

# TRAINING AND CAPACITY BUILDING PROGRAMME

HYDRAULIC RESEARCH CENTRE  
MINISTRY OF WATER RESOURCES, IRRIGATION AND  
ELECTRICITY

FIRST ANNUAL SCIENTIFIC SEMINAR  
17 DECEMBER, 2015; KHARTOUM, SUDAN

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- ❖ Definition and Scope
- ❖ The Justification
- ❖ The Approach
- ❖ Major Achievements
- ❖ Outline of Strategic Plans & Targets

# Capacity Building: Three Levels of Action

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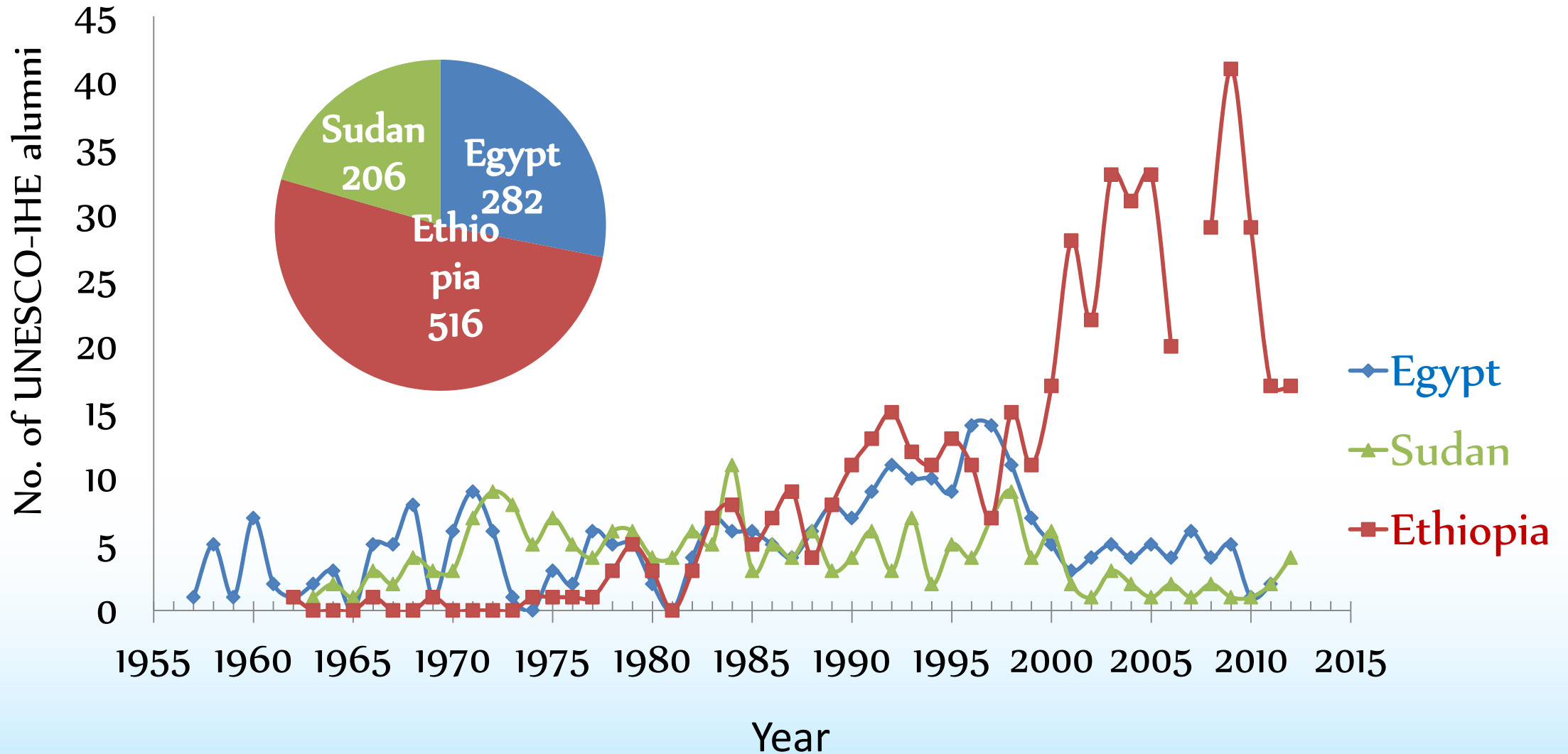


