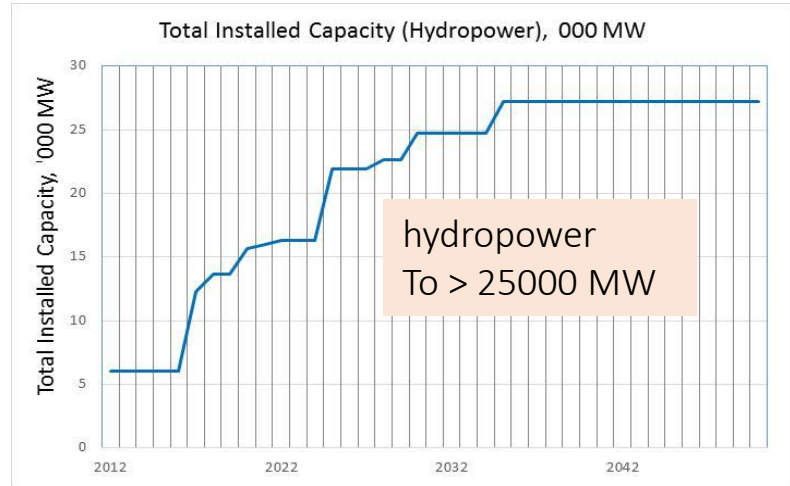
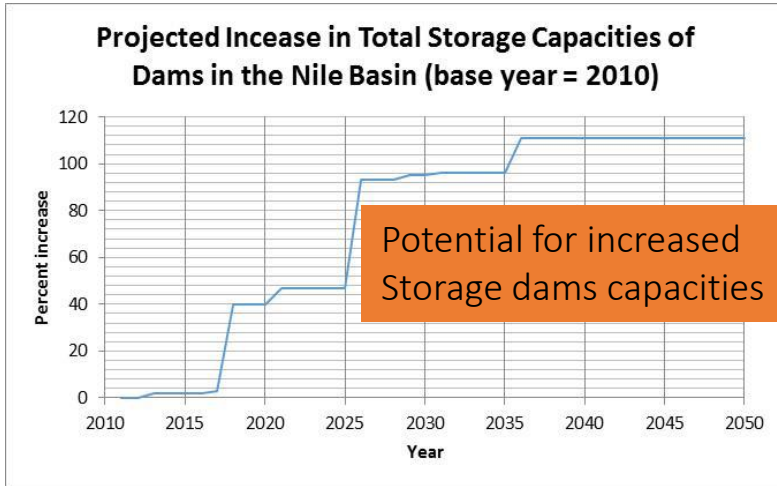


Some 226 million people lived in the Nile basin countries in 2007

Projected to increase close to 1 Billion people 2050

→ growing demands for water, food, energy, services,  
→ declining per capita water availability

# ... a basin of considerable untapped potential



*Substantial untapped potential in the Nile Basin*

# The Nile water resources: key in national and regional political economies



- In socio-economic terms: great complexity and asymmetries (between and within countries)
- All riparian states see Nile waters as an opportunity to foster their national economic development
- Demands (e.g. energy and food security) are increasing – new uses and/or users and increasing pressure over the resources and the environment
- Regional-based approaches to management and development of shared water resources are available and needed.



