

Integrated Water Resources Management FAQ

Q. 1) What is Integrated Water Resources Management?

Integrated Water Resources Management (IWRM) aims to ensure water for health, food, and energy, while maximising sustainable economic, social and environmental outcomes.

Q.2) What are the important attributes of IWRM?

The important attributes of IWRM are:

- recognising that the volume of water that can be managed and used is finite
- coordination of sectors that manage, use and impact (eg. via pollution) sectors such as utilities, irrigation, manufacturing industry, mining, watershed management (forestry, rainfed agriculture), environmental users, etc;
- planning and managing water according to river basin, sub-basin and irrigation water supply boundaries and the extent of the available resource;
- integrating the management of land, water and vegetation;;
- integrating the management surface water and groundwater;
- integrating the management of water quantity and quality;
- taking scientific approaches to planning and management;
- using a balance of policy and investment measures to achieve outcomes;
- involving water users government, non-government, civil society and the private sector; and
- best coping with climate change by taking an adaptive and comprehensive approach

Q. 3) How does IWRM differ from the traditional model?

This differs from the traditional form of water resources management where individual water using and impacting sectors such as irrigation, urban water supply, sanitation and industrial discharge, hydropower, etc, plan and develop water projects separately to meet their own needs and objectives. Often the finite extent of the resource and impacts on other sectors including the environment are not adequately considered and this leads to water shortages, conflict and service failure.

Q. 4) What are the most important things to be focused from IWRM perspective?

In particular, there will be greater imperatives and urgency for:

- strong institutions, policies, laws and regulations and their enforcement,
- in-depth information and analysis systems so that the likely impacts of climate change can be better understood and management approaches planned and implemented;
- close cooperation between water using sectors so that water is shared equitably and transparently using the best and consistent data and information;
- river basin management to achieve integrated management of surface water and groundwater, quantity and quality; sharing of water resources and the balancing of demand and water availability; management of water quality; protection of the aquatic environment; management of catchments to protect surface water and groundwater resources; and, involvement of stakeholders.

- participation and communication with stakeholders so that they are aware of climate change, the cause and need for possibly difficult or costly interventions, and for action;
- adaptive management so that approaches can be modified as new and better information becomes available

Q. 5) What are the features required for the IWRM to be effective?

Based on international experience, effective IWRM has been found to have fairly common features where:

- The institutional framework is both robust and flexible, and includes modern legislation and supports an integrated and adaptive policy framework,
- Water resource assessment, planning and management is knowledge driven. Strategic assessment uses good data collection and management procedures and uses the data to support planning and decision making
- Integration is built into institutions, resource management, and policy and the environment is recognised as a legitimate water user,
- Stakeholder and community awareness raising and participation is a key part of water resources management so that communities understand and contribute to solutions through local management and actions.
- Regular monitoring and evaluation provides information to determine whether river management and investment are achieving planned outcomes

Q. 6) What will be the IWRM approach for the irrigation areas management?

An IWRM approach if fully implemented would aim to control these unintended consequences of 'improved water management' by having a strict water entitlements system for the river basin and each of the irrigation areas. This would be based on a river basin plan and a detailed assessment of the water resource (surface and groundwater) and the seasonal and annual variability; environmental water requirements; a bulk water entitlements system; measurements of flows and water deliveries; reservoir regulation that uses the water efficiently as well as managing multiple uses of reservoirs such as for flood control, fisheries and recreation; as well as an operational plan drought conditions of varying magnitude. Water users and administrations would be closely involved in developing and implementing this IWRM system.

The IWRM approach within irrigation areas would include water entitlements/permits to an appropriate level (eg. WUCS) and including for groundwater especially if there are signs of a stressed groundwater system. Implementation of such an approach would include measurement of flows and deliveries and volumetric water charges to provide for system operation and maintenance as well as to provide an efficiency incentive for water users. Water entitlements and permits need to be clear about whether the entitlement is for full consumption of the amount of whether it has a return flow component/obligation

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