**Institutional:** Legal & regulatory changes

**Organizational:** Management structures, relationships

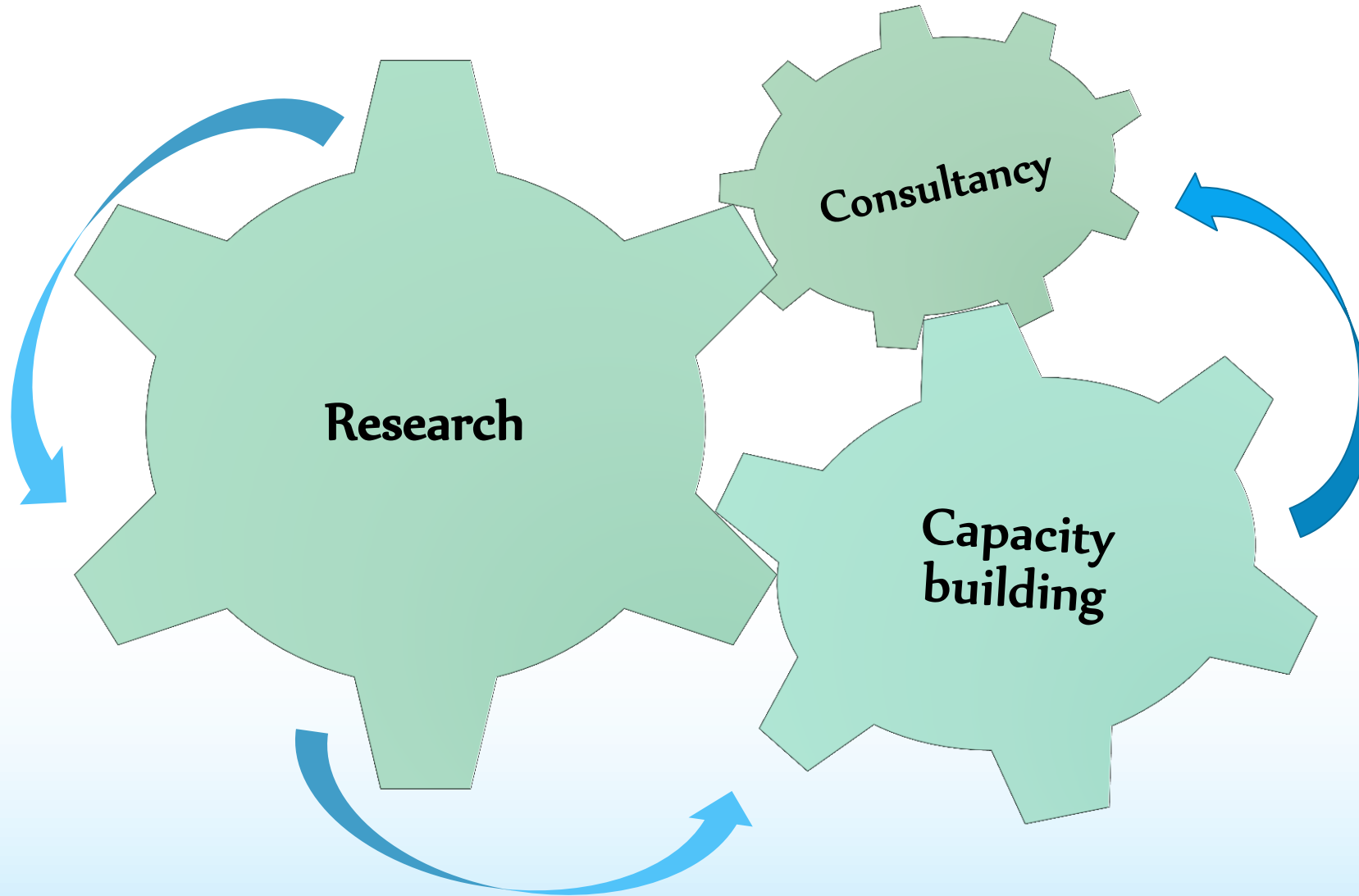
**Individual:** Skills, knowledge, experiences