# Eastern Nile and its hydropolitical importance

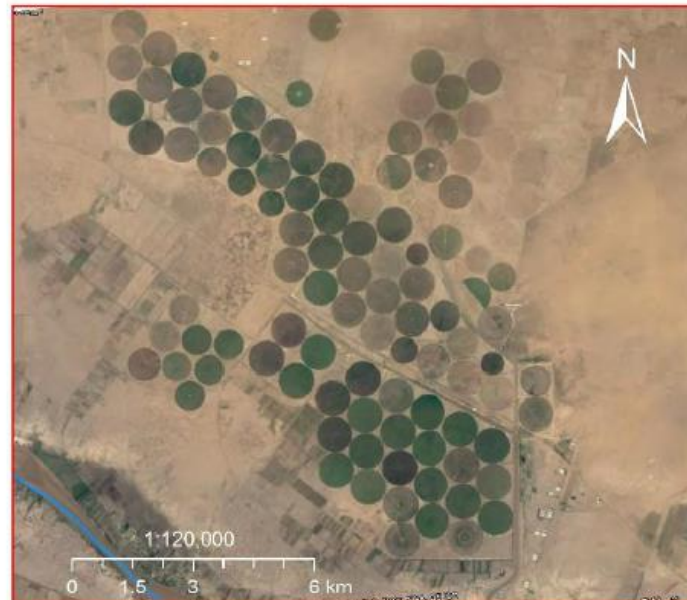


- Eastern Nile: 4 sub-basins
- 4 riparian countries: Egypt, Ethiopia, South Sudan & Sudan
- Around 85% contribution to the main Nile flows
- Highly eroded watershed – soil loss through erosion; impact on livelihood
- High variability in water flows
- Large opportunities for large-scale water developments (hydropower and agriculture/irrigation)
- Currently experiencing rapid changing dynamics: independence of South Sudan, political changes in Egypt, Sudan's return to agriculture, Ethiopia rapid economic growth – all with impacts on water demands
- For Egypt water security is the no 1 national security interest

2012



## Irrigation developments in Sudan

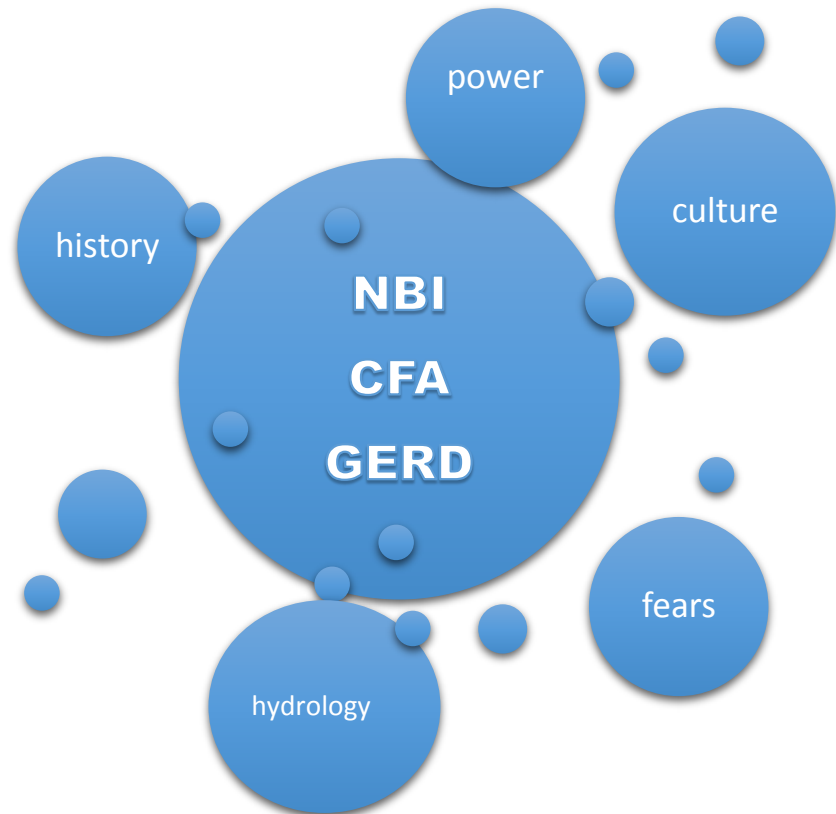


# Challenges to cooperation

## History:

- Differences in ethnicity, religion and colonial pasts, history of water-related diplomatic conflicts, mistrust between countries, power asymmetry
- Limited cooperative mechanisms and limited interest in cooperation
- Asymmetric economic development and development of hydraulic infrastructure

**Existing water agreements:** have been a major point of divergence and contention between downstream and upstream countries



# Media and Public Perceptions

DAM WARS: ETHIOPIA VS EGYPT. Who owns the Nile? ---PESA POSITONE PAN-

Egypt Ready For War Over Ethiopia Nile Dam Plans.

