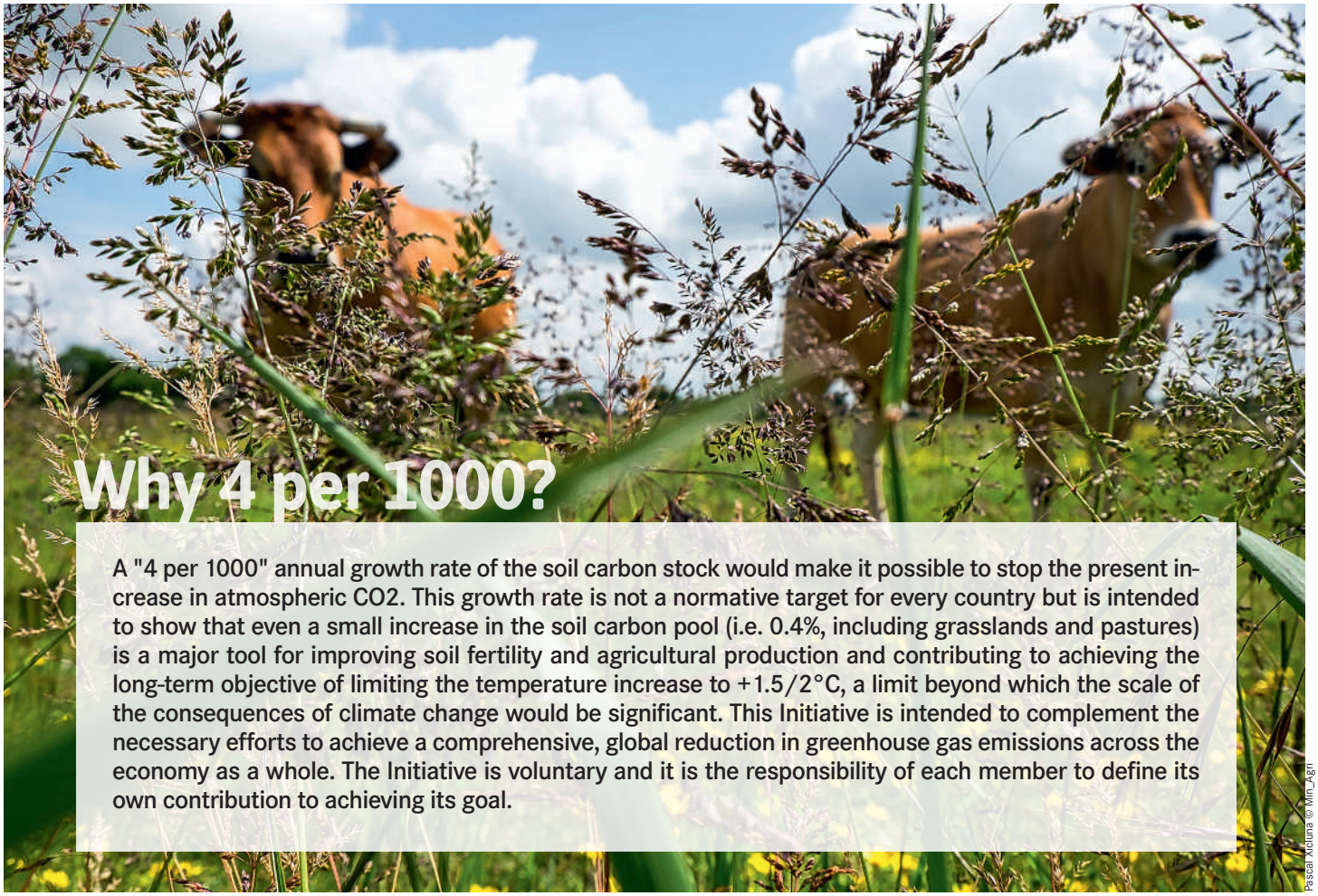
JOIN THE 4 PER 1000 INITIATIVE

Soils for food security and climate

4 PER 1000

SOILS FOR FOOD SECURITY AND CLIMATE

Building on solid, scientific documentation and concrete actions on the ground, the *"4 per 1000 Initiative: soils for food security and climate"* aims to show that **food security and facing climate change are mutually complementary** and to ensure that agriculture is a source of solutions. This initiative consists of a voluntary action plan under the **Global Climate Action Agenda (GCAA)**, backed by an ambitious research program



Why 4 per 1000?

A "4 per 1000" annual growth rate of the soil carbon stock would make it possible to stop the present increase in atmospheric CO2. This growth rate is not a normative target for every country but is intended to show that even a small increase in the soil carbon pool (i.e. 0.4%, including grasslands and pastures) is a major tool for improving soil fertility and agricultural production and contributing to achieving the long-term objective of limiting the temperature increase to +1.5/2°C, a limit beyond which the scale of the consequences of climate change would be significant. This Initiative is intended to complement the necessary efforts to achieve a comprehensive, global reduction in greenhouse gas emissions across the economy as a whole. The Initiative is voluntary and it is the responsibility of each member to define its own contribution to achieving its goal.