# Justification: A Lot of Catch-up to Do!



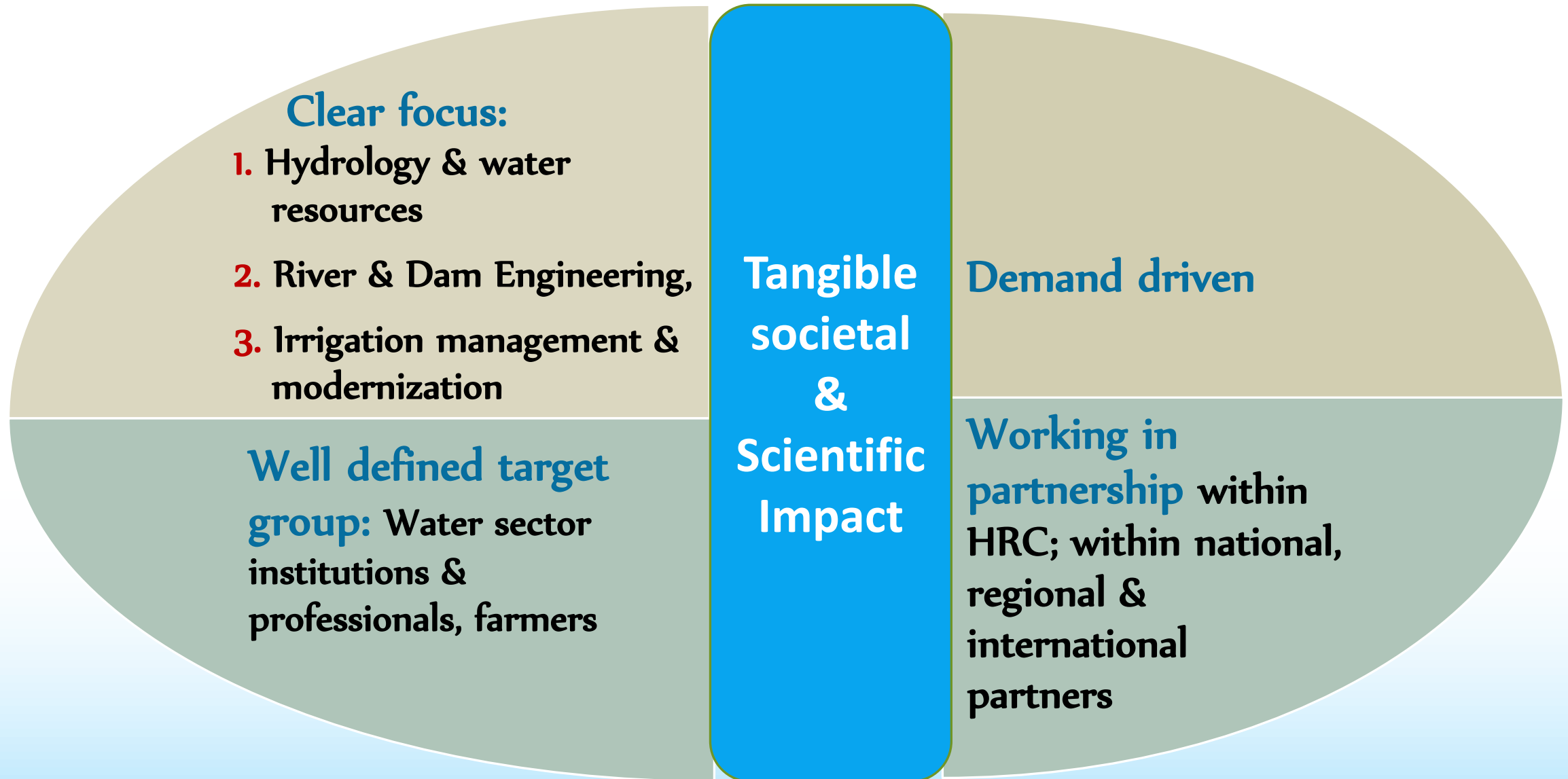
# Capacity Building: Critical Part of HRC Engine

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# The Approach: Four Pillars & a Central Goal

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# Major Achievements at a Glance

Training scope	Main topics	Beneficiaries
International short course	Water harvesting	22
Regional tailored training	Flood forecasting, water resources management	58
National courses & trainings	Water resources engineering, modelling, GIS & RS, English & computer skills, lab analyses	200 (44 farmers)

- ❖ Sudan Academy for Science approves HRC MSc & PhD programmes (by research): 2 MSc are currently enrolled

