STRATEGIC FRAMEWORK FOR NATIONAL WATER RESOURCE QUALITY MONITORING PROGRAMMES

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STRUCTURE OF THE PRESENTATION

1. Objectives of the strategic monitoring framework
2. Background to the strategic monitoring framework
3. The structure of the monitoring framework
4. Portfolio of National Monitoring programmes
5. How does this affect the NMMP?
6. Capacity building and other cross-cutting aspects
7. Recommendations

1. OBJECTIVES OF THE STRATEGIC MONITORING FRAMEWORK

- **Need a strategic framework to:**

~ serve as a basis for **design** of new or **reviewing/re-designing** current monitoring programmes to be **aligned** with the requirements of the **legislation** (NWA, NWRS, POLICIES)

~ guide and standardise the **scientifically acceptable** approach to the design of a sustainable monitoring programme (including siting, attribute selection, frequency of sampling)

~ clarify the **roles / responsibilities** with monitoring at different levels, and suggest the **capacity** required to sustain the network

~ guide and suggest the acceptable approach to **integrating / coordinating** monitoring in a resource constrained environment

2. BACKGROUND TO THE STRATEGIC FRAMEWORK

- Monitoring is a core function of DWAF, P&R Branch, RO/CMA's for better Resource Management (according to legislation)
- Framework defines "Monitoring" as a process consisting of three core functions:
  ~Data Acquisition
  ~Data Management and Storage
  ~Information Generation and Dissemination

  (> effort is needed on this aspect)
- Information needs of clients change over years:

~Integrated water resource management
~New institutional set-up and governance
~International water resource management

3. THE STRUCTURE OF THE MONITORING FRAMEWORK

- Monitoring must be **user-centric**, i.e. address specific objectives of the **users.**
- It must justify the **costs** involved.
- Being information user-centric helps **avoid duplication** and may **facilitate sharing** of resources, such as in data acquisition, and data management.

Functional Components of a Monitoring Framework

Data Acquisition	Data Storage and Management	Information Generation and Dissemination

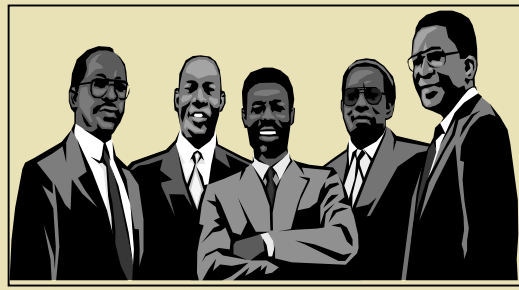
Programme 1

Programme 2

Programme n

IT Infrastructure (H/W, S/W, Applications)

Information users



Design

Operation

THE STRUCTURE OF THE MONITORING FRAMEWORK (Information is required at different levels)

