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Integrated Water Resources Management (IWRM)

Introduction to IWRM Principles & Applications



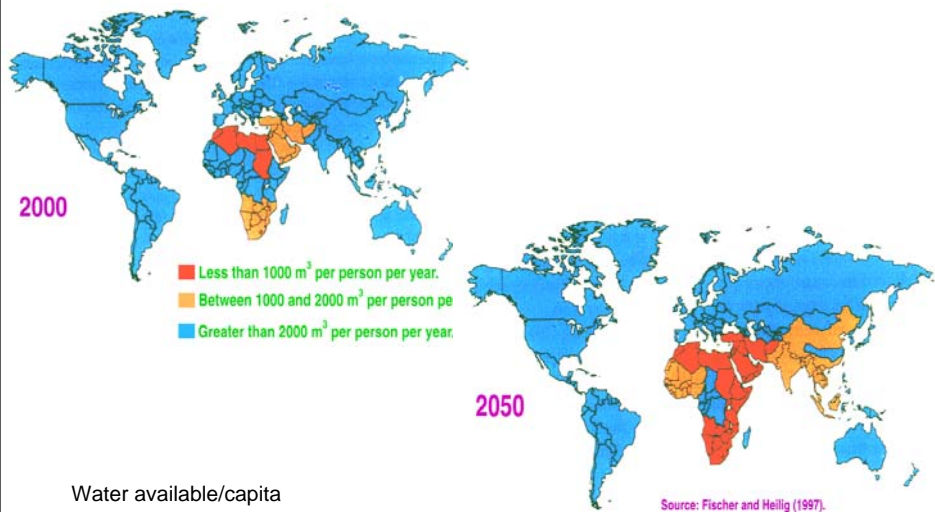
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Water is Already a Global Issue !

- More than **2 billion** people in **40 countries** live in river basins under “**water stress**”
- Decreasing per-capita water availability - global population increased by a factor of **3** in 20th century, while water withdrawals increased by a factor of **7**
- As global population is expected to increase from **6 billion** to **10 billion** in 50 some years, demand on water will increase further

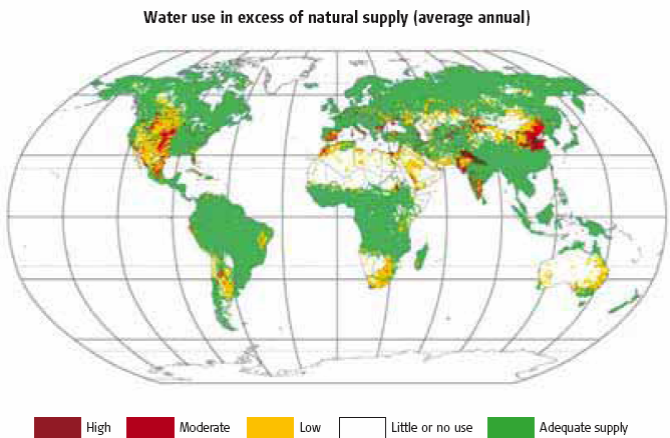
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Water Scarcity – Africa, Middle-East, Asia



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Water withdrawal > locally Renewable....



Source: UN WWDR2 2006

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Water - Essential to sustain human life, environment, but ...

- Many regions withdraw more water than is locally renewable, via basin transfers, unsustainable groundwater mining..... + degrading water quality
- Competition for scarce water resources is already a source of conflict, and is to escalate !
 - urban vs. rural, sectoral
 - upstream vs. downstream
 - human activities vs environmental needs
 - national vs. international
 - haves vs. have nots

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Failure with Past Approaches

Sectoral, limited coordination, fragmented, uncoordinated development – inadequate to meet global challenges !

Supply-driven augmentation, top-down mg, lack demand mg, subsidies led to inefficient investment, waste of water

Restrictions on water transfers have prevented water from being allocated to the most beneficial use

Crisis of governance

or physical scarcity ?

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Globally Realized that:

- “Business as usual” no longer works!
- There are urgent needs for reform, for a significant shift
.....in the way water resources are managed, water services are provided ...

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New Approach is Needed.....

