Careful management of agricultural soils can **play a crucial role to improve food security and slow the rate of global warming and climate change.**

THE AMBITION of the "4 per 1000" Initiative is **to encourage lands users to transition towards a productive, highly resilient agriculture**, based on the appropriate management of land and soils, creating jobs and incomes hence ensuring sustainable development.

Supported by credible scientific documentation, this initiative invites all stakeholders to state or implement practical actions on soil carbon storage and management practices to achieve this (e.g. agroforestry, agroecology, conservation agriculture, landscape management, etc.).

Moreover we need to better quantify soil carbon stocks and encourage farmers to adopt agricultural practices to conserve and increase carbon stocks. That is why **all stakeholders** (farmers, economic players, NGOs, regional and local authorities, countries, International organizations, development banks, foundations, etc.) **are supporting research around the "4 per 1000" Initiative**.

The "4 per 1000" initiative comprises two themes:

- **a scientific part led by the Scientific and Technical Committee** with:
  - guidelines for an international programme of research and scientific cooperation
  - reference criteria & indicators for projects assessment
- **a development part based on field activities:**
  - a collaborative platform open to partners and members
  - a digital resource centre on soil organic carbon management (under construction).

The "4 per 1000" Initiative
Soils for Food Security and Climate

Executive Secretariat:
secretariat@4p1000.org
www.4p1000.org

This **"4 per 1000" Initiative**,
launched by France on December 1st, 2015 at the COP 21,
is part of the Global Agenda for Action

The "4 per 1000" Initiative is a partner of Global Soil Partneship (hosted by FAO)

The Executive Secretariat of the "4 per 1000" initiative is hosted by the CGIAR System Organization, an international organization based in Montpellier (France)

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Photo: Sasint - Do not throw this brochure on the public ways

In the context of climate change and in addition to drastic efforts of all sectors to reduce GHG emissions worldwide, **our capacity to feed 9.8 billion people by 2050 will depend critically on our ability to keep our soils alive and to adapt our agriculture.**

There is a need to reverse the effects of soil degradation that affects 40% of the Earth's land surface.

CONTEXT: the GREENHOUSE EFFECT

Human activities emit enormous amounts of carbon dioxide (CO_2) into the atmosphere, which enhances the greenhouse effect and increase the rate of climate change.

Each year, 30% of this carbon dioxide (CO_2) is absorbed by plants due to photosynthesis. Then, when those plants die and decompose, the living organisms of the soil, such as bacteria, fungi or earthworms, transform them into organic matter. **Carbon-rich soil organic matter is essential:** it retains the water, nitrogen and phosphorus that are critical for sustainable agriculture.

THE SOLUTION: CARBON SEQUESTRATION IN SOILS*

The "4 per 1000" Initiative aims to encourage farming and forestry practices that increase soil carbon stocks.

The health of soils, for which sufficient organic matter is the main indicator, is closely correlated with agricultural production. Stable and productive soils directly foster the resilience of farms to develop resilience to the effects of disruption in the climate.

** Agricultural and forest lands*

THE VISION

Regenerated and carbon-rich soils globally to fight climate change and hunger, worldwide.

THE MISSION

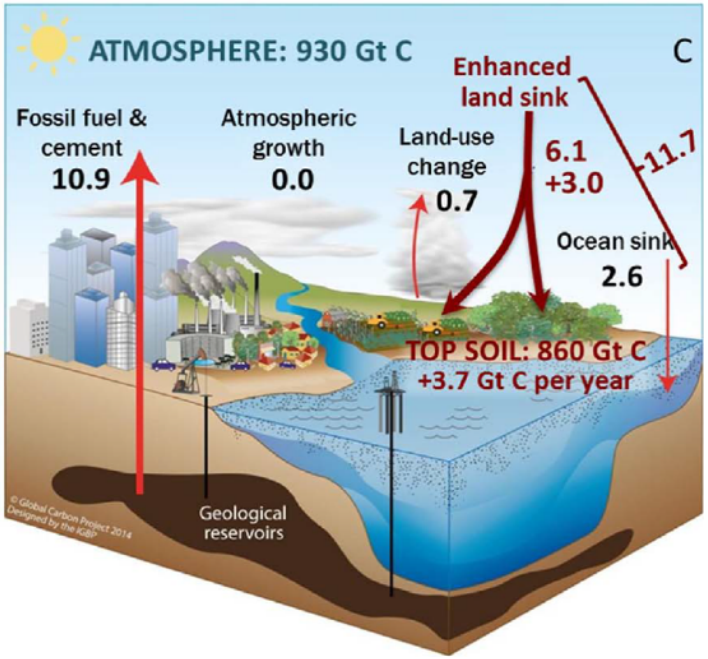
Support for projects that demonstrate changes in management practices to increase soil carbon stocks.

THE 3 GOALS

1. **Accelerate Climate Change MITIGATION**
2. **Intensify the ADAPTATION of Agriculture to Climate Change**
3. **Improve FOOD SECURITY**

METHODS: SOIL MANAGEMENT PRACTICES & AGROECOLOGY

Farming and forestry practices that favour carbon storage in soils and biomass (permanent soil cover, use of organic products, diversified cropping systems, agroforestry, conservation agriculture, regenerative agriculture, etc.) will contribute to preserving natural resources and biodiversity, increasing productivities, stabilizing soils, and improving their water retention, in the context of severe climatic events.



The global carbon cycle in The global carbon cycle in 2030-2040 assuming an enhanced land carbon sink following the aspirational 4 per 1000 target for both agricultural and non-agricultural soils. Soil carbon sequestration would reach 3.7 GtC/yr) and carbon storage in aboveground biomass (2.4 Gt C/yr) through forestry, agroforestry and restoration of secondary tropical forests), in addition to the current land carbon sink (3.0 Gt C/yr, assumed to be constant over 2015-2040). Fossil fuel and cement emissions follow the Paris agreement pledges for 2030.

Source: Soussana, J. F., Lutfalla, S., Ehrhardt, F., Rosenstock, T., Lamanna, C., Havlík, P., ... & Smith, P. (2017). Matching policy and science: Rationale for the '4 per 1000-soils for food security and climate initiative. *Soil and Tillage Research*.

570 million farms worldwide, and more than 3 billion people living in rural areas, could implement these practices.

BENEFICIARIES

Farmers (local family farms and farmers organizations) and foresters are essential to implement the solution.

Small scale farmers produce 70% of the world's food and, as such, have a key role to play in protecting the soil.

PARTNERS & MEMBERS**

The "4 per 1000" Initiative brings together 281 Partners including 149 Members (non-profit and non-commercial organizations) involved in the decision-making process.

*** November, 16, 2017*