



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

Editorial by Paul Luu



Dear members, dear partners,

You are reading the second edition of our newsletter launched last July. This communication channel is yours and many of you have already passed on information to share with the "4 per 1000" community. We welcome any announcements of relevant international meetings, articles or field news for our initiative (please send them to secretariat@4p1000.org).

It also is in this spirit that we officially launched on September 13, 2018, at the Global Climate Action Summit in San Francisco (September 12-14, 2018), the Initiative's collaborative platform. You will find in this edition more details on this new tool now. Just like the newsletter, this platform will reflect our community: the more active and rich you engage in it, the more numerous and fruitful the connections and exchanges will be. We need to nourish it!

All Initiative partners received a link to login and register as users. Start hitting those keys, exchange, present, question, collaborate! This platform is for you. We plan to open access to individual farmers who would like to enrich the exchanges and allow a wider development of practices consistent with the "4 per 1000 » very soon. We would like to express in advance our gratitude to all of those who will contribute to facilitate discussion groups essential to the life of the platform.

At the end of the year, for those who will be in Katowice, Poland at the COP24 of the UNFCCC, we will be able to meet for the [2nd day of the "4 per 1000" Initiative](#) that will take place at the University of Silesia on December, 13, 2018. We will look back at 2018, rich in meetings and achievements that advance the ideas we defend to promote carbon sequestration in soils. We hope that despite difficulties to find accommodation in Katowice you will come (possibilities exist in nearby villages and the public transport network is efficient, so do not hesitate to stay outside Katowice). On December, 11-12, the Scientific and Technical Committee will meet. Find out about its composition, mode of operation and terms of reference in the pages that follow, as well as the importance of science within the Initiative.

On September 13, 2018, the Global Soil Health Challenge was launched by the State of California and France. In the "They act" section, you will find more information on this challenge.

This newsletter also contains much more information, congress announcements and reports from international meetings not to mention the actions of our partners. Tell us about your actions, this newsletter is yours!

Every single one of us can take action to get things moving forward. Together we can make a difference. Our actions, individual or collective, can make things happen.

Dr. Paul LUU, Executive Secretariat

The Executive Secretariat is still looking for a secondment related to a Communication officer and webmaster. If your institution or organization wishes to provide such a secondment, please contact Dr. Paul LUU: paul.luu@4p1000.org

How does the "4 per 1000" collaborative platform work?

Launched on September, 13, at the Global Climate Action Summit in San Francisco, the "4 per 1000" Initiative collaborative platform is organized, like the Partners Forum, in:

- 5 colleges :
 - o States and provinces, international and regional organizations, development banks
 - o Research and teaching institutes
 - o Organizations of agricultural and forestry producers
 - o Civil society and non-profit foundations
 - o Private companies
- 1 transversal group gathering funders regardless of their public or private status
- 4 Interfaces opened to all partners:
 - o One general interface, general meeting point for members of the forum (announcements, agenda, general discussions ...) and knowledge base to accumulate working and reference documents around the "4 per 1000"
 - o Three more targeted work interfaces:
 - * a "Public Policies" working group
 - * a "Research" working group - and interface with users of research
 - * a working group to set up concrete projects

Although announced in November, the Executive Secretariat and the platform's administrators have decided to wait for the 2nd day of the "4 per 1000" Initiative (December 13, in Katowice) to open the collaborative platform to the "Friends of 4 per 1000" group.

A collaborative digital platform for what?

This collaborative platform is a work tool such as a "hub" which should, in particular, allow to:

- Exchange experience and knowledge between partners of the "4 per 1000" Initiative
- Create and collaborate for the implementation of projects in the field
- Propose actions to finance and/or funding to support projects
- Identify practices for storing carbon in soils, conducted in different countries and share know-how and practices through technical datasheets (agroecology, agroforestry...)
- Contribute to developing new techniques and practices
- Share resources, information, data
- Benefit from knowledge and actions developed by other partners
- Use the forums to start discussions
- Design wiki pages to write and store content
- Question scientists about scientific knowledge and current scientific research
- Propose to policy makers measures or guidelines that support the objectives of the Initiative
- Inform stakeholders in the field of policies implemented at different scales
- Fill some information in agenda... Share any other action that the partners will be willing to share.

