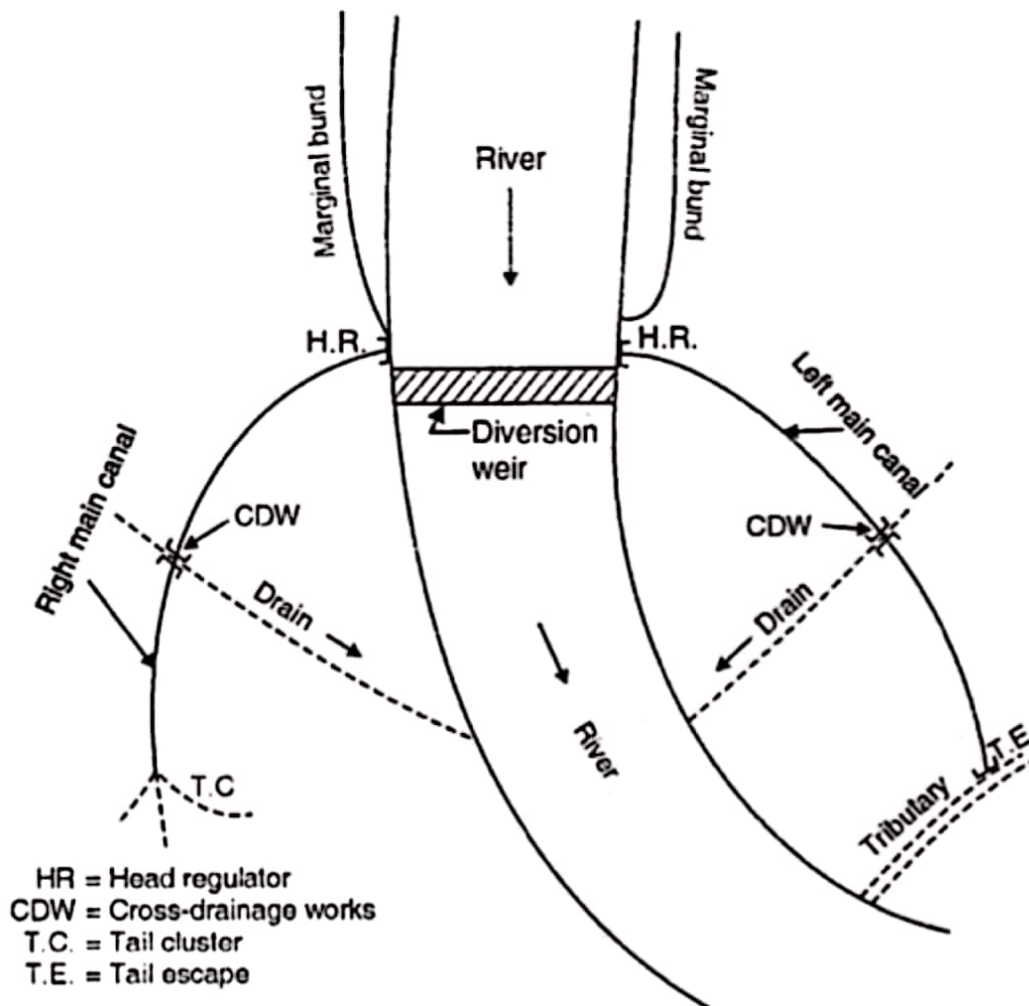


Types of Irrigation

Based on the availability of irrigational water

- Flow irrigation system: conveyance using gravity
 - Direct Irrigation system
 - Reservoir or Storage Irrigation system
- Direct Irrigation system – is without storing water
 - Weir/Barrage is constructed across river, raising water level
- Reservoir – is when structure is constructed to store
 - Dams and then water is fed through canals
- Lift irrigation system: water needs to irrigated at higher elevations
 - Pumping from lower height (source) to required land
 - Pumps or other mechanical devices
 - Eg: irrigation from wells

Direct Irrigation system



Storage Irrigation system



Almatti Dam, Bijapur, Karnataka

Types of Irrigation

Based on *duration of irrigation*

- Inundation Irrigation system
 - Rivers is allowed to flood the cultivable land.
 - Practised in delta regions
 - Also by artificially built inundation canals

- Perennial Irrigation system
 - Water is supplied when required, at regular intervals
 - Source may be river, wells or other perennial water source

- **Bandhara** Irrigation: a special irrigation scheme

- Adopted across small perennial rivers.
- This system lies somewhere between inundation type and perennial type of irrigation.
- A Bandhara is a low masonry weir (obstruction) of height 1.2m to 4.5m constructed across the stream to divert water into a small canal.
- The length of the main canal is usually restricted to about 8km.
- Economical and can irrigate a small area up to 400 ha.
- Trapezoidal section – w/s is vertical

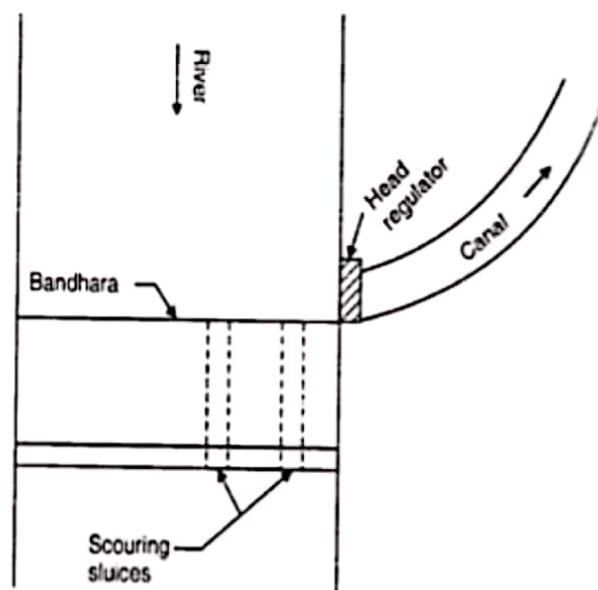
d/s slope is 1:2 to 1:5

Crest width = $(H)^{1/2}$, minimum of 1.2m

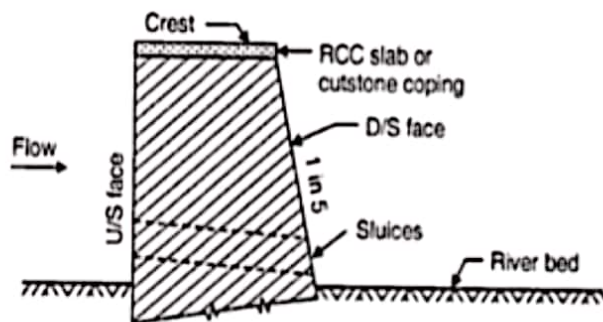
Discharge $Q = 1.7 L (h)^{3/2}$.

Bhandara Irrigation

This method of irrigation is followed in Central Maharashtra and is commonly known there as the 'Phad'



(a) Bhandara irrigation layout



(b) Section of Bandhara