

**Workshop on  
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# **Water Governance in Egypt: Challenges and Responses**

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# Presentation Outline

- **Particular Features of Water Resources System**
- **Water Resources National Balance**
- **Institutional Framework**
- **Challenges facing the Water Resources Sector**
- **Evolution of National Water Policies Formulation**
- **Adoption of IWRM Approach**
- **Conclusions**

# The Nile River Basin Countries



# Particular Features of Water Resources System in Egypt

- Egypt has exceptional situation in its entire dependency on a **single water resource**, the River Nile
- According to 1959 agreement with Sudan, Egypt's share in the River Nile water is 55.5 BCM/year
- High Aswan Dam as a multi-year regulator, helped Egypt to guarantee stable annual supply (55.5 BCM)
- Below HAD, the River Nile is 100% regulated using number of large Barrages and irrigation structures

# Particular Features of Water Resources System in Egypt

- Water resources system in Egypt is **partially** closed, thus it has a tendency to retain pollutants
- To satisfy its current demands, water from the river Nile is reused several times (**water recycling**) Reuse of water is usually from drainage water, but also from shallow groundwater and wastewater
- Water quality remains broadly acceptable in the main Nile but deteriorates from below Cairo in the drainage system of delta

# INPUTS

# OUTPUTS

RELEASES FROM

ASWAN DAM

IRRIGATION SYSTEM

CONSUMPTIVE USE

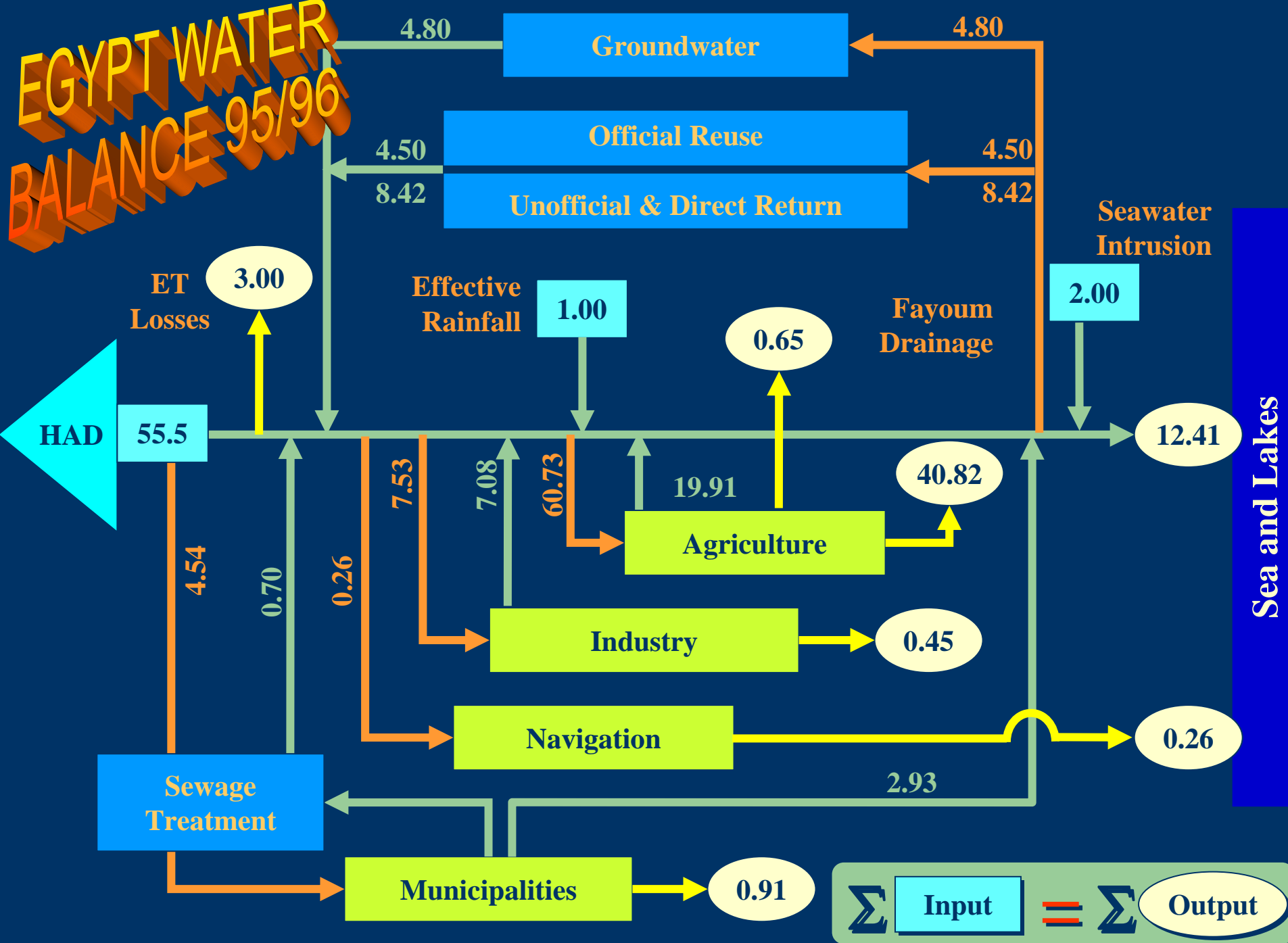
DRAINAGE TO SEA

NON-RECOVERABLE MUNICIPAL & INDUSTRIAL

EVAPORATION FROM FREE WATER SURFACES

CHANGE IN GROUND WATER STORAGE

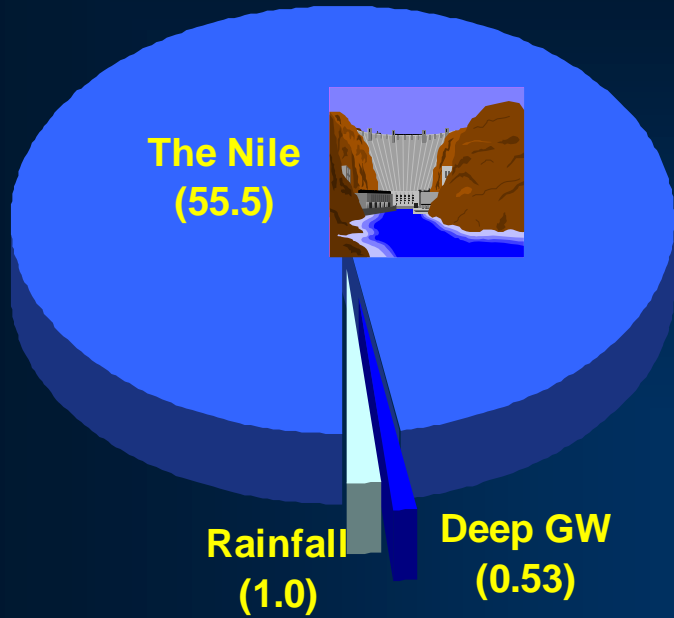
# EGYPT WATER BALANCE 95/96



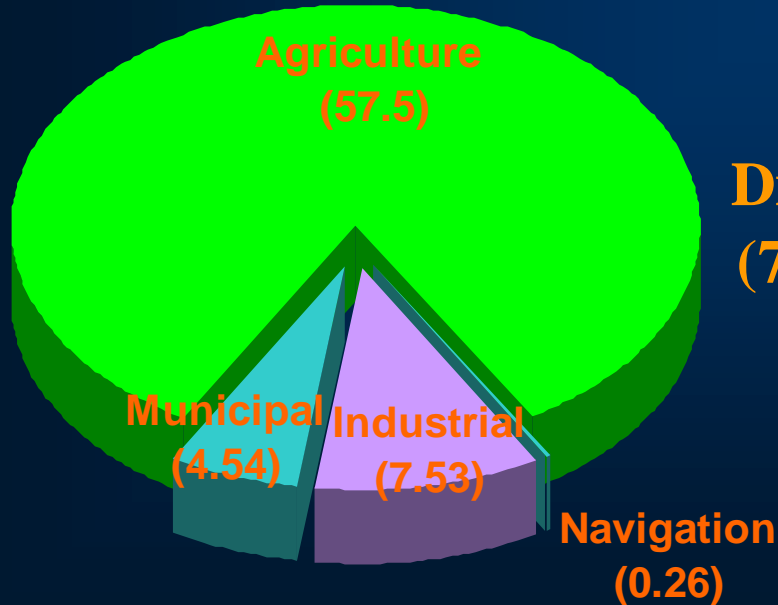
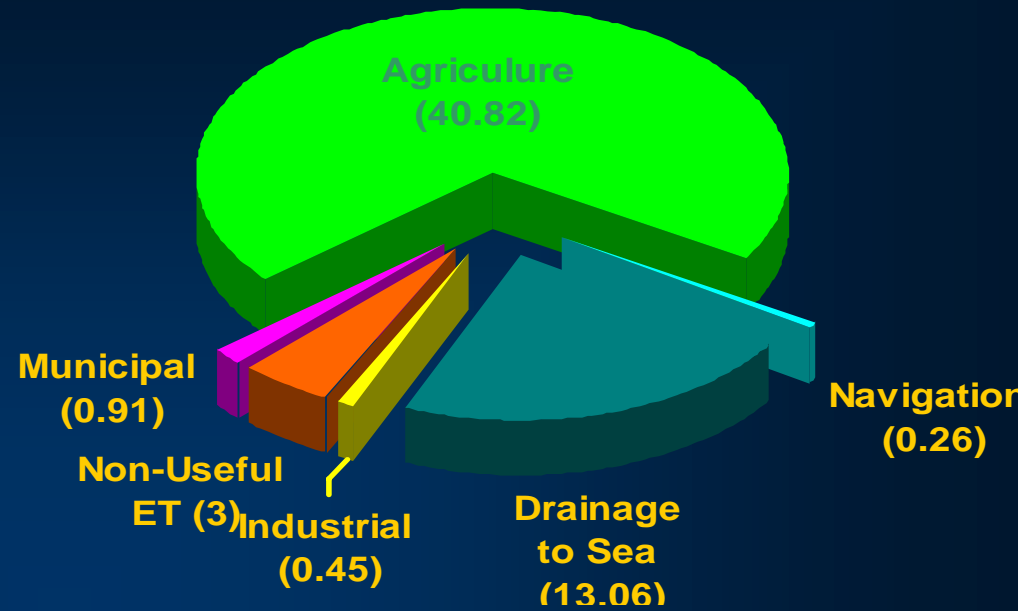
Sea and Lakes

$$\sum \text{Input} = \sum \text{Output}$$

## Resources (57 BCM)



## Consumption (57 BCM)



## Diversions (70 BCM)

The Difference comes from Recycling

# National Water Policy formulation Process (The institutional Set up)

- **MWRI is the Main Governemntal Body Responsible for WRM**

## Other Ministries

- Ministry of Agriculture and Land Reclamation (MALR)
- Ministry of Housing, Public Utilities and New Urban Societies (MHUNC)
- General Organization For Industrialization (GOFI)
- Ministry of Health and Population (MOHP)
- State Ministry for Environmental Affairs
- River Transportation Authority (RTA)
- Ministry of Local development (MLD)
- Ministry of Electricity (MOE)

## Holding Companies

- for Water Supply and Sanitation
- for Northern Sinai Development
- for South Valley and West Delta Development

## Non-Governmental

- Farmers' Participation
- Several NGOs working in rationalizing water

International donor community

# Challenges Facing Water Resources in Egypt

- **Increasing population density**
- **Growing demand-supply gap**
- **Inadequately of available governmental investments**
- **Poor cost recovery**
- **Pollution resulted from industrial growth**
- **Excessive government involvement and bureaucratic control**
- **Low level of awareness**
- **Low level of stakeholder participation**
- **Increasing Environment concern**



