



**Food and Agriculture  
Organization of the  
United Nations**



**ITPS-IX/18/Report**

# **Report of the Ninth Working Session of the Intergovernmental Technical Panel on Soils**

**Rome, Italy, 10 - 12 October 2018**

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**REPORT OF THE NINTH WORKING SESSION OF THE  
INTERGOVERNMENTAL TECHNICAL PANEL ON SOILS**

**Rome, Italy, 10-12 October, 2018**

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**

**Rome, 2018**

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## 1. Opening of the session

The ninth working session of the Intergovernmental Technical Panel on Soils (ITPS) was held at the FAO Headquarters in Rome from 10 to 12 October 2018. Mr. Eduardo Mansur (Director of the Land and Water Division, FAO) welcomed new and returning members (the list of participants is attached in Annex I) to the meeting and for their new mandate to serve on the Panel for the next three years. He also commended the work performed by the ITPS over the previous sessions. Mr. Mansur further acknowledged the dynamic work of the Global Soil Partnership (GSP) and the ITPS in the promotion of sustainable soil management (SSM) at the global level. The informative nature of the meeting to introduce the new Panel to the work of the GSP was acknowledged.

## 2. Adoption of the Agenda and Timetable and Tour de table

The proposed agenda was adopted with a request from ITPS members to move the election of the Chair and Vice-Chair to the last day of the working session. Mr. Ronald Vargas (GSP Secretariat) invited the ITPS participants to introduce themselves and make a note on their field of expertise.

## 3. Introduction to the GSP and its activities

The GSP Secretariat provided ITPS members with a comprehensive presentation on the GSP structure, functioning and performed, ongoing and planned activities, with a focus on ITPS expected contributions. In this regard, activities were introduced per Pillar of Action as follows: Pillar 1: Ms. Zineb Bazza, Chair of Pillar 1 on promoting sustainable soil management, reported on its components, with a particular focus on the nature of global implementation plans for sustainable soil management practices. Ms. Lucrezia Caon introduced the revised World Soil Charter and the Voluntary Guidelines for Sustainable Soil Management (VGSSM), the main channels through which Pillar 1 objectives are currently being implemented. In this regard, a note was made on the workshops being organized by the GSP Secretariat with the support of national governments and partners, to implement the VGSSM at the country level.

Pillar 2: Ms. Caon, Chair of Pillar 2 on awareness raising, education, extension, policy, investment and technical and scientific cooperation, reported on its components, focusing on the Global Soil Doctors Programme, to be launched on 5 December 2018. Ms. Caon invited the ITPS members to review the educational material and the soil testing methods manual of the Global Soil Doctors Programme as per their field of expertise and suggested the development of new methods for immediate soil conditions assessment in the field, mainly nutrient analyses, by the ITPS working group for Pillar 3.

Pillar 3: Ms. Natalia Rodriguez, Chair of Pillar 3 on research and development, reported on its components. She emphasized the need to develop a global soil research internet platform, to identify priorities from

existing Research and Development initiatives, conduct interdisciplinary research and development and foster active collaboration with donors and research institutes.

As part of Pillar 3, global symposia are being organized annually by the GSP Secretariat. As a follow up to the organization of the Global Symposium on Soil Organic Carbon 2017 (GSOC17), Ms. Rosa Cuevas provided a description of the material and actions developed to implement the six recommendations from GSOC17, including the GSOCmap and the launch of the International Network of Black Soils (INBS), which was further reported on by Mr. Yuxin Tong. The Panel expressed a few concerns on the INBS, including the guidelines, definition and indicators used for black soils. The Panel agreed to provide their input on the publication on Black Soils which is under development.

The Panel also discussed the potential establishment of a “White Soils Network” to address salt-affected soil. The GSP Secretariat is to draft a concept note to be presented at the next GSP Plenary Assembly that the Panel agreed to review.

Ms. Rodriguez Eugenio reported on the Global Symposium on Soil Pollution (GSOP18), held on 2 - 4 May 2018. GSOP18 was further addressed in item 9.