Pascal Xicluna © Min_Agri

> ONE PRIORITY: AGRICULTURAL SOILS TO ENSURE FOOD SECURITY

One simple observation of fact:

- Soil degradation poses a threat to more than 40% of the Earth's land surfaces and climate disruption is accelerating the process.
- This has disastrous consequences for food security and family farmers.

Our capacity to feed 9.5 billion people in 2050 in a context of climate change will depend in particular on our ability to keep our soils alive. 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 cope with the effects of disruption in the climate.

Primarily composed of carbon, the organic matter in soils plays a role in four important ecosystem services: resistance to soil erosion, soil water retention, soil fertility for plants and soil biodiversity. Even small changes in the soil carbon pool have large-scale effects both on agricultural productivity and on greenhouse gas balance.

Maintaining organic carbon-rich soils, restoring and improving degraded agricultural lands and, more generally, increasing soil carbon, play an important role in addressing the three-fold challenge of food security, adaptation of food systems and people to climate change, and mitigation of anthropogenic emissions. There are concrete solutions for achieving this.

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ONE VISION: THE "4 PER 1000 INITIATIVE: SOILS FOR FOOD SECURITY AND CLIMATE"

The "4 per 1000" Initiative aims to improve the organic matter content and promote carbon sequestration in soils through the application of agricultural practices adapted to local situations both economically, environmentally and socially, such as agro-ecology, agroforestry, conservation agriculture or landscape management.

- The Initiative commits stakeholders to **a transition towards productive, highly resilient agriculture, based on appropriate management of land and soils, generating jobs and incomes, thereby promoting sustainable development**.
- **This Initiative is part of the Global Climate Action Agenda, which follows on from the Lima-Paris Action Agenda, contributing to the goal of a land-degradation neutral world.**
- All the stakeholders can undertake together to ensure that as much agricultural land as possible benefits from farming practices that maintain or enhance soil carbon levels and preserve carbon-rich soils. Every stakeholder can commit to a target, to one or more types of action (including soil carbon stock management and other accompanying measures, for example index-based insurance, payment for ecosystem services, and so on), in addition to a time-line and resources.
- The Initiative aims to send out a robust message on the potential of agriculture to contribute to the long-term objective of a carbon-neutral economy.

Cheick Saidou © Min_Agri

J. Bouyer © Cirad

The governance of the Initiative

The Initiative began to take shape with the publication on 23 September 2016 of the Declaration of Intention, which defines its governance structures.

THE FORUM OF PARTNERS
=
A CONSULTATIVE BODY
Any organization sharing the principles and goals of the Initiative

Focuses, collaboration, partnerships

THE CONSORTIUM
=
A DECISION-MAKING BODY
Any not-for-profit, non-commercial organization committing to the Initiative

Decisions on focuses, policy, work programmes, budget, indicators for inclusion in the project evaluation reference criteria, etc.

THE SCIENTIFIC AND TECHNICAL COMMITTEE
=
A SCIENTIFIC BODY
14 scientific experts

Focuses for the research programme, scientific and technical advice for projects, indicators for the reference criteria, database for the resource centre, etc.

The Executive Secretariat = **AN EXECUTIVE BODY**
providing support to the three bodies above

Action plan

Research program

Signing the Declaration of Intention entitles signatories to participate in the governance of the Initiative.

> WHAT IS THE ADDED VALUE OF THE "4 PER 1000" INITIATIVE?

The "4 per 1000" Initiative aims to develop practical measures on the ground that benefit crop and livestock farmers, who are the first to be affected by land degradation, and more broadly for the whole world population.

This is a multi-partner initiative based around two focuses for action:

a multi-partner - state and non-state actors - programme of actions for better management of soil carbon in order to combat poverty and food insecurity, while contributing to climate change adaptation and emissions mitigation by:

- implementing at local level practices for farming and managing environments favourable to the restoration of soils, to an increase in their organic carbon stock and to the protection of carbon-rich soils and biodiversity;
- implementing training and outreach programs to encourage such practices;
- funding projects to restore, improve and/or preserve carbon stocks in soils;
- developing and implementing public policies and appropriate tools;
- developing supply chains of soil-friendly agricultural products, and so on.

an international research and scientific cooperation programme – "Soil carbon and food security" focused on four mutually complementary research themes:

- a study of the mechanisms and an assessment of the potential for carbon storage in soils across regions and systems;
- evaluation of the performance offered by beneficial farming practices and their consequences for CO2 sequestration and other regulation and production services;
- support for innovation and its promotion by appropriate policies;
- monitoring and estimating variations in soil carbon stock, especially for farmers.

To ensure that joint action by all stakeholders can produce results and thereby enable the agricultural sector to contribute to climate change adaptation, food security and the mitigation of GHG emissions, additional funding must be found and appropriate development polices put in place.

This Initiative will also help strengthen existing synergies between the three Rio Conventions, the Committee on World Food Security, the Global Soil Partnership, and the Sustainable Development Goals adopted in September 2015. The principles of the "4 per 1000" initiative will be completely in line with the World Soil Charter (1988/2015).