# Evolution of Water Resources Policies

- **Implementation of IWRM Concepts**
- **More User Participation in policy formulation**
- **consider international cooperation with the Nile Basin countries as one of the major strategies**

water policies were concentrating of managing the supply side to meet the increasingly demands for water

These policies were not flexible enough to incorporate the uncertainties of the water system  
Coordination with stakeholders were not on the satisfactory level

**NWRP 2002-2017**

**Water Policy for year 1999**

**Water Policy for year 1993**

**Water Policy for year 1990**

**Water Policy for year 1986**

**Water Master Plan, year 1982**

**Water Policy for year 1980**

**Water Policy for year 1975**

**IWRM**

**Supply Management**

# Adoption of Governance Measures

## *Shift from Resource Management to Demand Management*

Demand-oriented approach looks at the real demand for water and tries to urge the users to make better use of water

Non-engineering demand-oriented measures, such as inter-sectoral collaboration, building public awareness and economic incentives

## *Institutional Reform*

MWRI established an Institutional Reform Unit to carry out and coordinate decentralization and privatization

Establish Water Users Associations (WUAs) and Water Boards (WBs) in old lands, and various modes of Public-Private Partnership (PPP) in new lands

# Adoption of Governance Measures

## *Management of Water Quality*

Establish Water Quality Monitoring Component (WQMC) to rationalize water quality monitoring activities into a national monitoring program for all water bodies

## *Valuing the Water*

Water should be treated as a basic human right but it should not be provided free of charge.

## *Public Expenditure Review (Financial Sustainability & Cost Recovery)*

PER finances water sector infrastructure and examines the effectiveness of the interventions in fulfilling the demand from beneficiaries

It is important and useful to recover the costs from beneficiaries, as in tile drainage and improved private “mesqa”

# Adoption of Governance Measures

## *Legal Interventions*

The main Law 48/1982 of the irrigation and drainage is currently under revision

The parliament issued a legislation of Water User Associations (WUAs)

## *Users Participation*

Adopt a policy to increase stakeholders' participation and accommodate an increasing role of user organizations, non-governmental agencies, women, environmental and other self-help groups

## *Water Communications Unit and the Public Awareness Program*

Initiate general public awareness programs for all water users and introduce saving and conservation programs

# Adoption of Governance Measures

## *The National Water Resources Plan (NWRP) and Stakeholders' Participation*

Create the necessary co-ordination mechanisms among all stakeholders involved in the development and use of water resources, both governmental (ministries, regional authorities) and non-governmental (e.g. industry, water users organizations)

