Sustaining Infrastructure in the Developing World

PNWS-AWWA 2010 Conference

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Water For People

Reliable water supply & global health

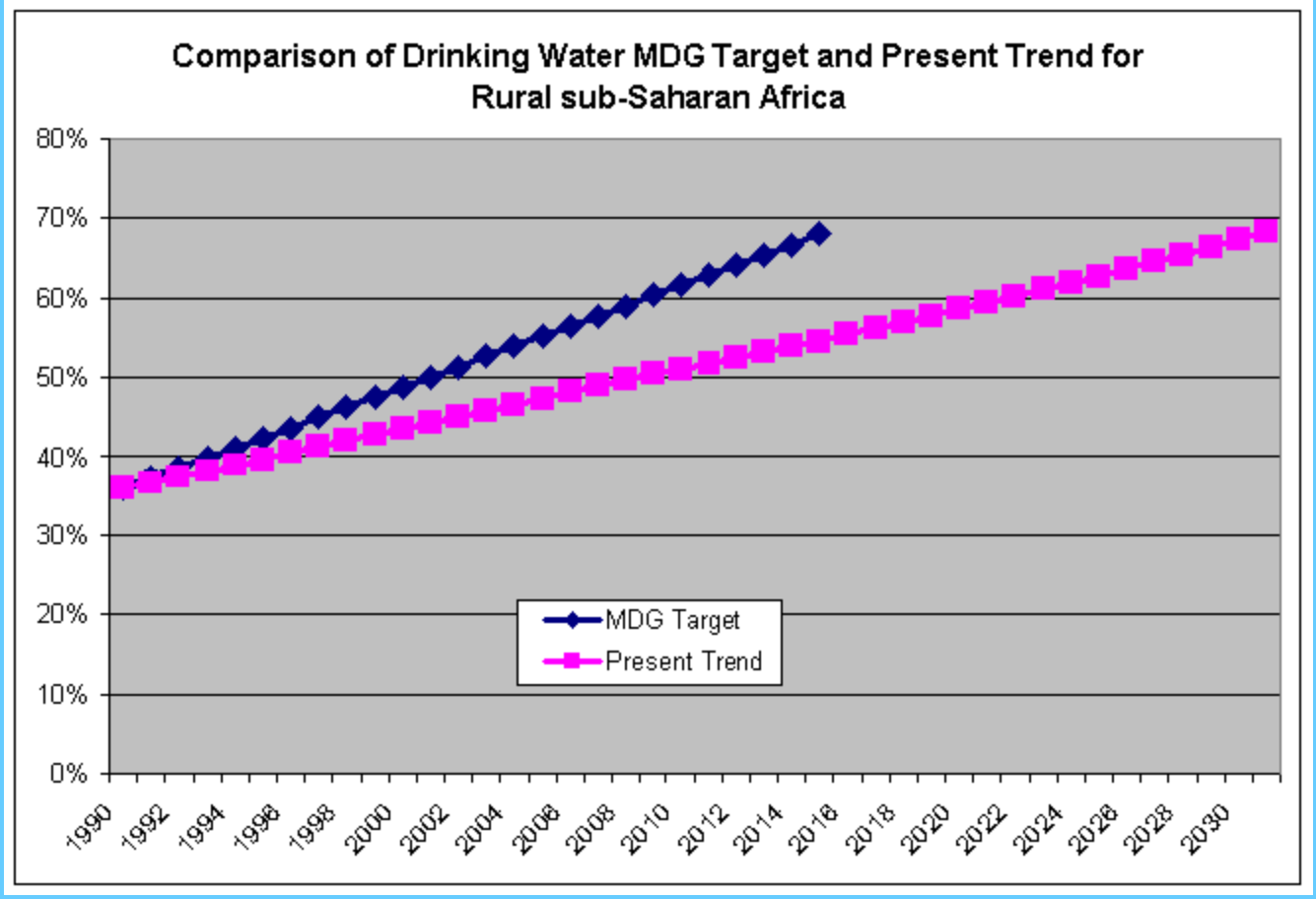
- *bad water*
- *lack of water*

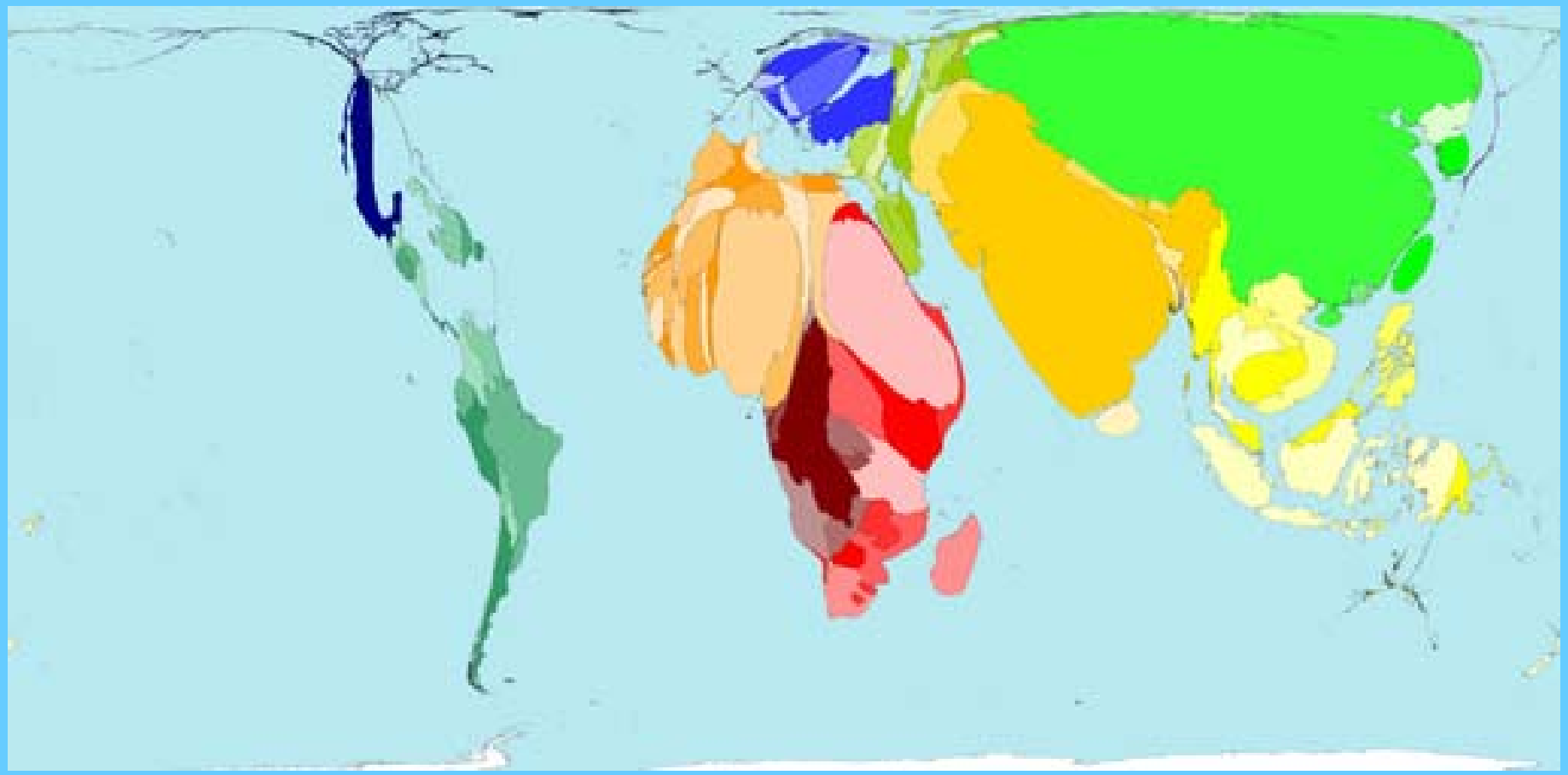
 80% of all disease

 6000 deaths a day

The Global Response—

- *30+ years of effort*
- *Johannesburg 2000, Millennium Development Goals*





Global distribution of poor drinking water
(Worldmapper proportional view, 2005 UNDP data)

Water systems:

Not absence, but failure

Broken….

