



Most Trusted Learning Platform



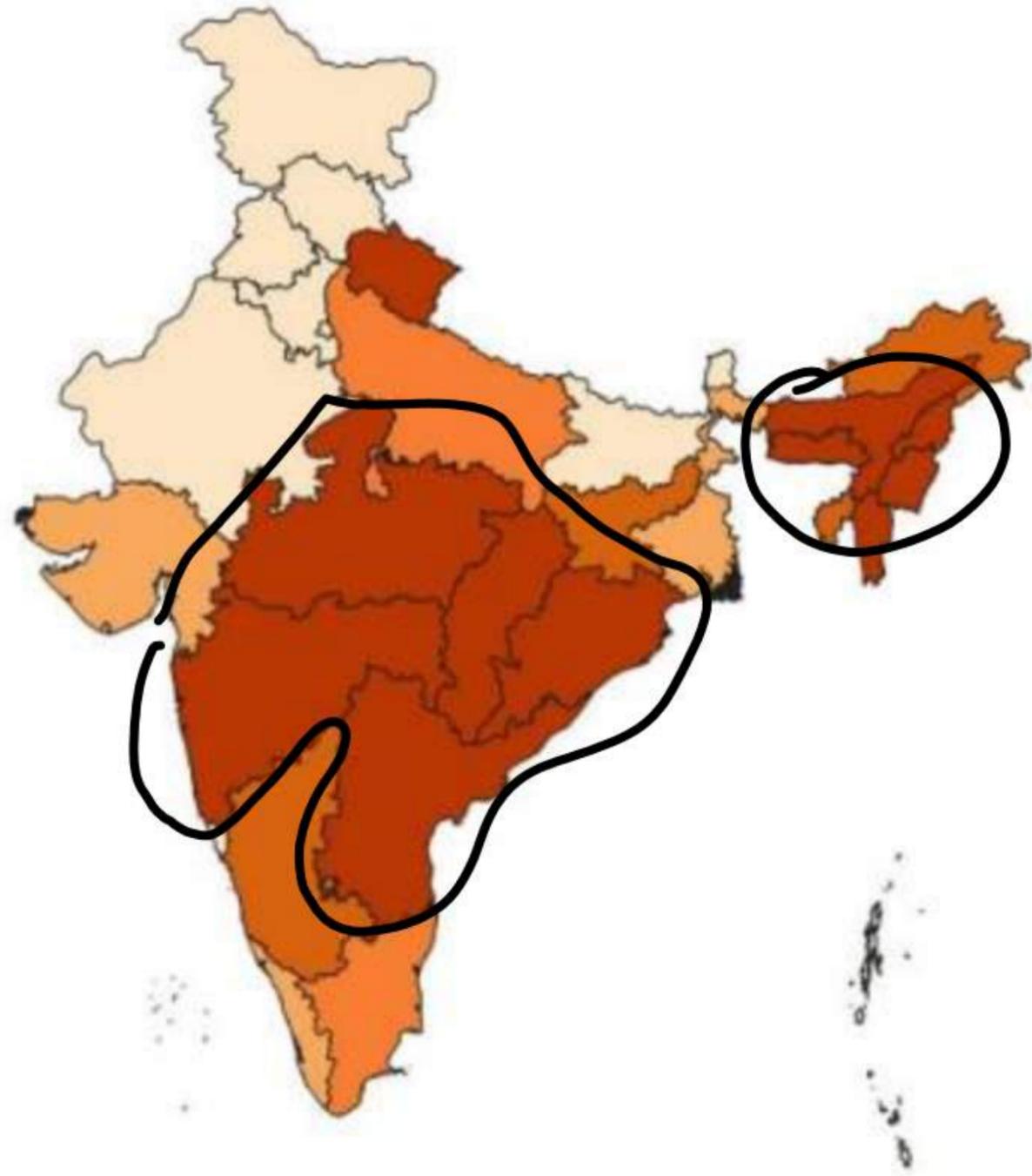
Forest Fire



Forest Fire

Facts

- **The proportion of forest areas prone to fire annually ranges from 33% in some states to over 90% in others.**
- **The Forest Survey of India (FSI) estimated that about 50% of the forest area of the country is fire prone.**
- **More than 36% of the country's forest cover has been estimated to be prone to frequent forest fires.**
- **Nearly 4 % of the country's forest cover is extremely prone to fire, whereas 6% of forest cover is found to be very highly fire prone.**



- Extremely fire-prone forest area
- Very highly fire-prone forest area
- Highly fire-prone forest area
- Moderately fire-prone forest area
- Less fire-prone forest area



Ground



Surface



Crown

Tree line

↳ dry leaves of plant, grasses

Crown

Causes:

Causivity

Natural

- lightning.
- Rolling stones (Mountain Region)
- friction among densely populated vegetation.