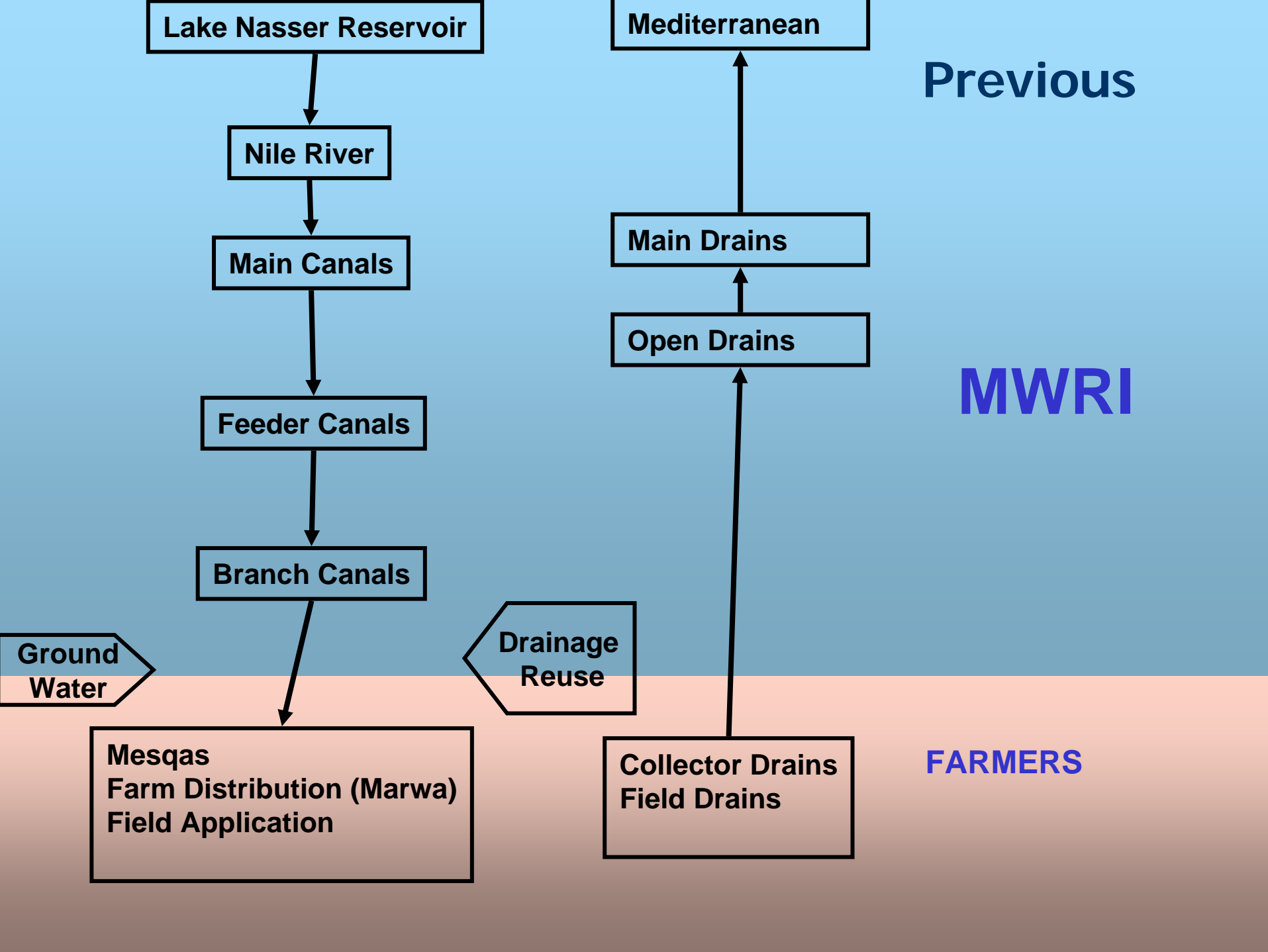
The involvement should warrant that all relevant interests are taken into account in a balanced way and is intended to create a broad acceptance of the resulting plan, at the end facilitating the implementation

