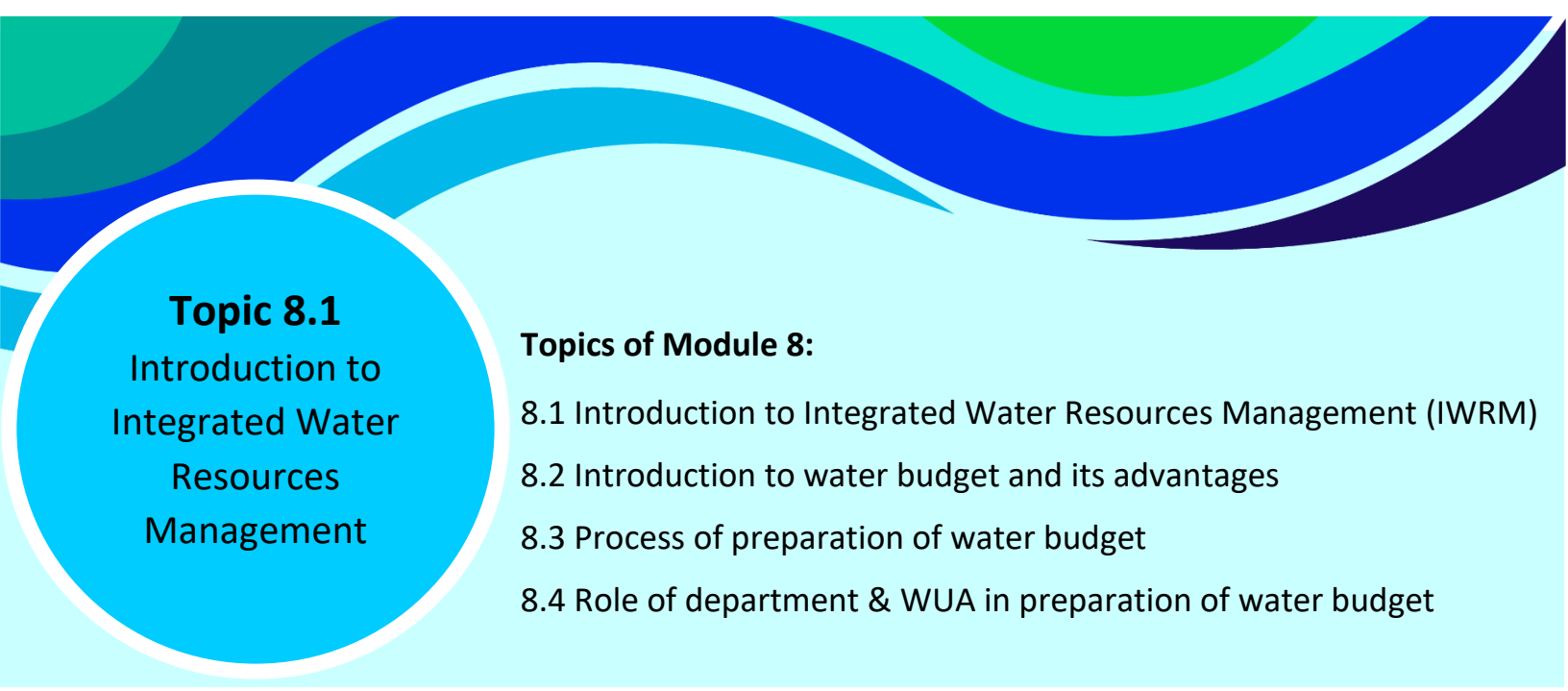# Certificate Course on Participatory Irrigation Management (PIM)

Module 8- Role of Water User Associations in Integrated Water Resources Management (IWRM)

Topic 8.1 – Introduction to Integrated Water Resources Management (IWRM)

Topic 8.1
Introduction to Integrated Water Resources Management

Topics of Module 8:

8.1 Introduction to Integrated Water Resources Management (IWRM)

8.2 Introduction to water budget and its advantages

8.3 Process of preparation of water budget

8.4 Role of department & WUA in preparation of water budget

1. **An Introduction to Integrated Water Resources Management**

70 % of the earth is covered with water, but 98% of the total water available on earth is saline and only 2 per cent of it is clean water. But most of this 2 per cent of this clean water is in polar icy areas and only one per cent (i.e.,

only 0.0002% of the total water available on earth) is in the form of rivers, lakes and ground water for human use.

Due to increasing economic growth and seasonal change, pressure on water resources is increasing around the world due to which the need for efficient management is being felt all over the world. Integrated Water Resources Management is a suitable system for efficient and long-term management based on the total availability of water in any basin, command or area, planning and implementation of schemes through people's participation in convergence with various uses of water and their priorities.

This situation is globally a call for IWRM.

What is Integrated Water Resources Management (IWRM)?

- The coordinated development and the management of water, land and related resources.
- In order to maximize the economic and social welfare in an equitable manner
- Without compromising the sustainability of vital ecosystems.

Putting in a simple way, IWRM is a process of integration of:
Community involvement in intensive water management
+
Water balance analysis / Water conservation
+
Technical support to communities from government departments
+
Provision of practical resources
+
Good communications

Why Integrated Water Resources Management (IWRM)?

- Almost 70 % of our Earth's Surface is covered with water and out of this water only 2 % is clean water.
- Out of this 2 % clean water, 87 % water is polar and ice, 12% is ground water and so only 1% of available freshwater water is useful and readily available for us in the rivers, lakes.

- This water use is increasing day by day with the increasing population and the competitive uses of water.
- This situation requires IWRM practices in water management.

IWRM is based on the three principles:

1. social equity
2. Economic efficiency
3. Environmental sustainability.

Considering these principles means answering the following questions:
- How will my decision/ action affect access for other users to water or the benefits from its use?

- Will my decision/ action result in the 'most efficient use of the available financial & water resources?

- How will my decision/ action affect the functioning of natural systems?

National Water Policy 2012 also promotes IWRM in the following manner:-

To implement these three principle of IWRM the National Water policy tries to put forward. For this from villages to towns and cities to states and the whole nation need to implement this in an integrated manner and all the stakeholders, users, all the departments related to water must implement with the coordination, cooperation and most importantly participation. Also water has to be save at any cost. IWRM specifies drinking water, Agriculture and allied activities, horticulture, animal husbandry, fisheries, dairy etc. in sensitive manner.

The use of water in its optimum is specially mentioned in National Water Policy 2012. In this regard the data regarding availability of water quantity must be kept in a coordinated and integrated manner and also all this data should be shared amongst all the stakeholders and affected. As per the report of Niti Ayog it is very critical situation of water in India and with the increasing population,

up to 2030, the requirement of drinking water will increase much more so IWRM needs to be implemented to overcome this situation.

The usages of Water under IWRM:
- Drinking Water
- Industry
- Agriculture
- Horticulture
- Forestry
- Animal Husbandry
- Fisheries
- Dairy
- Tourism, Entertainment, Hotel etc.