

International Conference on IWRM
Management of Water in a Changing World:
lessons learnt and innovative perspectives
Dresden, 12-13 October 2011

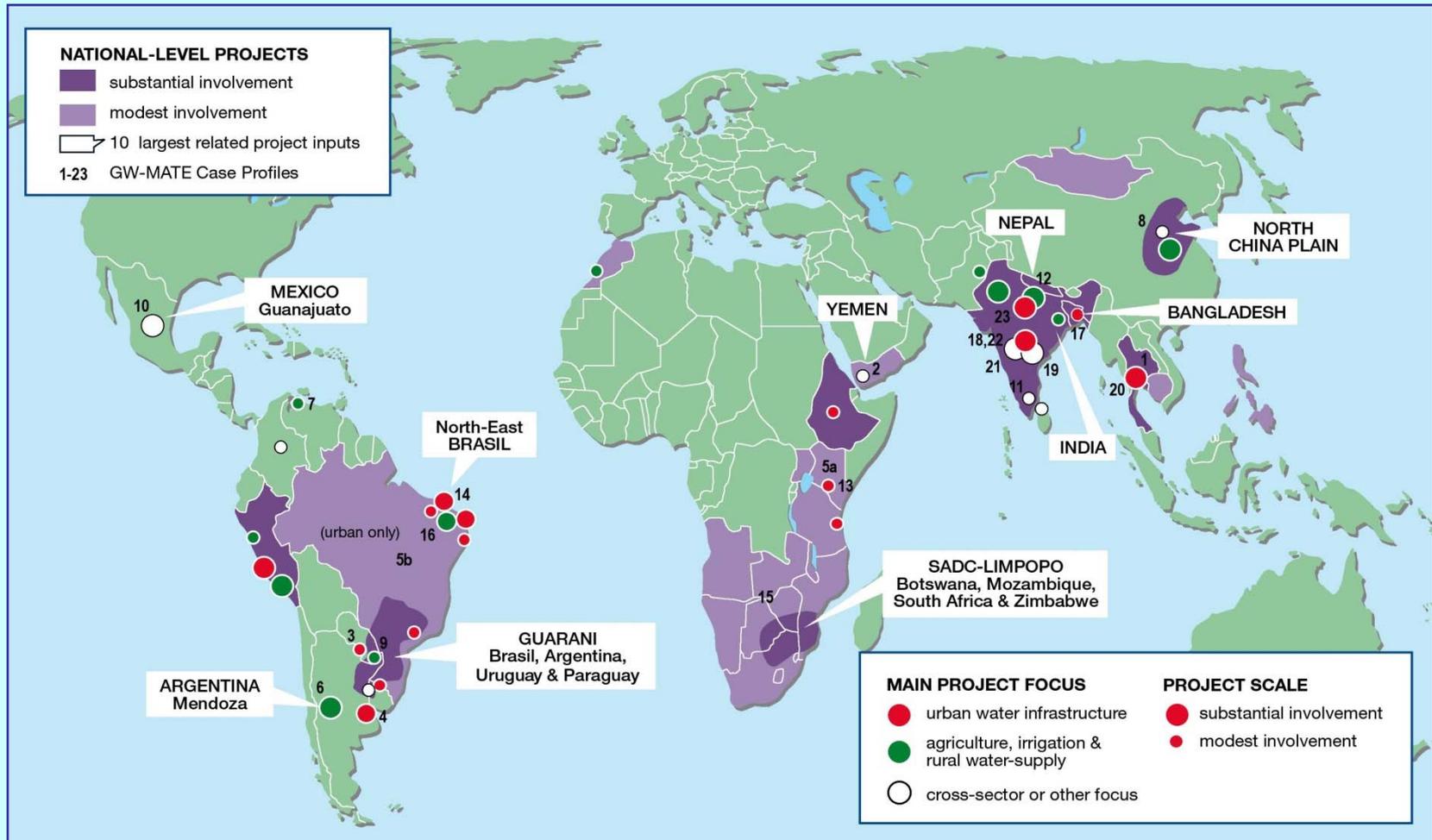
GROUNDWATER GOVERNANCE
understanding the resource and proposing
implementable solutions