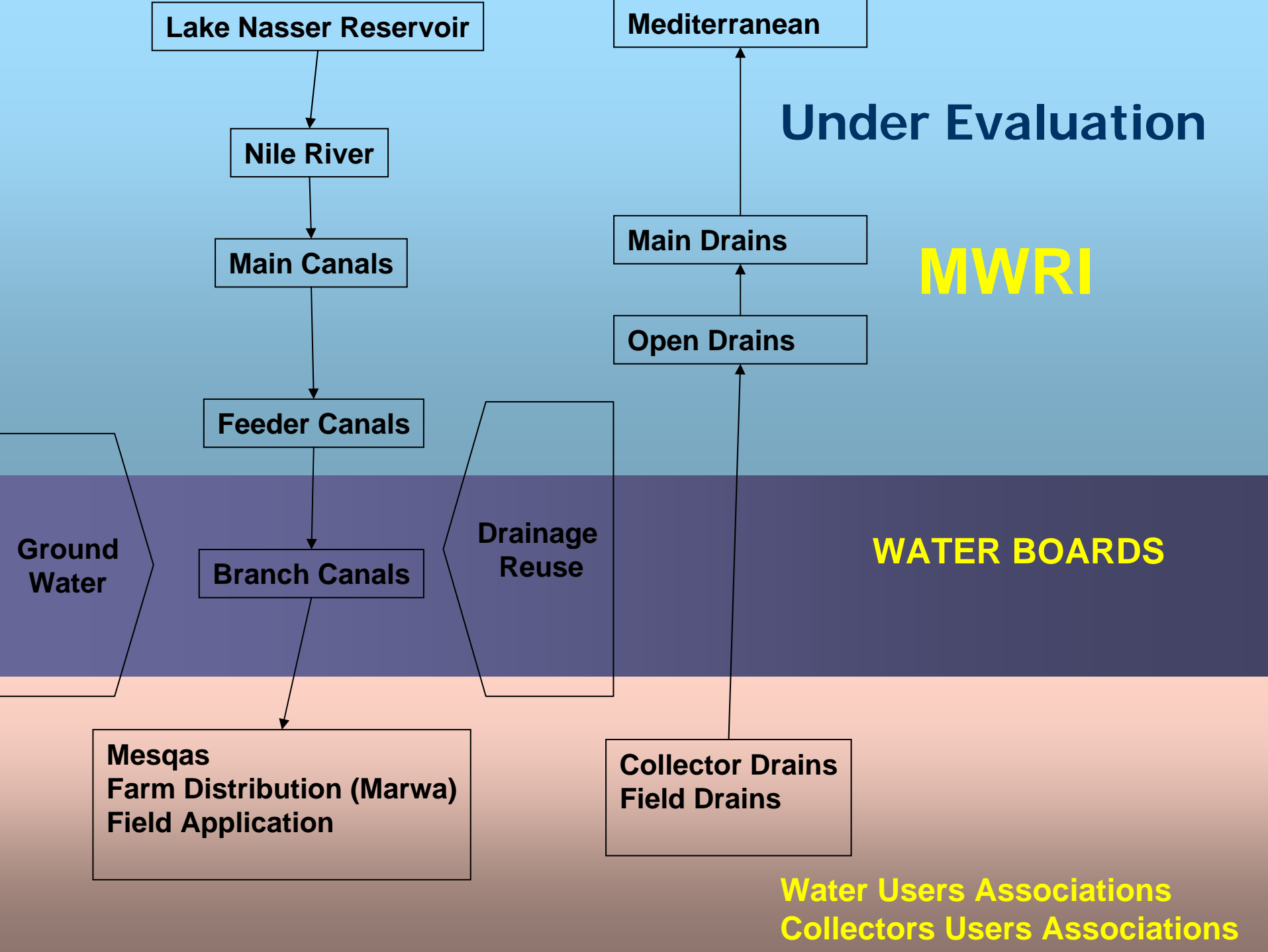
# The National Water Resources Plan (NWRP)