## Israel Schemes for a Stake in the Nile

**The New York Times**

**When the Nile Runs Dry**

By LESTER R. BROWN; June 1, 2011



**The Washington Post**

**Egypt frets, fumes over Ethiopia's Nile plan**





# The Nile Basin Initiative



- Is a joint institution of the Nile Basin States
- Launched on 22 February 1999
- 200 million USD support from development partners (2003-2013)
- Directed by Nile Council of Ministers (Nile-COM)



- Shared Vision Programme: build mutual trust and a shared vision for the Basin
- Subsidiary Action programmes: enabling environment for joint investments – creating win-win scenarios, generating benefits for all

# The Nile Basin Initiative (NBI)

## NBI Shared Vision

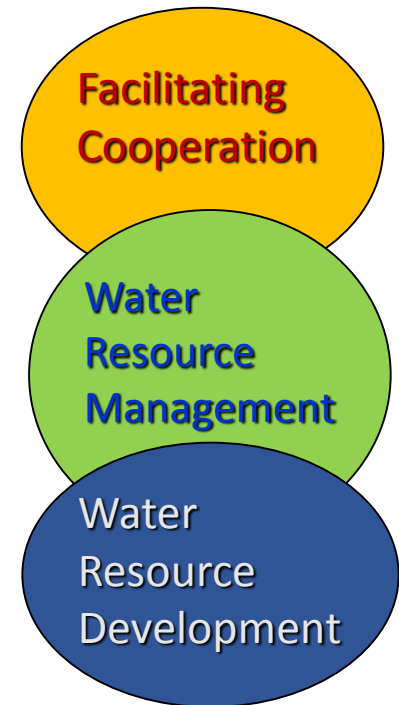
*Sustainable socio-economic development through the equitable utilization and, benefit from, the common Nile Basin water resources*

### Key mandates:

- Provide the platform for cooperation among the Nile riparian
- Ensure efficient and sustainable management and optimal use of the Nile water resources (*policies, water resources analysis, data sharing, basin monitoring..*)
- Prepare and coordinate implementation of multi-sectoral, multi-country investment projects (*for energy, food, water supply, ...*)

### Results:

- Infrastructure Investments prepared worth 6 billion USD
- Capacity development: institutions, modelling and decision tools and policies in place
- Vision of "One Nile-One People" slow progress



**2010: Sudan and Egypt "freeze" their NBI cooperation**

**2012: Sudan returned as a full-member to the NBI**

# Historical agreements and treaties

1929 Agreement Egypt- Anglo-Egyptian Sudan  
Gives Egypt right to monitor upstream flows and veto construction projects

1959 Agreement Egypt – Sudan on the Full Utilization of the Nile waters

Egypt	55,5 BCM/year
Sudan	18,5 BCM/year
Losses (evaporation)	10,0 BCM/year
Total:	84,0 BCM/year

## 1966 The Helsinki Rules on the Uses of the Waters of International Rivers

1997 The UN Convention on the Law of Non-Navigational Uses of International Watercourses enter into force on 17 August 2014

# The Cooperative Framework Agreement



## 2010 Cooperative Framework Agreement (CFA)

reflects the 1997 UN Water Convention

### Key norms:

- Equitable and reasonable use
- No Significant harm
- Duty to take all appropriate measures
- The 'principle of cooperation'



Does not include water quotas!

The article on water security (14b) has drawn objections from Egypt and Sudan. The article says that member countries would work together to ensure "not to *significantly* affect the water security of any other Nile Basin State." Egypt and Sudan want the article to read "Not to adversely affect the water security **and current uses and rights** of any other Nile Basin States



# CFA status

- 1999 Negotiations on CFA starts
- 2007 Negotiation on CFA ends, no agreement on article 14b
- Deadlock: Downstream countries want existing agreements recognized “current uses and rights”
- Pressure from Development Partners for Inclusive signing
- 2010 -2011: 6 states sign CFA (Ethiopia, Rwanda, Tanzania, Uganda, Kenya and Burundi)
- 2010: Sudan and Egypt “freeze” NBI cooperation
- 2012 Sudan returned as a full-member to the NBI
- CFA ratified by 3 states (Ethiopia, Rwanda and Tanzania)
- CFA: process of negotiation for the establishment of a permanent institutional and legal framework
- Not at present legally binding on all states
  - Needs 6 states to ratify before entry into force
  - Then only binding on states that have ratified it