Volcanic eruption

Anthropogenic

- Negligence during trekking, camping, work inside forest
- Neighbouring agriculture areas.
 - ↳ stubble burning

Anthro factors

→ Small forest → ↑ Intentional
fire put intentionally ↘ Slash and burn
if left unattended, ↘ agri
then it becomes uncontrolled. ↘ burning of forest for
plantation.

Impact:

Negative Impact

→ Damage to biodiversity

→ Damage to soil.

↳ becomes too much heated

↳ organisms in soil may die.

Soil gets exposure to sunlight

↳ Removal of exotic/Invasive species

Controlled fire
Small fire
Positive Impact

↳ Occasional fire reduces the fuel.

↳ getting rid of waste material.

- Ability to mitigate disaster/hazard like
- Change in micro-climatic Condition. flood
landslide ↓
- Air pollution → CO₂
- Damage to Economy
 - ↳ Tourism
 - ↳ forest produce
- Temperature
- Rainfall pattern
- Soil moisture
- water cycle



Government steps

Earth observation satellite

→ Fire risk zonation and mapping.

→ Capacity building { Satellites monitoring forest fires.

- suppressing fire
- monitoring fire

Real time information dissemination
Training of staff.
EOS

Post-fire management

- Improving infrastructure and agencies.
 - ↳ Assessment of loss
 - ↳ Investigation of causes.
 - ↳ Restoration of forest.

Way forward

→ Indirect
method

→ Direct
method

→ Restriction of entry in
forest region during fire season.

→ Public awareness.

Direct method

- Active clearing of camping waste material or fuel load from forest
- Early burning in controlled environment

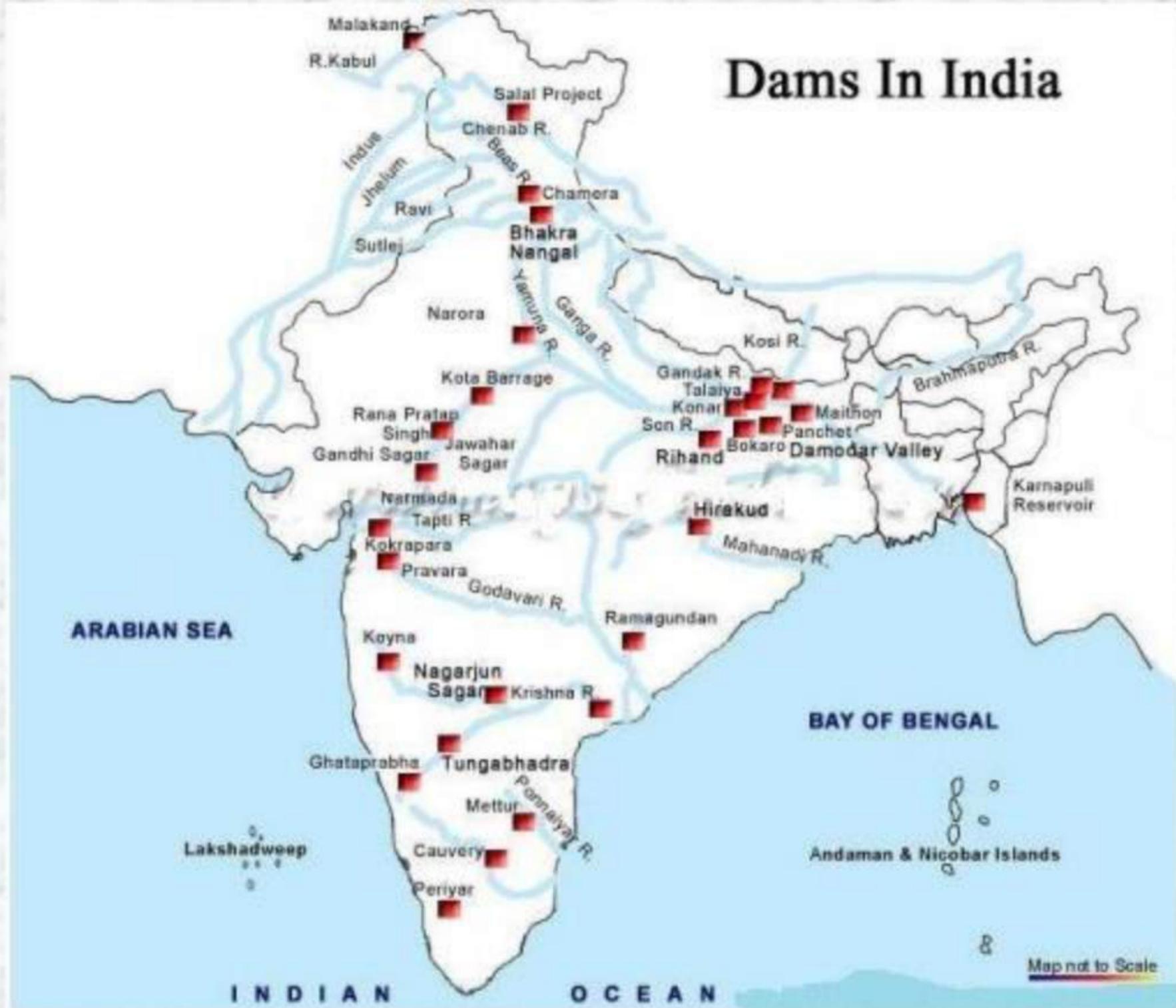
Government Steps:

Way Forward:

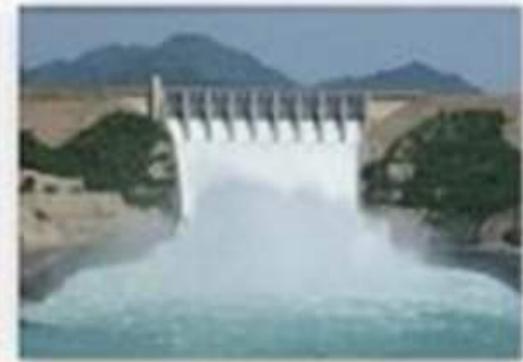
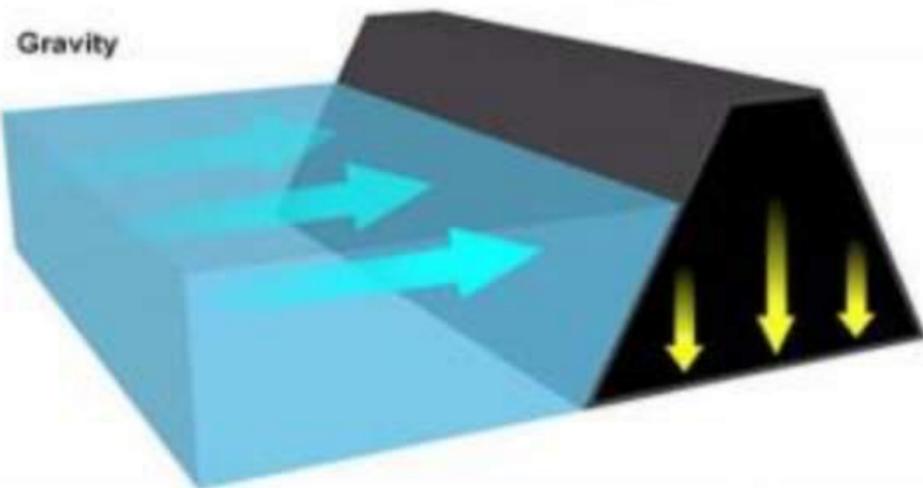
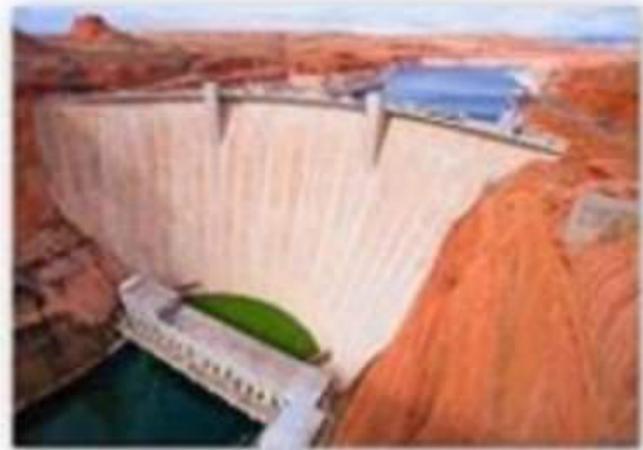
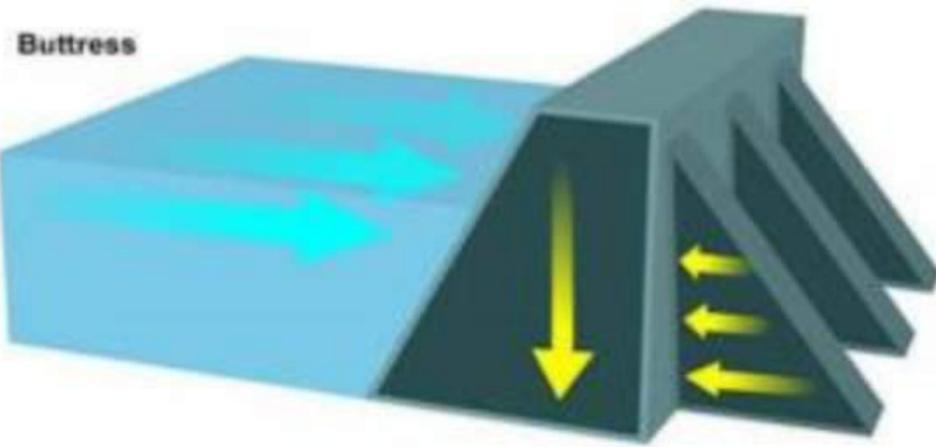
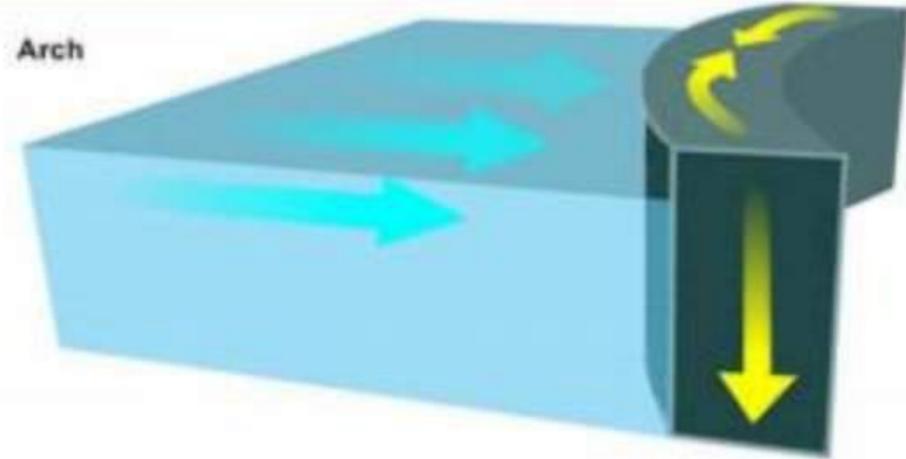
Dams in India