Well-meaning organizations,
Isolated projects...

Zero coordination...

Little or no follow-up...

Dysfunctional Environment!

London School of Hygiene & Tropical Medicine
Millennium Water Alliance
WSSCC
Living Water
Water For People
Matt Damon
Hilton Foundation
UNDP
Gates Foundation
UNICEF
Unilever
US Military
ADB
CARE
CRS
World Bank
H2O for Life
CIDA
Blue Planet Run
LifeWater International
Church Groups
WSP
WaterAid
Government
Plan International
ONE Campaign
MCC
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Jay Z
IRC
Emory Center for Global Safe Water
Save the Children
Local ty
NGOs
UN Habitat
SIDA
Angelina Jolie
World Toilet Association
WASRAG
IDB
SNV
Rotary
SKAT
Healing Waters
Madonna
Fresh Action Network
World Vision
Oxfam
PSI
EWB
USAID
DFID
Global Water Challenge
Oprah
Procter & Gamble
Water Health International
Concern
Jewel
Halcrow
WaterPartners International
Opportunity International

Evidence of dysfunction?

- More rehab than new
- Hand pumps up to 65% broken
- Disease outbreaks coinciding with new water systems
- Arsenic in Bangladesh and India
- Degradation of water quality and quantity
- Failure of POU water quality interventions

Mechanisms of dysfunction?

- citing of wells
- technologies
- spares
- finance
- training
- conflict
- theft/vandalism
- aquifer levels
- water quality
- subsidies
- support structures
- shifting populations
- non-payment by users