Pillar 4: Mr. Yigini, Chair of Pillar 4, on Information and Data, reported on the work conducted for Pillar 4, namely on the Global Soil Information System (GLOSIS), SoilSTAT, and other tools for monitoring global soil resources.

Pillar 5: Ms. Cuevas, the Chair of Pillar 5 on Harmonization, reported on its components and the progress made under Pillar 5. She emphasized the implementation and evolution of the Global Soil Laboratory Network (further addressed in item 12). Ms. Cuevas highlighted the need to implement the other topics related to this Pillar: the harmonization of soil classification and soil maps, interoperability (the exchange of digital soil information) and interpretation and evaluation.

Ms. Verbeke reported on the communication strategy and tools of the GSP, including the World Soil Day celebration (WSD), the Glinka World Soil Prize and the launch of the World Soil Day Award on December 2018. She reported that the campaign material for WSD18 was just launched and that ITPS members are welcome to disseminate, promote and facilitate the organization of events in their countries. She emphasized that there are disparities per region, with many not having capacities to host events.

#### 4. Establishment of Pillar working groups and Pillar Chair elections

Working groups for each pillar and for specific activities were formed. The working group members are outlined in figure 1. For each pillar, a member of the working group volunteered to be the chairperson.

<b>Pillar 1</b>	<b>Pillar 2</b>	<b>Pillar 3</b>	<b>Pillar 4</b>	<b>Pillar 5</b>
<b>Sustainable Soil Management</b>	<b>Awareness Raising</b>	<b>Research</b>	<b>Information and Data</b>	<b>Harmonization</b>
<b>Pillar Chair:</b> Ms. Zineb Bazza	<b>Pillar Chair:</b> Ms. Lucrezia Caon	<b>Pillar Chair:</b> Ms. Natalia Rodriguez Eugenio	<b>Pillar Chair:</b> Mr. Yusuf Yigini	<b>Pillar Chair:</b> Ms. Rosa Cuevas
<b>ITPS Chair:</b> Dr. Matshwene Edwin Moshia III	<b>ITPS Chair:</b> Dr. Megan Balks	<b>ITPS Chair:</b> Dr. Nsalambi Vakanda Nkongolo	<b>ITPS Chair:</b> Dr. Costanza Calzolari	<b>ITPS Chair:</b> Dr. Lucia Helena Cunha dos Anjos
Dr. Fernando Garcia Prechac	Dr. Fernando Garcia Prechac	Dr. Edmond Hien	Dr. Adalberto Benavides Mendoza	Dr. Jin Ke
Dr. Ashok K. Patra	Dr. Samuel Francke Campana	Dr. Ellen R. Graber	Dr. Rafla Sahli Epse Attia	Dr. Mohammad Jamal Khan
Dr. David Allen Lobb	Dr. Siosuia Halavatau	Dr. David Allen Lobb	Dr. Matshwene Edwin Moshia III	Dr. David Allen Lobb
Dr. Edmond Hien	Dr. Ashok K. Patra	Dr. Ashok K. Patra	Dr. Nsalambi Vakanda Nkongolo	Dr. Edmond Hien
Dr. Generose Nziguhueba	Dr. Costanza Calzolari	Dr. Martha Marina Bolanos Benavides	Dr. Saeb Abdelhaleem Khresat	Dr. Ashot K. Patra
Dr. Lucia Helena Cunha dos Anjos	Dr. Jin Ke	Dr. Costanza Calzolari	Dr. Lucia Helena Cunha dos Anjos	Dr. Kutaiba M. Hassan
Dr. Lydia Mumbi Chabala	Dr. Gary M. Pierzynski	Dr. Rosa Poch	Dr. Peter de Ruiter	Dr. Matshwene Edwin Moshia III
Dr. Martha Marina Bolanos Benavides	Dr. Lydia Mumbi Chabala	Dr. Lydia Mumbi Chabala	Dr. Maria Konyushkova	Dr. Megan Balks
Dr. Megan Balks		Dr. Peter de Ruiter		Dr. Jun Murase
Dr. Peter de Ruiter		Dr. Siosuia Halavatau		
Dr. Rafla Sahli Epse Attia		Dr. Gary M. Pierzynski		
Dr. Samuel Francke Campana				
Dr. Ellen R. Graber				
Dr. Jun Murase				
Dr, Mohammad Jamal Khan				
Dr. Siosuia Halavatau				
Dr. Jin Ke				

