

ITPS-VII/17/Report



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



Report of the Seventh Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

Rome, Italy, 30th October – 3rd November 2017

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Rome, 2017

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1. Opening of the session

The seventh working session of the Intergovernmental Technical Panel on Soils (ITPS) was held at the FAO Headquarters in Rome from 30 October to 3 November 2018 (the list of participants is attached in Annex I). Mr. Eduardo Mansur (Director Land and Water Division, FAO) welcomed all members, and highlighted the important work done by the ITPS since the previous Panel meeting. This includes its work on the Global Symposium on Soil Organic Carbon (GSOC17), the development of the Global Soil Organic Carbon map (GSOCmap) to be completed by 5 Decembers, tackling the topic of Plant Protection Products (PPPs) and more and commended members for their active role in these endeavours. Mr. Mansur further acknowledged the work of the ITPS in seeking collaboration with other international panels and promoting concrete activities to support sustainable soil management (SSM).

2. Adoption of the Agenda, Timetable and election of the Rapporteur

The proposed agenda was adopted with the addition of discussion points on the second Status of the World's Soil Resources (SWSR) report and the concept of land degradation neutrality (LDN). Mr. Bhanooduth Lalljee and Ms Isaurinda dos Santos Baptista Costa agreed to be rapporteur for the session with the support of the GSP Secretariat.

3. Report on the work performed since the 6th working session (ITPS)

The Chairperson, Mr. Montanarella, presented the main activities performed by the ITPS since its 6th working session: initiation of the assessment at global level of the impact of PPPs on soil functions and soil ecosystems, Supporting, as appropriate, the implementation of the GSP Plans of Action and the development of Regional Implementation Plans, Collaboration with the Livestock Environmental Assessment and Performance Partnership (LEAP) for developing guidelines on soil carbon stock changes in grasslands and rangelands and more.

Mr. Montanarella invited the ITPS members assigned as the GSP Pillars Chairs and the leaders of the four thematic working groups to briefly report on performed activities as follows:

- Pillar 1 ITPS Chair: Mr. Dan Pennock

Mr. Pennock reported that the global implementation plan for Pillar 1 has not yet been completed, indicating that there have been numerous priorities under the GSP and Pillar 1 has not been one of them to date. Mr. Vargas confirmed that Pillar 1 is the main objective of the GSP and that there is the expectation from FAO member countries to see SSM activities implemented on the ground. The VGSSM is the main tool to support such implementation and the GSP Secretariat is in the process of distributing the document to countries (copies sent to Africa already). It has become apparent that a set of good and bad practices is needed to support the VGSSM. In addition, the example of Australia to assess the implementation of the revised World Soil Charter (WSC) will be followed to assess the same in more countries. In order to increase awareness and visibility of the VGSSM and revised WSC, Mr. Vargas requested ITPS members to make an effort to mention their work as ITPS members whenever the opportunity arises during meetings and presentations.

Several ITPS members reported activities related to Pillar 1 in their respective countries, indicating that the implementation of the Pillar is indeed important and several initiatives are active at national level. These

examples ranged from the translation of the VGSSM into Japanese, to using the revised WSC and VGSSM as basis to guide work and investment related to soil management. Based on the wide feedback, Mr. McKenzie suggested that it is important to feed information on national activities back to the ITPS and the Mr. Pennock to see how change can be affected in countries.

Mr. Pennock finally suggested that a very simple global implementation plan be developed as the lack of such a document appears to be a road block in the implementation of activities under Pillar 1. Mr. Vargas confirmed that the implementation plan will be completed for submission to the 6th GSP Plenary Assembly in June 2018.

- Pillar 2 ITPS Chair: Ms. Maria de Lourdes Mendonça Santos Brefin

Ms. Mendonça Santos Brefin reported that the global implementation plan for Pillar 2 was approved and accepted by the 5th GSP Plenary Assembly. The main activities currently implemented under Pillar 2 are the development of the Global Soil Doctors programme and the annual celebration of World Soil Day (WSD). Ms. Lucrezia Caon presented the development of the Global Soil Doctors programme and its main features which aim to develop farmers as champions of assessing soil condition within the national soil management system. It includes the development of material for a crash course on soils, as well as a soil testing kit consisting of various tools for soil fertility assessment, to be used by farmers in the field. The programme will aim to link strongly with Pillars 4 and 5 to provide harmonized soil information. She indicated that the Secretariat is currently looking for countries to test its implementation, including from Africa, from where only Lesotho is currently listed as pilot country.

