Flooding and Soil Degradation

What is the issue?

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- The recent floods in Kerala and parts of Kodagu in Karnataka led to widespread soil erosion.
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- The gradual loss of soil productivity can have a lasting impact on the local economy.
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What impact do floods and soil erosion make?

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- Soil degradation due to flooding is a serious concern.
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- An estimated 14 million hectares of land suffer soil degradation due to flooding annually in India.
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- E.g. After the 2009 floods in North Karnataka, 13 flood-hit districts lost around 280 million tons of top soil.
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- It also led to loss of soil nutrients across 10.75 million hectares of farmland.
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- Under market prices, the replacement of nutrients such as nitrates, phosphates and iron would have cost around Rs. 1,600 crore.
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- Besides, the cost of replenishing the organic material lost would have cost nearly Rs. 850 crore.
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- In addition, considerable amount of time and concerted programmes of recovery are needed to recover and replace the soil productivity.
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- At present, soil profile of affected districts in Karnataka indicates “shallow or very shallow” soil depth.
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- They also exhibit organic carbon deficiency, and low productivity of land.
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Is flooding always destructive to soil health?

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- Soil takes thousands of years to form through natural processes and through recent inputs by farmers.
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- Floods result in this being swept away to be dumped in reservoirs or in the sea.
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- However, not all floods are bad for the soil.
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- E.g. floods along the banks of the Ganga, Kosi, Brahmaputra.
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- These and other rivers emanating from the mountains carry with them, loosened alluvial soil.
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- They wash over farmlands as well as replenish flood plains with fertile soil.
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- However, in south and central India, floods wash away rich, weathered soils that are deposited in reservoirs or as sand bars along the river bed or in the sea.
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How to deal with it?

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- Agricultural and plantation practices to reduce the incidence of soil erosion should be employed effectively.
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- Soil replenishment should be a part of the rehabilitation program in flood-affected areas.
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- State agriculture universities, with the help of earth observing satellites, should assess the intensity of the problem.
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- With this, consistent and long lasting effort is needed to boost the lost soil health and productivity.

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Source: The Hindu

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