**Figure 1.** ITPS Working Group chair and members by Pillar of action

## 5. Report of the work performed since the 8th working session (ITPS) and work plan 2018-2019

Mr. Vargas recalled the work performed by the previous ITPS, focusing on the International Code of Conduct for the Use and Management of Fertilizers, presented to the 26<sup>th</sup> session of the Committee on Agriculture (COAG26) on 3 October 2018. Mr. Vargas explained the process undertaken for the development of the Code, which is similar to the process of developing any constitutional document or guidelines, such as the Voluntary Guidelines for Sustainable Soil Management (VGSSM).

## 6. Implementation of the International Code of Conduct for the Use and Management of Fertilizers

Ms. Debra Turner reported on the contents of the Code of Conduct for the Use and Management of Fertilizers and the modifications made to the code after the decision made by the 6<sup>th</sup> GSP Plenary Assembly to open an additional online consultation. Ms. Turner described the next steps in case the code is finally endorsed; regional workshops, selecting pilot countries to implementing the code and developing a set of tools and technical guidelines, and creating a nutrient management/ fertilizer platform. The GSP Secretariat is to update ITPS members on the status of the Code once a decision is made.

## 7. Implementation of GSOC17 recommendations

### *a) Guidelines on Soil Organic Carbon measurement, mapping, monitoring and technical manual for SOC management*

Mr. Yigini reported on the GSOC17 recommendation of establishing a Working Group to develop feasible and regionally contextualized guidelines for measuring, mapping, monitoring and reporting on Soil Organic Carbon. The Panel agreed to provide feedback on a draft outline structure of the guidelines, keeping into consideration the inclusion of GLOSIS into these guidelines.

Ms. Cuevas presented the Technical Manual on Soil Organic Carbon management in order to highlight the urgent need to compile useful and site specific management practices for increasing and/or maintaining global soil carbon stocks. Ms. Cuevas also stressed the importance of having a document that serves to identify knowledge transfer needs and develop training materials for land users, extension service and policy makers.

A Working Group on Soil Organic Carbon was established (Annex II) with the aim to provide technical support and experiences on the guidelines.

### *b) Global Soil Organic Carbon Sequestration potential*

Ms. Cuevas presented the concept note for developing a global map on Soil Organic Carbon Sequestration Potential. Ms. Cuevas explained the general procedures to develop this map through a bottom-up approach (based on best available data), including collaboration with country experts and the implementation of widely used and validated soil organic matter simulation models. The Working Group on SOC agreed to provide feedback on the approach and models used by December 2018.

*c) The Global Assessment of Black Soils*

Mr. Tong reported on the Global Assessment of Black Soils, which will be developed with the support of INSII. A concept note is to be drafted and finalized by the end of February 2019. The Panel agreed to provide their feedback on the concept note.

## 8. Development of the study (by 2020) on the economic benefits of sustainable soil management (SSM) for farmers and other land users, including the identification of best practices that prevent soil degradation.

Ms. Bazza presented the concept note for an economical assessment on sustainable soil management, which was prepared by the previous ITPS. This activity was endorsed by the last GSP Plenary Assembly in June 2018, to be completed by 2020. The ITPS agreed to provide support in deciding how to conduct the cost-benefit analysis of sustainable management practice implementation, mainly by deciding an approach to analyzing what practices are compliant to SSM, then calculating an average cost of implementing those practices. The concept note document is to be shared with all of the ITPS members by Ms. Bazza, along with the report of the Malawi Case Study as an example of economic impact of soil management analysis. The working group for Pillar 1 agreed to provide further feedback and suggestions to Ms. Bazza on the presented document.