The general feedback from ITPS members on the Soil Doctors programme was very positive and it was suggested that the involvement of kindergarten and school children be considered. In addition, it was suggested that the material be translated into languages other than English.

- Pillar 3 ITPS Chair: Mr. Brajendra

Mr. Brajendra reported that also Pillar 3 still lacks a global implementation plan and asked the Secretariat's support to develop this plan. Mr. Montanarella reminded the meeting of a standing item from the 6th ITPS meeting in which it was agreed that some ITPS members would write a short paper on research priorities to serve as baseline for drafting the implementation plan and for guiding future GSP research-oriented activities, led by Mr. Rainer Horn. Although there has not been progress on this activity, it was agreed that it would continue under the leadership of Mr. Horn, with the assistance of Mr. Ahmad S. Muhaimeed, Mr. Amanullah, Mr. Kazuyuki Yagi, Ms. Mendonça Santos Brefin, Mr. Pavel Krasilnikov, Mr. Peter de Ruitter, and Mr. Saéb AbdelHaleem Khresat, supported by Ms. Liesl Wiese from the GSP Secretariat.

On the last day of the meeting, Mr. Horn reported that he circulated an initial request for ideas on Pillar 3 to some members of the task team above which was subsequently discussed. It was suggested to discuss research priorities not in terms of the next five years, but rather by 2030 in relation to the sustainable development goals (SDGs). The aim would be to show the need for soil research and how to apply methods to solve soil issues. Mr. Horn indicated that the aim is to have the document - a concept note - ready by March 2018. Mr. Horn would further aim to involve the IUSS in developing soil research priorities under Pillar 3 by putting it on the IUSS agenda.

Mr. Vargas confirmed that the implementation plan for Pillar 3 will be ready to be submitted to the 6th Plenary Assembly.

- Pillar 4 ITPS Chair, Chair of the thematic working group on “Improved soil data and information systems” and Chair of the International Network for Soil Information Institutions (INSII): Mr. Neil McKenzie

Mr. McKenzie indicated that much momentum has been gained under Pillar 4. One of the most important achievements were the establishment of the Global Soil Information System (GLOSIS) Arrangement which elaborates the nature of the system and INSII member participation. Other milestones were the appointment of the International Soil Reference and Information Centre (ISRIC) as the Soil Data Facility (SDF), the revival of the Pillar 4 Working Group (P4WG) and Mr. Neil McKenzie’s nomination and appointment as INSII chair.

Mr. McKenzie reported that a key activity under Pillar 4 has been the development of the GSOCmap. Positive results have been obtained to date with this activity which simultaneously provided the concept of how the Pillar 4 network and INSII will operate. He thanked Mr. Vargas and the Secretariat for pushing this process and assisting to make progress in the implementation of Pillar 4.

During the ensuing discussion it was noted that the process is still developing and some aspects are not ready to be incorporated, such as working with spectroscopy data.

- Pillar 5 ITPS Chair: Mr. Bhanooduth Lalljee

Mr. Lalljee reported some activities that have occurred under Pillar 5 since the 6th ITPS meeting. Mr. Rainer Baritz presented an overview of the global Pillar 5 implementation plan which was accepted by the 5th Plenary Assembly, highlighting the establishment of the Global Soil Laboratory Network (GLOSOLAN) which was scheduled to have its first meeting in parallel with the ITPS meeting.

- Thematic working group on “sustainable soil management and assessment of soil degradation and restoration”: Mr. Gunay Erpul

Mr. Erpul reported that he has been engaged with the Joint Research Center for preparing a global soil erosion review and this promised to be a good basis for preparing a future global assessment of soil erosion.