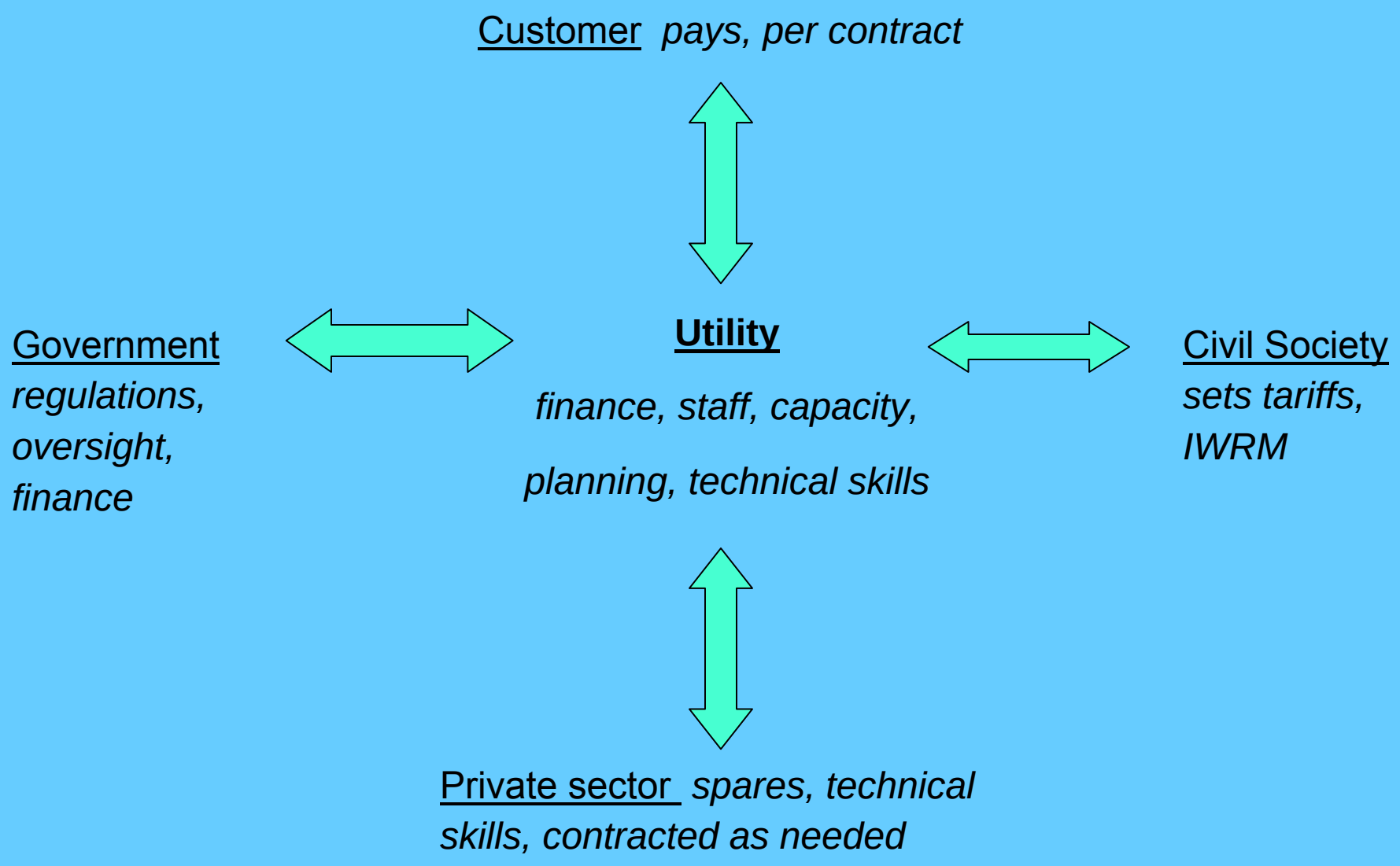
Global health reality:

People get sicker after their pump breaks down than they did before they had a pump.

The net impact of “good intentions” is negative.

Our goal can only be *sustainable* water supply.

What makes a *functional* environment?