## 9. Implementation of GSOP18 recommendations

Ms. Rodriguez Eugenio gave an overview on the steps to be taken to implement GSOP18 recommendations, with a special focus on those activities that would require the participation of the ITPS. These were to develop feasible and regionally contextualized guidelines for assessing, mapping, monitoring and reporting on soil pollution and a technical manual for the management and remediation of polluted soils, including a database on the Best Available Techniques (BAT) for remediating soil pollution. Working groups have already been established to develop both documents but the ITPS members agreed to provide comments on the table of contents. Other planned activities include the implementation of capacity development to covering the full cycle of soil pollution, the implementation of GLOSOLAN activities for the identification of soil pollutants and finally, the implementation of an assessment of the global status and regional trends of soil pollution, following a country-driven approach. The panel agreed to provide Ms. Rodriguez Eugenio with feedback on how to address the global assessment on soil pollution. A working group was established to address the implementation of GSOP18 recommendations (Annex II).



## 10. Organization of the Global Symposia

Linking to the decision of the 6<sup>th</sup> GSP Plenary Assembly to dedicate the years 2019, 2020 and 2021 to addressing the issue of soil erosion, soil biodiversity loss and soil nutrient imbalance respectively, Ms. Caon presented the draft concept note of the Global Symposium on Soil Erosion 2019 which included the proposed themes for the symposium. The symposium is expected to take place on 15-17 May 2019 at FAO Headquarters in Rome. The symposium aims to be a neutral platform to discuss and elaborate the latest information on the status of interventions and innovations in the field of soil erosion management and reversal under a scientific and political point of view. In this regard, the symposium represents the first step to implement the VGSSM in terms of combating soil erosion at the global level and it is a major opportunity to review activities that could assist countries in complying and reporting on the achievement of the SDGs.

It was clarified that the symposium's outcomes should provide scientific and policy evidence to support actions and decisions to prevent and minimize soil erosion for increased food security and ecosystem services, and to promote the restoration of eroded sites. The Symposium output will be a scientific outcome document highlighting the impact of soil erosion on the achievement of the SDGs, and providing recommendations towards developing sound environmental policies and practicing responsible soil erosion management.

Ultimately, the ITPS welcomed the proposed themes highlighting the importance to further stress the link between soil erosion and the SDGs, and agreed to send comments and inputs to Ms. Caon. A Working Group on the Symposium on Soil Erosion was established (Annex II).

Mr. Edmundo Barrios presented on the Symposium on Soil Biodiversity, which will be start being organized after the COP14 of the Convention on Biodiversity to be held in Sharm El-Sheikh, Egypt, in November 2018. It was agreed that there is a need for stronger international awareness and commitment to sustaining and conserving soil biodiversity. The ITPS members agreed to share their suggestions and comments with Mr. Barrios after the concept note on soil biodiversity is drafted (December 2018). A working group was established for the Symposium on Biodiversity (Annex II).

## 11. Preparation of global maps of soil salinity, soil erosion, and GLOSI

Mr. Yigini presented overall trends and possible methodologies for the development of a soil salinity map, to be released in June 2019. An interesting debate about the methodologies for soil salinity mapping were discussed and it was agreed that ITPS members interested on this topic will provide inputs to the concept note.

Mr. Yigini mentioned the need for the development of a Soil Erosion map. The ITPS members agreed to provide their feedback on how to proceed with the Soil Erosion Map with a focus on the types of erosion to be included in the map: wind, tillage and water erosion. The final decision is to be made after the symposium on Soil Erosion in 2019.

## 12. Implementation of the Global Soil Laboratory Network (GLOSOLAN)

Ms. Caon reported on GLOSOLAN and its contributions to Pillar 5 regarding the harmonization of laboratory methods and results at the global level, as well as on the importance of capacity development for the network. In order to expand and enrich the network, ITPS members agreed to provide names of laboratories that could join the network paying special attention to those countries and regions that were currently under-represented, e.g. North America.