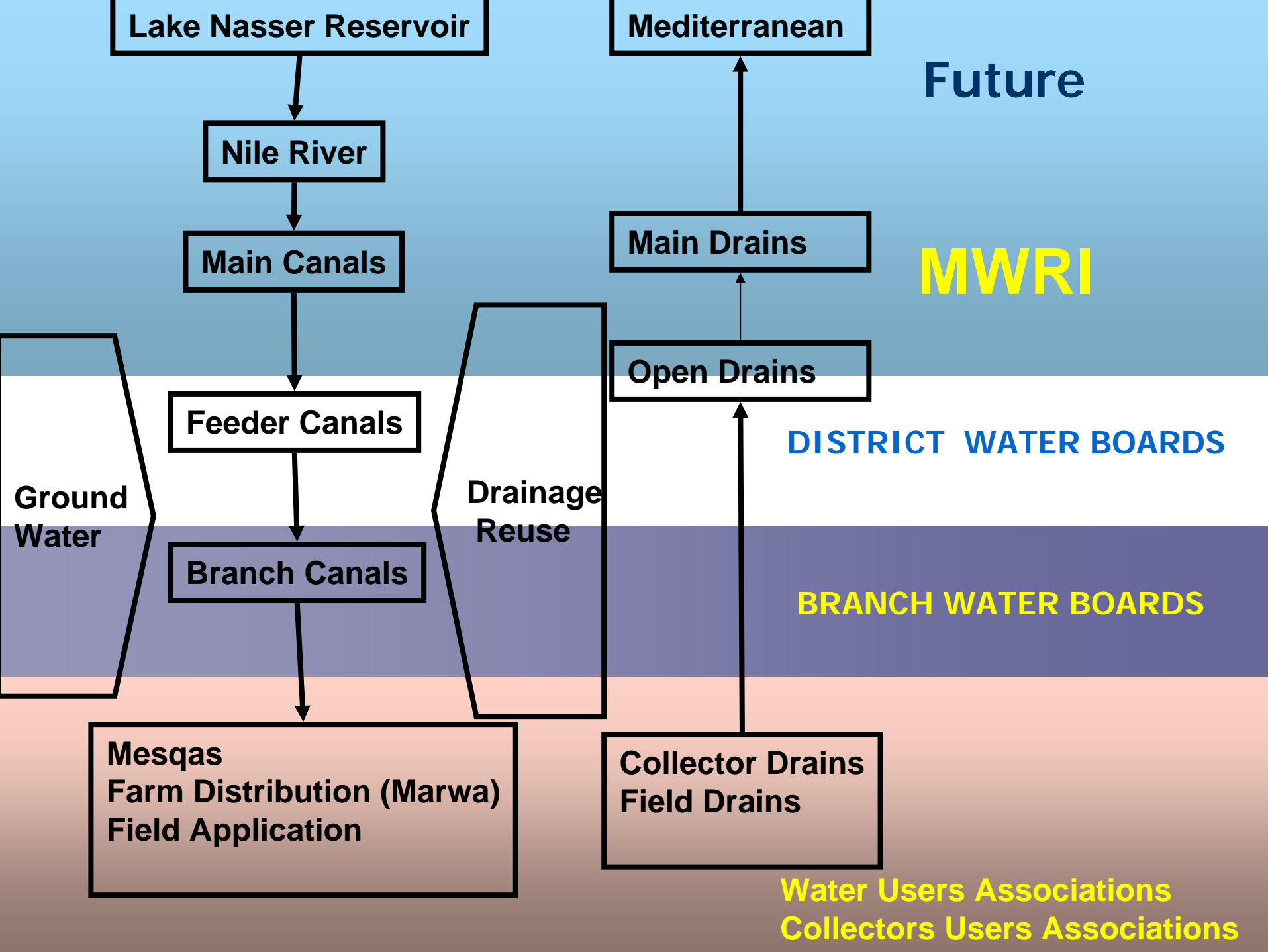
- **The Main pillars of the NWRP:**
  - Increasing water use efficiency
  - water quality protection
  - Pollution control and water supply augmentation
- **Careful evaluation of planned horizontal expansion projects and a scheduled implementation of the projects in relation to the availability of water**
- **Continuing the Irrigation Improvement Project (IIP) and Drainage Improvement (EPADP) activities**
- **Strengthen Water Users Participation in Water Management (WUAs, WBs)**

## Water User Association









# Conclusions

- ✓ **Proper institutional structure should be carefully set to ensure efficient coordination among stakeholders including MWRI**
- ✓ **The set-up of water users' associations and water boards assist in the water policy implementation**
- ✓ **Raising the Awareness of the public on the importance of water will ensure the effective participation in water management**
- ✓ **Continuous training and capacity building of MWRI and Concerned Stakeholders is a major critical success factor for water policy implementation**

**Thank You**

