



6th Botin Foundation Water Workshop (6BFWW)
“Integrated Water Resource Management in the XXI Century”
13-14 November 2012, Madrid

IWRM

A concept « fit for purpose »

Whose time has come!

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Chair
GWP Technical Committee

Plan of this talk



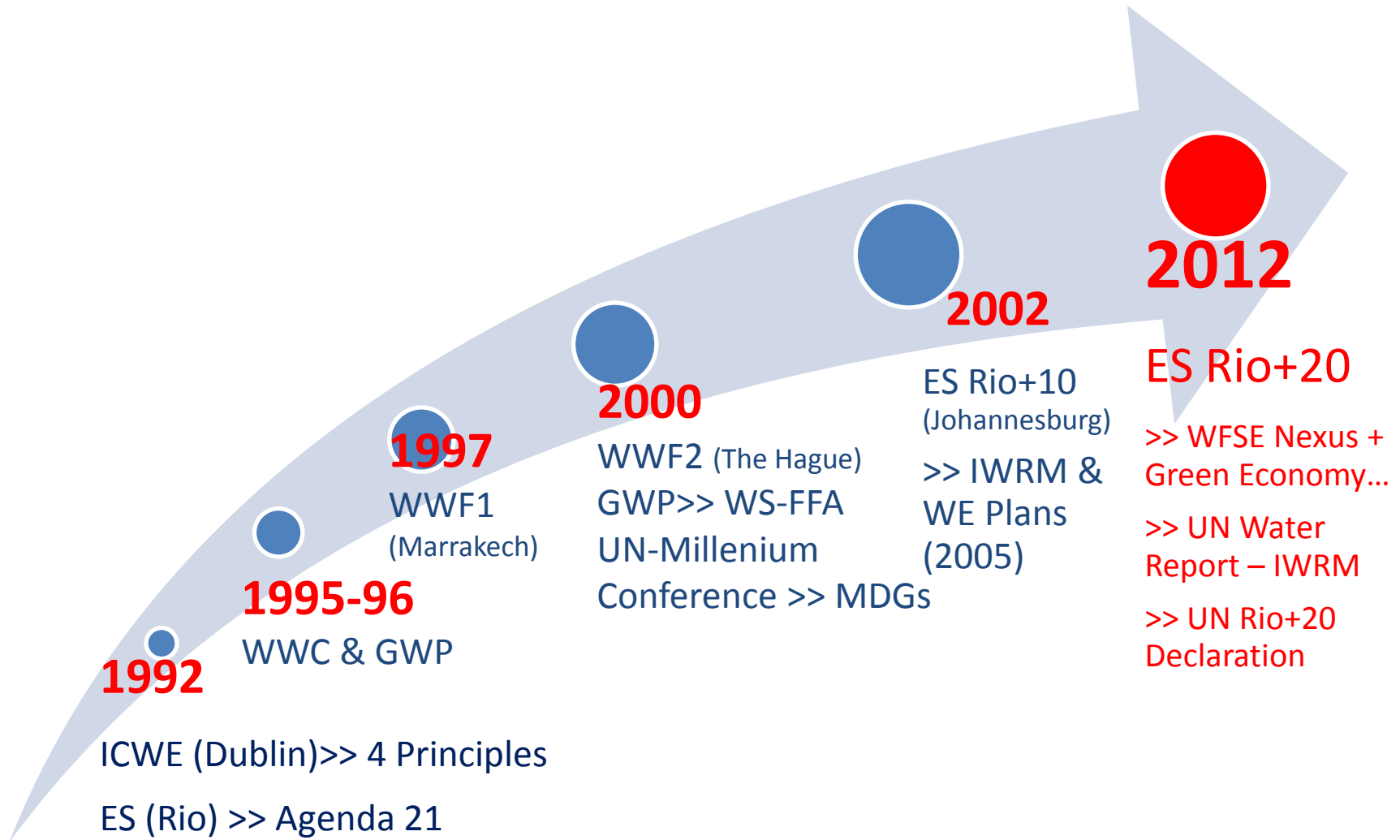
1. Seeing our journey
2. Where are we now?
3. Morocco's Example
4. Coming of age
5. Conclusions