- Thematic working group on: “the global management of soil organic matter”: Mr. Miguel Taboada

Mr. Taboada was unable to attend the meeting and no feedback was therefore given on this theme.

- Thematic working group on: “sustainable nutrient management aiming to stabilize or reduce global nitrogen (N) and phosphorous (P) fertilizer use while simultaneously increasing fertilizer use in regions of nutrient deficiency”: Mr. Gary M. Pierzynski

Mr. Pierzynski reported on work done by the Soil Labs in terms of soil fertility in Africa. A survey on soil fertility issues in Africa was sent out with a 50% response rate, including responses from ITPS members. A soil fertility summit was held in Dakar in August 2017, attended by 4 ITPS members and Ms. Wiese from the Secretariat. The results of the workshop will become more public once the organizers and donors have had the opportunity to assess the outcomes and their strategic value.

4. Review and clearance of the assessment at global level of the impact of plant protection products on soil functions and soil ecosystems.

Mr. Dan Pennock presented the draft assessment at global level of the impact of Plant Protection products (PPPs) on soil functions and soil ecosystems, indicating that it was developed through collective authorship which will be published under the authorship of the ITPS (not individuals). He briefly recalled the development process for the document, starting with a first draft which was reviewed by a small group of ITPS members, followed by extensive changes resulting in the present document.

Mr. Pennock further explained why he chose to undertake the task to develop the document, stating that, following his intensive involvement in the development of the revised WSC and considering the meaning of the SSM definition. This document presented an opportunity to explore the GSP definition of SSM within the context of plant protection products which could model similar future products on different aspects of soil management. Furthermore, he clarified that the document is based on scientific evidence of the effects of PPPs on soil functions and soil ecosystems, followed by an ITPS opinion based on the presented evidence.

Mr. Montanarella highlighted that there is high expectation from various partners of this document and urged ITPS members to read it carefully and ensure that all members agree with the opinions presented. Subsequent discussion of the draft document on 30 October resulted in various suggested changes which were addressed by Mr. Pennock who presented the revised document on 3 November. For example, a section was added on wind erosion and wind transported pesticides. Some of the critical sections providing the opinion of the ITPS were highlighted, for example, the opinion that, based on literature, the elimination of PPPs from food production is not viable. Mr. Montanarella stressed the need to focus on the link between pesticides and soil since the ITPS mandate is on soil.

The final publication will be designed with a good graphic layout and printed in time for release on World Soil Day 2017. Mr. Vargas requested ITPS members to send any relevant high quality pictures to Ms. Lucrezia Caon for potential use in the publication. Mr. Pennock will present the final document in Nairobi, Kenya, during a special event held during the UN Environment Assembly on 5 December 2017. Mr. Montanarella confirmed that, should any subsequent changes occur in the text, the ITPS will be informed.

5. Preparation of a Code of conduct for the management of fertilizers as implementation of the Voluntary Guidelines for Sustainable Soil Management.

Ms. Debra Turner and Mr. Edmundo Barrios from FAO presented an overview of a concept to implement the chapter on nutrient imbalance of the VGSSM develop as implementation of the VGSSM, including a timeline for the development of a Code of Conduct for the management of fertilizers and guidelines on integrated soil fertility management (ISFM). The aim was to explore the development of the Code of Conduct under the leadership of the ITPS as elaborated in a draft concept note that was shared with the panel.

An elaborate discussion was held by ITPS members on the Code of Conduct and the ISFM guidelines, raising various points of consideration and questions. The majority of the interventions raised questions about the substance of the documents and the development process, as well as the target audience. Mr. Vargas explained that the Code of Conduct would target people involved in processes before fertilizers reach farmers and would include, for example, looking at the levels of heavy metals in fertilizers.

Mr. Montanarella highlighted that, according to the concept note, a meeting is scheduled for 13 to 14 December 2017, under management of the ITPS, to gather international experts to discuss the outline and main aspects to be included in the document. However, it was considered that this meeting was premature if consider the whole process and it was suggested instead to launch an online consultation before.

