

# Investing in Irrigation Systems in India

## How are we doing?

Despite increasing expenditures for major & medium irrigation

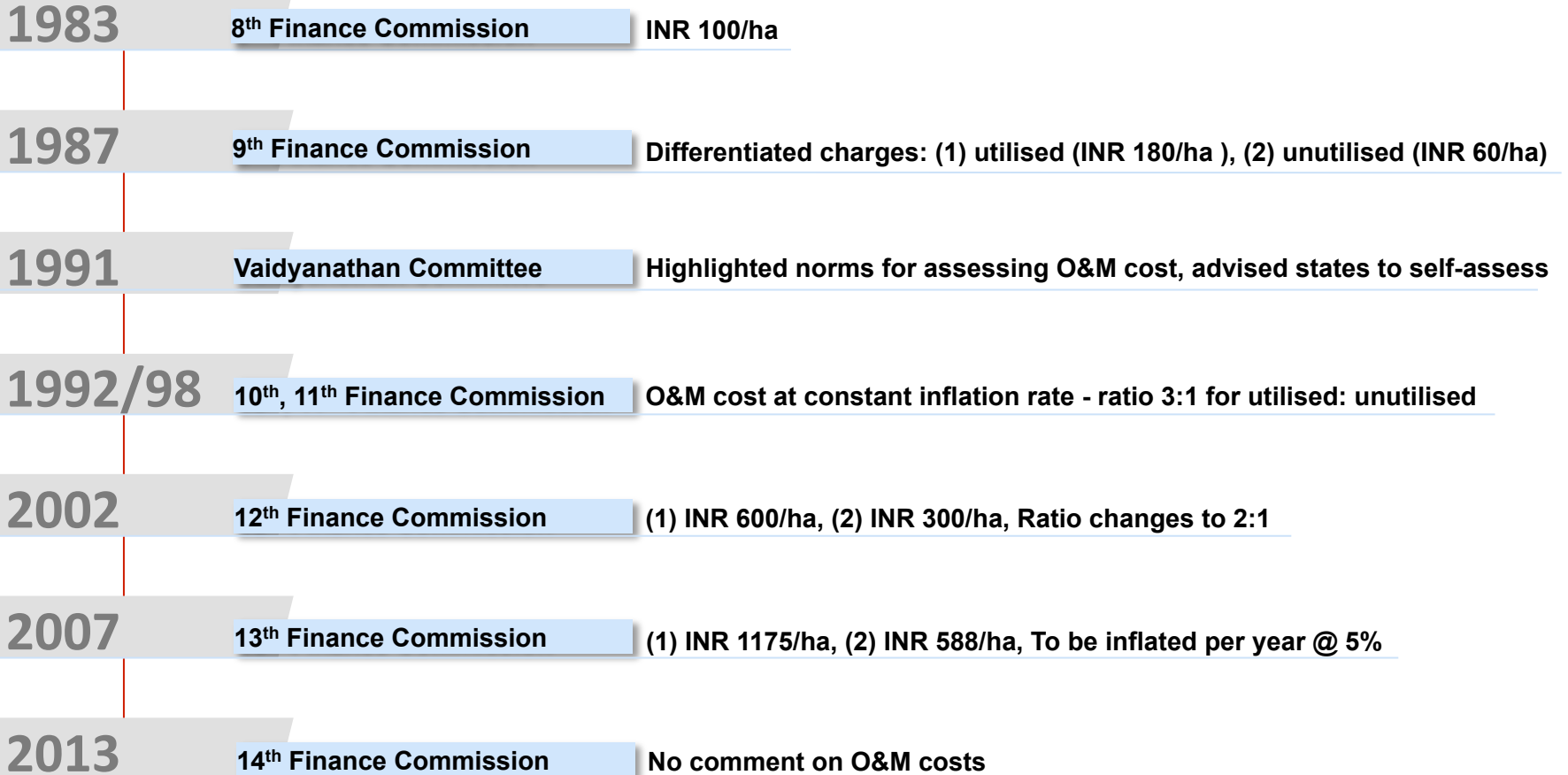
- Increasing dependence on alternate sources
- Increasing gap between irrigation potential created and utilized (IPC – IPU)



## How are O&M costs assessed?

# Budgetary provisions for O&M costs

## Nearly 4 decades of norms



**Budget projections for all states continue to be based on FC recommendations**

# Budgetary provisions for O&M costs

## Support vs. requirements



### Actual O&M costs depend on several factors

- Size, design, location
- Use pattern (multiple vs single purpose)
- Age, physical condition of the system
- Quality of construction etc.