- **India has almost 6,000 large dams and about 80% of them are more than 25 years old and carry safety risks. A new Dam Safety Act (DSA) was passed in late 2021**
- **On October 2023, a glacial lake outburst flood (GLOF) in North Sikkim's South Lhonak Lake washed away one of the biggest hydropower projects in India, the Teesta III dam at Chungthang**
- **According to a parliamentary panel, there are 234 functional large dams in India that are more than 100 years old, some of them over 300 years old.**

Dams In India

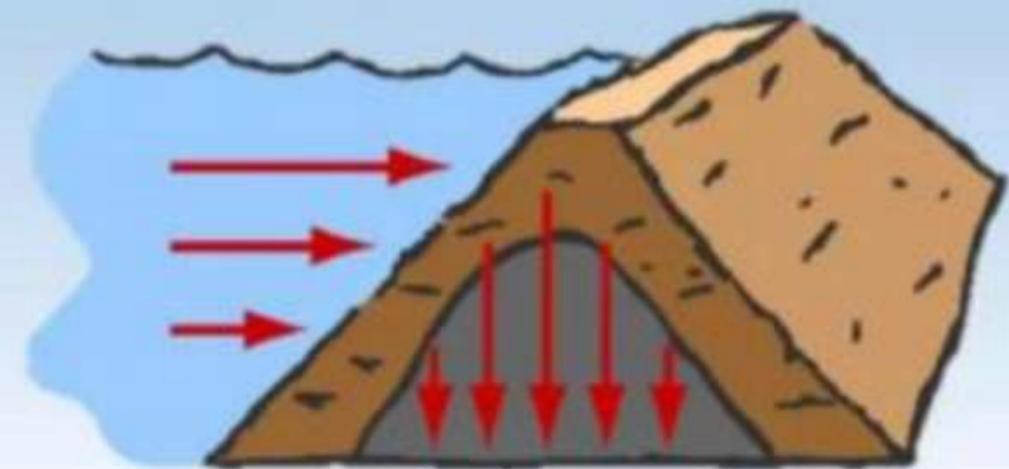