During the next days of the present meeting, Mr. Pierzynski scrutinized the concept note and on 3 November presented the suggested way forward for the ITPS. On this occasion he recalled the presentation made by Ms. Turner on 30 October and looked to the working group members on sustainable nutrient management for support in the way forward. He proposed that the meeting in December be replaced by an online consultation process open to all stakeholders between December 2017 and January 2018. A zero order draft of the Code of Conduct be developed shortly after. This would be followed by a more elaborated draft by April 2018 to be submitted to an Open-Ended Working Group (to be established by a transparent process by the Secretariat). This working group will then finalize the draft to be submitted to the 6th GSP Plenary Assembly in June the same year.

Mr. Vargas indicated that a transparent call for experts will be needed, so a call for an open-ended working group will be launched. He agreed that the online consultation should be done soonest and confirmed that the first draft should be ready by May 2018 to share with FAO member countries since the final approval will be done given by them.

6. Review and clearance of the Global Soil Organic Carbon Map (GSOCmap).

The GSP has been tasked to provide support on various soil carbon issues. The Science-Policy Interface of the United Nations Convention to Combat Desertification (UNCCD-SPI) requested the ITPS to prepare a Global Soil Organic Carbon map in contribution to the sustainable development goal (SDG) indicator 15.3.1. The development of this map forms part of the ongoing activities to establish the Global Soil Information System under the Pillar 4.

The ITPS review of the GSOCmap was initiated on the first day of the meeting when the process and version 0.6 of the map was presented by Mr. Yusuf Yigini of the GSP Secretariat. Following comments from the ITPS, version 0.7 of the map was developed, presented, and discussed during the third INSII meeting, attended by some ITPS members. On 2 November, Mr. Yusuf presented version 0.8 of the GSOCmap to the ITPS for final decision. He mentioned that the quality control will continue to be done country by country in terms of harmonization within countries until 30 November.

Mr. Montanarella acknowledged the efforts made by the Secretariat to provide updated versions of the map every day to incorporate the various comments received from both the ITPS and INSII members. The ITPS was very supportive of the country-based approach and understood that the map will continue to be revised to present version 1.0 of the GSOCmap on 5th December.

Mr. Vargas confirmed that after 5th December, version 1.0 will continue to be improved as countries obtain and share further data and maps with as part of the implementation of GLOSIS and SoilSTAT. Version 1.0 is not considered a baseline for global SOC, but will be the best version available using the country-based approach. National products were received from about 89 countries which is considered a considerable number and includes data from a large number of soil profiles that are not available to the public. The most important message on 5 December should therefore be that the GSOCmap will continually be updated over time. The

Secretariat will request ITPS support for the development of a scientific publication on the map which should address all the scientific concerns discussed during the INSII and ITPS meetings. Furthermore, the publication will outline the country-driven approach and highlight the need for monitoring.

Mr. Montanarella cautioned that a global peatland map will be presented during COP23 of the UNFCCC which will probably not correlate with the GSOCmap product. Hence, related comments and potential critique are to be expected on 5th December when version 1.0 of the GSOCmap is released and presented.

Finally, Mr. Montanarella insisted that the ITPS take responsibility for the GSOCmap product and endorse version 1.0 for 5th December on the following conditions:

- It is clearly stated that the GSOCmap is a work in progress which will be continuously updated. Therefore, there may never be a final product, but rather, there should be a continuing updating process during which the ITPS will be informed well in advance prior to the release of new major versions (i.e. version 2.0, 3.0, etc.).
- Any version or subversion of the GSOCmap will always be accompanied by metadata according to global metadata standards.
- It is clearly stated that the GSOCmap does not provide a baseline for global SOC stocks and hence the collection of new SOC data by countries is continuously encouraged to support the improvement of the product.
- All limitations of the product should be clearly documented and communicated along with the GSOCmap.

The ITPS recommended that regional revisions of the mapping process be conducted to support the future process at this level.

7. Engagement of ITPS in INSII and GLOSOLAN

The ITPS meeting was held in parallel to the 3rd INSII and the 1st GLOSOLAN workshops, both of which were attended in part by ITPS members to gain insight into the two networks. Mr. Montanarella requested that the reports of these meetings be attached as Annexes to this report.