### But norms remain the same for all the systems

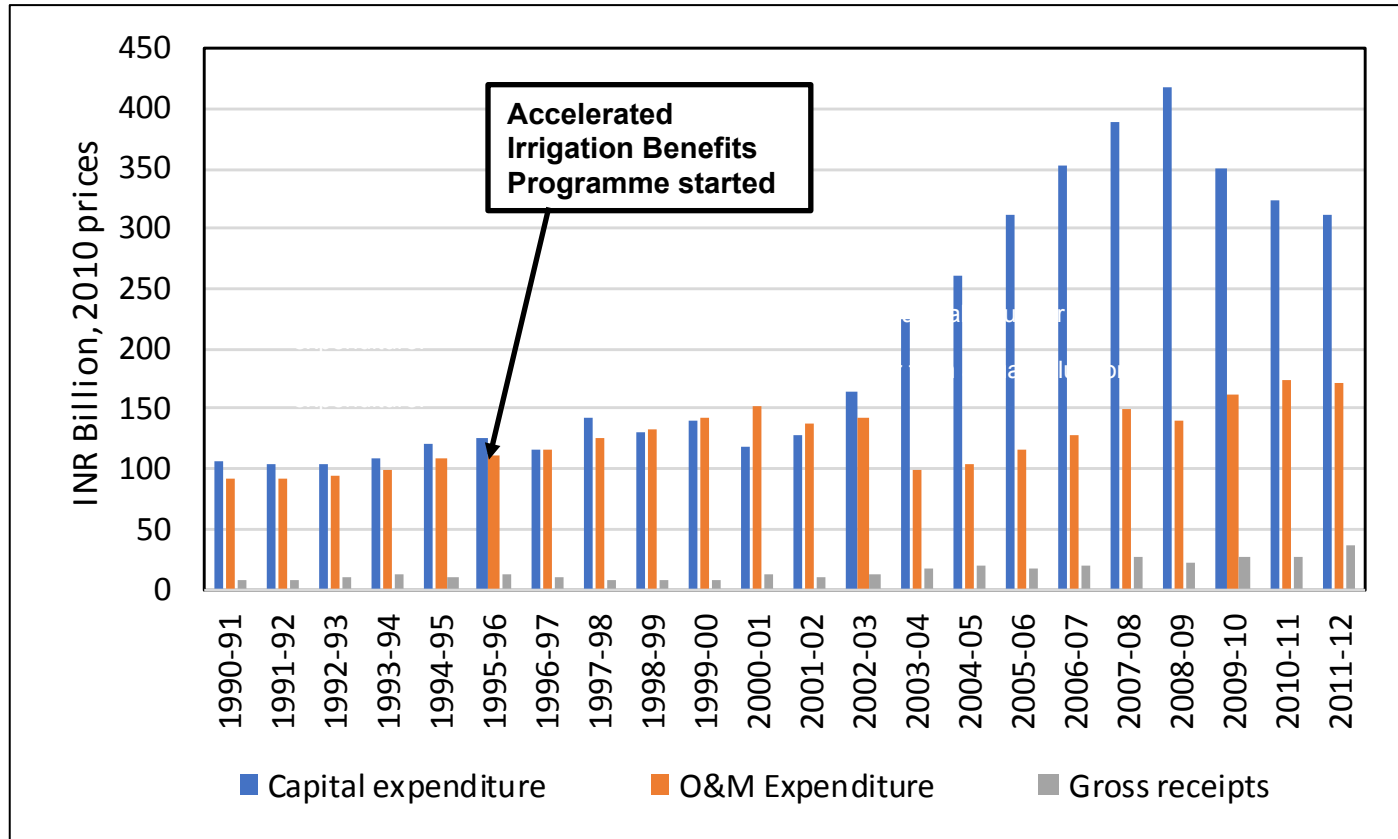
Irrespective of:

- Revenue collected as user fee
- Nature of the institution operating and maintaining
- O&M requirements of the system