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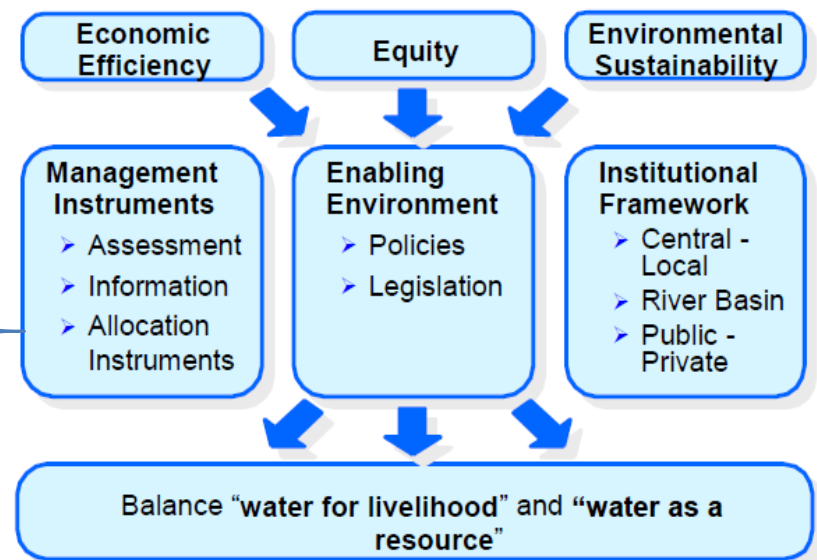
IWRM Milestones



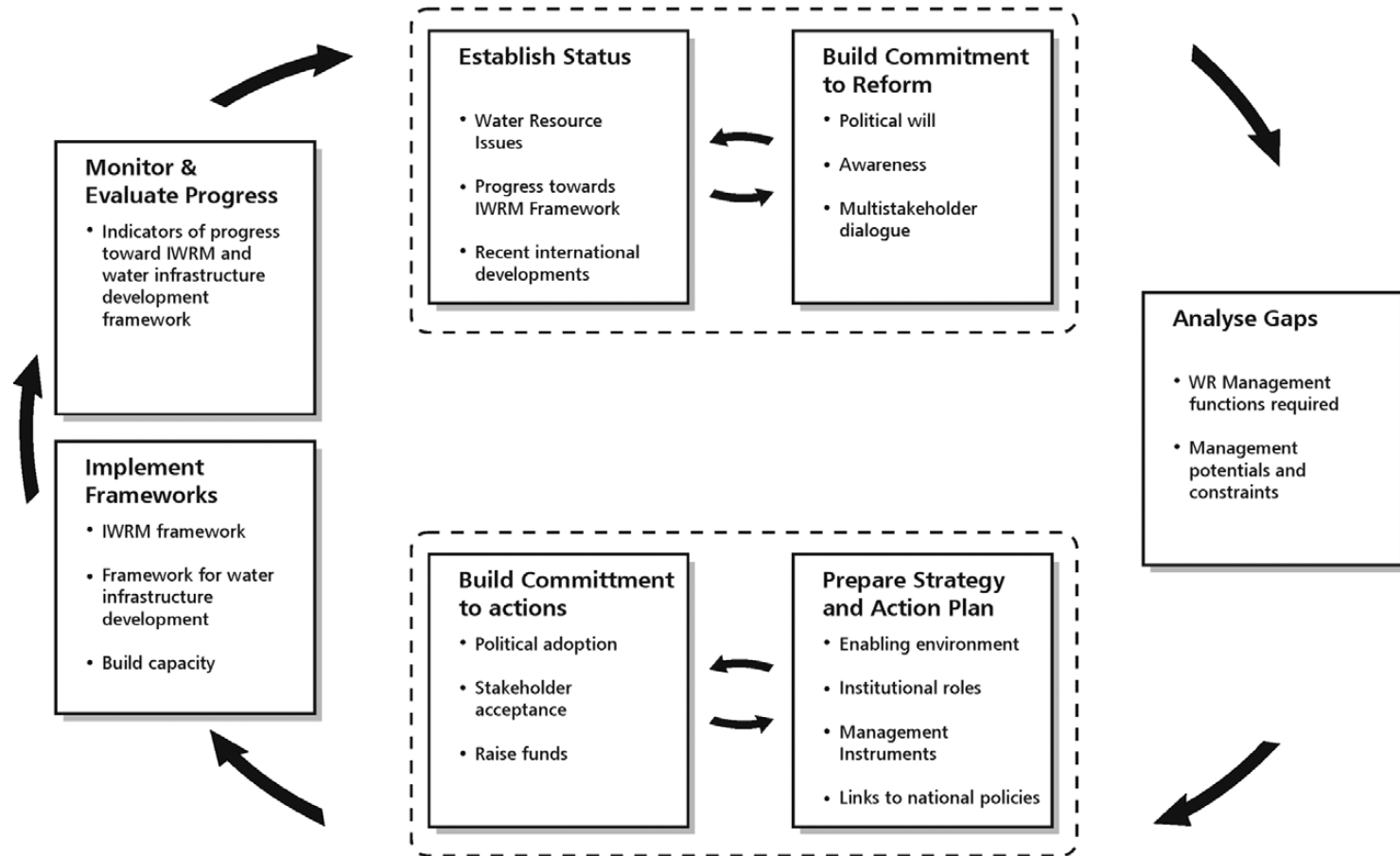
- *IWRM is a process which promotes the coordinated development and management of water, land, and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems*