- “Water” -  global agenda
(Rio water summit; Dublin 1992; WWF 2003, 2006...)
- “IWRM” -  as a means of addressing global water challenge, toward a sustainable future

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IWRM (as defined by GWP):

*“a **process** that promotes the **coordinated** development & management of water & land resources, in order to maximize economic and social welfare in an equitable manner without compromising the **sustainability** of vital ecosystems.”*

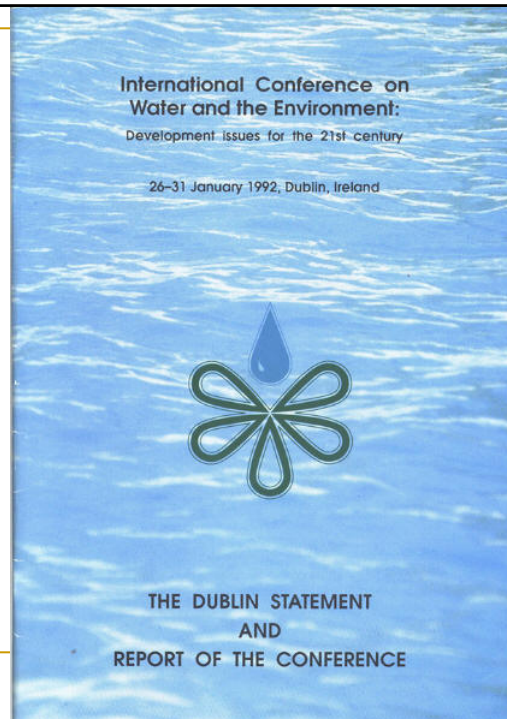
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IWRM (as used by USAID):

*“A **participatory** planning and implementation **process**, based on sound **science**, which brings together **stakeholders**, to determine how to meet society’s long-term needs for water and coastal resources while maintaining essential **ecological** services and **economic** benefits.”*

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Global
consensus on
the principles
which govern
sound water
management
are embedded
in

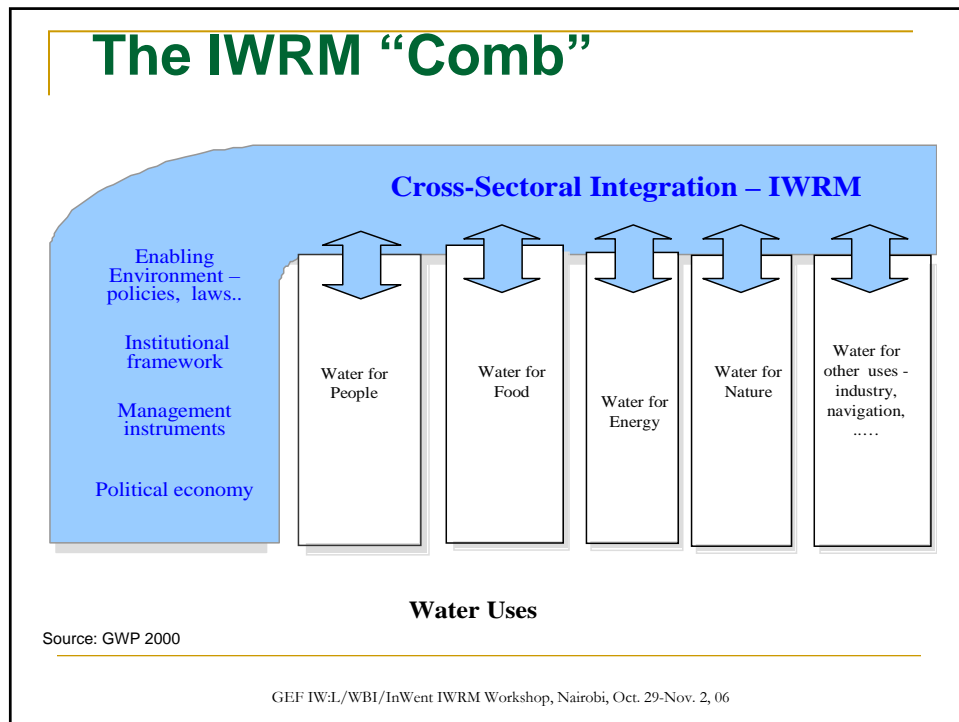


Dublin Principles (1992)

- **The “Ecological” Principle**
 - Fresh water - a finite, vulnerable resource.
 - Requires **holistic**, inter-sectoral approaches in a river **basin** context
- **The “Institutional” Principle**
 - Water development/ management should be based on a **participatory**, **subsidiary** approach, involving users, planners and policy-makers at all levels.
- **The “Gender” Principle** – greater role of **women** in water-relating decisions
- **The “Instrument” Principle**
 - Water should be recognized as an economic good, with an economic **value** of alternative uses ...
 - use of economic **instruments** (water rights, markets, user charges, polluter pays, etc...)

