



Soil and Water Conservation Engineering

Lecture 1: Introduction

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Soil Conservation

Soil conservation is the prevention of loss of the top most layer of the soil from erosion or prevention of reduced fertility caused by over usage, acidification, salinization or other chemical soil contamination.

Water Conservation?

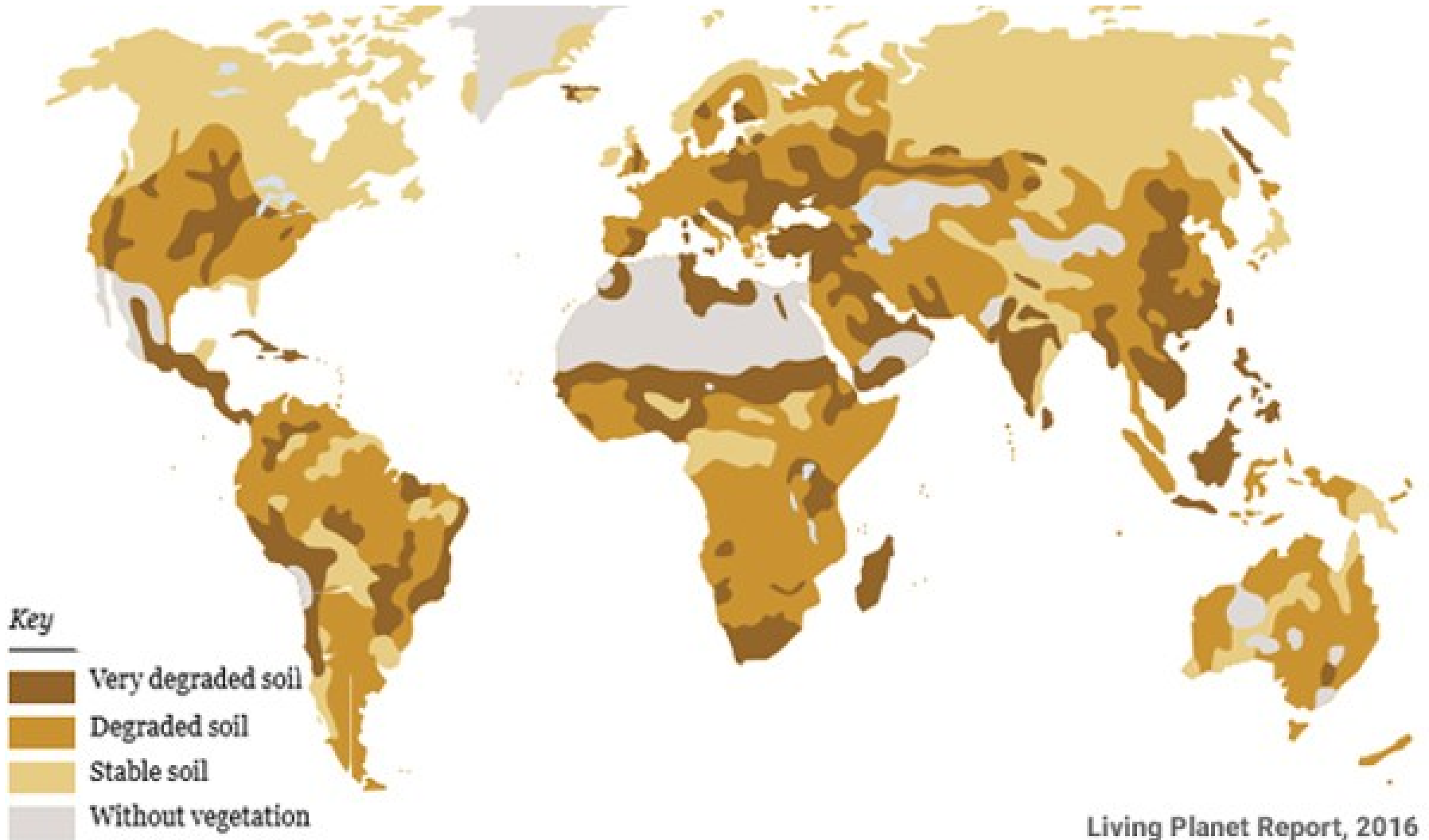
Water conservation includes all the policies, strategies and activities to sustainably manage the natural resource of fresh water, to protect the hydrosphere, and to meet the current and future human demand.