As INSII Chair, Mr. Neil McKenzie gave feedback on the INSII workshop, indicating that a two-day workshop was considered insufficient to discuss all the relevant issues and did not justify the travel of many participants. When asked about the overlaps between Pillars 4 and 5, he commented that the one cannot be implemented without the other. To support the smooth implementation of these Pillars, Mr. Rainer Baritz (currently the global Pillar 5 chair) is a member of the Pillar 4 working group, while Mr. McKenzie is part of the Pillar 5 working group.

Several ITPS members raised concerns about the use of spectroscopy data as soil analysis method, considering the still unclear reliability of such data. However, it was agreed that the use of spectroscopy is a growing discipline which cannot be ignored, so the GSP and ITPS need to do the necessary to ensure that it provides the necessary scientific opinion. Mr. Vargas requested whether the ITPS could prepare a scientific opinion on spectroscopy for soil analysis. Mr. McKenzie suggested that the role of the ITPS is to link with the spectroscopy community to see if its assessment of methodologies is reasonable or not. This can be done by linking with the IUSS group working on spectroscopy.

Regarding the harmonization of methodologies for soil analyses and establishing a laboratory network, Mr. Montanarella pointed out that the European Union focused more on sampling and sample preparation while using one laboratory to do analyses, thereby eliminating the inter-laboratory differences. Mr. Vargas indicated that the establishment of GLOSOLAN is part of the Pillar 5 implementation plan. During the last day of the GLOSOLAN meeting, participants would discuss the way forward and determine whether there is a gap that needs to be filled in terms of soil laboratories. Should the recommendation be to not continue with the GLOSOLAN, such a recommendation would be taken back to the GSP Plenary Assembly.

With regards to INSII and the soil data facility (SDF), Ms. Mendonça Santos Brefin mentioned that several countries expressed their concern about the SDF, questioning why it is necessary if a country-driven approach is used in GLOSIS. She indicated that a big communication effort is key to explaining the need for the SDF. Mr. Vargas responded that clear terms of reference exist for the operation of the SDF which will be strictly adhered to. This includes the specification that the SDF will perform activities upon request from INSII and the Pillar 4 working group. Therefore, INSII should be delegating tasks to the SDF which entails that countries, through their national soil information institutions and as INSII members, will have a say in the functioning of the SDF.

8. Discussion on the second Status of the World's Soil Resources report

A discussion item on the second SWSR report was added to the agenda as requested under section 2 in this report. Considering that the current term of ITPS members will end before the 6th GSP Plenary Assembly in June 2018, the issue of ITPS continuity in relation to the second SWSR report was discussed.

Mr. Vargas explained that the publication date for the second SWSR report was postponed from 2020 to 2025 upon request from the 5th GSP Plenary Assembly held in June 2017. In the meantime, the Plenary Assembly requested the ITPS to prepare a study on the economic benefits of SSM for farmers and other land users, as well as identify best practices that prevent soil degradation by 2020 (Refer to section 8 in this report).

Mr. Montanarella confirmed that, for the time being, the current authors list, which includes ITPS members, entails commitment until 2025, even if those authors are no longer ITPS members by that time. It was agreed to make the second SWSR report a standing agenda item in all future ITPS meetings and that substitute authors would be identified at a later stage if necessary.

Specific suggestions for consideration in the next report were that:

- A section on the Small Island Development States be included in the next SWSR report. This can be ensured by including a wide range of national authors to cover the necessary regional priorities.
- The next version be considered a living document which can be continuously updated as new data and information becomes available through GLOSIS.
- The full SWSR report of 600 pages is too lengthy and not used by many people and suggested that a more dynamic product be developed that can be updated more regularly.
- The ITPS prepare a report about the second SWSR report at the end of the current ITPS term to support continuity into the next ITPS.
- The second SWSR report elaborate on the changes or improvements related to each soil threat that occurred in countries since the publication of the first report. This could be done through the regional soil partnerships and by establishing a continuous flow of information.

- In terms of soil erosion, something can be developed using model based approaches to develop the global soil erosion map.