Ms. Caon briefed the panel on the main GLOSOLAN achievements since its establishment in November 2017 and the decisions of the 6<sup>th</sup> GSP Plenary Assembly regarding the GLOSOLAN work plan for the year 2018. Ultimately, the results of the first GLOSOLAN survey will be presented at the 2<sup>nd</sup> GLOSOLAN meeting on 28-30 November 2018, and will be used to support the work and launch of the Regional Soil Laboratory Networks (RESOLANs). The ITPS supported the need for decision-making on the development of standard operational procedures, conducting regional and global proficiency testing, and developing the “Best Practice Manual”. In this regard, the suggestion to produce an artificial soil sample to run the proficiency test was made, and the need to establish internal quality control procedures was stressed. Despite the criticisms moved by some partner at the 6<sup>th</sup> GSP Plenary Assembly, the ITPS highlighted the importance of producing the “Best Practice Manual” as per the concept note presented by the GSP Secretariat to the Plenary.

## 13. Development of a protocol to assess if a given soil management practice is in line with the definition of sustainable soil management

Ms. Bazza presented the guidance document: Protocol for the Assessment of Sustainable Soil Management, which was endorsed by the 6<sup>th</sup> GSP Plenary Assembly but requires some additional improvements. The ITPS members agreed to provide their feedback by November 2018 in order to finalize the document to be submitted to the next GSP Plenary Assembly.

## 14. Report on the collaboration between ITPS and the SPI of UNCCD, IPBES and IPCC

Mr. Vargas reported on the collaboration between the ITPS and other international panels.

During the next ITPS working session, a representative from the Science Policy Interface (SPI) of the United Convention to Combat Desertification (UNCCD), Intergovernmental Technical Platform on Biodiversity and Ecosystem Services (IPBES) and the Intergovernmental Panel on Climate Change (IPCC) will be invited to discuss potential collaboration with ITPS on topics of common interest. Notably, a discussion with the SPI-UNCCD is ongoing as collaboration started in 2016. The current need to establish new synergies was emphasized and contacts with the IPCC and IPBES will be resumed.

## 15. Towards the Status of the World's Soil Resources reports by 2025

It was agreed by all that the preparation of the Status of the World's Soil Resources should be addressed at the next ITPS working session.

## 16. Election of the Chair of the ITPS and Rapporteur

The Panel elected Dr Rosa Poch as Chairperson and Dr David Allen Lobb as Vice-Chairperson. Dr Megan Balks volunteered to serve as Rapporteur for the session with the support of the GSP Secretariat.

## 17. Date and Venue of the next meeting

The next ITPS meeting will be organized together with the Global Symposium on Soil Erosion, on 15-17 May 2019, at the FAO Headquarters. In case there is an urgent emerging issue to be addressed by ITPS a working session will be organized before.

## 18. Any other business

Mr. Eduardo Mansur introduced Mr. Valdemar Rodrigues, the Director of Sustainable Rural Development of the Ministry of Environment of Brazil, who presented on the Recovery Units of Degraded Areas and Reduction of Climate Vulnerability (URAD) initiative in order to provide insights related to successful soil management practice reform to ITPS members and the GSP Secretariat.

Mr. Eduardo Mansur encouraged GSP and ITPS members to take note of this successful case study.

## 19. Closing of the meeting

Dr Poch, the newly-elected chair of the ITPS, thanked the ITPS members for their dedication and the GSP Secretariat for their support to the panel. Mr. Vargas acknowledged the ITPS for their commitment and thanked them for a successful and productive meeting.

## ANNEX I. List of participants

### *ITPS members*

#### **Africa**

Dr. Nsalambi Vakanda Nkongolo (Democratic Republic of Congo)

Dr. Matshwene Edwin Moshia III (South Africa)

Dr. Lydia Mumbi Chabala (Zambia)

Dr. Generose Nziguhueba (Burundi)

Dr. Edmond Hien (Burkina Faso)

#### **Near East and North Africa**

Dr. Kutaiba M. Hassan (Iraq)

Dr. Rafia Sahli Epse Attia (Tunisia)

Dr. Saeb AbdelHaleem Khresat (Jordan)

#### **Latin America and Caribbean**

Dr. Adalberto Benavides Mendoza (Mexico)