The “musts” of IWRM

- Economic efficiency in water use: *Because of the increasing scarcity of water and financial resources, water must be used with maximum possible efficiency;*
- Social equity: *The basic right for all people to have access to water of adequate quantity and quality for the sustenance of human wellbeing must be universally recognized;*
- Environmental and ecological sustainability: *The present use of the resource must be managed in a way that does not undermine the life-support system thereby compromising use by future generations*



The IWRM cycle and its key components



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UN-Water Global Survey of Water Resources Management for Rio+20

2011 questionnaire survey

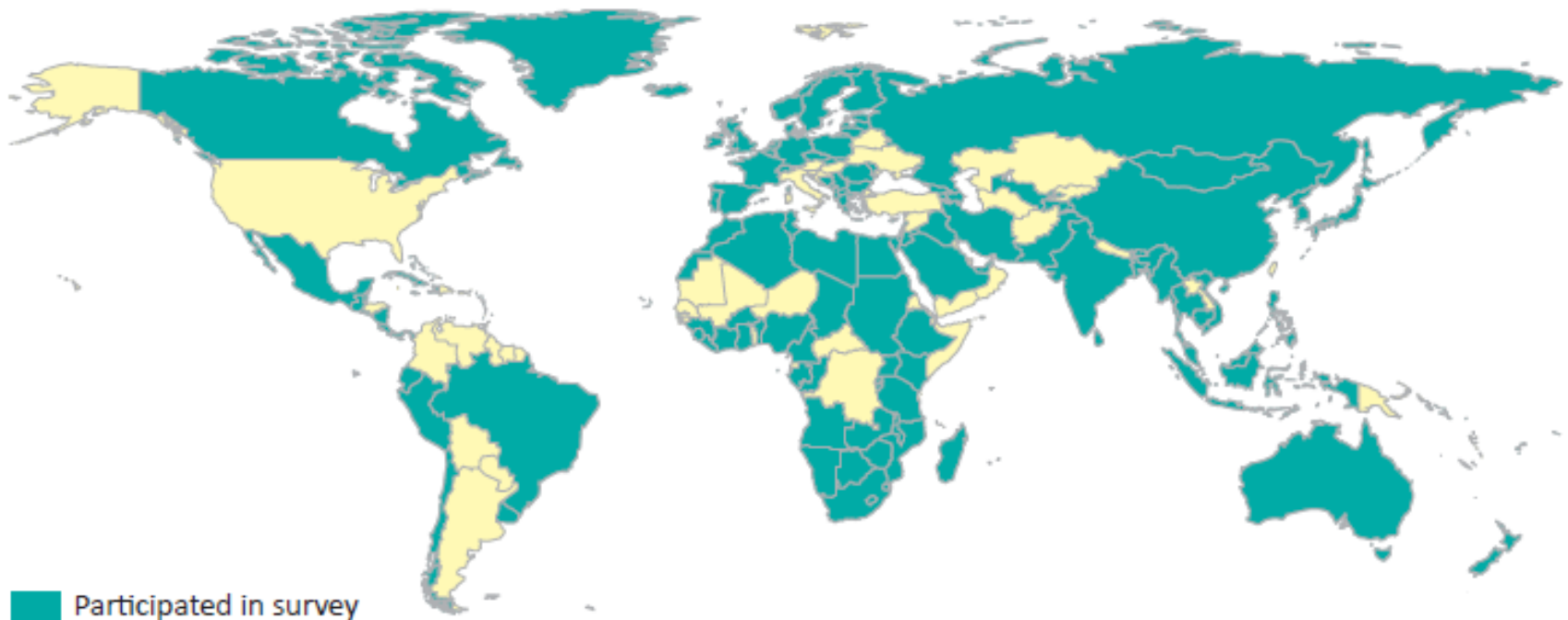
- All UN Member States (192 by March 2011)
- Questionnaire that is quick and easy to complete
- Based on indicators from the 2008 survey + additional results-based indicators
- More focus on impacts

Questionnaire structure

1. Policies, plans and laws – actions on policies, legislation and strategies?
2. Governance & management instruments – what measures have been taken to improve governance, create institutions, develop management instruments and
3. Infrastructure development & financing: development of infrastructure and mobilization of finances?
4. Outcomes – what are the tangible outcomes in terms of economic, social and environmental development?
5. Context – what are the current priorities in water uses, threats to the resource and challenges to management; how have these changed over the past 20 years?