**Budgetary support provided for O&M may differ significantly from requirements**

# Capital & O&M expenditures, gross receipts

## Trends

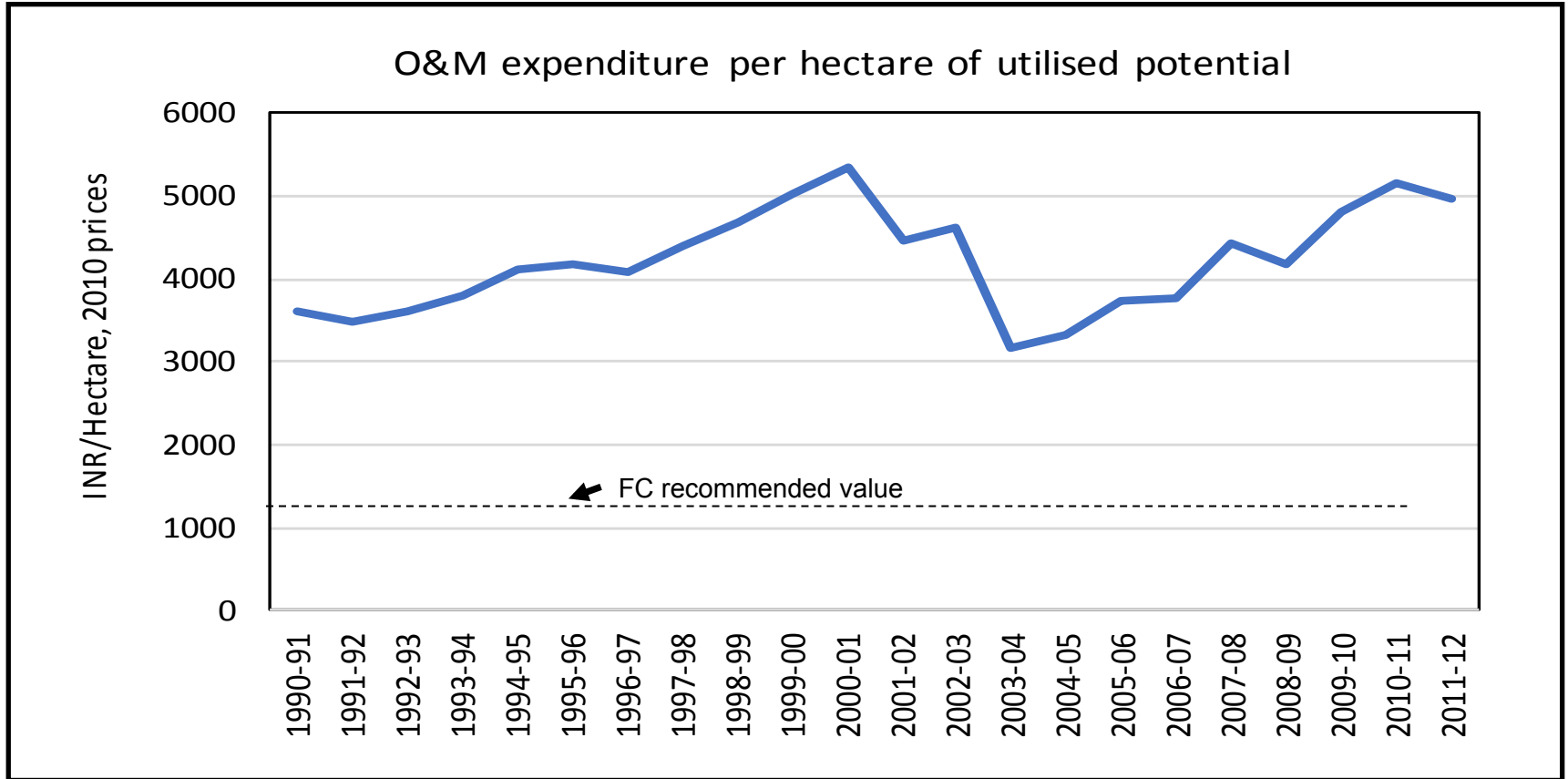


**Growth in O&M expenditures & gross receipts have not kept pace with capex investments**

## How is the allocated budget for O&M being spent?



# Closer look at O&M expenditures



**Actual expenditure per hectare is higher than FC recommendations**



## What constitutes O&M costs?