Mr. Vargas suggested that someone be appointed to develop a suggested framework for the 2nd SWSR report incorporating the comments from this meeting and other existing activities. Mr. Montanarella confirmed that the ITPS will await a new timeline and concept paper for the report.

9. Preparation of the study on the economic benefits of SSM for farmers and other land users, as well as identify best practices that prevent soil degradation for 2020.

The 5th GSP Plenary Assembly requested the ITPS to prepare a study on the economic benefits of SSM for farmers and other land users, as well as identify best practices that prevent soil degradation for 2020. The aim of this report would be to provide information that would be specifically relevant for farmers and other land users to provide motivation and incentive for the adoption of more sustainable soil management practices.

Mr. Vargas indicated that such a study would require a lot of work in terms of regional and national activities. Considering that the current ITPS term is soon coming to an end, he suggested that a work plan be developed to see what can be done. He offered that the Secretariat could draft a CN on how this could be done by the next ITPS and submit the concept to the next Plenary Assembly. Mr. Montanarella responded that the Plenary Assembly expects the ITPS to develop the report, hence ITPS members need to be identified to take responsibility for this activity. For this purpose, the following members agreed to explore the possibility of such a study and report to the next Plenary Assembly: Mr. Amanullah, Mr. Brajendra, Mr. Comerma, Mr. Darwish Mr. Erpul, Mr. Horn, Mr. Krasilnikov, Mr. Lalljee, Ms. Mendonca Santos Brefin under the umbrella of Pillar 1, hence Mr. Pennock will be involved, and under the co-leadership of Mr. Krasilnikov (administratively) and Mr. Amanullah (scientifically).

It was agreed that an external expert will be appointed to support the working group in this study. The above working group will develop a terms of reference for such an expert to develop a concept for the next Plenary Assembly.

10. Organization of the Global Symposium on Soil Pollution (GSOP18).

The 5th Plenary Assembly approved the organization of the Global Symposium on Soil Pollution (GSOP18) and Ms. Lucrezia Caon presented an overview of the planned event which will be held from 2 to 4 May 2018. She highlighted that the symposium is the next step in implementing the VGSSM in terms of preventing and reducing harmful substances in the soil as a way to maintain healthy soils and food safety by the Sustainable Development Goals. As with the Global Symposium on Soil Organic Carbon, this symposium is the organizational and scientific responsibility of the ITPS as one of the main organizers along with FAO and the GSP, supported by UN Environment, the World Health Organization, as well as the Basel, Rotterdam and Stockholm Conventions.

Following discussion and questions by various ITPS members, it was clarified that the symposium will be output oriented and the aim is to get the scientific community behind GSP actions. The focus of the symposium will be on agriculture, food and food safety, hence the content should be structured accordingly. Detailed comments on the symposium were noted and will be taken up in the refinement of the symposium concept note and planning in the way forward in collaboration with the ITPS.

It was agreed that members for the GSOP18 scientific committee should include experts not affiliated with the organizing organizations. From the ITPS, the following members will be on the scientific committee: Mr. Ahmad S. Muhaimed, Mr. Amanullah, Ms. Botle Mapeshoane, Mr. Brajendra, Mr. Gan-lin Zhang, Mr. Gary Pierzynski, Ms. Isaurinda dos Santos Baptista Costa, Mr. Martin Yemefack, Mr. Peter de Rooter, Mr. Rainer Horn, and Mr. Talal Darwish. ITPS members will submit nominations of external experts to serve on the scientific committee.