Countries participating in the UN IWRM survey

134 Countries responded (70%)



Key messages and Recommendations from the report^{1/3}

- Since 1992, 80% of the countries have embarked on reforms to improve the enabling environment for water resources management based on integrated approaches
- Water-related risks and competition for water resources are perceived by a majority of countries to have increased over the past 20 years
- Countries that have adapted integrated approaches report more advanced infrastructure development but further efforts are needed to ensure appropriate levels of coordination

Key messages and Recommendations from the report^{2/3}

- Countries report a gradual but positive trend in financing for water resources development and management with more diverse sources of finance, but little progress on payment for water resources services
- Countries report improvements to the institutional framework together with improved policies, laws and systems over the past 20 years. This has led to better water resources management practices bringing important socio-economic benefits
- Integrated approaches to water resources management and development are critical for progress towards a green economy

Key messages and Recommendations from the report^{3/3}

Water resources development and management is a 'work in progress' and continuing support is needed. There is a risk that moving on to new paradigms will leave the work of water resources management on the ground as unfinished business !

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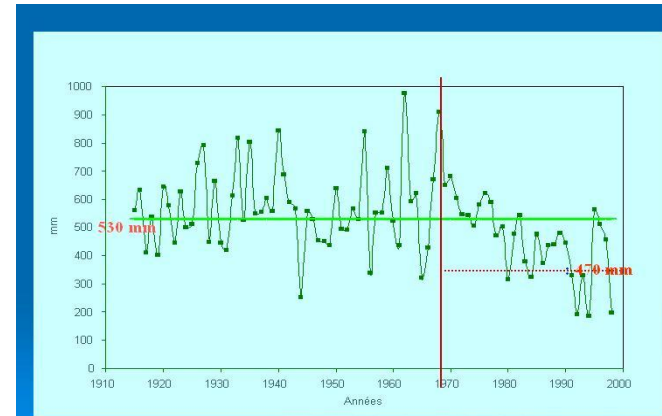
Water Stress	Coping Capacity	
	LOW	HIGH
<p>LOW</p>	<p>Water security issues:</p> <ul style="list-style-type: none"> ✓ Vulnerability to floods ✓ Pollution ✓ Increasing needs for water & sanitation services (mainly to large cities) <p>Increasing water security through:</p> <ul style="list-style-type: none"> ✓ Development of an appropriate stock of infrastructure (storage, flood control, etc.) ✓ Proper legislation and adequate institutions ✓ Integrated and comprehensive water planning 	<p>Water security issues:</p> <ul style="list-style-type: none"> ✓ Mitigate for past, present and future pollution ✓ Ecosystems need for water ✓ Legal frameworks ensuring access for all <p>Increasing water security through:</p> <ul style="list-style-type: none"> ✓ Effective legal frameworks at a range of scales ✓ Economic incentives ✓ More ethical management
<p>HIGH</p>	<p>Water security issues</p> <ul style="list-style-type: none"> ✓ Water demand growing fast ✓ Water availability falling to crisis level ✓ Overexploitation of groundwater ✓ Shortages compounded by pollution ✓ Low efficiency of irrigation ✓ Vulnerability to floods/droughts <p>I</p> <p>ncreasing water security through:</p> <ul style="list-style-type: none"> ✓ Optimal mix of increasing supply and managing demand ✓ Strengthening the institutional capacities and adopting a more cohesive and integrated legal framework ✓ Developing appropriate mechanisms for intersectoral water allocation 	<p>Water security issues:</p> <ul style="list-style-type: none"> ✓ Declining water resources ✓ Pollution abatement ✓ Environmental requirements ✓ Conflicts of use <p>Increasing water security through:</p> <ul style="list-style-type: none"> ✓ Water conservation and reuse ✓ Sustainable policies and legal frameworks and institutions for water management and dispute prevention and resolution ✓ Strengthening waste water and pollution control through enforceable legal and institutional mechanisms

Morocco is a highly water stressed country with erratic rainfall and frequent droughts. The country is now in an economic, demographic and political transitions.