What environment will never be *functional?*

The Water For People model

Build community capacity

WATSAN committee

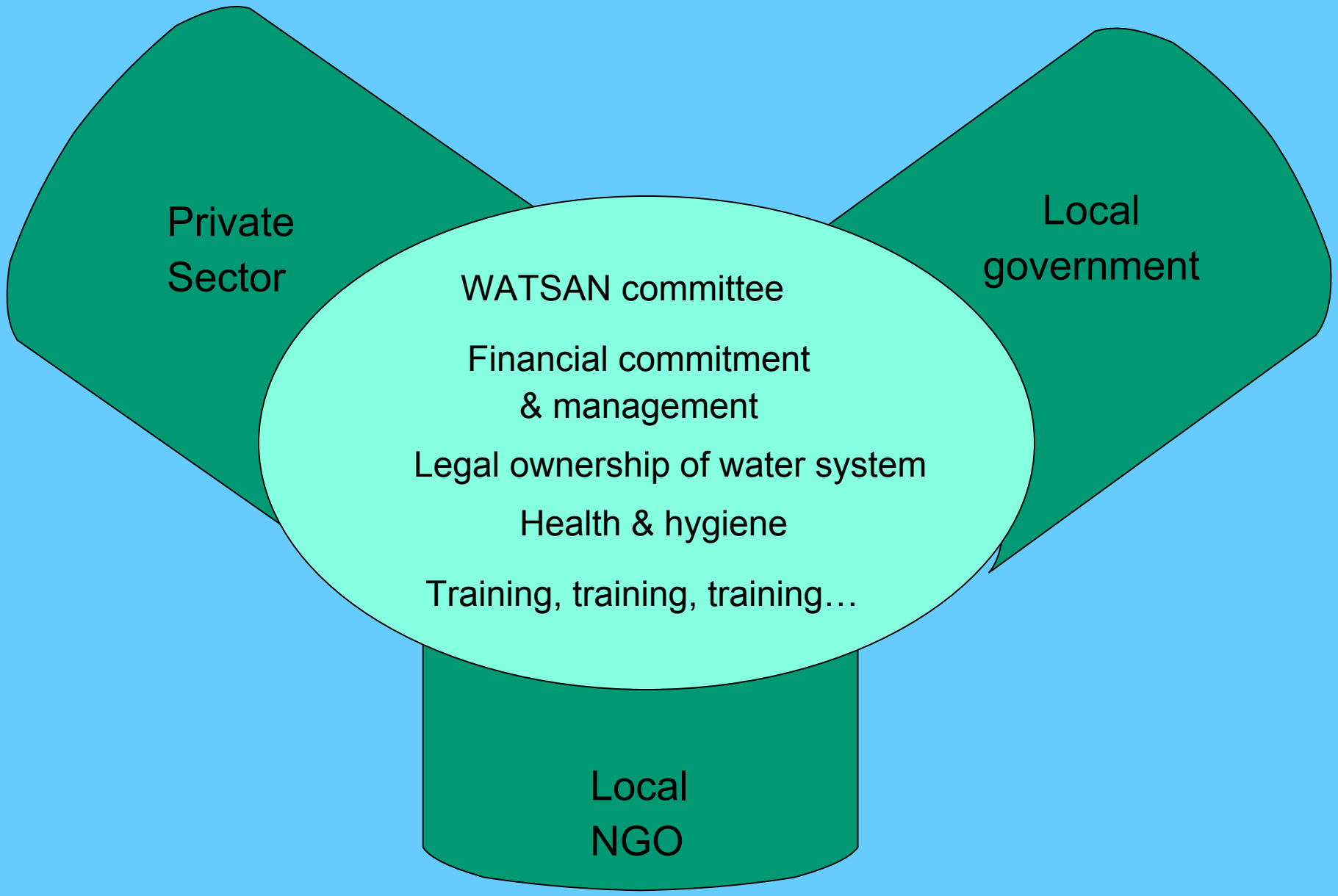
Financial commitment
& management

Legal ownership of water system

Health & hygiene

Training, training, training…

Link community to outside resources



Long-term sustainability depends on O & M — & replacement

Challenges of O & M –

Over time…

Diminishment of skills

Higher-level repairs

Big picture…

Scaling up requires efficiency!