# Grand Ethiopian Renaissance Dam

announced February 2011





Markets | Wed Apr 23, 2014 3:09am EDT

# Paying for giant Nile dam itself, Ethiopia thwarts Egypt but takes risks

ADDIS ABABA | By [Aaron Maasho](#)

ADDIS ABABA Wed Apr 23, 2014 3:09am EDT

(Reuters) - Ethiopia's bold decision to pay for a huge dam itself has overturned generations of Egyptian control over the Nile's waters, and may help transform one of the world's poorest countries into a regional hydropower hub.

By spurning an offer from Cairo for help financing the project, Addis Ababa has ensured it controls the [construction](#) of the Renaissance Dam on a Nile tributary. The electricity it will generate - enough to power a giant rich-world city like New York - can be exported across a power-hungry region.

# Grand Ethiopian Renaissance Dam



- GERD: unilateral decision – financed by the Ethiopian people
- The GERD will have a height of 145m with an installed hydropower generation capacity of 6,000MW and will be the largest hydroelectric power facility in Africa.
- The Aswan High Dam generation capacity is 2,100MW.
- Both GERD and AHD will be able to store a volume of water greater than the annual flow of the river at the site



# Grand Ethiopian Renaissance Dam



- Most of the economic benefits from the GERD will be from hydropower generation, which is essentially a non-consumptive use of water.
- GERD will smooth variations in the Nile flow with increased water availability during the low-flow summer months - large potential for irrigation expansion in Sudan
- To Egypt, water security equals national security. To Ethiopia, the dam has become a matter of national pride.



Flooding in Khartoum September 2014

# Grand Ethiopian Renaissance Dam



- Total demand for electricity in Ethiopia at present is some 2,000MW. Ethiopia must sell to its neighbours, most likely Sudan and Kenya.
- New high capacity transmissions lines needed to make it possible to sell power to Sudan and other countries in the region.
- During filling of the GERD (and multi-year drought) Egypt and Sudan need guarantees on water quotas to be released from the GERD.

# The Declaration of Principles (DoPs)

- September 2011  
Egypt, Sudan and Ethiopia agree to establish international panel of experts (IPoE) to study GERD
- 2012: Sudan changes position on GERD
- May 2013
  - Report of IPoE issued
  - Call for additional studies
- Series of tripartite ministerial level meetings
- DoP agreed at 7<sup>th</sup> ministerial meeting, Mar 2015

**Declaration of Principles between the Arab Republic of Egypt, the Federal Democratic Republic of Ethiopia, and the Republic of the Sudan on the Grand Ethiopian Renaissance Dam Project (GERDP)**



# Declaration of Principles

1. Principle of cooperation
2. Principle of development, regional integration and sustainability
3. Principle of not causing significant damage
4. Principle of fair and appropriate use
5. Principle of the dam's storage reservoir first filling, and dam operation policies
6. Principle of building trust
7. Principle of exchange of information and data
8. Principle of dam security
9. Principle of the sovereignty, unity and territorial integrity of the State
10. Principle of the peaceful settlement of disputes



# Tripartite National Technical Committee

- Sept 2014 Tripartite National Technical Committee (TNC) between Ethiopia, Sudan and Egypt formed to discuss the **filling policy** for the GERD reservoir and the **coordination of the operations** of the GERD, the Aswan High Dam and dams in Sudan.
- Consultancy agreement for GERD studies signed at 12<sup>th</sup> TNC meeting 20 Sept 2016
- **Coordinating releases from the GERD and the Aswan High Dam** requires careful advanced planning, infrastructure for monitoring flows, data sharing and communication.
- There is **little shared understanding** on how joint operating strategies can be used to manage water flow variability and optimize water use for hydropower and irrigation.