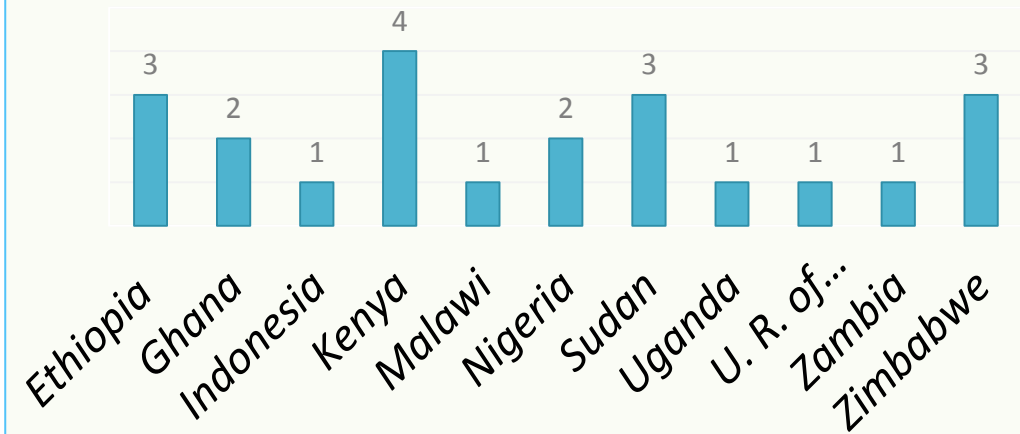
# Int. Course: Water Harvesting for Food Security in Semi-arid areas



## Training team:

- ❖ 4 HRC and 6 National Sudanese experts
- ❖ 2 International professionals

## 22 participants, 11 countries



## Content:

- ❖ Hydrology and Hydraulic design
- ❖ Management and Governance
- ❖ Socio-economic, environmental aspects

# Aljazeera State Organized Bija Forum: Cultural Evening

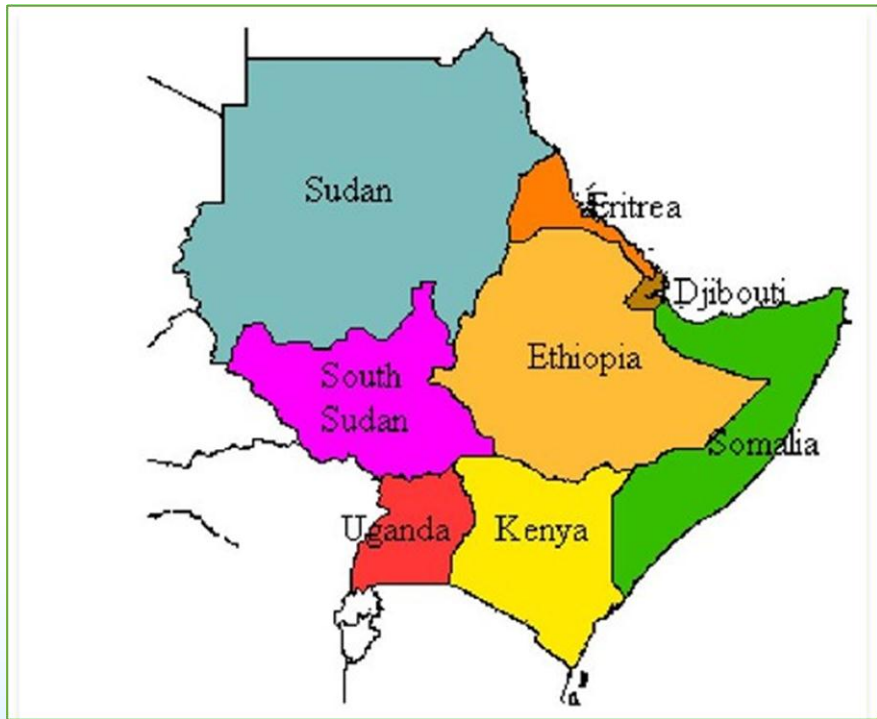
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- ❖ Strengthening linkages, Informal exchange of knowledge & experiences

# Regional Training for 39 IGAD Professionals

- ❖ 20 in data analyses & flood forecasting
- ❖ 19 in trans-boundary basin management



*The eight IGAD countries*



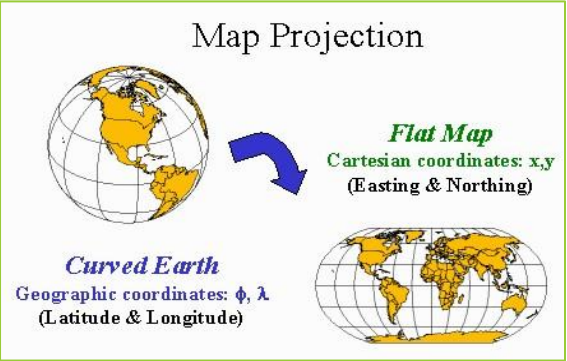
*Evaluated by IGAD as the best regional Training conducted*