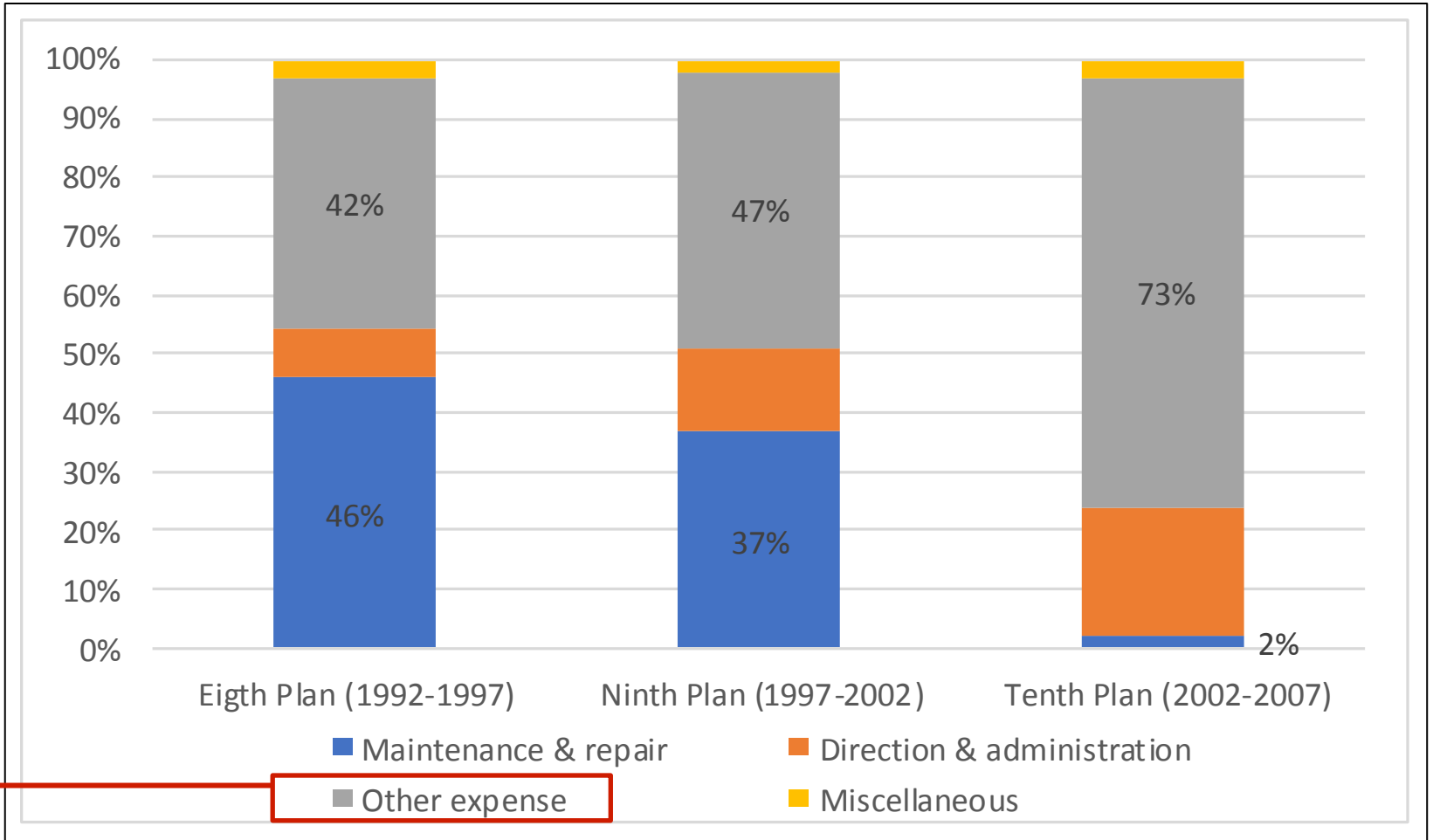
### O&M includes the following

- Direction & Administration
- Machinery & Equipment
- Maintenance & Repair
- Miscellaneous
  - ✓ Training
  - ✓ Research
  - ✓ Survey & Investigation
  - ✓ Suspense
- Other expenses



# Maintenance & repair expenditure

Significant decline



Other expense

→ Extension & improvement of completed projects & expenditure on unapproved projects

