

# CARIWIN: CIMH Course

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### **An Introduction to IWRM**

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# Outline

- Definition of IWRM
- Overview of IWRM
- IWRM principles
- GWP ToolBox
- Issues of Climate Change
- An introduction of IWRM into the Caribbean context

# Definition of IWRM

- The Global Water Partnership (GWP) defines Integrated Water Resources Management (IWRM) as:
  - “A process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems”

(GWP.n.d. *ToolBox – Integrated Water Resources Management*. Accessed August 23, 2007 from <http://www.gwptoolbox.org/index.cfm/site/465EBFAD-C0A3-9DDA-589E7C3A28B5B62E/pageid/46F480C6-9E54-8194-64583214C91B3114/index.cfm>).

# Overview of IWRM

- IWRM
  - The management of water resources that considers all uses, from hydropower, water supply and sanitation, irrigation and drainage, to environment
  - Also implies the management of other resources/sectors of the economy that have an effect on water resources (ex. forestry)
  - Sustainable development should be the over-arching goal
  - River basin or watershed – based management (need to therefore address the issue of jurisdictional boundaries)

# Overview of IWRM

- IWRM includes the consideration of social and environmental issues:
  - Gender equality
    - Studies have shown that women's involvement and active participation in projects leads to projects that are generally more sustainable and effective
  - Multi-stakeholder participation
  - Environmental sustainability

# Overview of IWRM

- Four main conferences have highlighted and furthered the concept of IWRM:
  - Dublin, January 1992 – from this conference came the universal water principles:
    - Fresh water as a finite and vulnerable resource
    - Water development and management should be participatory in nature
    - Women are central to the provision and management of water
    - Water has economic value and should be seen as an economic good
  - The Hague, March 2000
  - Bonn, 2001
  - Johannesburg, 2002

# Overview of IWRM

- Why is IWRM necessary?
  - Globally
    - Water is necessary not only as a consumptive good but also due to its role in the livelihoods of much of the human population, for sewage and sanitation, and health
    - Water is also required for the natural environment and the proper functioning of ecosystems
    - Water is a finite resource onto which the human population is putting increasing pressure on – we are potentially facing a water crisis
    - Globally the need for proper management is imperative, most pressing is the need in Africa

# Overview of IWRM

- Why is IWRM necessary?
  - Regionally (Caribbean)
    - Small island states present the challenge of land availability since watersheds are intensively used
    - IWRM is site – specific and can apply to all Caribbean nations in the various stages of development (from agrarian to industrial)
    - The Caribbean is the most tourism – dependent region in the world and this huge influx of people places a huge demand on water supplies and infrastructure
    - Growing population requires more efficient management of water resources



# Overview of IWRM

- Why is IWRM necessary?
  - Necessity due to Millennium Development Goals (MDG)
    - IWRM will help in fulfilling the MDG that were proposed during the Millennium Summit in 2000, such as:
      - (1) Eradicate extreme poverty and hunger
      - (2) Achieve universal primary education
      - (3) Promoting gender equality and empower women
      - (4) Reduce child mortality
      - (5) Improve maternal health
      - (6) Combating HIV/AIDS, malaria, and other diseases
      - (7) Ensure environmental sustainability
      - (8) Develop a global partnership for development

# Overview of IWRM

- Some of the organizations using IWRM in their framework include:
  - Global Water Partnership
  - World Bank
  - UN-Water
  - World Water Council

# IWRM Principles

- Openness and transparency of institutions
- Process and policies of IWRM need to be inclusive and communicative
- Participation at all levels
- Monitoring of equity levels among various interest groups and stakeholders during the process of policy development and implementation
- Institutional accountability
- Economic, political, social, and environmental efficiency

# GWP ToolBox

- ToolBox – GWP
  - Consolidation of good practices related to the principles of IWRM
  - Roughly 50 tools – hierarchal and organized
  - Tools fall under the three following categories:
    - The Enabling Environment
    - Institutional Roles
    - Management Instruments

# GWP ToolBox: The Enabling Environment

- The Enabling Environment – the laws, investments, and policies which are the framework for other tools
  - Policies: Setting goals for water use, protection and conservation;
  - Legislative Framework: Water policy translated into law;
  - Financing and incentive structures: Financial resources to meet water needs

# GWP ToolBox: Institutional Roles

- Institutional Roles – building the appropriate institutions and building capacity within them
  - Creating an Organizational framework: Forms and functions;
  - Building Institutional Capacity: Developing human resources

# GWP ToolBox: Management Tools

- (Some) Management instruments
  - Water resources assessment: Understanding resources and needs;
  - Efficiency in water use: Managing demand and supply;
  - Economic Instruments: Using value and prices for efficiency and equity;
  - Information exchange: Sharing knowledge for better water management

# GWP ToolBox: Generalities on choosing the appropriate tools

- Generally, a combination of tools will be required;
- What will work for one nation may not necessarily work for another nation;
- Start within existing arrangements, and work outwards;
- Choice constraints – policy makers will not be able to use all of the tools that are available



# GWP ToolBox: Generalities on choosing the appropriate tools

- Multiple changes are commonly required in four situations:
  - The tool itself has preconditions;
  - The tool needs to be accompanied by other measures to make it effective;
  - The tool creates losers who may need to be compensated to buy acceptance of the reform;
  - The tool may generate unintended and undesirable consequences.

# GWP ToolBox: Generalities on choosing the appropriate tools

- In considering the suitability of particular tools, four factors need to be taken into account:
  - Political capacity;
  - Professional capacity;
  - Implementation capacity;
  - Compliance capacity.

# Issues of Climate Change

- Climate change needs to be considered in IWRM due to the uncertainty on how it will affect water resources in the region
- Mitigation and adaptation strategies to cope with a potential increase of storm event intensities and frequencies

# An introduction of IWRM into the Caribbean context

- The Caribbean situation:
  - Numerous small island states
  - Small geography and economy
  - Varying amounts of freshwater resources
  - Transboundary water issues not an issue like elsewhere, however administrative divisions within countries (ex. Jamaica and Grenada: 14 and 6 parishes respectively, Guyana: 10 regions)

Thank you

Any Questions?