For who?

The collaborative platform is opened to "4 per 1000" Initiative Partners*.

As soon as you join the Initiative, you will receive an email confirming your registration on the work platform and detailing the steps to be taken to create your login and password and connect for the first time. Once registered, your account on the hub will be validated within a few days by the administrators of the platform, subsequently giving you access to all its content.

When you first connect to the platform, we advise you to consult the help pages of the hub - accessible via the top menu, category "Help and support" then option 1 "Knowledge base / help system".

Help documents in pdf format will also be sent to you when you first login.

The hub administrator can accompany you at all stages of your first connection to the hub. You can contact him at the email address: Hub.admin@4p1000.org

For more information on how to get involved: www.4p1000.org

*Anyone representing a structure that has officially signed up to the "4 per 1000" Initiative through the signature of the Paris Declaration of Intention becomes "Partner" (States, local authorities, international organizations, public/private donors, foundations, associations, NGOs, agricultural and forestry producer groups, private companies, research and teaching organizations ...) and has access to the collaborative platform.

Become a militant of the "4 for 1000"!

The main challenges of the platform are to promote discussion among partners and create a knowledge base for all.

To do this, we are looking for volunteers of good will wishing to become "militants of the 4 per 1000", with two types of profile:

- o **Group leaders and discussion moderators** - volunteers to participate in the animation of the different workgroups of the hub, and especially to prepare to become guides to welcome external visitors on the hub (eventually, when the Hub is will open to individuals carrying projects)
- o **Collectors and creators of voluntary content** to gather information, reference documents and participate in the capitalization of knowledge on the Hub... These people will download gradually on the hub, this documentary background, and will also be in regular contact with our researchers to retrieve documents accessible to as many people as possible.

If you are interested, you wish to get involved, contact the platform administrator by sending an email to Hub.admin@4p1000.org

Focus... The Scientific and Technical Committee

The "4 per 1000" initiative comprises two themes:

- **a scientific part led by the Scientific and Technical Committee**
- **a development part** based on field activities:
 - o a collaborative platform open to partners and members
 - o a digital resource centre on soil organic carbon management (under construction).

The STC, made up of **14 high-level scientists of international reputation**, chosen by the Consortium of Members on the proposal of the Executive Secretariat, is **the scientific body of the Initiative**. The STC meets several times a year and during the first years of his existence, it has:

- proposed a set of benchmarks for the evaluation of projects and actions based on the principles and objectives of the Initiative, as well as on the Sustainable Development Goals ([read about indicators and evaluation criteria for "4 per 1000" projects](#))
- formulated proposals for the guidelines of the international program for scientific research and cooperation and for any cross-cutting issue provide technical advice on field projects, actions and programs ([read about current priorities of research](#)).

The Scientific and Technical Committee (STC) was established on November 17, 2016 during COP22 in Marrakesh. The STC is one of the four bodies of the "4 per 1000" Initiative's governance.

**The last meeting of the STC was held in Madrid, 5-7 June, 2018. The next meeting will take place on December, 11-12 in Katowice (Poland) during COP24.*

Members of the "4 per 1000" Scientific and Technical Committee

It is a **multidisciplinary group of 14 world-renowned scientists**, with a balanced composition of geographical origin and gender, each member of which must regularly produce a declaration of interests:

FARSHAD AMIRASLANI (Iran) ♦ CLAIRE CHENU (France) ♦ MAGALI GARCIA CARDENAS (Bolivia) ♦ LYDIE-STELLA KOUTIKA (Congo) ♦ MARTIN LECKSON KAONGA (Zambia) ♦ JAGDISH LADHA (India) ♦ BEATA EMOKE MADARI (Brasil) ♦ CORNELIA RUMPEL (Germany) ♦ YASUHITO SHIRATO (Japan) ♦ PETE SMITH (United Kingdom) ♦ BRAHIM SOUDI (Marocco) ♦ JEAN-FRANCOIS SOUSSANA (France) ♦ DAVID WHITEHEAD (New Zealand) ♦ LINI WOLLENBERG (USA)

The Chair of the "4 per 1000" Scientific and Technical Committee is currently Dr. Cornelia RUMPEL (Germany), Researcher at the National Center for Scientific Research (CNRS) - Institute of Ecology and Environmental Sciences of Paris.