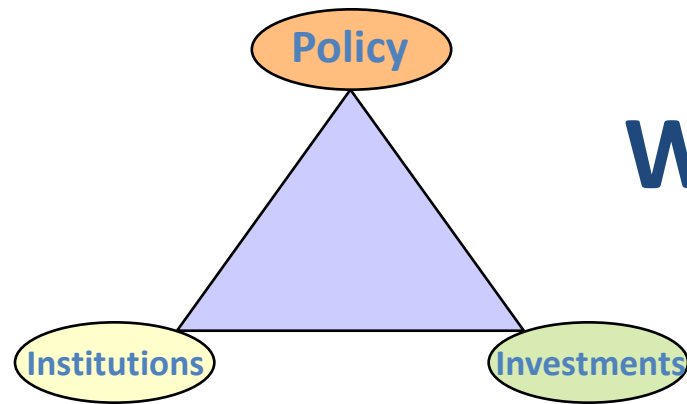
Morocco is reaching the end of the water development era. Water resources management is therefore shifting to the more difficult task of ensuring economically, socially and environmentally efficient water allocation within the existing water resources constraints.

Issues and constraints

- Decline in available water resources (20% - 30% since 1970)
- Rapid degradation of water quality
- Persisting gaps in WSS service coverage
- Inadequate maintenance of existing infrastructure and silting of reservoirs
- Low water use efficiency in irrigation



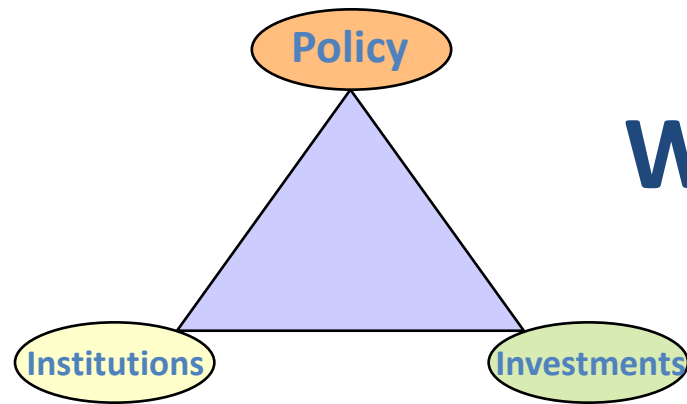
Water Sector Reforms (1995)



Major Policy Reforms

- The adoption of a long term strategy for an integrated water resources management;
- The development of a new legal and institutional framework to promote decentralized management and increase stakeholder participation;
- Introducing economic incentives in water allocation decisions through rational tariff and cost recovery;
- Taking capacity enhancing measures to meet institutional challenges for the management of water resources; and
- Establishing effective monitoring and control of water quality to reduce environmental degradation

Water Sector Reforms (1995)



New Water Law (Integration, Decentralization and Participation)

- Establishment of River Basin Agencies (RBA) in individual or group of river catchments.
- Clarification of the mandates, functions and responsibilities of the institutions involved in water management.
- Elaboration of national and river basin master plans;
- Establishment of a mechanism for recovery of costs through charges for water abstraction and introduction of a water pollution tax based on the principle « user - pays » and « polluter-pays ».
- Reinforcement of water quality protection by defining environmental mandates and enforcing sanctions and penalties.

