



« 4 per 1000 Initiative: Soils for food security and climate »



STC Activity Report 2023

8th Meeting of the Forum

Wednesday 6th December 2023

9:00 to 14:00 (GMT+4)

Online via ZOOM

1. INTRODUCTION

The Scientific and Technical Committee is the scientific body of the "4 per 1000" Initiative. The Scientific and Technical Committee (STC) was installed on November 17, 2016 during COP22 in Marrakech.

The STC is made up of **14 high-level scientists of international renown members**, appointed by the Consortium of Members following the proposal of the Executive Secretariat.

It is a **multidisciplinary group**, with a balanced composition in terms of geographical origin and gender. Each member must regularly produce a declaration of interests.

Based on paragraph 43 of the Declaration of Intent, the roles of the STC are to:

- *propose to the Consortium and update, a set of reference criteria for the evaluation of projects and actions founded on the principles and goals of the Initiative as defined in the Paris Declaration, as well as on the Sustainable Development Goals;*
- *formulate opinions and advice on projects, actions and programs at the request of the Consortium or the Secretariat;*
- *formulate and update priorities in support of international scientific research and cooperation programs*
- *make contributions to the resource center in conjunction with the Secretariat and, when asked to do so by the Secretariat, validate the posting of documents online.*

Additionally, the STC may support other scientific and technical tasks such as but not limited to:

- providing advice and input for the scientific and technical aspects of the Initiative, including:
 - proposed actions;
 - implementation of the strategic plan;
 - documents produced and published;
- supporting the dissemination of knowledge related to Soil Health and other aspects addressed by the Initiative, through, e.g., policy briefs, scientific papers, webinars or conferences
- assessing projects in the framework of the calls organized by the Executive Secretary;
- communicating with the College of Research and Educational Bodies of the Forum of the Initiative on training, capacity building, technology transfer, data management, and research activities;
- consulting when deemed necessary any external expert it considers relevant to its activities.

During its 15th meeting, the STC updated the terms of reference. The description above is taken from this updated version of the Terms of Reference.

2. Members of the STC 2023

- Beverley Henry (Co-Chair)
- Farshad Amiraslani (Co-Chair)
- Deborah Bossio
- Claire Chenu
- Alejandro Fuentes Espinoza
- Lydie-Stella Koutika
- Jagdish Ladha
- Beata Eموke Madari
- Budiman Minasny
- Adesola Olaleye
- Cornelia Rumpel
- Jean-Francois Soussana
- Yasuhito Shirato
- Consuelo Varela-Ortega
- Rosa Poch (permanent invitee FAO)

Biographies of the STC members and their roles are available [here](#).

3. STC MEETINGS

The STC convened physically for two meetings in 2023:

- 15th Meeting of the STC, Helsinki, Finland, June 6, 8 and 9
- 16th Meeting of the STC, Dubai, United Arab Emirates, December 4, 7 and 8

4. MAIN ACTIONS AND DELIVERABLES

4.1 Policy advocacy

a) Policy Brief on the role of soils in resilience to climate extremes and climate change for food and water security

Healthy soils with high organic carbon levels are key for (agro-)ecosystem resilience towards climate change and related extreme weather events. Prior to UNFCCC COP28, the STC published a [policy brief](#), calling on policy makers to enable and support the transition to climate-resilient agricultural systems, with healthy soil as a basis for food and water security, underpinning planetary and human health.

The policy brief called on policy makers to:

- Develop recommendations for regionally adequate and culturally acceptable climate-resilient land use and agriculture practices, guided by scientific evidence, and giving special consideration of those that enhance soil carbon and soil health as soil is the basic natural resource underpinning the climate resilience of agroecosystems and rural communities and, therefore, food security.
- Develop support programmes, including financial and technical resources and communication materials, to help transition to climate-resilient agriculture.
- Develop a framework of carefully selected early warning indicators for the monitoring and evaluating soil, agricultural system and farm resilience to detect continued vulnerability and allow timely corrective measures.
- Develop educational strategies to improve the understanding of soil and its functions as being the basis of human existence on planet Earth among stakeholders and the general public.

b) Submission to the Sharm El-Sheikh joint work on implementation of climate action on agriculture and food security

With the adoption of [decision 3/CP.27](#) and the establishment of the “Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security”, the 27th UNFCCC conference of the parties marked a critical step towards implementing the results of the Koronivia Joint Work on Agriculture. The process recognized the unique role of agriculture under the UNFCCC, agriculture being both, contributing to and affected by climate change. The decision adopts the recommendations resulting from the Koronivia Joint work, which aim to make agriculture more resilient and reduce emissions from the sector. The decision further gives the mandate to continue the joint work by covering new topics and brings issues related to agriculture and food security under the UNFCCC to the level of implementation. As a first step, parties to the convention as well as observer organizations were asked to submit their views on the elements of the Joint Work for consideration by the subsidiary bodies. The STC substantially contributed to a joint submission by CIRAD, the “4 per 1000” Initiative, IRD and CA4SH. The submission points out needs for action on soil health and soil carbon sequestration.