The three Vice-Presidents of the STC are:

- **Pr. Claire CHENU** (France), Professor of Soil Science at AgroParisTech (Biology, Agronomy, Food Science and Environment), researcher at INRA (National Institute of Research in Agronomy) for 20 years
- **Dr. Magali GARCIA CARDENAS** (Bolivia), Researcher at UMSA Bolivia (Universidad Mayor de San Andrés - Bolivia) - Environmental Services
- **Dr. Jean-François SOUSSANA** (France), Vice-President for international policy - INRA.

Take a look at the biographies of the CST members and their roles: [Presentation of the CST members](#)

Role of Research in the "4 per 1000" Initiative

The "4 per 1 000" initiative is a multi-actor initiative built around two main sectors of:

- 1. A multi-actor, state and non-state action program for better soil carbon management** to combat poverty and food insecurity, while contributing to adaptation to climate change and mitigation of emission
- 2. And an international scientific research and cooperation program:** "Carbon in soils": a food security challenge" covering four complementary scientific questions:
 - The study of mechanisms and estimation of carbon storage potential in soils by regions and systems
 - The assessment of the performance of virtuous agricultural practices and their consequences for sequestration and other production and regulatory services
 - The accompaniment for innovations and their stimulation through appropriate policies
 - The monitoring, reporting and verification of results (MRV - measuring, reporting and verification), in particular for farmers.

More information: <https://www.4p1000.org/governance>



They act!

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Global Soil Health Challenge

Karen ROSS, Secretary of the California Department of Food and Agriculture, announced the official launch of the Global Soil Health Challenge, in partnership with France.

This announcement was made at the 2018 Global Climate Action Summit, which brought together leaders and people from around the world from September 12 to 14 in San Francisco to "set new ambitions" for the fight against climate change against global warming.

The challenge calls on governments across the world – both national and sub-national – to include programs that restore soil health under their national plans to meet their targets under the Paris Agreement.

The signatories agree to promote the development of healthy soils within their respected geographies and report back on their progress at the 2019 UN Climate Summit in New York.



Paul Luu, "4 per 1000" Initiative, Karen Ross, Secretary for CDFA, Murielle Trouillet, French Ministry of Agriculture and Food, Jenny Lester Moffitt, Under-Secretary for CDFA

Currently, only 8 governments include programs on soil health in their Nationally Determined Contributions (NDCs). Yet boosting soil carbon is relatively easy, through low-tech sustainable agricultural practices. These measures not only help fight climate change, but increase biodiversity and food security too.

California has invested over \$700 million to date in climate solutions for agriculture, which include the on-farm strategies for soil carbon sequestration. The state has specifically committed \$22.5 million in climate investments for soil health – the first climate commitment for soils in the US.

More information: <https://www.globalclimateactions Summit.org/>

The "4 per 1000" Initiative in a few figures...

281 Partners and 149 Members (November, 2017)

63 Members and partners awaiting validation by the Consortium

All countries or organizations that joined the Initiative ([see here how to join](#)) sent their application to the Executive Secretary. If the application is complete, the Executive Secretary submits the list of new partners and members to be approved to the Consortium of Members, at the beginning of each meeting. After this formal approval, the new partners and members are included in the official list. The new partners and members having applied since the last Consortium's meeting in November, 2017, will be added to the official list after the next meeting of the Consortium that will take place in Katowice (Poland) on December 13th, 2018.

[Listing of the Consortium of Members and Forum of Partners of the Initiative \(November 16th, 2017\)](#)

Save the date!

The 2nd day of the Initiative will take place in Katowice (Poland) on December 13, 2018

At UNFCCC-COP 24 in Katowice, Poland (December 3-14, 2018), the "4 per 1 000 Initiative : Soils for Food Security and Climate" will organize **the 2nd Day of the " 4 per 1000" Initiative** on December 13, 2018 , in partnership with the University of Silesia.

The organization of this day, which will be held one year after its first edition, aims to an annual event on the sidelines of the UNFCCC COPs and will bring together the 4th meeting of the Consortium of Members and the 3rd meeting of the Forum of Partners of the Initiative.