Policy

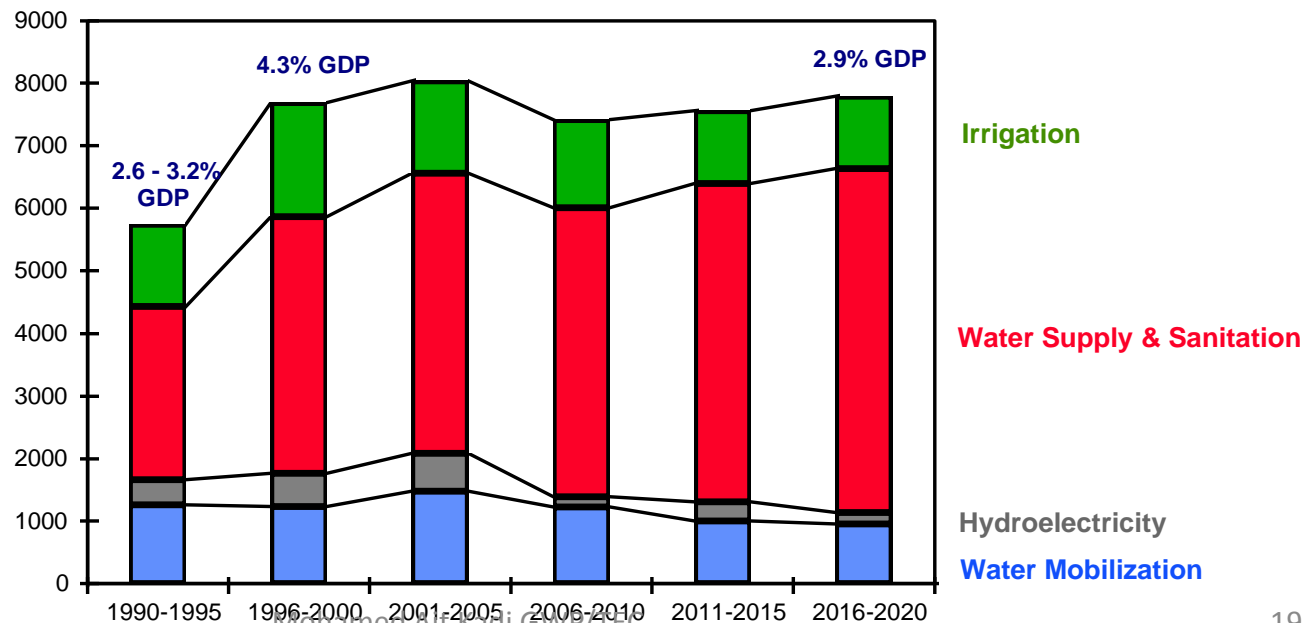
Institutions

Investments

Water Sector Reforms (1995)

The investment Programme

Total expenditures in the water sector



Constraints

- A complex sector organization which impairs policy integration and reform progress
- Insufficient policy coordination
- Conflicting policy and operating interests with strong supply driven legacies
- Non-strategic public expenditure allocations
- Weak stakeholder participation

Conclusions

- ✓ **The looming water scarcity and quality crisis calls for aggressive demand management and pollution control policies along with more integrated development and allocation of water resources , as part of a rational climate change adaptation strategy;**
- ✓ **Completion and enforcement of IWRM reform are key to restore sustainability in Morocco's water management and promote efficient uses and allocation of water;**
- ✓ **Successful, sustainable, cooperative river basin is clearly a challenge;**
- ✓ **Benefit from other countries' experiences but avoid « one-size fits all » approach and dogmatism**
- ✓ **Think political economy (nature and pace of change)**