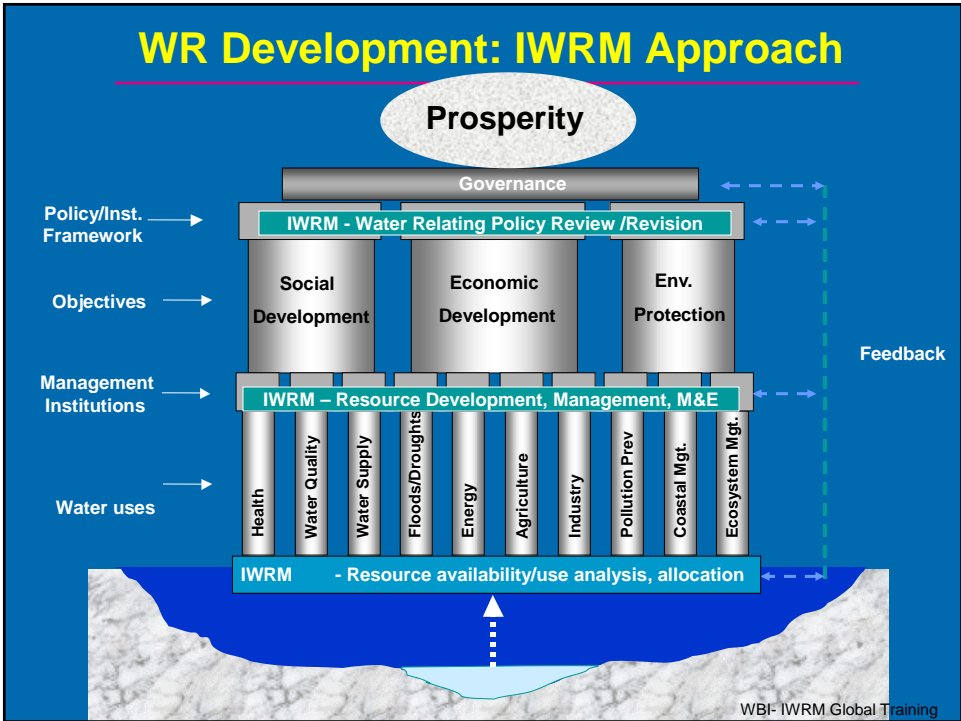
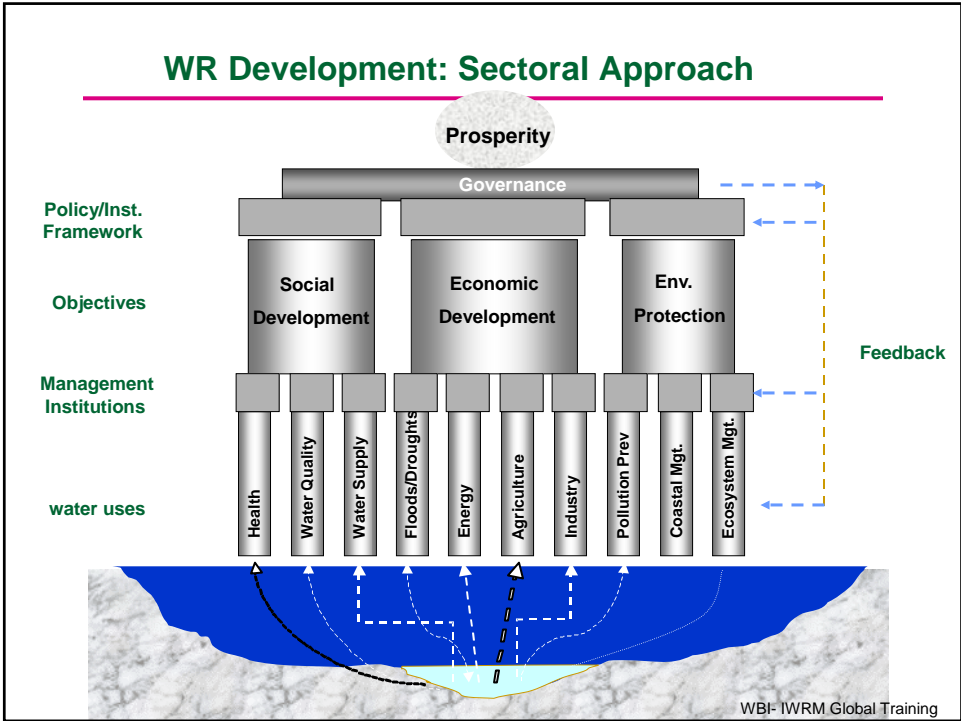