Good solutions are flexible and regionally-appropriate

Case study:
Water For People – India

West Bengal and the Jalabandhu pilot program

West Bengal – challenges to sustainability

Crisis of water resources management

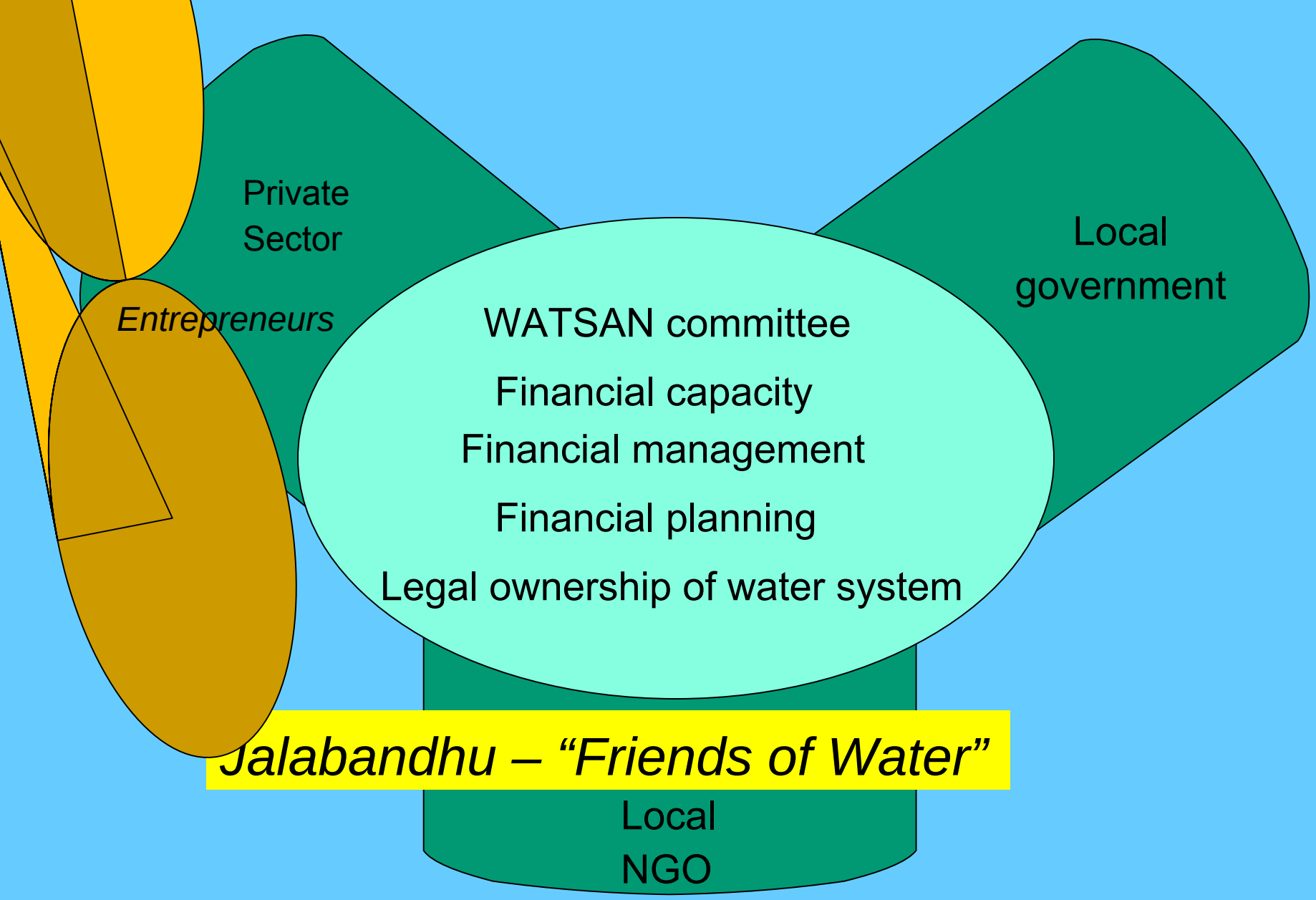
- Water table dropping
- Toxicity rising

85% rural reliance on tube wells (drinking *and* irrigation)

Entrenched centralized governmental control

- Entrenched dependence on government

Miscellaneous unsupported technologies



Jalabandhu – "Friends of Water"

Jalabandhu –

Independent circuit-riders

Professional-level skills & tools

Service contract relationship with communities

Broad customer base for FT work, incentive for expansion

Support for a reliable sector of suppliers

Community –

From beneficiaries to owner/customers

Cyclone Aila – test of the Jalabandhu program

Nearly all WFP systems functional within 1 week

Jalabandhus called to repair 248 other non-WFP systems

So: Are the MDGs for Water Achievable?

Yes—

if…

Every water point installed from today onward is still functioning in 2015.

We will achieve this *if...*

- Local Government is strengthened to support water and sanitation
- Local Private Sector is strengthened to support communities over time
- Local NGOs are strengthened to provide on-going support
- Communities can maintain and repair what they can <u>and</u> access technical and financial support outside their capacity when needed
- Technology is appropriate, finance is transparent
- Sustainability is prioritized and monitored