## Gross receipts and irrigation water tariffs



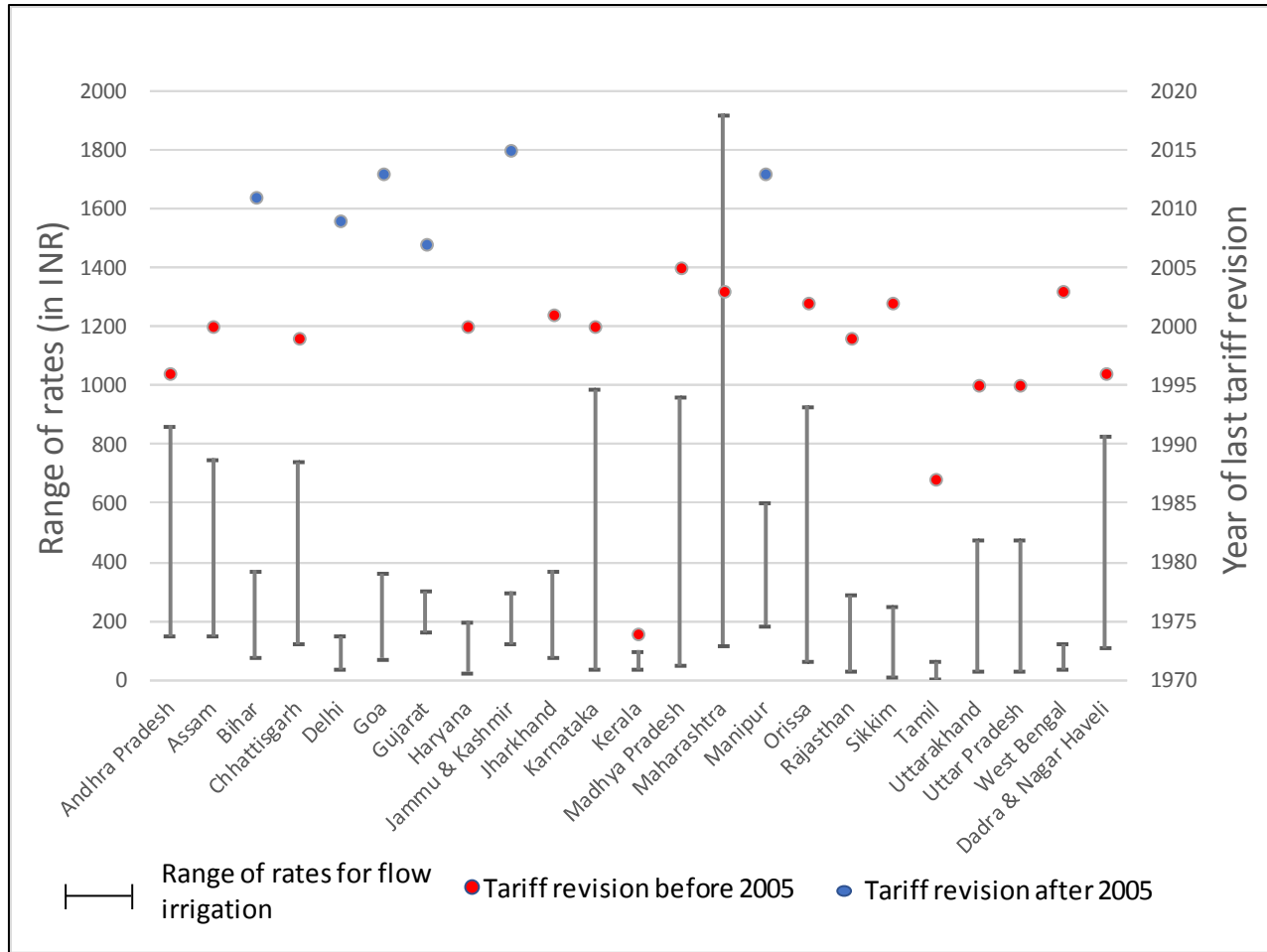
# Determining irrigation water tariffs

## Method of classification of rates

### Overview of states

	Type of source (Major, Medium, Minor or canal commands)	Irrigation type (flow or lift)	Crop type	Crop season
Andhra Pradesh	✓	✗	✓	✓
Karnataka	✗	✓	✓	✗
Madhya Pradesh	✗	✓	✓	✓
Maharashtra	✗	✓	✓	✓
Punjab	✗	✓	✗	✓
Haryana	✓	✓	✓	✓
Tamil Nadu	✓	✓	✓	✓