The Scientific and Technical Committee (STC) of the "4 per 1000" Initiative will meet on December, 11-12 (for its members only).

Click [here](#) to register and find all related documents, conference website

From 20 to 22 May 2019 the 4th World Congress on Agroforestry entitled "Strengthening links between science, society and policy" will be held in Montpellier.

This world congress is organized by CIRAD and INRA, with the support of Agropolis International and Montpellier University Excellence.

Delegates and renowned speakers are expected in Montpellier at this great conference which will address the most significant scientific issues in agroforestry. Plenary and parallel sessions will cover topics including: Agroforestry (AF) and Climate Change - AF and desertification / Land Degradation / Soil Rehabilitation - AF, Agroecology and Ecosystem Services - AF and Smallholder Agriculture - Mediterranean AF...

The « Mitigating climate change through agroforestry » session will focus, especially, on issues related to « 4 per 1000 ».

Click [here](#) for more information

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NEPAD, REGENERATION INTERNATIONAL and "4 per 1000" Initiative First "4 per 1000" Africa Symposium on Soils for Food Security and the Climate - Building synergies across Africa to advance on Soils for Food Security and Climate

104 participants from 16 African countries together with Partners from the EU, North- and South America, came together in Johannesburg for the 4 per 1000 Africa Symposium on Soils for Food Security and the Climate. Current insights into existing initiatives in Africa led by NEPAD, governments and civil society organisations were presented and discussed. Conversations and working groups were conducted around the four interconnected pillars of the 4 per 1000 initiative: soil health, food security, adaptation to climate change and contribution to global climate change mitigation.

The outcome report is under preparation and will be presented at the 4 per 1000 Initiative Day on 13 December in Katowice, Poland. Among the main conclusions were:

- There is a need to close the gap between research and the civil society. We need to stop the dichotomy between "us" and "them" and work closer TOGETHER.
- African agriculture can contribute to solving many of the world's problems. Promising ways and effective tools to restore and conserve the land while fighting hunger and poverty are partly known, we need to focus on spreading the knowledge and identifying concrete investment options to accelerate implementation and up-scaling.
- Ecosystem degradation and climate change are aggravating rapidly. We have no time to lose and need to focus on the synergies between our different initiatives in each region.

Following the Symposium, the co-organizer Regeneration International launched a letter to highlight the huge potential of soil restoration and conservation for tackling migration issues the world is currently facing. We invite all members to read it and support it with your signature as well as share it among your networks:

From Forced Migration to Regeneration: [An Open Letter to the Citizens of the Global North](#)

Click [here](#) for more information

Ecosystem Restoration Camps

Under the slogan "together we are powerful", John D. Liu*, member of the Dutch non-profit Ecosystem Restoration Camps Foundation started 2016 to engage hundreds of people in research, monitoring and demonstrating the best practices in seed saving and exchange, professional propagation and nursery systems, large-scale composting, water harvesting, and water management systems. The first restoration camp in the Murcia region of South-Eastern Spain – Camp Altiplano – is only the first of many volunteer camps, which houses people who, during their stay, learn how ecosystems function, how and why they are degraded, and how these ecosystems, both natural and agricultural, can be rehabilitated. Here, over 200 farms in the surroundings benefit from joint restoration efforts and knowledge exchange. Currently, three further camps over the world are in planning.

Click [here](#) for to join the global movement!

End of September 2018, the first ever Regeneration Festival took place at Camp Altiplano: click [here](#) for more information.

**John D. Liu is also ambassador of the Commonland Foundation*

Save the date !

Symposium "Agriculture of Soil Conservation" - January 2019, Friday 18th - Toulouse (France)
Living soils for economic and environmental performance of agricultural systems for human health and nature

At the initiative of ENSAT, the symposium is hosted by Toulouse Agri Campus. The steering committee is composed of Grégory Dechamp-Guillaume (TAC), Michel Duru (INRA), Jean-Pierre Sarthou (INP / ENSAT), Cédric Cabanes (Agronutrition), Claire Ponthus, Guillaume Duboin. It mobilizes, in its preparation, the support of APS-Ensate (the Junior Enterprise of Ensate) and Acropolis International.