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ACKNOWLEDGMENT GW-MATE, World Bank/GWP program 2000-2010. Authors were core team members with Stephen Foster as Director



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- **Ethics** in Water Use and the 'Tragedy of Commons'
- **Pragmatic** Framework for GWG
- Stakeholder **Participation** and the Critical Role of **I&C**
- 20 'Top' **Benchmarking** Criteria & the **Jigsaw Puzzle** of GWG
- Institutional **Impediments** to GWG in Federal Countries
- GWG is **not Isolated**
- The role of **CD** in Addressing the '**SUR**' Challenge

ETHICS IN WATER USE

the reason for 'saving water' in a Mexican Sports Club



Shouldn't the current message

Please let us save water, because:

*tomorrow **you** will need the drop you waste today'*

be changed to

*today **your neighbor** needs the drop you waste ?*

THE 'TRAGEDY OF THE COMMONS'

& 2009 Nobel Laureate Elinor Ostrom's Principles

1968 Garret
Harding: in
'common pool
resources'
**what one
resource user
does can
affect what is
available to
other users**

- clearly-defined **boundaries**
- community rights formally **recognized**
- arrangements for **collective** decision making
- **nested stakeholder groups** in larger systems
- **monitoring** with stakeholder involvement
- graduated **sanctions** for not complying
- low-cost **conflict-resolution** mechanisms

THE CONCEPT OF GROUNDWATER GOVERNANCE

exercise of appropriate **authority** and promotion of responsible **collective action** to ensure **sustainable and efficient** utilization of groundwater resources for the **present and future benefit** of humankind and dependent ecosystems