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IWRM – Process, not Product. Tool, not Blueprint

- Is a coordinated process to bring together all stakeholders.
- Emphasizes on economic, social welfare and equity, and protecting ecosystems.
- Is based on scientific data /tools for judgment /decisions.
- Promotes good governance, with democratic participation.



IWRM Toolbox

- GWP (2003) developed an IWRM toolbox to support its application
- No one blueprint fits to all
- Aims to provide practitioners with a wide range of instruments (49) for selection
- Three categories:
 - Enabling Environment
 - Institutional Roles
 - Management Instruments

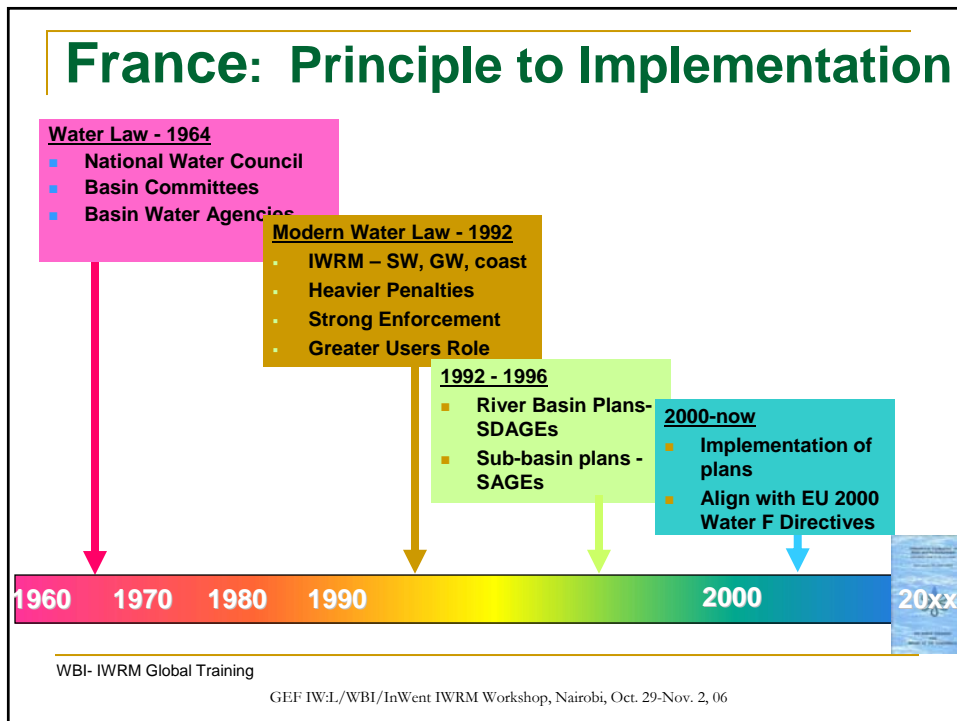
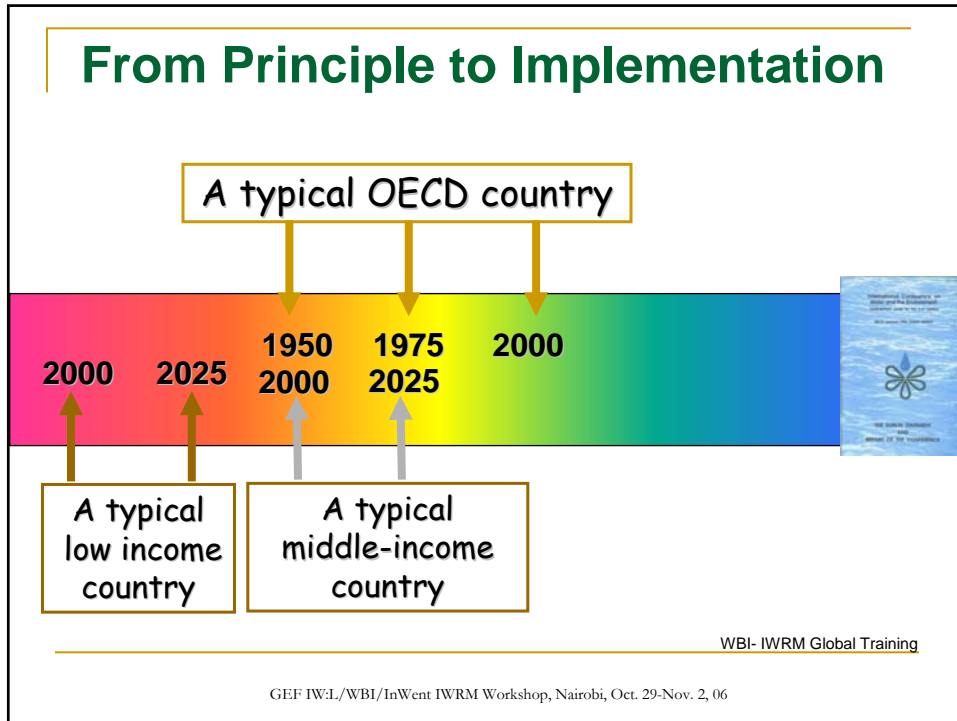
http://www.gwpforum.org/gwp/Media/Toolbox/main_features.pdf