# Regional Training: Sudan-Egypt Technical Nile Water Resources Committee

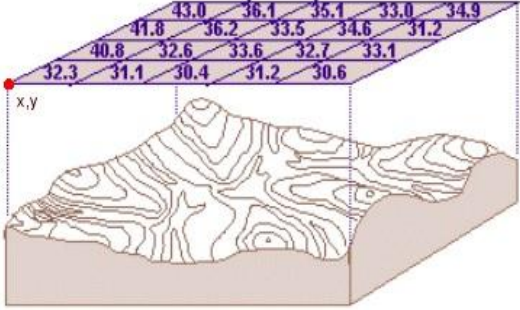


- ❖ Two round of training for 10 Sudanese and 9 Egyptian experts active in Nile Water Resources Management

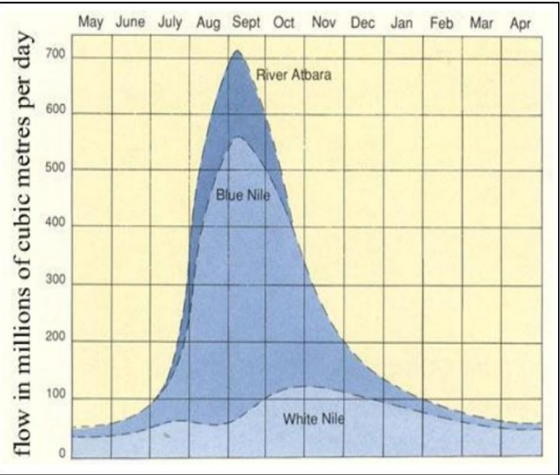
# National Training: 75 Staff from HRC, MoWRIE, Others



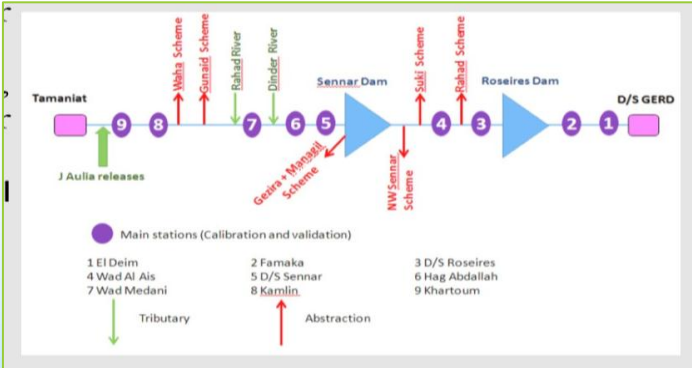
**1. GIS & RS:**  
Mapping, data  
analyses,  
application



**3. SOBEK modelling:**  
Flood forecasting, irrigation  
system optimization



**2. RIBASIM**  
modelling:  
Options for  
basin water  
resources  
development



# Smart ICT: From eLeaf to HRC then to Farmers

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❖ Satellite images & weather data based: when, where and how much to irrigate?



# Digital Moisture Measurement: HRC Staff in Gash Scheme

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## TDR application - benefits:

- ❖ Fast & reliable: 50% time reduction as compared to gravimetric method
- ❖ Easily downloadable data to mobile and computers

## Activities

- ❖ Soil moisture measurement
- ❖ Fix measurement locations with GPS

# HRC Technicians Trained on Water Quality Equipment

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جمهورية السودان  
أكاديمية السودان للعلوم

(جامعة حكومية للدراسات العليا)

المدير

Republic of The Sudan  
Sudan Academy of Sciences

(A Governmental University for Postgraduate Studies)

Vice Chancellor

صدرت تحت توقيعي في يوم 16 من شهر ربيع الأول لعام 1436هـ، 6 من شهر  
يناير لسنة 2015م.

الرقم: أ س ع / 50 / ب / 2

التاريخ: 2015/1/6م

توصيات وقرارات لجنة الشؤون التنفيذية والمالية

إجازة إنضمام مركز البحوث الهيدروليكية

للإتحاد الفدرالي للأكاديمية

- أقرت لجنة الشؤون التنفيذية والمالية في إجتماعها رقم (3) لسنة 2014م بتاريخ 2014/12/30م بإجازة إنضمام "مركز البحوث الهيدروليكية" للإتحاد الفدرالي للأكاديمية.
- على إدارة مركز البحوث الهيدروليكية دراسة البرامج المجازة والموجودة بالمجالس المختصة لتحديد إما الانضمام لأحد المجالس المختصة أو تكوين مجلس تخصصي.
- على الجهات ذات الصلة وضع هذا القرار موضع التنفيذ ومساعدة اللجنة في مهامها.