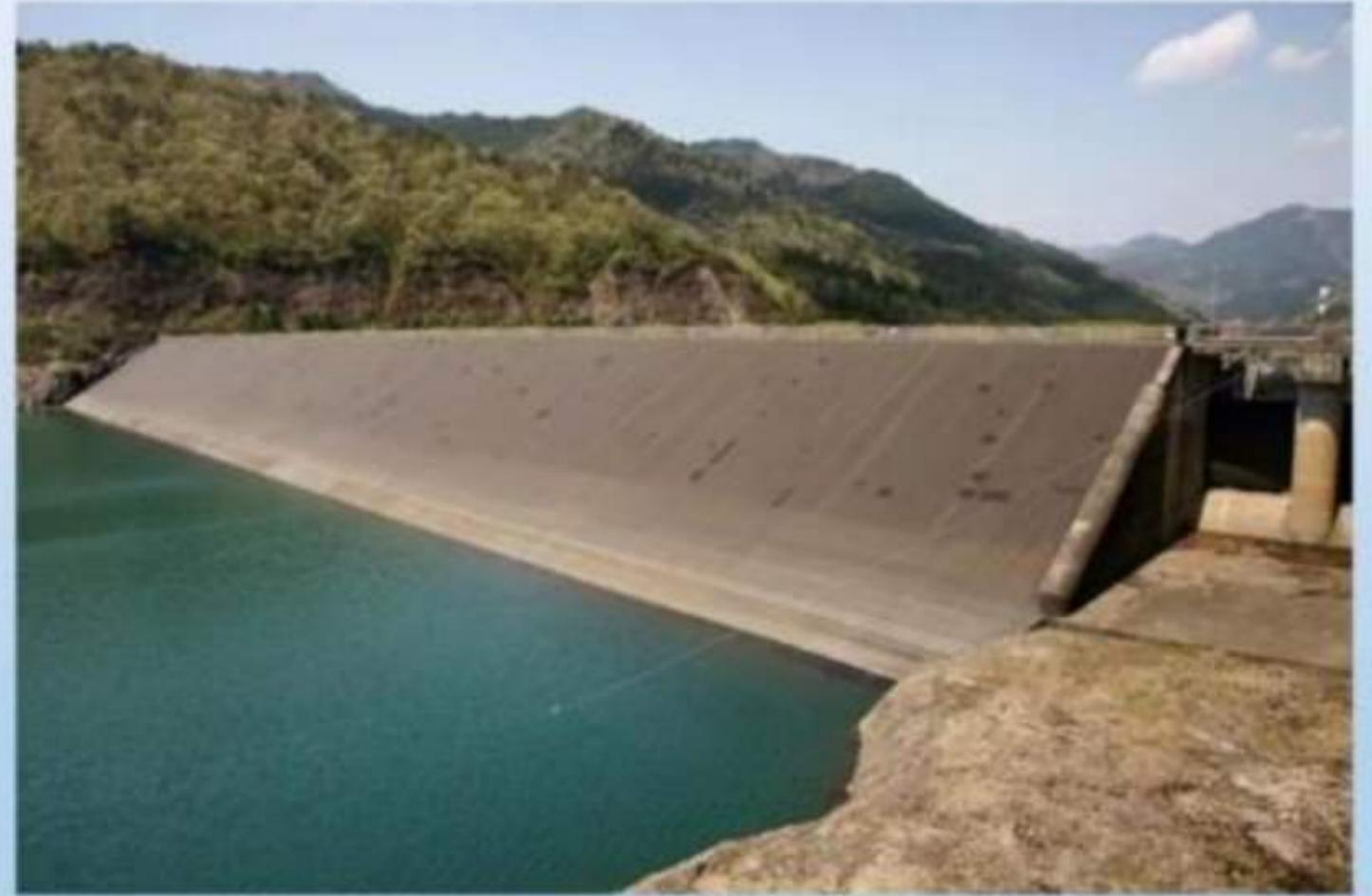


Types Of Dams And Different Components



Embankment Dams

- They are massive dams made of earth and rock.
- Like gravity dams, embankment dams rely on their heavy weight to resist the force of the water.
- But embankment dams are also armed with a dense, waterproof core that prevents water from seeping through the structure.
- Embankment dams are of two main types, rock-fill and earth-fill dams.



UPSC



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THANKS FOR WATCHING