In summary, the following recommendations were provided for consideration:

1. Leverage the **integrative potential of SOC** and related commitments **across multiple conventions** (UNFCCC, UNCBD, UNCCD) to reduce countries burdens, open land and soil related projects to climate finance and ultimately, contribute to the collective and mutually beneficial use of national agricultural resources.
2. **Reference agroecology and agro-ecological principles in the SSJW.**
3. Guide parties in the **development of certification systems for carbon farming**, as well as in **designing land management practice payments**. Support the dialogue between practitioners, scientists and other stakeholders to better understand challenges and opportunities of carbon farming.
4. Support investment in **research on MRV tools** for contrasting situations and systems and the establishment of a globally harmonized MRV scheme.
5. Foster **knowledge transfer on SOC-positive practices** between different stakeholder groups.
6. Increase support of action on the ground through enhanced **inclusion of soil health related projects in climate finance**.

c) Scientific Response letter regarding the EU soil monitoring and resilience directive

In July, the European Commission published a proposal for a soil monitoring and resilience directive (COM(2023) 416). The STC got the opportunity to transmit substantial comments regarding the draft. Furthermore, the STC joined a Scientific Response letter compiled by researchers from Wageningen University and co-signed by researchers across the European Union, which provides a shared scientific evaluation of the proposal.

4.2 Scientific outreach

a) Soil Carbon Sciences Webinar Series

Following the global analysis of existing webinar series, the STC launched its own Soil Carbon Sciences webinar series. The webinars are designed for a scientific audience and aim to shed light on current scientific debates and emerging knowledge in the field of Soil Organic Carbon and Soil Health. For each webinar, authors of prominent papers are invited to present their findings and engage in a discussion led by a member of the STC. So far, three webinars took place under the series, organized and moderated by Budiman Minasny:

September 7: [Is there a limit to soil carbon sequestration?](#) Speakers: M. Francesca Cotrufo and Christopher Poeplau

October 17: [Soil Inorganic Carbon: The often unaccounted yet irrecoverable carbon pool.](#) Speakers: Kazem Zamanian and Iñigo Virto Quecedo

November 27: [Measuring, Reporting and Verifying Soil Carbon Sequestration: Measurement or Modeling?](#) Speakers: Pete Smith and Alex McBratney

All webinars are available on the [youtube channel](#) of the Initiative.

b) Contribution and validation to the constitution of a database for the digital resource centre

One requirement of the Consortium to the STC was to contribute and validate the constitution of a database for the digital resource centre. The STC continuously reviews papers sent by the Executive Secretariat and provides recommendations regarding the inclusion of the resources in the [resource centre](#) of the webpage.

c) Editorial Paper

An editorial paper, as part of the topical collection, was published by the STC members in **Regional Environmental Changes** journal, which highlights regional studies that portray promising avenues for maintaining and increasing soil organic carbon stocks.

d) Book publication

Some STC members were invited by the Burleigh Dodds publisher to contribute to several Chapters of the book titled: "Understanding and fostering soil carbon sequestration". The book was edited by Cornelia Rumpel.

e) Research Fellows program

Initiating a Research Fellows program to provide young scientists with the opportunity to work on a voluntary basis with members of the STC on technical issues such as collating and analysing data, drafting articles, and reviewing projects, while improving their experience and networks with leading soil carbon experts around the world.

4.3 Scientific and technical advice for projects

Every year, the "4 per 1000" Initiative launches a call for formative project assessment with the aim to identify and support projects in the field supporting the objectives of the "4 per 1000" Initiative. After STC evaluation, projects that received a positive appraisal, are provided with advice on how to improve the project in view of submission to major international donors who will then evaluate the projects based on their own selection criteria for funding.

The assessment is carried out by the STC of the "4 per 1000" Initiative, with help from external reviewers if required, using the set of criteria, indicators methods and units developed by the STC and approved by the Consortium.

Fifth call for formative project assessment

Following this year's 5th call for formative project assessment, the Initiative received nine project applications of which three could be accepted for further evaluation and guidance. The results of the assessment will be published at the end of the year.

4.4 Implementation of the Strategy

Vision, Mission, Objectives, Implementation Plan of the Initiative

The work of the “4 per 1000” Initiative is centred around 24 [strategic objectives](#), which are operationalized in the Strategy Implementation Plan. The STC contributed to the development of the strategy and the implementation plan since the start of the process. This year, two Task Forces focussing on project development to translate objectives under the global facilities into action were launched: A5 – Carbon markets and F1 – Twin Regions. The work of the Task Forces is actively supported by members of the STC.

4.5 Workshops and events

The STC has contributed substantially to the “4 per 1000” Regional Meeting for Northern Europe and for the Asia-Pacific Region, by presenting regionally-relevant science updates.

Furthermore, STC members acted as ambassador for the Initiative during numerous national and international scientific conferences and during various side events at UNFCCC COP28.

4.6 Relationships with other initiatives

Global Soil Partnership (GSP)

The STC is in close contact with the Global Soil Partnership under the FAO and exchanges on activities on a regular basis.

ORCASA

The STC is in close exchange with the ORCASA project and currently elaborating a mode for closer collaboration, which is going to be formalized at the end of the year.

Furthermore, the STC is in close contact with the Global Research Alliance on Agricultural Greenhouse Gases, The EJP Soil Project and the EU Mission Soil.