

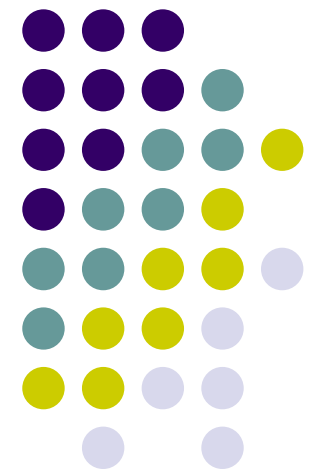
MANAGEMENT INSTRUMENTS FOR IWRM



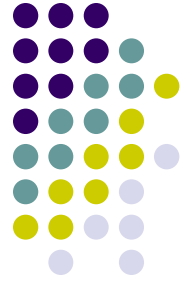
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THE OBJECTIVES OF IWRM



to ensure wise water governance which contributes to the Economic development, social Equity and Environmental sustainability of the society (the “three E’s”). Implementing an IWRM process is a question of getting the “three pillars” right:

- (1) moving towards an *enabling environment* of appropriate policies, strategies and legislation for sustainable water resources development and management;
- (2) putting in place the *institutional framework* through which the policies, strategies and legislation may be implemented; and
- (3) setting up the *management instruments* required by these institutions to do their job.

THE MANAGEMENT TRENDS



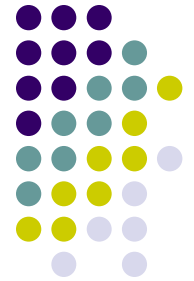
- In general, countries are in different stages of planning and implementing the water resources management reforms.
- For example, some countries have gone through multi-year IWRM planning processes resulting in new national policies, strategies and laws for the development and management of their water resources.
- Many others have embarked on similar processes, but without actually calling it an IWRM process or having developed a specific “IWRM plan”.

THE EMERGING TRENDS



- Many countries have access to the resources of at least one river basin, and some countries can access the resources of several river basins. How the river basin is developed and managed will have, therefore, a major impact on present and future living standards of its inhabitant and on the basin.
- River basins are typically large, crossing not only private property lines, but regional and international boundaries as well.
- Localized development of water resources to meet community and regional needs for clean water and food has often come without regard to other users or uses. Thus, comprehensive plans to develop and manage basin resources have been the exception rather than the rule.
- Private agendas, contradictory objectives, and histories of noncooperation increase the difficulty of achieving efficient resource management.
- Because a river basin system is comprised of many components with interdependencies, piecemeal approaches to river basin development and management have often failed to lead to an optimal outcome, resulting in inefficient resource use, economic losses and environmental degradation.

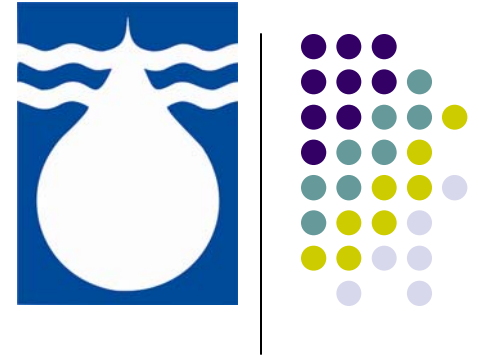
WHAT IS AN IWRM STRATEGY



An IWRM strategy can be a useful tool for addressing specific development challenges and optimizing water's contribution to achieving social, economic and environmental goals.

It is not just about water. Other sectors have a stake too, and as competition for water increases along with population, climate change and pollution of useable supplies, policymakers in other sectors should be taking an active interest in how water decisions are made, as well as how their own decision-making impacts their country's water resources.

THE MANGEMENT TOOLS (1)



Water resources assessment – understanding resources and needs.

- Water resources knowledge base.
- Water resources assessment.
- Modelling in IWRM.
- Developing water management indicators.

Plans for IWRM – combining development options, resource use and human interaction.

- River basin plans.
Risk assessment and management.

MANAGEMENT TOOLS (2)



Demand management – using water more efficiently.

- Improved efficiency of use.
Recycling and reuse.
Improved efficiency of water supply.

Social change instruments – encouraging a water-oriented civil society.

- Education curricula on water management.
Training of professionals.
Training of trainers.
Communication with stakeholders.
Water campaigns and awareness raising.
Broadening participation in water resources management.

MANAGEMENT TOOLS (3)



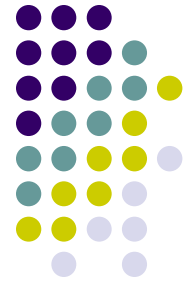
Conflict resolution – managing disputes, ensuring sharing of water.

- Conflict management.
Shared vision planning.
Consensus building.

Regulatory instruments – allocation and water use limits.

- Regulations for water quality.
Regulations for water quantity.
Regulations for water services.
Land use planning controls and nature protection.

MANAGEMENT TOOLS (4)



Economic instruments – using value and prices for efficiency and equity.

- Pricing of water and water services.
Pollution charges.
Water markets and tradeable permits.
Subsidies and incentives.

Information management and exchange – improving knowledge for better water management.

- Information management systems.
Data sharing - national and international.