The symposium has the triple objective of (i) taking stock of current scientific knowledge about the risks and potential of conservation agriculture, (ii) showing successful experiences in the region and elsewhere in France, in all major types of production (field crops, viticulture, arboriculture, polyculture breeding) and also (iii) to explain, mainly through the voice of field professionals, how to lift different barriers to the implementation of the principles of Conservation Agriculture.

Click [here](#) for more information (in French)

"The International Meeting of Agriculture of the Living", Paris, February, 20-24, 2019

Organized by Ver de Terre Production with the participation of the movement For a Farming of the Living, "the International Meeting of the Agriculture of the Vivant" will be composed by a set of conferences on the agronomic fundamentals of a living soil, the agroecological practices by sectors in France and abroad, and also advances in the nutritional quality of agroecological products.

Click [here](#) to learn more and register (in French)

They act!

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CIRCASA

The CIRCASA project is a scientific cooperation project funded by the EC, but involving more than 25 scientific institutions all over the world.

CIRCASA launched a survey to better understand the view of stakeholders on the role of Soil Organic Carbon (SOC) management for climate change mitigation and sustainable development. The aim of the survey is **to support an international research agenda on SOC.**

If you are a farmer, landowner, public official, a non-profit organization, private business, in academia, a member of civil society, a government authority, or dealing with soil organic carbon management in any other way, the CIRCASA project team would love to hear your opinions. The **survey takes around 30 minutes to complete.**

Your answers will be treated confidentially and anonymously. The data generated will be analysed to make comparisons across stakeholder groups and countries across the globe.

The results of the stakeholder survey will inform an international research agenda on SOC management. Such an agenda will strengthen coordination in global research on SOC management in agricultural soils, leading to improved understanding and scientific basis to target ambitious practices required to preserve and enhance SOC:

We would very much welcome your participation in the survey. Please also feel free to forward our survey to other interested parties.

The survey is available [here](#)

Regeneration International

In Johannesburg, October 24, the NGO Regeneration International and the "4 per 1000" Initiative launched a combined carbon offsetting mechanism for air travelers. The Executive Secretariat considers a duty to propose such a mechanism with the objective of offsetting carbon emissions emitted during air travelers' journeys, and it has joined forces with Regeneration International to set up an online website receiving donations based on estimates from online calculator on carbon emissions. The donations raised will be used to support projects assessed by the STC of "4 per 1000", meeting the objectives of the "4 per 1000" Initiative.

A link will be available soon to use this mechanism.



André Leu, International Director of Regeneration International, and Dr. Ibrahim Assane Mayaki, Executive Secretary of NEPAD and Chair of the "4 per 1000" Initiative

They act! Discover of different partners and members' projects

CIAT

Sequestering carbon in African soils – we need data, knowledge and tools for decision support - Kristin Piikki et Mats Söderström - SLU, Suède / CIAT Kenya

An overall aim to sequester carbon in the soil, like 4 per 1000, is a good start. But, somebody has to do it! On agricultural land, eventually, it is the farmers who would put carbon back into the soil. In Kenya and Ethiopia, that is often smallholder farmers, owning maybe an acre of land on which crops are produced with limited inputs and intensity. In some locations the soil is severely degraded in terms of soil organic carbon (SOC) content and there is scope to boost the soil with additional carbon. In other areas, the soil is already in a so-called steady-state; it has reached its carbon saturation and there is little potential to further increase the carbon content in the soil – the farmer shall instead focus on avoiding losses. Which carbon-harnessing farming practices that are best to promote at the policy level differ between areas depending both on biophysical conditions and on the socioeconomic context of the farm. In order to maximize sequestration and reach the 4 per 1000 target, management practices need to be tailored to each plot, and target actions to where there is a SOC gap to close. To accomplish this decision support is needed in the form of data, and tools to translate such data into easily understandable decisions. CIAT East Africa carry out a suite of projects that provide just that: data, knowledge and tools that enables carbon sequestration.

