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Soil and water Conservation Engineering

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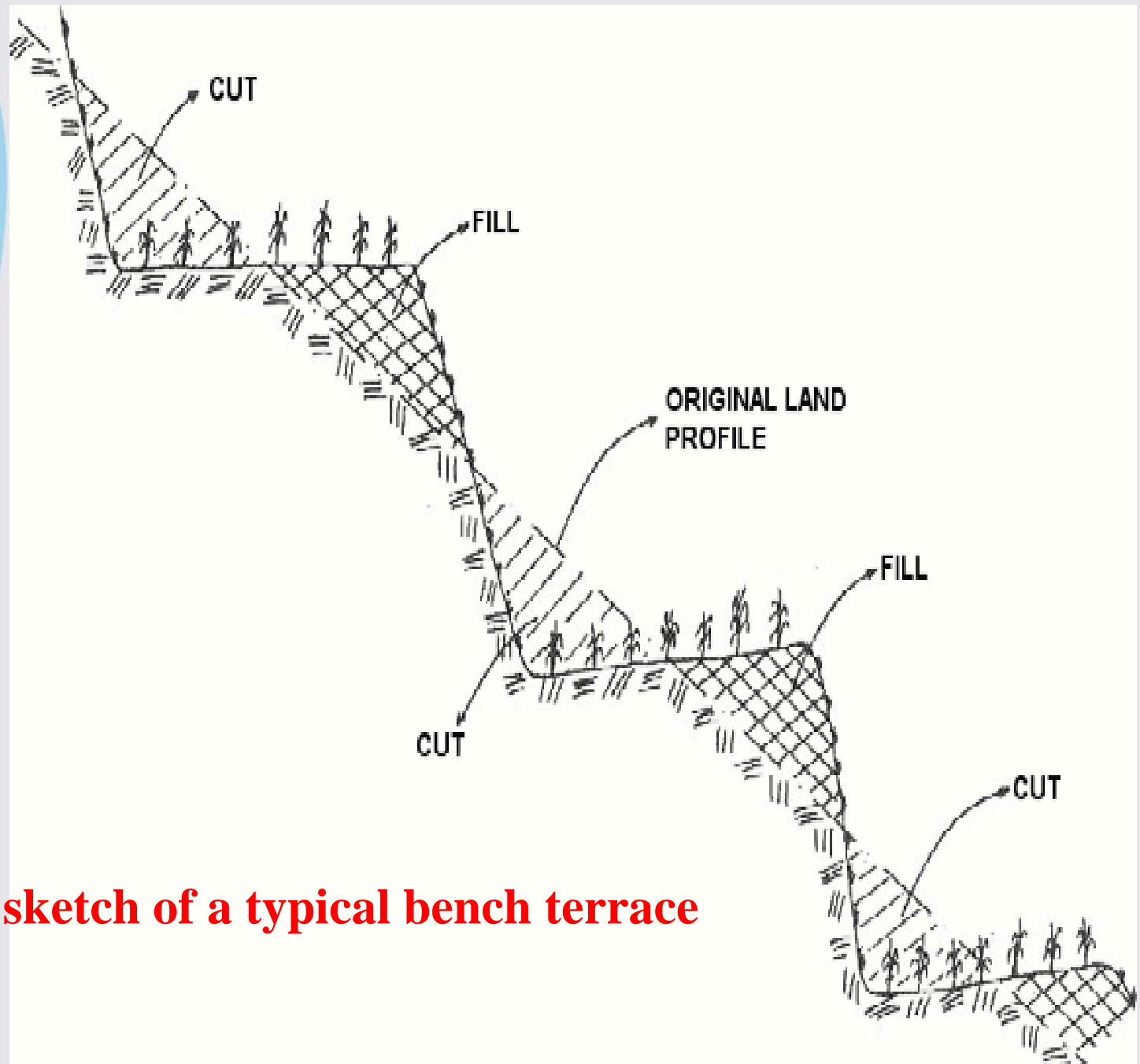
Bench Terrace

- A bench terrace is shelf like embankment of earth with a level or nearly level top and a step or vertical downhill face constructed along the contour of sloping land.



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A sketch of a typical bench terrace



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Classification of bench terraces based on slope

- 1) Absorption or Level Terraces
 - These are constructed exactly on the contour and provided with sufficient freeboard so that they can trap all the rain that falls.
 - They are principally used in dry areas where rainfall is low and moisture for crop production is, therefore, at a premium.

Absorption or Level Terraces





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Classification of bench terraces based on slope

2. Outward-sloping terraces

- Bench terraces sloping outwards are effective only in low rainfall areas with a permeable soil of medium depth at lower ends graded channels are provided for safe disposal of runoff.
- Suitable for orchard
- Better on steep slopes
- Used to mild slope
- Slope up to 15%

Outward sloping terrace





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3. Reverse/Inward sloping Terraces

In heavy rainfall areas, bench terraces of sloping inwards type are more effective. It prevents in- ponding of water and useful for crops susceptible to water logging.

- No super-saturation of soil profile.
- Back slope stabilization.
- Runoff towards hillside.



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Classification of bench terraces based on use

■ Hill type Bench Terraces

It is used for hilly areas with a reverse grade towards the hill.

■ Irrigated Bench Terraces

Level benches are adopted under irrigated conditions. The level table top terraces are referred to as irrigated bench terraces

■ Orchard Bench Terraces

Narrow width terraces for individual trees are prepared in this type. These are also referred to as intermittent terraces and step terraces. The conversion of land into bench terraces over a period of time is referred to as gradual bench terracing.