- WRM occurs at different levels, same applies to ***Monitoring***

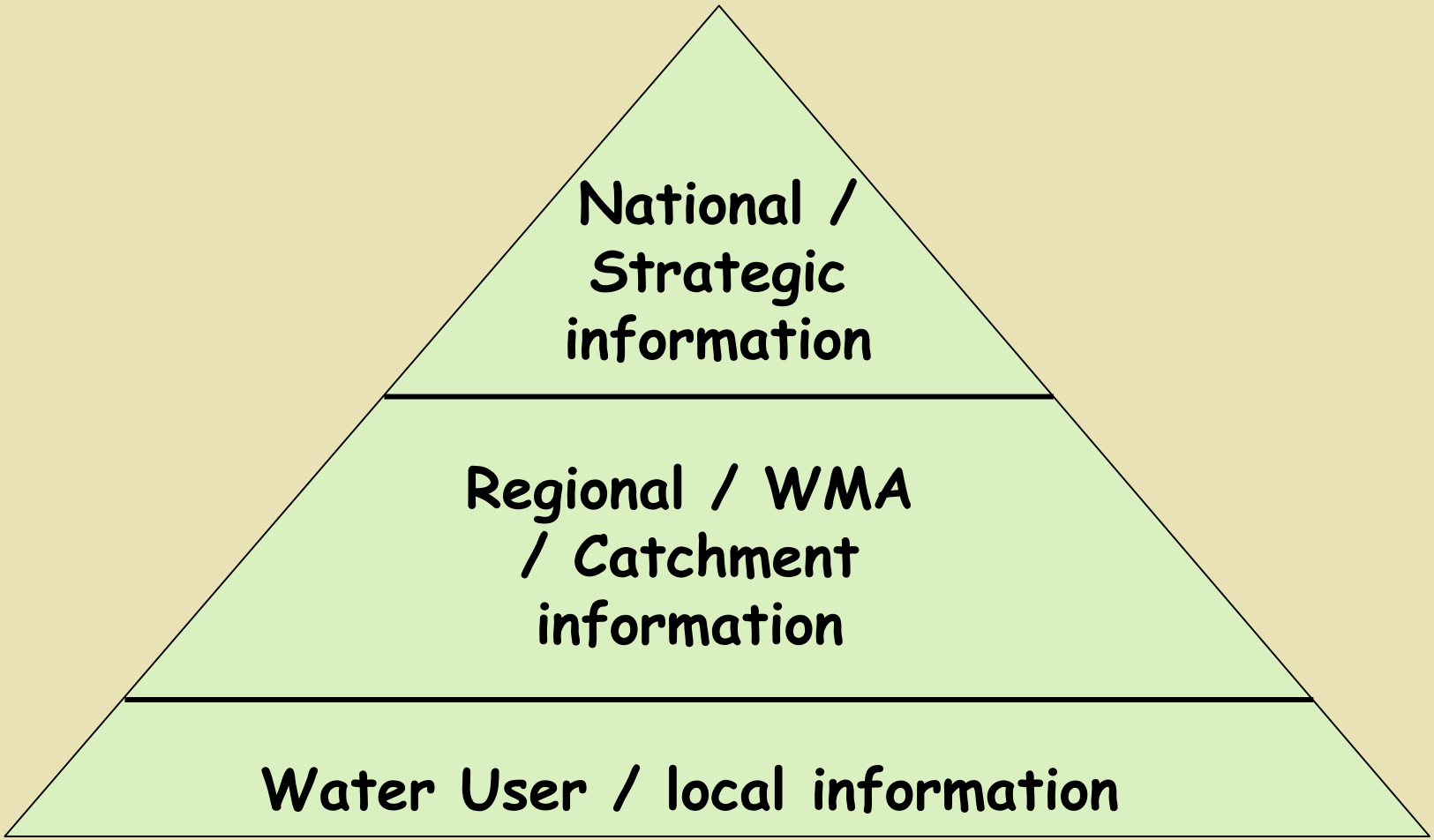
~At national level (strategic, status/trends, performance against RQO's, international reporting and SoE, planning, etc.)

~Regional / CMA (compliance to licensing, impact assessment, strategic/operational, auditing)