THE DIFFERENCE



- ***Involvement from multiple sectors:*** While a water plan is usually designed and implemented by a water agency, an IWRM strategy requires input and buy-in from all sectors that impact and are impacted by water development and management—for example, health, energy, finance, tourism, industry, agriculture, and environment.
- ***Broader focus:*** Whereas water plans tend to be driven principally by water issues alone, an IWRM strategy looks at water in relation to other ingredients needed to achieve larger development goals or meet water challenges.
- ***Dynamic rather than static:*** Unlike a water plan, which lays out a definitive sequence of actions and decisions, an IWRM strategy aims at laying down a framework for a continuing and adaptive process of strategic and coordinated action.
- ***Stakeholder participation:*** Because it calls for change—and therefore buy-in—at multiple levels, strategy development requires broader and more extensive participation from stakeholders than a traditional planning process.

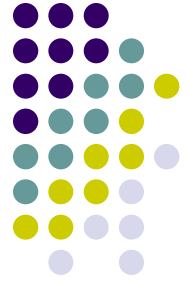
CONSTRAINTS TO EFFECTIVE PLANNING AND MANAGEMENT



Although the use of models for integrated river basin development and management is desirable, real world constraints limit their application and utilization.

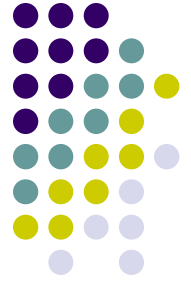
Main barriers to effective use of river basin models include information, physical, institutional and application challenges.

INFORMATION CHALLENGES



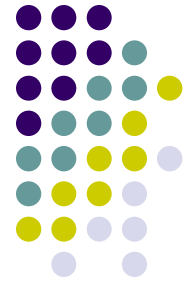
- Insufficient data, data limitations, and poor information about the cultural, social, and political norms of the existing population often hinder development of an effective planning strategy.
- Additionally, short sighted development goals, insufficient budget for planning, and poor appreciation of the importance of good planning are further impediments to effective management of river basin resources.

PHYSICAL CHALLENGES



- The physical nature of a river basin can confound efforts to manage the basin's resources.
- Because basins are irregular and receive water flows from multiple sources, difficulties are often encountered when attempting to divide a basin into discrete, manageable subunits.
- Further, the stochastic nature of rainfall forecasting makes prediction and control of the water problematic.

INSTITUTIONAL CHALLENGES



Looking at a particular problem or resource within a narrowly defined framework makes decision-making a lot simpler, but in some cases, at the expense of efficiency, sustainability, social equity, and plain common sense. The fact is that water is already an integrated resource, whether we choose to acknowledge it in our governance structures or not.

Water policy impacts economic development, and in turn macro-economic policy impacts sustainable water use. Upstream land use decisions impact downstream water availability, and water management decisions impact land degradation.

The list goes on.

Given the numerous and complex links between activities that influence and are influenced by how water is developed and managed, a more coherent and integrated approach makes good sense.

SOME APPLICATION CHALLENGES



- Specific applied formulations are not necessarily amendable to more generalized problem situations.
- The monitoring infrastructure in developing countries are not well developed.
- The decentralisation of water management poses a challenge of coordination and integration.
- Climate change hazard, requires flexible and regionally transparent modes of planning.
- Water related revenues do not suffice for developing such comprehensive plans.
- Developmental agendas of decentralised implementers are not well articulated and are not operationalised.
- Insufficient trained and capacitated staff.
- The uptake of research findings by policy makers.

OPPORTUNITTIES (1)



- Use national development goals or water-related challenges as a starting point.
- Secure commitment at the highest level, but ensure a broad base of support which reaches down to the grass-roots.
- Involve high-level officials in water-related sectors from the outset, and assign the task of developing the strategy to a multi-sectoral steering group.
- Ensure that stakeholders are meaningfully involved in the process, taking particular care to give women and poor people a voice.

OPPORTUNITIES (2)



- View the strategy as an opportunity to establish more integrated decision-making processes, rather than as a one-off checklist of actions.
- Ensure a realistic plan of implementation that includes a clear definition of roles and responsibilities, a sound financing strategy, provision for capacity-building, and systems to monitor progress and make adjustments as needed.
- Link to and build on other national plans and strategies—including country poverty reduction strategy papers, national strategies to meet the Millennium Development Goals, and strategies called for by key environmental conventions, such as the National Biodiversity Strategy and Action Plans and the National Plans to Combat Desertification.

CONCLUSIONS (1)

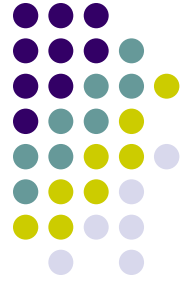


- Major issues in the IWRM planning process concerns;
 - agreeing and prioritising current water resource related issues,
 - establishing necessary support both from the political level as well as governmental and private sector stakeholders,
 - fitting strategies to the existing potentials, constraints and opportunities especially in support of the poor and the marginalised,
 - prioritising actions and building commitment to actions while keeping in mind the basic principles of IWRM and developing capacity at all levels.

CONCLUSIONS (2)



- The components and process defined for IWRM strategies, is a rational and logical framework.
- There are numerous challenges for implementation which makes IWRM more of a vision than an immediate attainable reality.
- Optimising the contribution of water to sustainable growth and development requires consideration of the complex links between activities that influence and are influenced by how water is developed and managed and how a more efficient use of the water as a limited resource can be secured.
- Preparing an Integrated Water Resources Management Plan is one of the premises for setting and steering a course towards sustainable management of the water resource for economic growth and development.



THANK YOU