FAO’s Global status of black soils report

December 13, 2022

In news– Food and Agriculture Organization (FAO) has released the Global status of black soils report recently.

Highlights of the report-

Following are key highlights of the report:

- **Black soils, which feed the global population, are under threat, with most losing at least half of their soil organic carbon** (SOC) stocks.
- The **inherent fertility of the soils make them the food basket for many countries** and are considered essential to the global food supply.
- **Land-use change, unsustainable management practices and excessive use of agrochemicals are to blame**.
- Global status of black soils is the **first such report, released on the occasion of World Soil Day, December 5, 2022.**
- **Most of the black soils suffered from moderate to severe erosion processes,** as well as nutrient imbalances, acidification and biodiversity loss.
- **Black soils are quickly losing their SOC stocks.** They have **lost 20 to 50 per cent of their original SOC stock,** with the carbon being released into the atmosphere mostly as carbon dioxide, exacerbating global warming, the report pointed out while quoting previous studies.
- **Preserving natural vegetation** on black soils such as grasslands, forests and wetlands and **adopting sustainable soil management approaches** on cropped black soils **were the two main goals highlighted by the report**.
- It also put forward tailored recommendations for farmers, national governments, research and academia and

the global platform International Network of Black Soils.

What is Soil organic carbon(SOC)?

- Soil organic carbon (the carbon stored in soil organic matter) **is a measureable component of soil organic matter** and enables many soil functions and ecosystem services.
- Organic matter makes up just 2–10% of most soil's mass and has an important role in the physical, chemical and biological function of agricultural soils.
- SOC is crucial to soil health, fertility and ecosystem services, including food production – making its preservation and restoration essential for sustainable development.
- Soils with high carbon content are likely to be more productive and better able to filter and purify water.
- Soil organic carbon plays a big role in climate change, presenting both a threat and an opportunity to help meet the targets of the Paris Agreement.
- **Within the framework of the Koronivia Joint Work on Agriculture (KJWA), the Food and Agriculture Organization (FAO)** of the United Nations and its Global Soil Partnership (GSP) **launched RECSOIL – Recarbonization of Global Soil,** a promising greenhouse gases (GHG) offsetting option to decarbonize the economy, based on the implementation of sustainable soil management practices (soil organic carbon-centered) on a large scale.
- RECSOIL is an innovative initiative with the aim to boost soil health through the maintenance and enhancement of soil organic carbon stocks. It unlocks the potential of soil organic carbon to provide multiple benefits through key ecosystem services.
- RECSOIL is an innovative tool, composed of various components that will be defined and designed with detail

according to each country's situation and in agreement with local authorities.

About Black soil-

- Black soils are mineral soils which have a black surface horizon, enriched with organic carbon that is at least 25 cm deep.
- These soils are characterised by a thick, dark-coloured soil horizon rich in organic matter.
- Black soils are extremely fertile and can produce high agricultural yields thanks to their elevated moisture storage capacity.
- They constitutes 5.6 per cent of global soils and contain 8.2 per cent of the world's SOC stocks: Approximately 56 billion tonnes of carbon.
- This signifies their importance for climate change mitigation and adaptation. The ability of the soils to remove carbon from the atmosphere and lock it up in soil organic matter (called carbon sequestration) has been proposed as an important solution to mitigate human-induced climate change.
- **Black soils have the potential to provide 10 per cent of the total SOC sequestration globally** if they receive proper attention.
- According to FAO's global Soil Organic Carbon Sequestration Potential map, **Europe and Eurasia have the highest potential at over 65 per cent and Latin America and the Caribbean at around 10 per cent.**
- Black soils were home to 2.86 per cent of the global population and had 17.36 per cent of cropland, 8.05 per cent of global SOC stock and 30.06 per cent SOC stock of global cropland.
- However, despite representing a small portion of the world's soils, **black soils were key for food security and the global economy**.
- Globally in 2010, 66 per cent of sunflower seeds, 51 per

cent of small millet, 42 per cent of sugar beet, 30 per cent of wheat and 26 per cent of potatoes were harvested from black soils.

- **The distribution of black soil areas used as croplands varied in each region. Europe and Eurasia accounted for 70 per cent of the soil in the total cropland**, while North America, Latin America and the Caribbean and Asia had 10 per cent each.

- **Black soil in India is also known as "Regur Soil" or the "Black Cotton Soil". It covers about 15% of the total land area of the country.**

- It covers most of the Deccan Plateau – parts of Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh and some parts of Tamil Nadu.