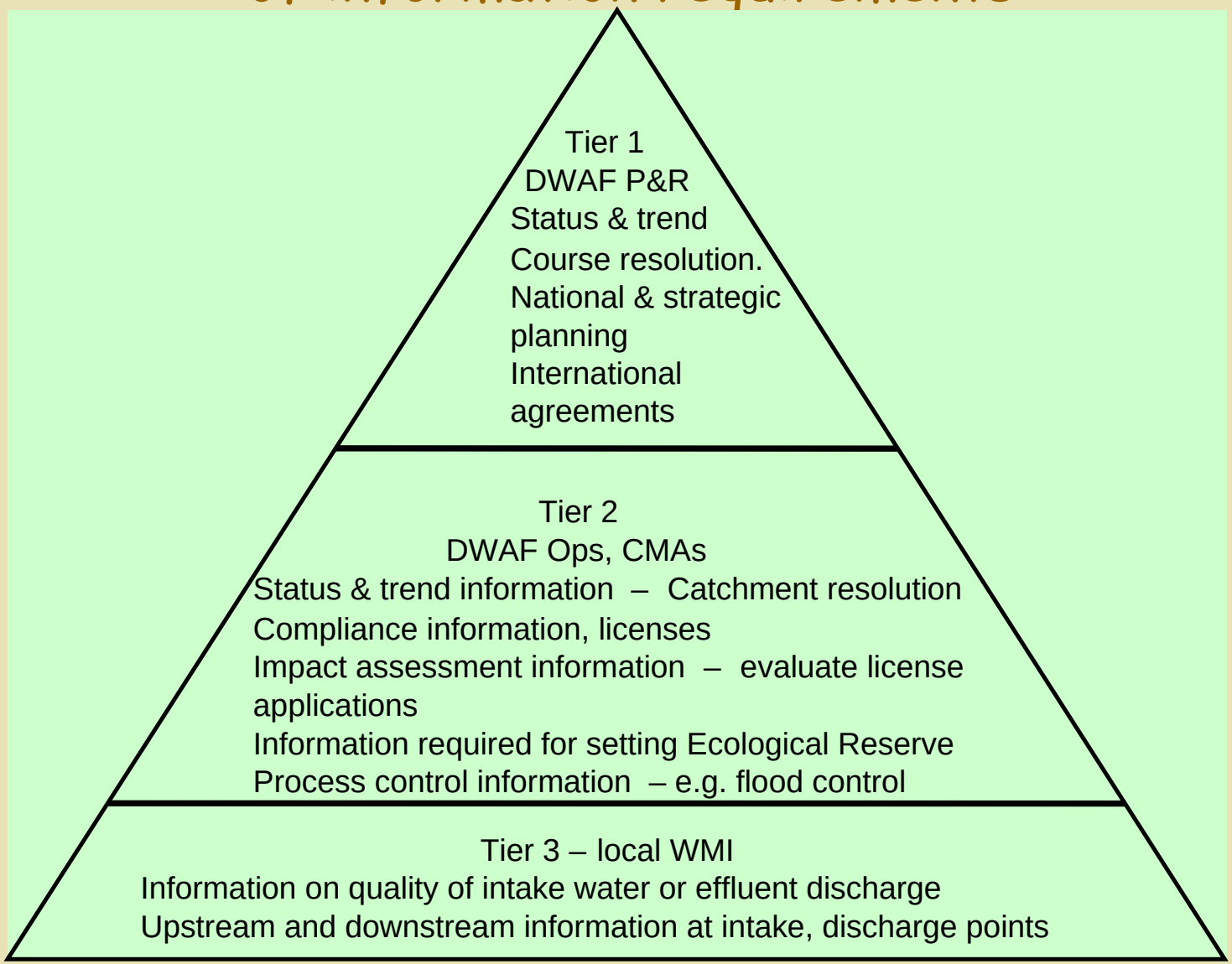
~Local scale (Water use, process control, such as flood control)

- Opportunities exist for sharing resources through coordination…

Hierarchy of information requirements for management of water resources.



Types of monitoring programmes included in portfolios aligned to the three different levels of information requirements



4. THE PORTFOLIO OF NATIONAL MONITORING PROGRAMMES (proposed, based on the issue to be addressed)

- Though the programmes are referred to as national, operation is anchored at regional level
- The national coverage scale is dictated by the management issue, such as salinity
- In some cases, the programme is limited to pre-determined spots, called hot-spots or high risk areas, e.g. radioactivity, specific aquifers
- A programme must have one Monitoring Programme Manager, with supporting structure depending on programme complexity

Proposed Portfolio of National Programmes

- National water resource quantity yield monitoring programme (also covers drought)
- National flood monitoring programme
- National salinity monitoring programme
- National eutrophication monitoring programme
- National (health risk related to) faecal pollution monitoring programme
- National toxicity monitoring programme
- National radioactivity monitoring programme
- National aquatic ecosystem health monitoring programme
- National acidification monitoring programme
- National reservoir sedimentation monitoring programme
- Water weeds and Alien Vegetation programmes?

5. HOW DOES THIS AFFECT THE NMMP?

- The Information User-Centric approach to design of monitoring programmes - must be defined by management issues/problems, while currently focused on a discipline.
- Can’t split the resource in to surface/groundwater etc. - combines monitoring to address the issue at hand.
- New proposed title “National (Health Risk Related to) Faecal Pollution (of Water) Monitoring Programme” – a mouthful!
- Incl.: microbiological indicators and status of sanitation infrastructure.

6. CAPACITY BUILDING / CROSS-CUTTING ISSUES

- Capacity / capability (Resources, CMA's, public awareness and participation)…
- R&D…(Standards, Q/C, Dev /Refine Methods,..)
- Voluntary Monitoring…
- Integrated monitoring….
- Coordination / Governance…
- IT Systems …

7. RECOMMENDATIONS

- Reach sufficient consensus within the whole of the DWAF with regards to over-arching issues, such as governance (roles and responsibilites) of resource quality monitoring.
- Consensus must be reached on the list of national programmes and start the process of transforming current monitoring activities to the newly defined national programmes.
- Jointly (HO and cluster / RO) start the roll–out process of the framework on a pilot scale and review as appropriate.


END OF PRESENTATION