GROUNDWATER MANAGEMENT & PROTECTION

progress through World Bank operations and beyond during 2000-10

COMPILED BY : Stephen Foster, Catherine Tovey & Gill Tyson



THE WORLD BANK



Global Water
Partnership



WATER
PARTNERSHIP
PROGRAM

GW·MATE

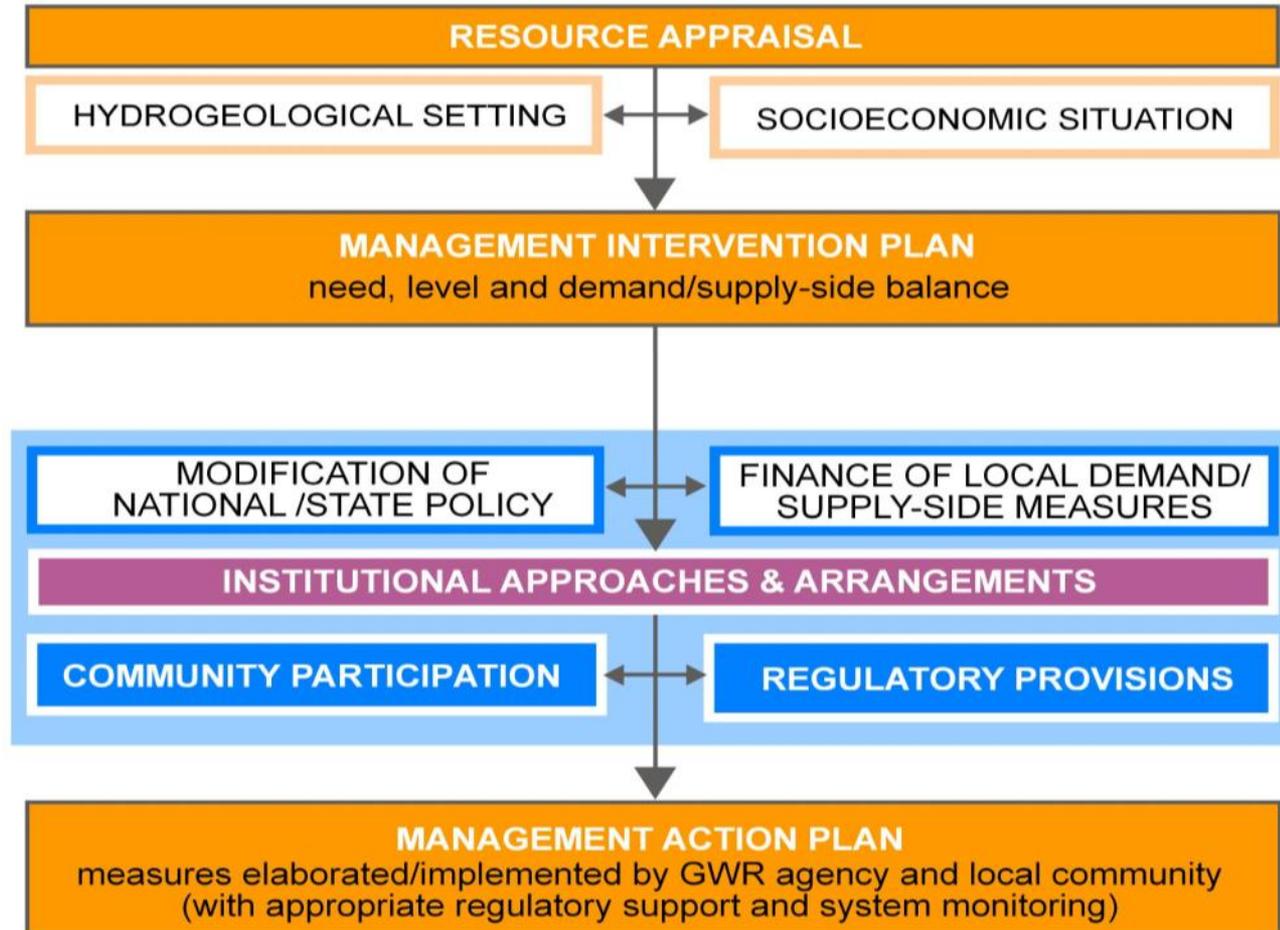
Groundwater
Management
Advisory Team

10th ANNIVERSARY
EXECUTIVE OVERVIEW

THE KEY LESSON FROM EXPERIENCE

after 10 years of on-the-ground joint work with developing nations: **'one-size-fits-all' simply inappropriate**

'pragmatic framework' to guide selection of a balanced approach – recognising **hydrogeologic, cultural & socioeconomic setting** defines problem and constrains solution



STAKEHOLDER PARTICIPATION

Without participation

being groundwater a decentralized resource its management is impossible,

but...

participation is not the magic bullet

- it must be based on sound hydrogeology**
- it does not come free**
- It needs to be complemented by some regulation & economic incentives/disincentives**
- and must be enabled/nurtured by local government.**

THE CRITICAL ROLE OF INFORMATION & COMMUNICATION

Effective I&C: key to **transparency** – and hence accountability.

Technical information on resource status, trends and vulnerabilities and **complex network** of agencies, users and other stakeholders.

In most developing nations **narrowly-focused public information offices** not well-suited to the technical complexity of groundwater and the social aspects of stakeholder participation.

A **more appropriate approach** needs to be compatible with networks, enable stakeholder feedback, and should be reviewed periodically for effectiveness.

20 'TOP' BENCHMARKING CRITERIA

FOR THE EVALUATION OF GWG PROVISION AND CAPACITY

TECHNICAL hydrogeological maps, aquifer /GWB delineation, piezometric monitoring network, numerical management models, pollution hazard assessment and quality monitoring network

LEGAL & INSTITUTIONAL drilling permits and use rights; instruments to reduce GW abstraction, prevent well construction & sanction illegal well operation; abstraction charging; land-use control; levies on discharge of potential pollutants; government 'groundwater resource guardian' & AMOR

CROSS POLICY COORDINATION agricultural development, urban/industrial planning, compensation for GW protection, public participation & GW Management Action Plan

