INTEGRATED CATCHMENT MANAGEMENT PERSPECTIVES AND ISSUES

Some key questions and issues:

• What is our understanding of integrated catchment management?
• Is it our business?
• What are the success factors?
1. UNDERSTANDING INTEGRATED WATER MANAGEMENT (IWM)

- IWM versus ICM
- Core IWM streams and dimensions:
  - Outcome/developmental agenda
  - Extended water governance model and approach:
    - Infrastructure plus operations and maintenance
    - Life cycle
    - Value chain
  - Governance, programmes, technology
  - Business principles
  - International water management
  - Alignment of water management actions
  - Spatial: supply; catchment
  - Sector mobilization, partnerships and accountability

1.1 ULTIMATE WATER OBJECTIVE

‘The care of human life and happiness and not their destruction is the first and only legitimate object of every good Government.’

Thomas Jefferson
POSITIONING WATER AND PROSPERITY
STRATEGIC PARTNERSHIPS

1. Water
2. Soil
3. Air
4. Human
5. Financial

Environment

Prosperity
All South Africans
Nodal Focus

Governance

Social
Economic
Environment

POSITIONING WATER AND PROSPERITY
MANAGING WATER WITHIN A DEVELOPMENTAL AGENDA

- Responding to and align with National Development Planning Process and Macro Strategies
- Post 2015 Water Agenda (SDGs)
- Centralizing water as a strategic and critical developmental resource
- Establishing sector partnerships and sector accountability
- Introducing integrated planning and integrated governance
- Introducing sector water footprints (social, economic and environmental)

1.2. LEGAL REQUIREMENT: FOCUS ON PURPOSE (AS PER NW ACT)
WATER RESOURCES MUST BE:

- protected
- used
- developed
- conserved
- managed
- controlled
- valued

To support (achieve):
- Basic human needs
- Equitable access
- Redressing the past
- Efficient, sustainable use
- Social & economic development
- Protecting aquatic ecosystems
- Prevent pollution & degradation
- Disasters, dam safety, international, growth
THE WATER RESOURCE STRATEGY & MANAGEMENT MODEL

1. Focus on Outcome
2. Focus on resource
3. Reconciliation
4. Impact Management & governance
5. Enabling

Surface
Groundwater
Re-use/return
Sea
Quantity & quality

Prosperity

1.3. THE RECONCILIATION GAME

Water availability

hydrology
Climate (Climate change)
Land use
Res development
Quality management
Resource management
Effective use
Topography & geology
Control
Impacts
Risks
Water Reconciliation Game

Water Services

Water requirements & Impact

Water availability

Reconcile

Use

Impact

International

Conduit

Forestry

Agriculture

Recreation

Domestic

Industrial

Environment

Mining

1.4. INTERNATIONAL RIVERS SHARED BY SOUTH AFRICA
1.4 INTERNATIONAL CONTEXT: WATER RESOURCE IMPLICATIONS

- Four of our main rivers are shared with 6 neighbouring countries.
- International basins cover 60% of SA land area.
- Contribute 45% of country’s total river flow.
- These areas support ± 70% of gross domestic product and similar proportion of population.
- Several international inter-catchment transfers and inter-country systems have been introduced (including LHWP).
- International liaison:
  - Neighbouring States & SADC
  - AFRICA (AMCOW)
  - Global

1.5. The Supply Game and Main Water Transfers
2. WATER CHALLENGES

- Water availability
- Water security
- Water quality and pollution
- Health
- Ecosystems
- Urban river utilization (green corridors and lakes)
- Operations and maintenance/functionality
- Social and equity issues
- Cost and viability
- Disaster management
- Climate change

*Need Smarter water management and Governance*
Where does the water come from?
3. INTEGRATED CATCHMENT MANAGEMENT: WATER MANAGEMENT APPLICATION

- Hydrology and run-off
- Resource development
- Systems management and optimization
- Water quality management (pollution management)
- Ecosystems management
- Recreation
- Disaster management (floods)
- Resource integration
- Water quality and quantity integration
- Land use and water management
- Conflict management
- Participatory management
- International management (shared rivers)
INTEGRATED CATCHMENT MANAGEMENT: URBAN HYDROLOGY

• Increased run-off
• NB: water balance
• Storm water management
• Disaster management (floods)
• Water Quality management
• Ecosystems
• Recreation
• Resource development and ownership (dams)
• Systems management
• Systems hydrology: Sabie Catchment – 80% of run-off in upper 20%, all base flow in upper 85%

4. DWA ACTION

• Formal water management approach
• Establishment of 9 Water management Areas
• Establishment of 9 Catchment management Authorities
• Need for Catchment Forums acknowledged
• Complex structure and levels
5. SECTOR INVOLVEMENT: IS IT MY BUSINESS?

- Sector includes users, impactors, public, Municipalities, civil societies, impactees, facilitators and sponsors
- Why is it my business?
  - User of water: need water efficiency
  - Impactor: run-off, water quality, volume, land-use management
  - Impactee: volume, flow, pollution, floods, health, aesthetics, economic
  - Manager: land-use, water quality, use efficiency and planning
  - Resource manager and developer: implications
  - Water accountability
  - Conflict management
  - Enabler
  - Participatory management
  - Water culture and ownership

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6. SOME KEY SUCCESS FACTORS

- Appropriate water management and governance model
- Business management approach and application: business units
- Business viability
- Sector involvement, ownership and accountability; PARTNERSHIPS
- Executive water forums
- Smart tools: monitoring system, information and management system
- Smart solutions
- Sponsors
- Mandate
- Experts and champions
- Leadership, will and drive
- PERFORMANCE

- It can be done!

THANK YOU