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Excellent principles !

**But what happens
when they are implemented
in the real world ?**

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How are IWRM principles reflected in French Water Law?

Foundation for modern WRM - > 25 years before the Dublin principles

Comparison of Principle 1

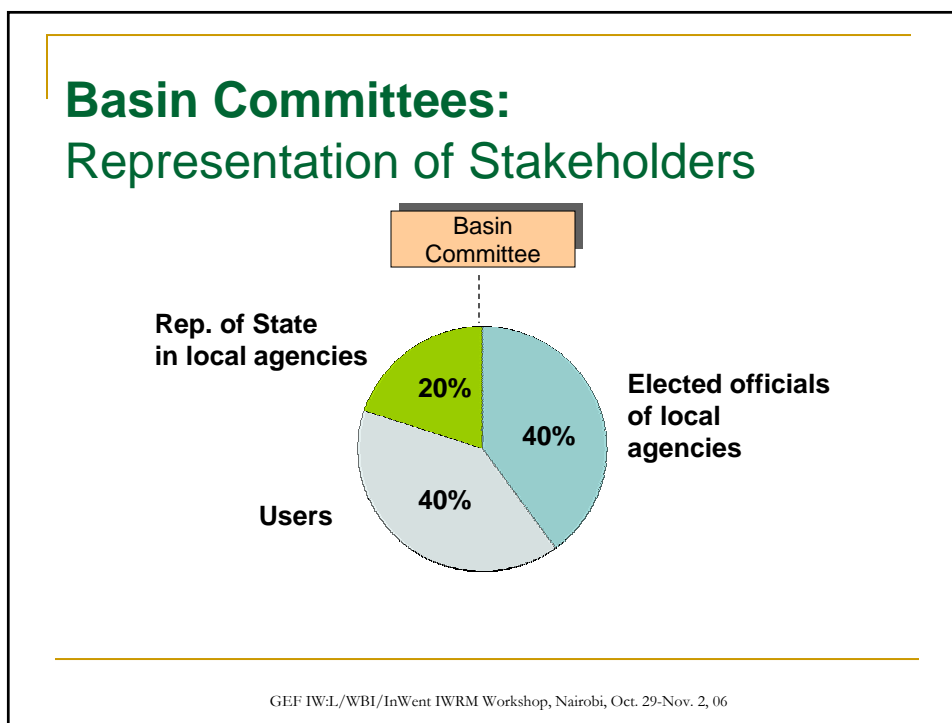
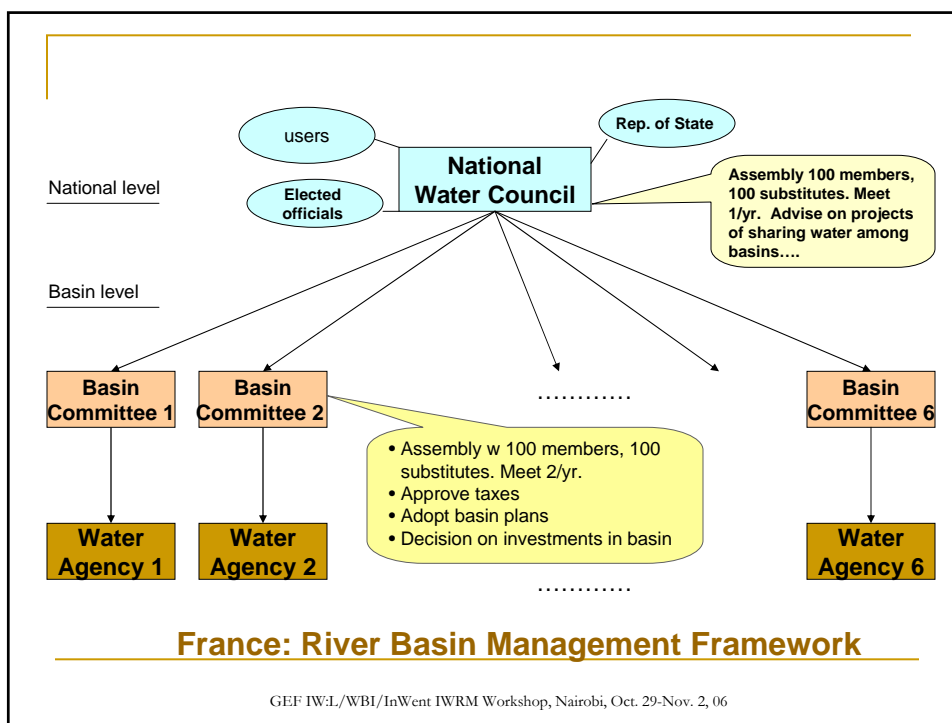
Dublin Principles	French Water Law	Reality
1st - "Water as a finite and vulnerable resource, essential to sustain life, that must be managed within a global framework in a river basin : soil and water"	Water management is decentralized at the level of large river basins . RBAs in charge encompass territories different from those of the usual administrative units.	Led to create 6 basin water agencies, corresponding to main river systems of the country.

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Comparison of Principle 2

Dublin Principles	French Water Law	Reality
2nd - "... participatory approach to water management, involving users, planners and policy-makers at all levels"	The law created (i) National Water Council , consisting of user groups, elected officials, representatives of State , (ii) Basin Committees , (iii) basin Water Agencies , which are executive bodies.	(i) NWC (<100 members, equal # of substitutes) ; (ii) 6 Basin Committees (>100 members, 100 substitutes) ; (iii) 6 basin Water Agencies - i.e. Financial Basin Agencies

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Comparison of Principle 4

Dublin Principles	French Water Law	Reality
4th – “Water has an economic value in all its competing uses and should be recognized as an economic good”	Water management, especially relating to pollution control, is facilitated by establishing an incentive financial system that complements the existing policy of repressive regulation .	Created a tax and aid system, and implemented “ user pays ”, and “ who pollutes pays, who removes pollution is helped ”. Income is used to support works of anyone for improving the resource.

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River basin management – takes time

- **France** – Implemented National Policy, set up 6 River Basin Organizations (1964 – 1992, near 30yr)
- **Spain** – Implemented National, Local, and Sector Plans; set up 17 RBOs (1985 – 2000, nearly 15y)
- **Tanzania** – Recent; set up 2 pilot BWOs in early 1990s, 7 BWOs in 2004
- **China** – 1st Basin level water management legislation in XJ province in 1997, 2005.
- **Vietnam** – Water Law 1996, 3 RBOs, 2000 -now
- **Morocco** – National Law (1997); set up RBOs
- **Indonesia** (1999), **Iran (2006)** – more recent ...