OPERATIONAL public participation & GW Management Action Plan

THE JIGSAW PUZZLE OF GROUNDWATER GOVERNANCE

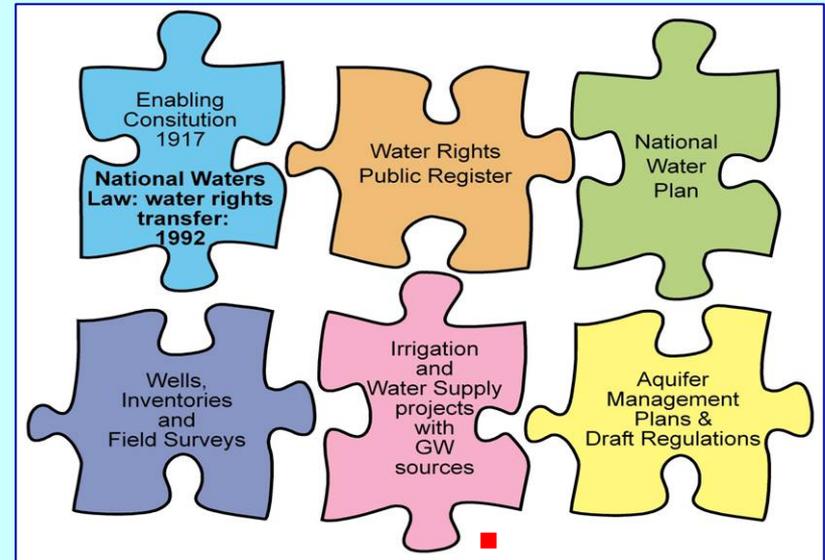
push of 'aquifer champions'
and 'glue' of effective coordination needed

CEAG
world class
aquifer modelling

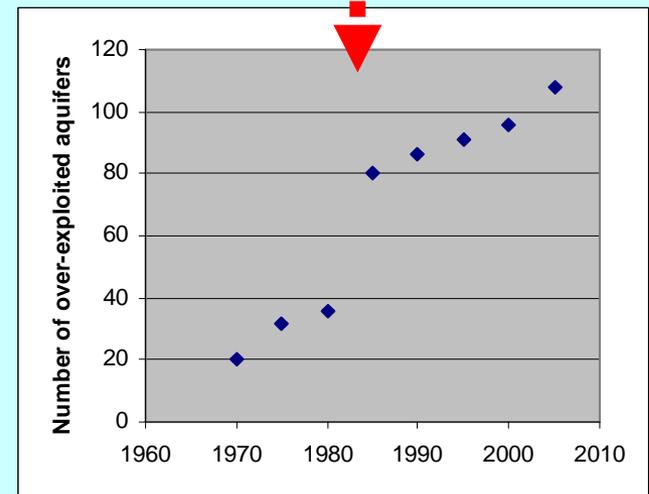
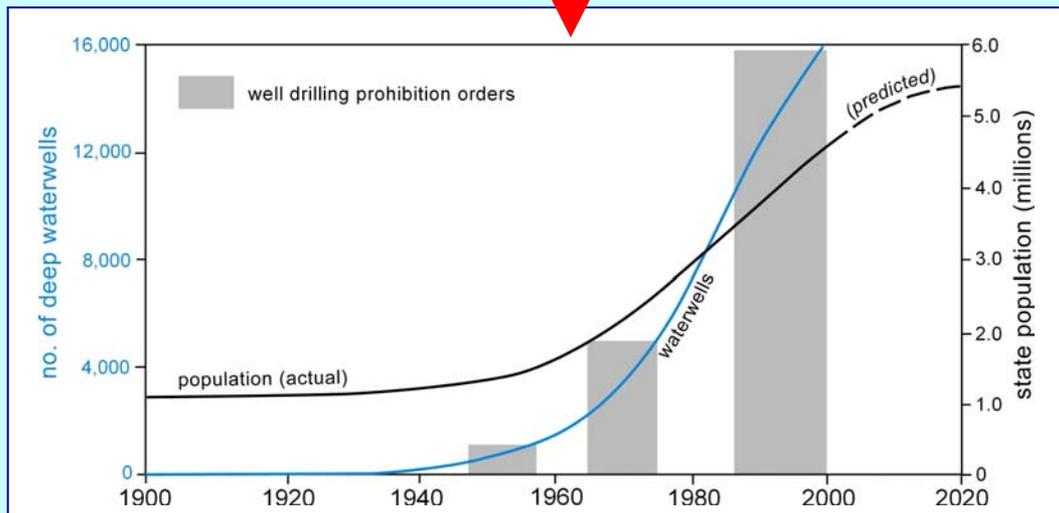