Some examples:

Transferring data across scales

The amount of carbon that can be stored in the soil depends among other things on climate and soil texture, primarily the fractions of small mineral particles (called clay and silt particles). The best way to know the texture of a soil is to send a soil sample to the lab. With some training one can also do a hand test. The longer coil one can roll from the moist soil without breaking it, the larger the fraction of fine particles and the larger potential to store carbon in the soil. This can be done on individual fields. For those working with extension or decision-making, detailed maps are more useful. Creating an original map solely from soil samples can be costly and CIAT has developed tools to alleviate that: for example, one tool suggests a smart design of soil sampling survey based on available spatial covariates, and another tool locally adapts and evaluates large-scale maps (e.g. national or continental maps) for local use. These tools are currently being implemented into a web based decision-support system for easy use.

Building a knowledge base

In a recent [literature review](#), of what we actually know about the potential to sequester additional SOC, CIAT researchers concluded there are still knowledge gaps. Large areas of East Africa are largely un-researched and there is a lack of long-term studies on how much SOC can be stored in cultivated soil under different management. This means that all estimates of carbon sequestration potential are afflicted with considerable uncertainty. If and how additional SOC can be stored in the grasslands of East Africa is also to a large extent unknown. CIAT use models and do field trials to piece by piece add to a better understanding of the soil carbon dynamics in this area of the world. Such knowledge can help farmers targeting practices and sites to manage carbon and to help mitigating climate change.



It is ultimately the farmers who have to implement high-levels decisions on SOC sequestration. The photo shows a small-holder farm on the slopes of Mt. Kenya.

Save the date!

International conference «Food Security and climate change: 4 per 1000 new tangible initiative for soil », will take place in Poitiers on 18-20 June 2019.

The conference will focus on 3 areas:

- Explore the controversies that exist in the implementation of Initiative 4 %.
- Explore how this "initiative" will affect the role and influence of different research communities in knowledge production networks?
- Explore scientific studies and practical experiences that will unravel the locks and opportunities of carbon storage in different parts of the world.

We invite you to join us to learn and share your experiences around this initiative and better coordinate the various efforts for the success of this strategic initiative for food security and climate.

More information in our next newsletter.

They act!

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French Embassy in the United States - Department of Agriculture Soil Health practices - Washington, June, 18, 2018

The conference was structured into two panel discussions.

The first, dealing with the relationship between the use of scientific knowledge and its dissemination through the development of good practices by countries (developing appropriate policies) and project leaders (such as NGOs or collective structures), has shown a consensus on the primary importance of information and training to raise farmers' awareness of the importance of soil organic matter growth and its benefits. These benefits, through the storage of organic matter and therefore of carbon, are of an environmental nature thanks to the increase of the resistance of soils to erosion, the increase of their role of retention of water particularly crucial to avoid the runoff at the origin of catastrophic flood peaks. But they are also and above all of an agronomic nature, thanks to the improvement of the soil fertility, allowing an increase of the yields in parallel with a decrease of the nitrogen inputs necessary, which at the macro-economic level contributes to improve the food security and the capacity of States to feed their population and the world's population today and tomorrow. The continuous improvement of scientific knowledge is necessary to ensure the implementation of always most sustainable and efficient policies, and a better evaluation of the impacts and benefits of these policies. The establishment of a long-term policy logic is also crucial, as a break in good practice can lead to the annihilation of several years of effort on a plot, in terms of stocks of organic matter. The presentation of the policies of the US federal state and France state made it possible to highlight the similarities of approach, in terms of concrete objectives.

The second, through the diversity of stakeholders, presented different points of view on the implementation of a policy for the benefit of soil health, at the level of a federated state (California has presented actions carried out for several years, especially in a context of increased drought), a world body, an NGO, a producers' association and of a company. These views not only show that, while farmers are the primary people responsible for implementing good practices in the field to increase stocks of organic matter, each type of stakeholder should take responsibility for his part. It is crucial to be aware of the importance of the subject, and to think about how to convince and support farmers in the implementation of these practices in the long term. But these interventions have also shown how interests and objectives converged.

Two speakers also expressed their interest in highlighting, through examples, the themes developed during the panel discussions:

- the first, at the opening of the Conference, to indicate the importance of implementing soil health improvement measures for the territories, taking the example of the policy put in place in the State of Maryland;
- the second, between the two panel discussions, to present the international initiative 4p1000 which aims to put in contact the different actors intervening in favor of the increase of the storage of organic matter in soils and the improvement of the scientific knowledge, as well as the development of a common and shared framework of analysis.