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There are general lessons

“What must be done to translate principles of IWRM into practice ?”

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General lessons:

- Initiate reform only where there is a powerful need, demonstrated demand for change, strong local political will
- Develop sequenced, prioritized list of reforms... take one step at a time
- Pick the low-hanging fruit first -- nothing succeeds like success!



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General lessons ...(continue)

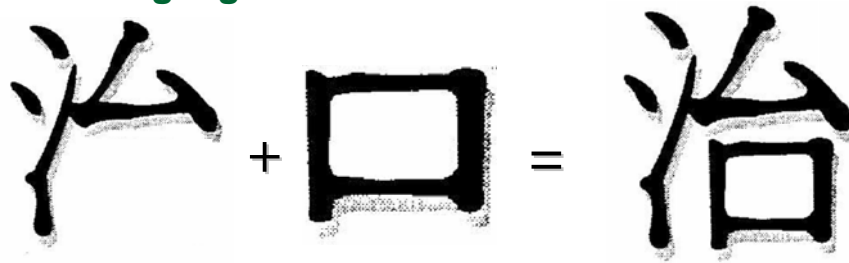
- Involve those affected and address their concerns with information they understand
- Reforms must provide returns for the politicians who are willing to make the changes....



Good water management is good politics !

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Water management practices are deeply embedded in history, culture and politics and even language....



river + dyke = Political order

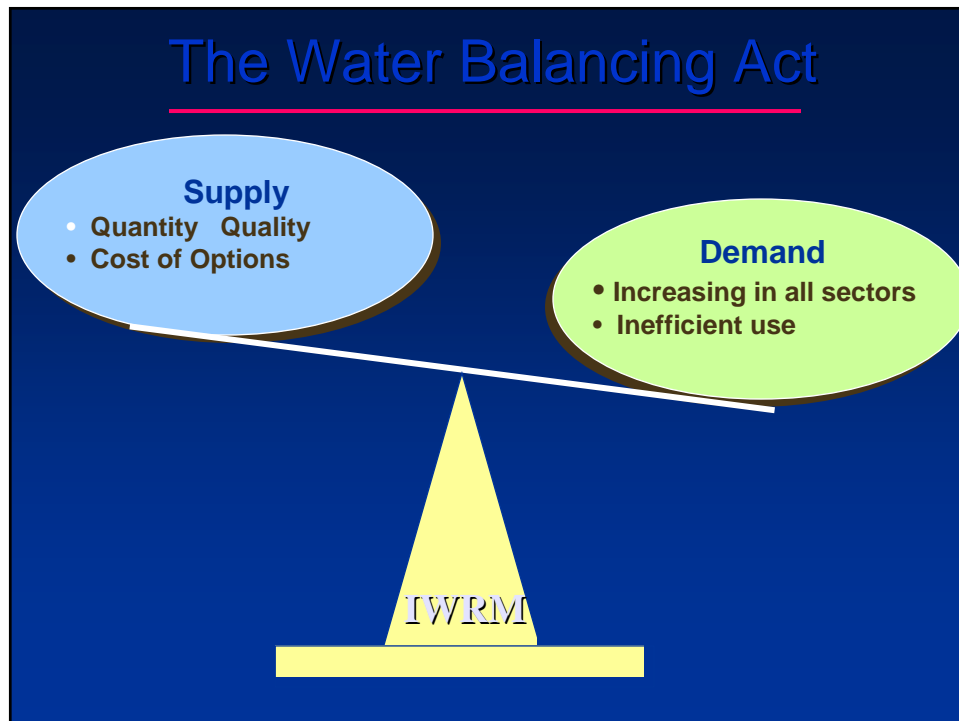
WBI- IWRM Global Training Presentation

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Lessons(continue)

- There is no magical solution that fixes all problems, because the country contexts vary so much
- Institutional context matters (a lot!):
Fundamental principles apply... but need to be adapted to the specific country context

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Please remember, refer to the
IWRM Principles
in the next few days of
our
Discussions & Presentation

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