Why Soil and Water Conservation?

- Soil and water are two important natural resources and the basic needs for agricultural production.
- It takes nature 600 - 1000 years to form 1.0 inch of top soil but the same amount of soil gets eroded in a very easily in 2-3 rainfall events due to lack of conservation and improper utilization.



Global Soil Degradation Map



Problem Statement

- We are losing almost 5000 million tons of soil (fertile soil) every year in our country due to improper management. This amounts to about 1mm of top soil layer that we losing every year.

Soil Erosion



- Detachment, transport and movement of soil particles from one place to another due to various mediums like rainfall, water in motion or soil.

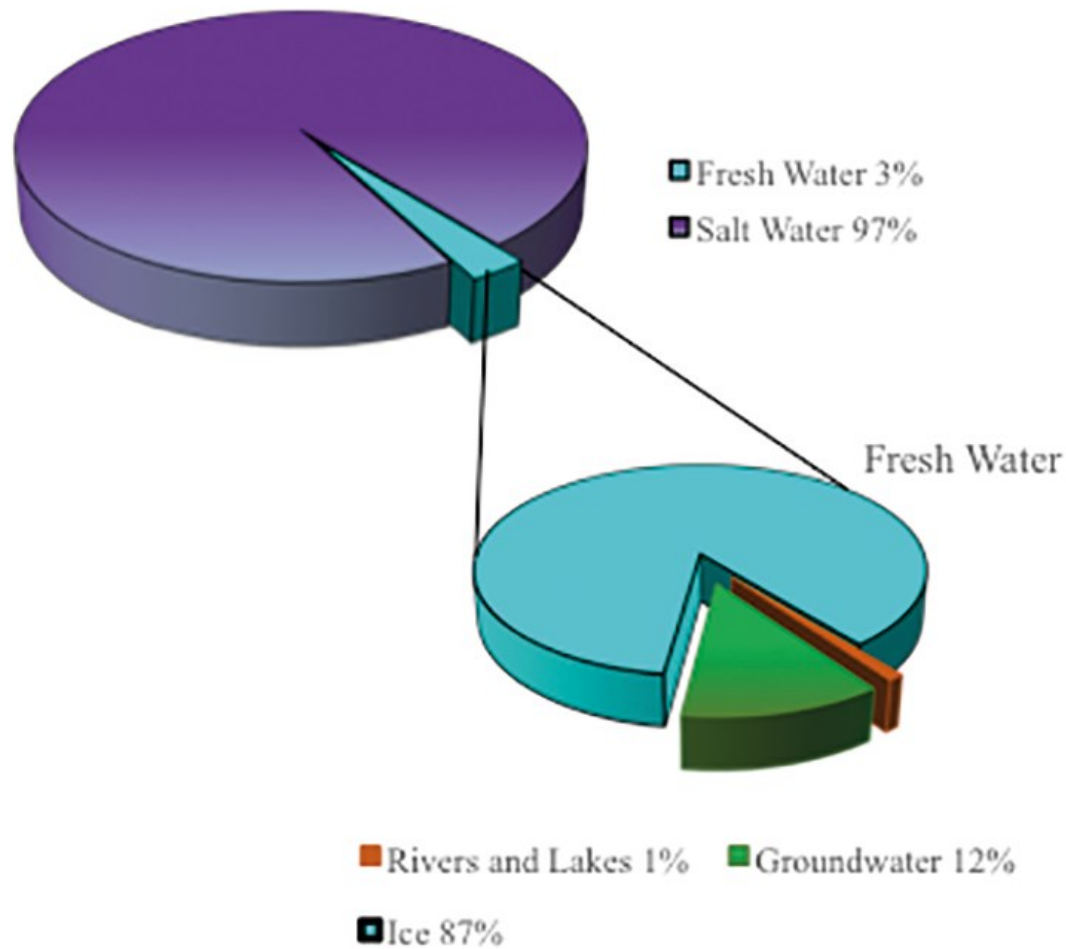
Water Erosion



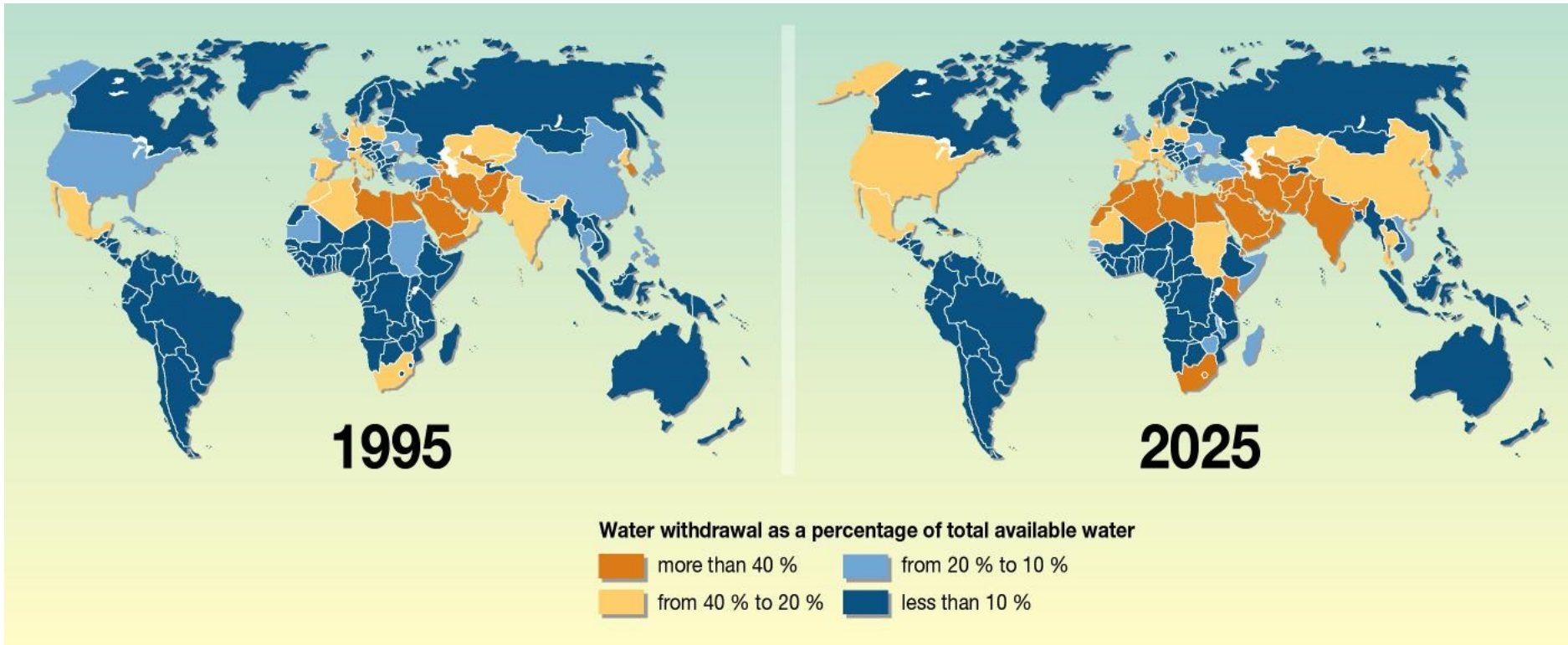
Water erosion is caused by the detachment and transport of soil by rainfall, runoff, melting snow or ice, and irrigation. Excessive erosion can threaten the production of agricultural and forest products. Erosion may also impact water conveyance and storage structures, and contribute to pollution from land surfaces.

Water is the only resource of earth which drives the world.

World Water Distribution



Is Water Sufficient for Our Generation?



Thank You