In conclusion, the moderator of the event reminded that **in the fight against climate change, carbon is not so bad, it is what is done and where it is** (atmosphere or soil) which is crucial: that is why is important for each economic actor to be aware of the consequences of the actions carried out, and the need for this to perfect the scientific knowledge in this area. For this purpose, **it seems important to promote farming systems and practices that increase the amount of organic matter stored in soils, such as agroecology, regenerative agriculture, conservation agriculture, agroforestry organic farming ... these systems have beneficial impacts in terms of both the environment and food security.**

The challenge is both local and global, a global response, involving everyone is therefore necessary: the responsibility is not just that of farmers, but everyone's responsibility.

They act!

Discover of different partners and members' projects

International Rice Research Institute (IRRI)

'Carbon Sequestration for Climate Change Mitigation' Session at the 5th International Rice Congress (Oct 15-17, 2018) - A Joint Session Organized by IRRI and "4 per 1000" Initiative to take stock of the work that has been done on SOC in rice systems and identify areas for further research.

Soil organic carbon (SOC) sequestration is an important component of healthy agricultural soils. Most of our understanding of soil carbon and nitrogen dynamics has been gained from research on aerobic soils, predominantly under temperate environments. Relatively little research has been done on flooded anaerobic soils and tropical conditions. In addition, intensive rice production systems are undergoing large changes driven by shortages of water and labor, resulting in increased diversification as well as mechanization and introduction of an extended soil aerobic phase. The introduction of dry phases or non-flooded crops in previously mono-cropped flooded rice systems has the potential to bring about faster decomposition of organic matter under aerobic conditions. While these trends potentially reduce the carbon sequestration capacity of rice soils, they help to reduce greenhouse gas emissions, particularly methane, of which rice soils are a major source.

A 3.5-hour session led by Dr Pauline Chivenge and Dr Ole Sander, IRRI scientists, was held on the first day of the Congress. The session focused on the possibilities, limitations and benefits of increasing soil carbon sequestration in rice soils to meet the objectives of the "4 per 1000" Initiative. In general, most rice soils, which are characterized by flooding during paddy management, are rich in soil organic carbon. Thus, maintaining SOC and preventing greenhouse gas emissions (CH₄ and N₂O) is critical. However, due to climate change, prolonged wetting through irrigation may no longer be possible and cultivation of other crops during dry periods with emphasis on SOC enhancement is becoming more important. The participants reviewed on-going work on soil organic carbon in rice soils in relation to changing land and water management and climate, and examined areas of research to increase or maintain soil C in rice soils. The participants also discussed the proposal of initiating a global consortium on SOC in rice soils and there was a strong support for IRRI to lead such an effort in collaboration with "4 per 1000" Initiative and other stakeholders including national programs.

Two other sessions related to the "4 per 1000" Initiative took place:

- "Promoting Carbon Sequestration in Soils: the "4 per 1000" Initiative", session led by J.K. Ladha, University of California, Davis, and member of the "4 per 1000" Scientific and Technical Committee
- "Soil Carbon Sequestration to Enhance Food Security and Mitigate Climate Change - a Viable Option for Rice Soils", session led by Cornelia Rumpel, Institut d'Ecologie et des Sciences de l'Environnement Paris (IEES) and Chairwoman of the "4 per 1000" Scientific and Technical Committee.

Conference website: <http://ricecongress2018.irri.org/>

International Union of Soil Science, Latin American Soil Science Society, Brazilian Soil Science Society - 21st World Congress of Soil Science - Aug. 12-17, 2018, Rio de Janeiro, Brasil

The Congress was organised by the International Union of Soil Sciences (IUSS), the Latin American Soil Science Society (SLCS) and the Brazilian Soil Science Society (SBCS). The theme "**Soil Science: Beyond food and fuel**" was an invitation to answer questions like: How to feed a hungry planet? How to fuel an energy-hungry planet? How to quench a thirsty planet? How to clean up our polluted planet? How to reach a balance between protection of biodiversity and sustainable land management for agriculture production?...