Ms. Martha Marina Bolanos Benavides (Colombia)

Dr. Fernando Garcia Prechac (Uruguay)

Dr. Lucia Helena Cunha dos Anjos (Brazil)

Dr. Samuel Francke Campana (Chile)

#### **North America**

Dr. David Allen Lobb (Canada)

#### **Asia**

Dr. Ashok K. Patra (India)

Dr. Jin Ke (China)

Dr. Jun Murase (Japan)

Dr. Mohammad Jamal Khan (Pakistan)

#### **Europe**

Dr. Costanza Calzolari (Italy)

Dr. Ellen R. Graber (Israel)

Dr. Peter de Ruyter (The Netherlands)

Dr. Maria Konyushkova (Russia)

Dr. Rosa Poch (Spain)

**South West Pacific**

Dr. Siosiua Halavatau (Tonga)

Dr. Megan Balks (New Zealand)

***GSP Secretariat***

Mr. Ronald Vargas

Mr. Eduardo Mansur

Ms. Lucrezia Caon

Ms. Natalia Rodriguez Eugenio

Ms. Rosa Cuevas

Mr. Yuxin Tong

Mr. Yusuf Yigini

Mr. Matteo Sala

Ms. Zineb Bazza

Ms. Isabel Luotto

Ms. Yoshie Yageta

Ms. Josephine Watson

Ms. Isabelle Verbeke

Ms. Giulia Stanco

***Other***

Mr. Valdemar Rodrigues (Ministry of Environment of Brazil)

## ANNEX II.

<b>Salinity Map</b>	<b>Soil Pollution</b>	<b>Soil Organic Carbon</b>	<b>Symposium on Soil Erosion</b>	<b>Symposium on Soil Biodiversity</b>
GSP lead: Mr. Yusuf Yigini	GSP lead: Ms. Natalia Rodriguez Eugenio	GSP lead: Ms. Rosa Cuevas	GSP lead: Ms. Lucrezia Caon	GSP lead: Mr. Edmundo Barrios
Dr. Rafla Sahli Epse Attia	Dr. Edmond Hien	Dr. Matshwene Edwin Moshia III	Dr. Costanza Calzolari	Dr. Martha Marina Bolanos Benavides
Dr. Mohammad Jamal Khan	Dr. Megan Balks	Dr. Edmond Hien	Dr. David Allen Lobb	Dr. Samuel Francke Campana
Dr. Megan Balks	Dr. Ellen R. Graber	Dr. David Allen Lobb	Dr. Rosa Poch	Dr. Ellen R. Graber
Dr. Kutaiba M. Hassan	Dr. Rafla Sahli Epse Attia	Dr. Costanza Calzolari	Dr. Lucia Helena Cunha dos Anjos	Dr. peter de Ruiter
Dr. Rosa Poch	Dr. Mohammad Jamal Khan	Dr. Rosa Poch	Dr. Lydia Mumbi Chabala	Dr. Jun Murase
Dr. Siosuia Halavatau	Dr. peter de Ruiter	Dr. Fernando Garcia Prechac	Dr. Matshwene Edwin Moshia III	Dr. Generose Nziguhueba
Dr. Samuel Francke Campana	Dr. Samuel Francke Campana	Dr. Peter de Ruiter	Dr. Samuel Francke Campana	Dr. Adalberto Benavides Mendoza
Dr. Lydia Mumbi Chabala	Dr. Jin Ke	Dr. Nsalambi Vakanda Nkongolo	Dr. Rafla Sahli Epse Attia	Dr. Ashok K. Patra
	Dr. Nsalambi Vakanda Nkongolo	Dr. Lucia Helena Cunha dos Anjos	Dr. Mohammad Jamal Khan	
	Dr. Ashok K. Patra		Dr. Megan Balks	
	Dr. Generose Nziguhueba		Dr. Peter de Ruiter	
	Dr. Maria Konyushkova		Dr. Fernando Garcia Prechac	
			Dr. Siosuia Halavatau	
			Dr. Edmond Hien	

**Figure 2.** ITPS Working Group members by activity