- ❖ Water governance
- ❖ Hydrology & water resources
- ❖ Hydraulics Engineering
- ❖ Irrigation Water Management

# Organizational and Institutional Strengthening

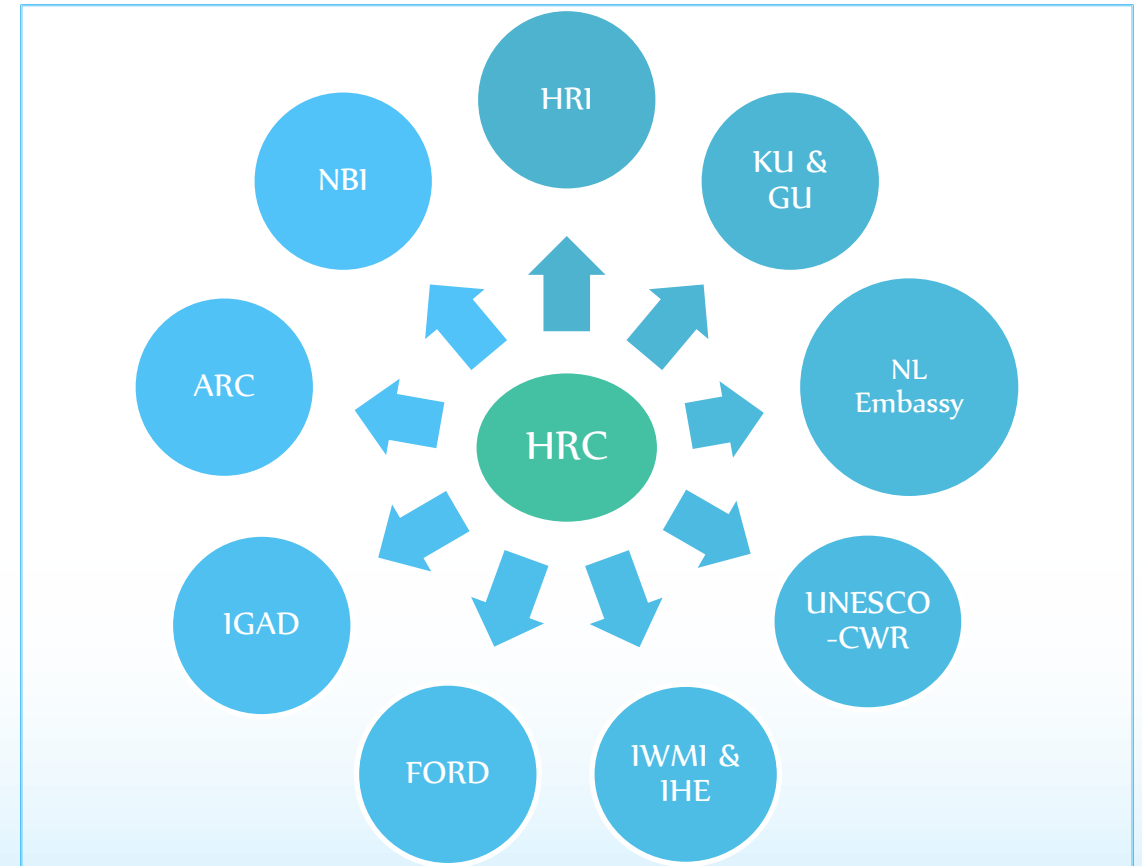
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## Successful partnership

- ❖ HRC staff part of training team
- ❖ Deliverables-based budget sharing
- ❖ Joint ownership of knowledge generated

## Institutionalizing decisions

- ❖ Distributing opportunities
- ❖ Selecting training programme



*HRC's growing partnership*

# 2020 Strategic Plans and Targets

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- ❖ HRC transformed from Research Centre to Research & Training Centre
- ❖ MSc & PhD programmes develop from only research-based to Course & Research based
- ❖ HRC well equipped to annually conduct at least two international, three regional & five national training programmes



*Projected staff growth to realize 2020 strategic plan & targets*



**Thank you so much Please do visit HRC**