DAM SILTATION

Dam siltation

Siltation is a process whereby soil particles are eroded and transported by flowing water or other transporting media and deposited as layers of solid particles in water bodies .



What can be done

Land Use Changes

Minimal tillage: Applying the right tillage practices will minimize the amount of loose soil and erosion.

Grazing: Limit the potential for overgrazing. By limiting the number of cattle in a field

Diversify crop production: This will limit the soil movement by water, retain more water and protect the soil from raindrops .

Erosion Control

Reforestation/Afforestation: Plant trees in areas with small tree coverage. This protects the soil by limiting runoff and limiting soil erosion.



Check-Dams: These are smaller dams built across the river steams and trap large amounts of coarser soil grains.



The sediment moved by the streams gets deposited into the reservoir and decreases the storage capacity



End Results

Silt takes up storage in a reservoir.

Decreases the storage capacity of the dam, threatening water security.

The deposited sediments put loads on the dam wall, increase the potential of the dam failing which can lead to people losing their lives and environmental damage.





Siltation Removal

Flushing: A process of removing of previously deposited sediments by opening a low-level outlet to release soil in the dam.

Dredging: Dredging is a process of excavating material from beneath the water. This can be done by either Mechanical lift dredging or Hydraulic dredging.



Dry Excavation: This requires lowering the reservoir water level to allow access for excavating equipment to excavate the exposed sediments.