# Probability of High Aswan Dam reaching Minimum Power Elevation

Currently under negotiation

		BASIC COOPERATION				CONTINUOUS COOPERATION			
		With GERD + Current High Aswan Dam Drought Operations				With GERD + High Aswan Dam Drought Operations + GERD Safeguard of 150 m HAD Elevation			
		Initial HAD Elevations				Initial HAD Elevations			
		180m	175m	170m	165m	180m	175m	170m	165m
GERD Agreed Annual Release	Baseline - No GERD	0%	0%	0%	0%	0%	0%	0%	1%
	50 BCM	0%	0%	0%	2%	0%	0%	0%	1%
	45 BCM	0%	0%	0%	3%	0%	0%	0%	2%
	40 BCM	0%	0%	0%	5%	0%	0%	0%	1%
	35 BCM	1%	1%	3%	6%	0%	0%	0%	2%
	30 BCM	4%	5%	6%	11%	0%	0%	1%	1%
	25 BCM	6%	7%	9%	18%	0%	0%	2%	2%
	0 BCM	1%	3%	10%	20%	0%	0%	0%	1%

Reference:  
Kevin Wheeler,  
Oxford University,  
Published in Water  
International

# Intense and rapid changes increase risk of crisis

2009	2010	2011	2012	2013	2015	2016
Tekezze dam (Ethiopia)	Tana-Beles (Ethiopia)	January: Protests Tahrir square (Egypt)	Roseires dam heightening Completed (Sudan)	IPoE report	March: Declaration of principles	Rumela Burdana dam (Sudan)
Merowe dam (Sudan)	CFA opened for signature; 5 countries sign	February: Burundi 6th signatory to CFA	June: President Morsi of Egypt	July: President Sisi of Egypt	March: Tanzania the 3rd country to ratify the CFA	
Deadlock JMP dam on the Abbay/ Upper Blue Nile (Ethiopia)	Strike Gezira scheme irrigation engineers	February: Announcement GERD (Ethiopia)	August: PM Zenawi of Ethiopia dies	September: Food riots in Sudan	Delays in hiring consultants to review the impact of GERD	
		July: South Sudan Independent				

# Operationalizing change



?



# The way forward - Actors



## The Nine Tracks of Multi-Track Diplomacy



Track Nine (inner circle):  
Public Opinion/Communication

Track One: Government



Track Eight: Funding

Track Two: Professional  
Conflict Resolution



Track Seven: Religious

Track Three: Business



Track Six: Activism

Track Four: Private Citizen



Track Five: Research,  
Training and Education



Source: Diamond and McDonald, *The Institute for Multi-Track Diplomacy (IMTD)*





# Responses: Public track

## Challenges:

- Misperceptions and misinformation
- Political risks - national instability

## Drivers of change:

media, influential citizens, civil society etc

## Way forward:

Increase commitment to cooperation:

- Create awareness about why cooperation is needed
- Disseminate knowledge to reduce misperceptions and fears



# Responses: Technical track



Students at Eastern Nile Technical Regional Office (ENTRO)

Challenge: little shared understanding among EN states on risks and mitigation strategies, for example, how joint operating strategies can be used to mitigate risks and manage water flow variability

Drivers of change: Academia, experts, NBI

Way forward:

Increase awareness on dam cascade operations, power trade, economic benefits of cooperation, etc

# Responses: Political track



20/09/2016 signing of the contract to conduct studies recommended by the International Panel of Experts 2013

1. Water Resources/Hydropower System Simulation Model
2. Environmental and Socio-economic Impact Assessment

Challenge: mistrust, lack of legal arrangements, securitization

Drivers of change: Foreign Affairs, HoS, Security (and actors in technical track and public track influencing decision makers)

Way forward:

- Trust building
- Develop Guarantee mechanisms (technical, legal and economic)
- Institutionalize cooperation platforms, for data sharing, dialogue etc
- Role of Sudan in reconciliation



## Lessons Learnt from Involvement as Third Party in Transboundary Water Cooperation Processes

- Neutral and trusted interveners more likely to reach effective outcomes
- Long-term commitment needed - Systems Transformation is a process
- Interventions must focus on relationships between parties - know your partners!
- Coordination between actors and diplomacy tracks improve efficiency and effectiveness
- Generation of strategic knowledge will be of use not only for the 'internal' actors, such as decision-makers but also for external foreign policy and development partners