COTAS
successful in
awareness raising

CONAGUA : world-class legal-institutional framework



**Guanajuato
Mexico**



INSTITUTIONAL IMPEDIMENTS IN FEDERAL COUNTRIES TO 'THINK GLOBALLY ACT LOCALLY'

SOME EXAMPLES BOTH FROM DEVELOPING & DEVELOPED NATIONS

BRASIL strong federal set-up --- but no legal or fiscal authority over state governments

CHINA excellent local county organizations --- but MWR with difficulties in directing them towards more long-term sustainable policies

ENGLAND slim-lined and well focused national office --- but recent financial cuts have resulted in serious staff reductions

MEXICO strong CONAGUA -- but unable or unwilling to work with local governments

SOUTH AFRICA good federal DWA direction although decision to go down RBO-route was perhaps rather ambitious

SPAIN reasonably solid and clear conceptually at ministry level --- but little fiscal or policy authority over the organization at regional level,

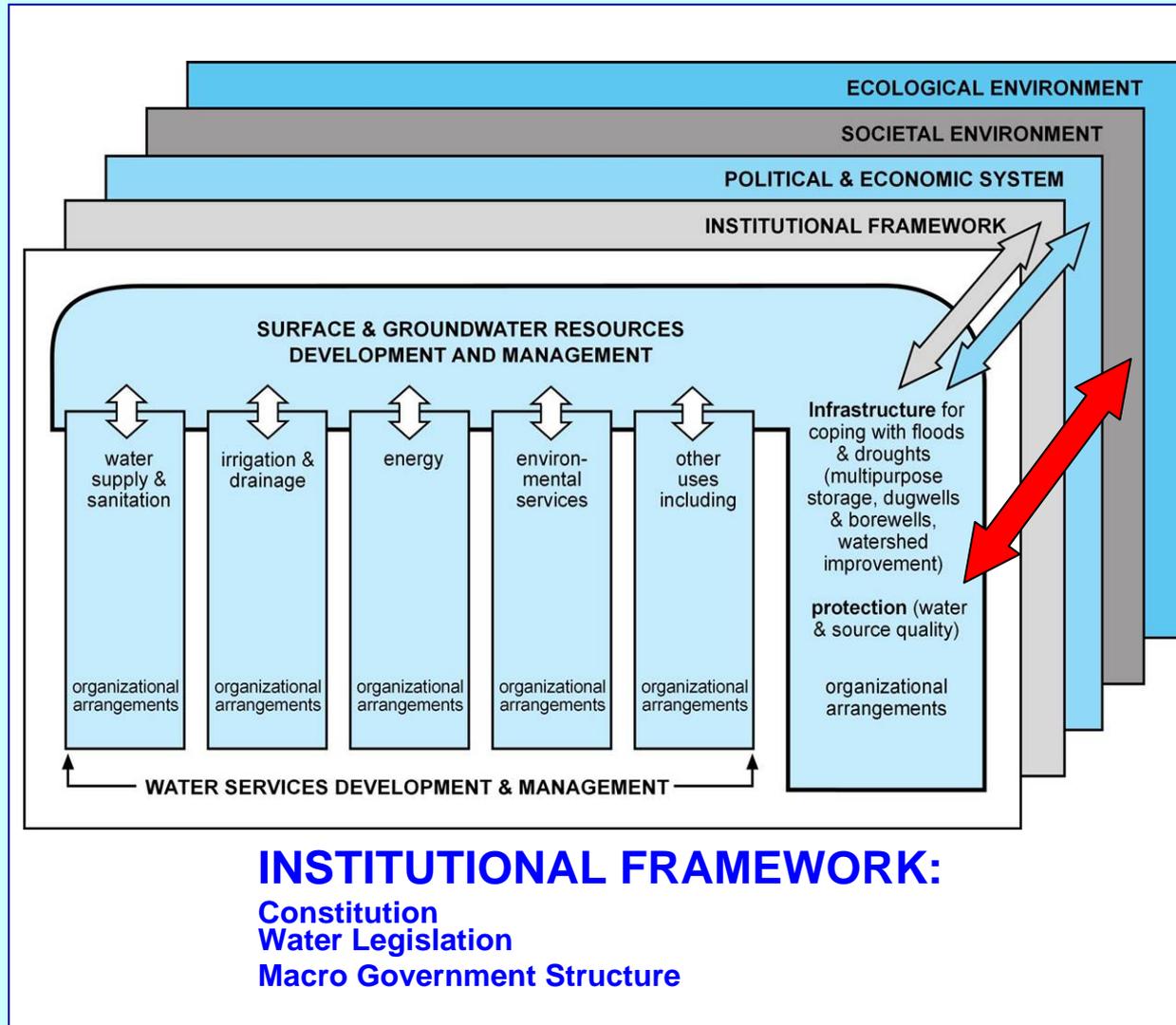


General need: local office under line management of national ministry with **fiscal control** but also playing role of '**national lighthouse**'