The initiative will support action for the above core focuses by:

- ✔ proposing a set of reference criteria for the evaluation of projects, on the basis of the Initiative's principles and goals;
- ✔ establishing a collaborative platform to facilitate discussion, collaboration and the capitalization between stakeholders of experience of practical implementation;
- ✔ acknowledging the exemplary character of certain projects regarding the objectives of the initiative;
- ✔ creating a digital resource centre on soil carbon-related issues;
- ✔ promoting internationally the advantages of sustainable soil management practices for food security and climate;
- ✔ facilitating communication between scientists and the stakeholders in agricultural policies and international development.

Stakeholders commit to the 4 per 1000 initiative

The 4 pour 1000 initiative was launched on 1 December 2015 during COP 21. Since its launch, over 250 organizations have expressed their support for the Initiative by signing the Paris Declaration laying down its goals (list available on the Initiative website).

- Farmers organizations (agricultural, corporate, etc.) can contribute to and encourage the adoption of new practices to store a larger amount of carbon while increasing soil fertility and resilience, in collaboration with researchers, development and other stakeholders.

- NGOs have a crucial role to play in identifying, adapting and facilitating the dissemination of good practices and ensuring that they meet producers' expectations, in conjunction with researchers, actors in development and agricultural sector organizations.

- Research bodies, especially those at international level, can provide coordinated development of the four focuses described above:

  ✔ knowledge of soil carbon pools and the potential for carbon storage;
  ✔ the impacts of farming and forestry practices on soil carbon storage;
  ✔ methods for monitoring carbon sequestration in soils;
  ✔ dissemination of good practice.

- Governments and local authorities undertake for example to:

  ✔ put training programmes in place for farmers and agricultural development advisers with a view to enhancing levels of organic matter in soils;
  ✔ adopt appropriate public policies, in particular for land tenure such as the Voluntary Guidelines for Responsible Governance of Tenure (CFS 2012) and for sustainable soil management;
  ✔ fund the implementation of development projects aligned with the approach defined by the “4 per 1000” Initiative;
  ✔ develop agricultural product supply policies that promote sustainable management of soils through public procurement, where appropriate.

- Donors and private foundations notably undertake to:

  ✔ adopt an ambitious goal for the support of development projects that foster dissemination and implementation of agricultural practices to increase, and stabilize levels of organic matter in the soil and prevent the degradation of agricultural soils;
  ✔ fund projects for training and awareness-raising, research and development, trainings and the implementation of soil carbon monitoring systems;
  ✔ back the development of tools for estimating the impact of agricultural development projects in terms of their effects on soil carbon.

- Private companies notably undertake to:

  ✔ encourage the supply of products derived from practices beneficial to soil carbon, as also for preventing deforestation;
  ✔ provide financial support for projects to rehabilitate or protect agricultural soils.

The "4 per 1000: soils for food security and climate" Initiative is totally in accord with the Paris Agreement (December 2015) insofar as it:

- contributes to resolving the issues of adaptation and protecting food security, notably through improvements in soil fertility, farm yields and the nutritional quality of agricultural products;
- contributes to achieving the goal of limiting global warming to less than 2°C and the long-term goal of neutrality for human emissions (taking all gases together) in the second half of this century;
- develops practices, techniques and policies backed by up-to-date scientific knowledge, in order to assist countries in meeting the targets they have set for themselves in their nationaly determined contributions (NDCs);
- provides, notably to donors, scientific guarantees on the impact of projects submitted to them for funding, as well as to civil society on the environmental, social and economic consequences.

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The 4 per 1000 Initiative is consistent with many of the Sustainable Development Goals (September 2015): SDGs 1 and 2 (nourishing and high quality food accessible to all), SDG 4 (reduced use of inputs potentially hazardous for health), as well as SDG7, SDG8, SDG12, SDG13, SDG14 and SDG15.

The 4 per 1000 Initiative meets all the criteria of the Global Climate Action Agenda insofar as it is:

- ✔ transformational,
- ✔ a source of concrete deliverables,
- ✔ reproducible,
- ✔ innovative,
- ✔ an aid to realization of NDCs,
- ✔ inclusive.

Key figures

24 % of global soils are degraded to various degrees, including 50% of agricultural soils [source: Bai et al., 2013]

1,500 billion tonnes of carbon are stored in soil organic matter, which is twice the quantity of carbon in atmospheric CO_2 [source: IPCC, 2013]

1.2 billion tonnes of carbon could be stored every year in agricultural soils (cropland and grassland), representing annual storage of 4 per 1,000 compared to the surface soil horizon [source: IPCC, 2014].

24 to 40 million tonnes more grain could be produced every year in Africa, Asia and South America, by storing one tonne of organic matter per hectare of land [Lal, 2006]

1.2 billion US dollars is the economic loss in grain production due to soil degradation [FAO, 2006]

JOIN THE "4 PER 1000" INITIATIVE

Who can participate?

All national governments, regional and international public-sector organisations, local government or community bodies, scientific and technical bodies, research and educational institutions, farmers organizations, civil society organisations, foundations and private companies.

How to participate?

Go to the Initiative website at 4p1000.org and join the Initiative's governance by signing the Declaration of Intention.

To find out more:

www.4p1000.org

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