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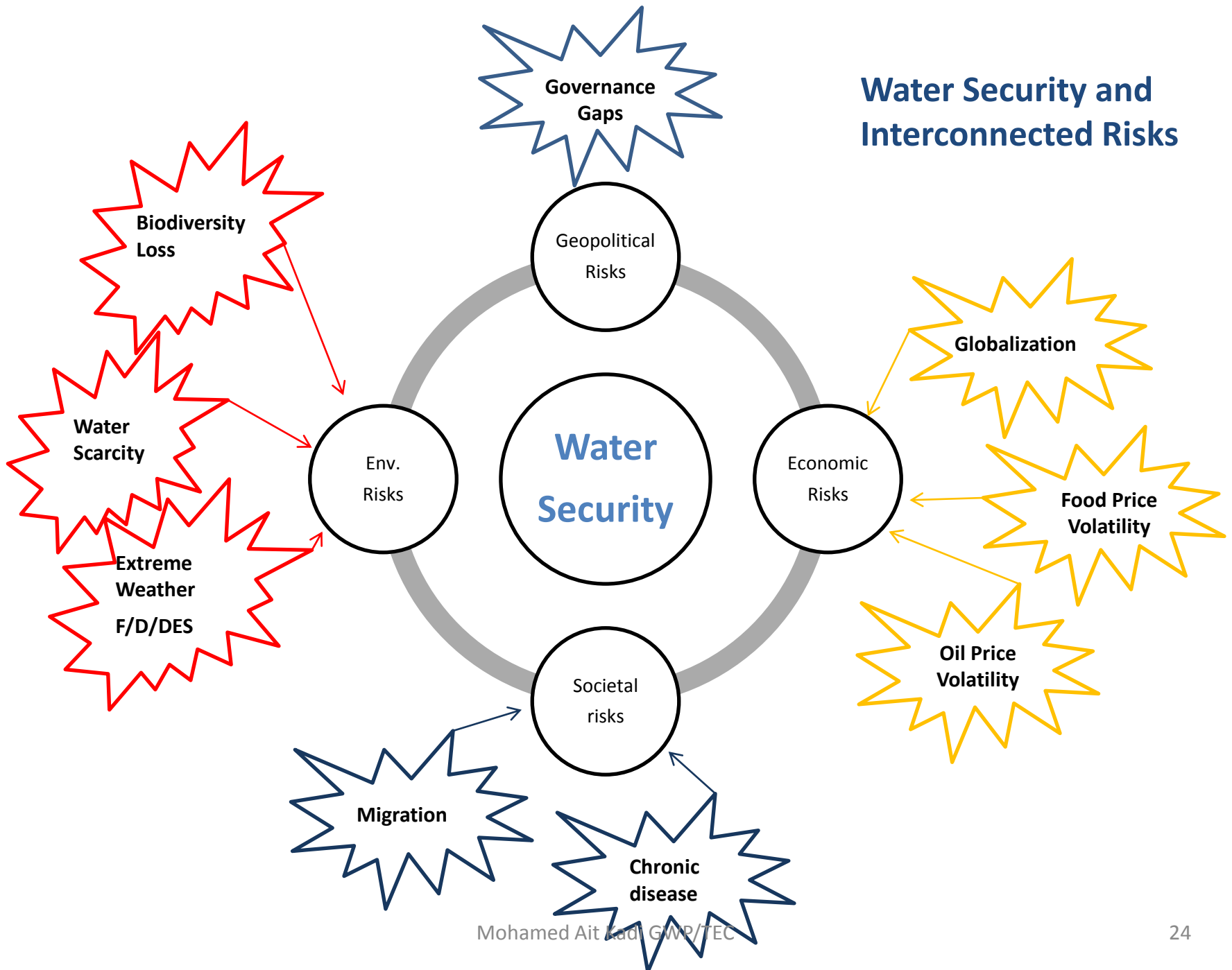


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Several concurrent challenges over the last decade

- fuel price shock of 2008;
- related food and commodity price rises;
- continued rising global demand and dependence on oil and other fossil fuels; energy security concerns
- **global freshwater forecasts show gap between demand and supply by 2030; close to a billion still lack access to clean drinking water; 2.6 billion requiring improved sanitation (WHO / UNICEF 2010)**
- accelerating global climate change emissions; slow progress on a global agreement; low mitigation pledges in UNFCCC; receding probability of limiting global temperature increase to 2 deg C
- food security concerns and limited globally collaborative solutions on how to feed 9 billion people by 2050
- declining ecosystem services (Millennium Ecosystem Assessment)
- all compounded by a global economic recession