# What is the range of tariffs?

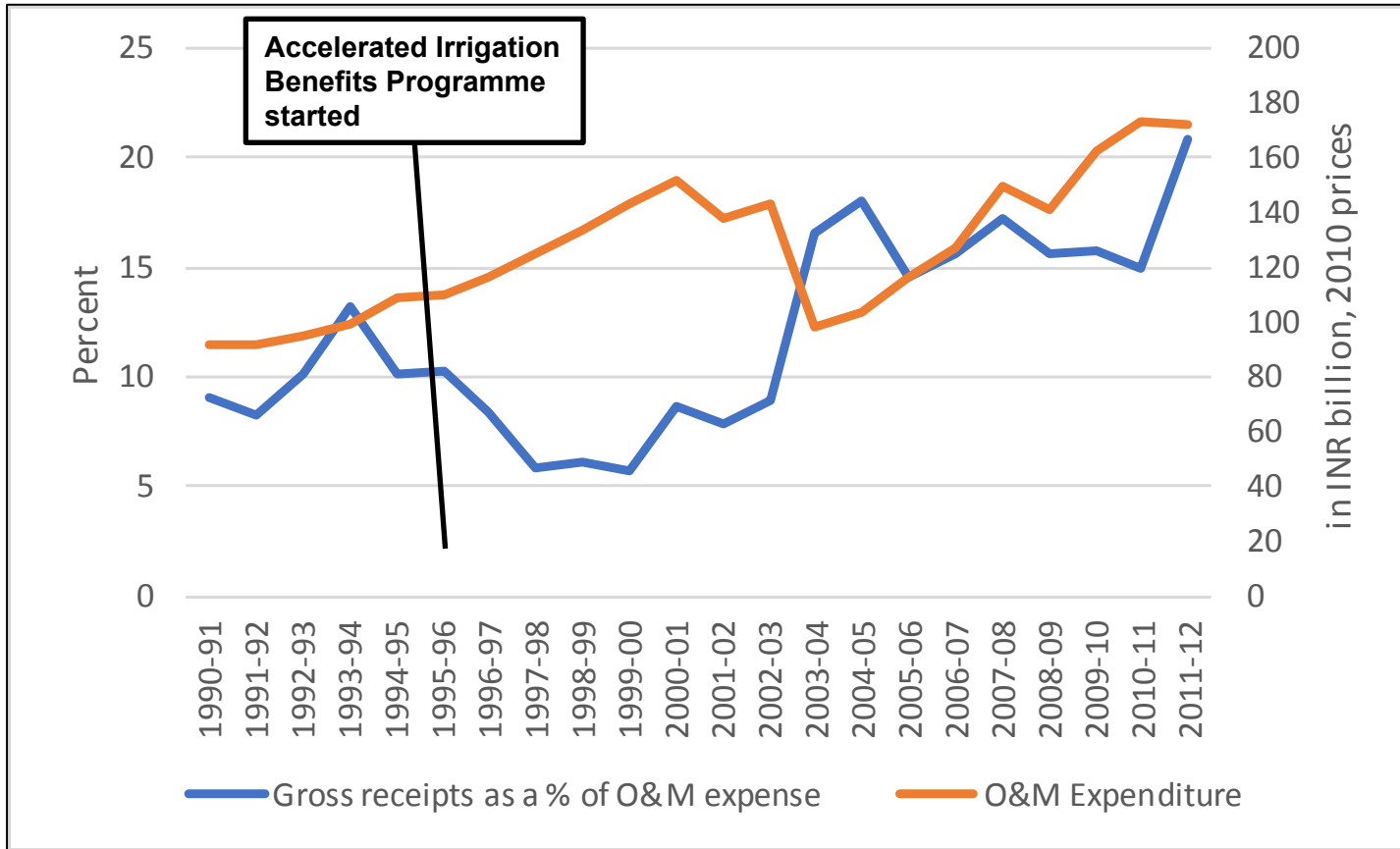


**Most states/UTs have last revised tariffs before 2005**

SOURCE: CWC 2017; Note: Maharashtra rate for crops like sugarcane & banana, which is as high as INR 6297 (for sugarcane), have been excluded in this graph

# Rate of recovery

Increased 10 percentage points in 20 years but it still remains low



**Is this rate of recovery enough to finance O&M?**

# Key questions

**How should the cost of O&M be determined?**

**How should O&M be financed (public vs receipts)?**