One session was dedicated to the initiative "4 per 1000": "The organic matter of the soil to preserve the food and the water and the initiative "4 for 1000". This session was chaired by Beata Madari, member of the Scientific and Technical Committee of the 4 for 1000 initiative. It brought together more than 150 people and saw the interventions of Claire Chenu and Budiman Minasny, among others. Key issues were discussed, e.g. permanence of storage, carbon stabilization and the future of the science-policy dialogue. The latter relied on recent articles on carbon storage in initiative systems, such as "[Increasing Organic Soil Stocks in Agricultural Soils: Knowledge Gaps and Potential Innovations](#)", Claire Chenu et al. 2018.

Furthermore, as part of the "Carbon sequestration potential of soils" session, led by Claire Chenu and Denis Angers, the article by M. Corbeels, R. Cardinael, K. Naudin, H. Guibert and E. Torquebiau "The 4 per 1000 goal and soil carbon storage under agroforestry and conservation agriculture systems in sub-Saharan Africa "(doi.org/10.1016/j.still.2018.02.015) and the first results of the project "Scale out the 4 per 1000 initiative " were presented by Julien Demenois. The carbon storage potentials of agroforestry and conservation agriculture in sub-Saharan Africa were presented. The need to develop multi-stakeholder approaches in the context of agricultural innovation systems was also put forward to ensure the dissemination of practices contributing to the objectives of the 4 per 1000 initiative.

Conference website: <https://www.21wcso.org/>

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What is needed to move MRV* forward?

-Key question in the discussion on carbon sequestration in soil addressing the climate threat-

Measuring, reporting and verifying (MRV) carbon in soil has received major attention due to the rapid and growing recognition that soils have a significant role to play in addressing the climate threat. The field seems to be exploding with activity and projects yet it still seems challenging to sort out what is most needed to help key nations, sub-national entities and farmers move forward with user friendly and effective MRV tools. "[Breakthrough Strategies & Solutions](#)" opened a guided discussion on this topic with the key question: If you could be king/queen for a day, what would you do to move the MRV field forward in ways that would be relevant and farmer friendly?

The output of this discussion can be summarized in five issues:

1. MRV at farm scale is critical and connected yet distinct from MRV at the national-state, European Union or province level
2. MRV at farm level needs to be handled in ways that work for all kinds of farmers working in different landscapes and contexts
3. Globally, there is great effort to create tools and platforms that might allow nations and sub-national entities (regional, local, provincial governments) to have effective MRV
4. MRV should attempt at a minimum to be sensitive to a more holistic approach to the efforts to carbon sequestration in soils; to look much more broadly at the benefit of increased soil carbon contents.
5. Development of platforms for knowledge exchange and discussion. However, the 4per1000 collaborative Platform could deliver the tools they request.

The important discussion on this highly relevant topic is currently taking place via googlegroups. However, in the future the exchange could and should be take place also on the "4 per 1000" platform to provide the possibility of much larger engagement.

* **MRV** = Monitoring, Reporting and Verification (MRV) system for Greenhouse Gas Emission (GHG). The term MRV originally came from the Bali Action Plan, the negotiating text of the United Nations Framework Convention on Climate Change (UNFCCC) in Bali, Indonesia at the end of 2007. Key function of MRV is enhancing transparency through the tracking of national GHG emission levels, the tracking of climate finance flows received or the impact of mitigation actions.

We are all concerned!

Every single one of us can take action to get things moving forward. Together we can make a difference. Our actions, individual or collective, can make things happen.

[Join the Initiative!](#)

The Executive Secretariat needs stronger means to implement its annual roadmap and organize statutory meetings in particular of the STC or regional meetings. If you wish to contribute to our common effort, please contact the Executive Secretariat:
secretariat@4p1000.org

Cities are also concerned!

The Executive Secretariat is working to involve cities in the "4 for 1000" issue. In this respect, large cities are acting in particular through C40 Cities Climate Leadership Group organization, which aims to fight against climate change. More information: <https://www.c40.org/>



Some ideas, some suggestions...

Please send an email to the Executive Secretariat: secretariat@4p1000.org