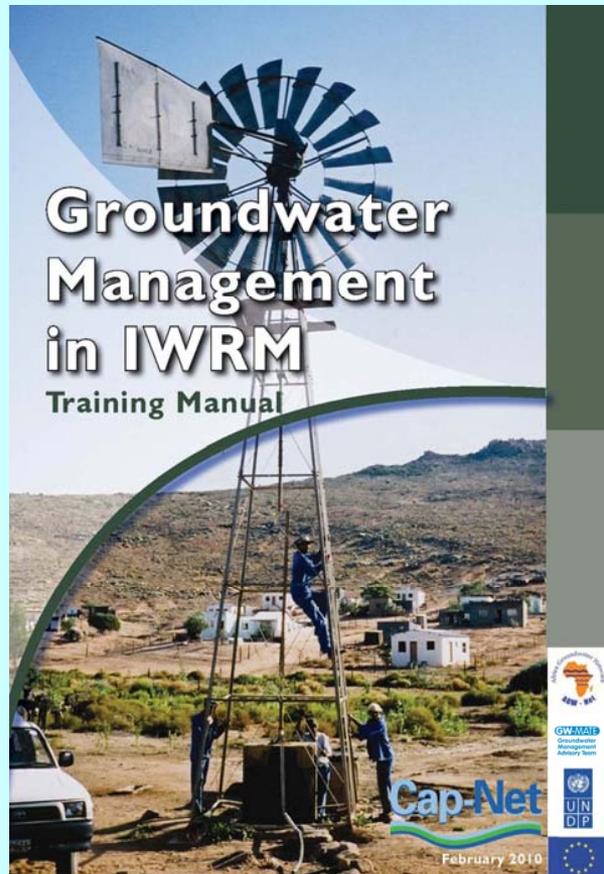
GWG IS NOT ISOLATED

managers must voice their concerns to empower society
& strengthen governance

- being frank about 'business as usual' consequences
- acknowledging current limitations and advocating future needs as regards capacity for resource management implementation
- providing transparent information to society so as to counteract vested interest and corruption
- challenging macro-policies which increase groundwater demand



THE ROLE OF CD IN ADDRESSING THE 'SUR' challenge (Sustainability-Upscalability- Replicability)



After a series of Case Studies in Africa and some pilot training courses, Cap-Net, the Africa Groundwater Network (AGW-Net) and GW-MATE produced this **“Training of Trainers” manual**.

Similar manuals could be prepared for **other regions**, in collaboration with interested international organizations.

Perspective: WB & UNESCO are exploring options for CD by disseminating GW-MATE publications and developing application courses through IHE.

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THANK YOU!