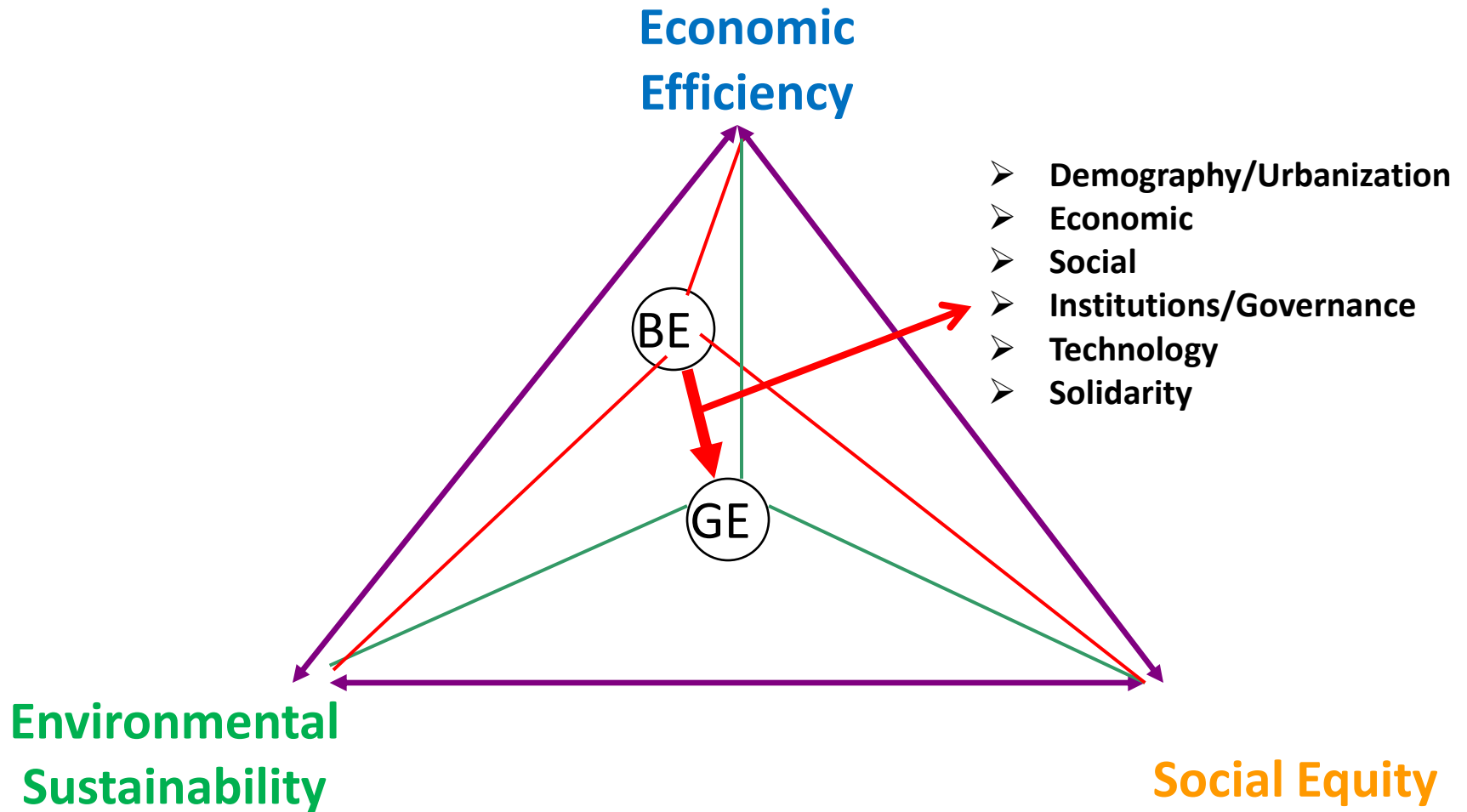
Water Security and Interconnected Risks



Managing transition

- Key question: how can developing countries best manage the TRANSITION to Water Security and Green Economy
- Transition requires: prioritisation (cant do everything); categorisation of the type of actions that are possible (to optimise positive spin-offs); sequencing (short, medium, long term)
- Select catalysts with multiple outcomes: using criteria eg: employment creation; local industry development; enhancing competitiveness; building on what exists; enhancing IWRM and natural capital.

Managing transition to Water Security and Green Economy (3 Es)



MEANS to achieve transition

- **Policy instruments** that promote complementarities (economic, social, env); & leverage change
- **Fiscal instruments:** measures that give a price to environmental goods
- **Strengthened institutional arrangements** that function within increasing complexity, cutting across sectoral silos and sovereign boundaries.
- **A new generation of financial instruments** that share risk between governments and investors; make new technology affordable
- **Skills development:** a new and evolving set of skills to support water management reforms
- **Information and monitoring:** set targets, define trajectories and gather the right information to monitor progress (eg . Water security indicators)
- **Innovation planning:** increasing water productivity, developing stress tolerant materials that can possibly address water scarcity, salinization, groundwater contamination, as well as water quality and waste water treatment, etc...

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Conclusions

- The failure to meet water security has its root in political, economic, social and environmental issues. These issues are entwined and cannot be solved unless broader set of actors get involved.
- Water security is a “society” subject. It should be fully integrated in the country’s economic planning.



Conclusions

- IWRM provides a lens through which the many interlinked drivers and potential consequences of economic, social, and environmental changes can be identified and coordinated actions formulated to holistically achieve economic efficiency, social equity, and environmental sustainability;
- In its essence IWRM is a means for solving problems and not a formulaic as it has been some times promoted. It deserves constant reinforcement through technical and political requirements;
- It is clear that IWRM requires fundamental changes in values, beliefs, perceptions and political positions, not just in water management institutions but in the stakeholders themselves. Progress may be slow and questions complex **but there really is no alternative to IWRM**





**Guillaume Appolinaire
(1880-1918)**



**Amin Maalouf
(1949 – Lebanon)**

Victory will result, above all,
From foreseeing correctly;
From having a close look at
everything;
*And that everything has a new
name*

«Unprecedented challenges require
unprecedented solutions »

Thank You!