11. Report to the collaboration between ITPS and other UN panels and initiatives

The ITPS chair reminded members that ITPS is continuously encouraged to collaborate with other UN Panels and initiatives as requested by the Plenary Assembly and that this is continuously expanding to include more initiatives. No other panels or initiatives were represented during this meeting.

a. Review of the outcomes of COP13 and CST

Mr. Montanarella reported that during COP13 of the UNCCD and the Committee on Science and Technology (SCT), discussions essentially focused on the land degradation neutrality (LDN) concept as the new strategy for the Convention. The CST discussed the approval of the scientific framework for LDN which is now publicly available as scientific basis for the approach. LDN was proposed for SDG target 15.3 to achieve a land degradation neutral world. The UNCCD is taking the lead on this and made LDN part of its strategy to achieve LDN by 2030. During the events Mr. Montanarella gave feedback on GSOC17, following which it was established that UNCCD should be involved through its SPI in the implementation of the GSOC17 outcomes and recommendations. Furthermore, during a side event on the Global Land Outlook (GLO), the ITPS was praised and recognized for its collaboration with other panels and parties agreed to fully implement the VGSSM. It was highlighted that Mr. Barron Orr has replaced Mr. Victor Castillo as UNCCD Lead Scientist under the Science, Technology and Implementation (STI).

In terms of indicators for LDN Mr. Garcia Préchach indicated that LDN uses three indicators including SOC, but that SOC is not so easy to implement. He suggested that SOC be used as a way to monitor changes in SOC stocks, but that the indicator should rather be the % area of a country under best management practices. Mr. Montanarella agreed that this should be discussed with the UNCCD since they already have indicators and associated metrics. Furthermore, the interaction of the GSP Secretariat and the ITPS with UNCCD and SPI should be streamlined to continue having a common dialogue in order to ensure that the same datasets are used at national levels for purposes of UNCCD-SPI and GSP/ITPS.

b. Review and planning of activities with IPBES

Mr. Montanarella indicated that the ITPS has been extensively involved in the IPBES through his involvement as co-chair of the Land Degradation and Restoration assessment and the third author's meeting for this report was hosted by FAO. Furthermore, Mr. Nsalambi Nkongolo is involved in the development of a sub-chapter on people and how they related to ecosystem services, focusing on the topics of soil erosion (supported by Mr. Erpul), soil formation (supported by Mr. Muhaimed) and soil pollution. Mr. Nsalambi would circulate the relevant document to all ITPS members to see who would like to contribute. Mr. Amanullah is also contributing to three subsections of this assessment.

Although various ITPS members are involved in IPBES reports, contributions are acknowledged individually and not as ITPS.

c. Review and planning of activities with IPCC

The ITPS chair has been an observer of the IPCC for some time and the ITPS has interest in being involved in an assessment on climate change, food security and land degradation report with an extensive chapter on soil. The assessment will be completed in 2019 and Mr. Taboada and Mr. Amanullah are involved from the ITPS. Furthermore, Mr. Nkongolo was involved in an online greenhouse gas assessment for IPCC. IPCC was also a co-organizer of the GSOC17 so good collaboration has been established with this panel.

d. Follow-up of the 4pou1000 initiative

Mr. Montanarella informed members that he attended the last 4/1000 scientific committee meeting following their participation in the 6th ITPS meeting. The topic of nitrogen deficiency and its effect on SOC, as highlighted by Mr. Erpul, was also emerging during the 4/1000 meeting. The next 4/1000 committee meeting will be held in Bonn, parallel to COP13, to be attended by Mr. Montanarella, who indicated that the 4/1000 initiative will continue and is now also in the hands of African colleagues with NEPAD as chair.

The ITPS chair indicated that he received a formal request from the 4/1000 scientific committee to obtain formal observer status in the ITPS. However, following a similar discussion in terms of the IUSS during the 5th GSP Plenary Assembly, this request could not be fulfilled based on the GSP rules of procedure.

e. Activities in UNFCCC COP23

The ITPS chair indicated that the UNFCCC COP23 will be held in Bonn, Germany from the 6th to the 17th of November. There will be a side event on 10 November on the GSOC17 outcomes, attended by Mr. Montanarella to present the outcomes of GSOC17 and announce the GSOCMap, as well as a series of side events targeting soils.

f. Collaboration with LEAP

Mr. Vargas indicated that the Livestock Environmental Assessment and Performance Partnership (LEAP) has been working on soil organic carbon, focusing on how to sequester SOC in grasslands, as well as on nutrient cycling. Unfortunately the representative from the LEAP Secretariat was not able to attend the ITPS meeting. Mr. Taboada, Mr. Amanullah and Mr. Nkongolo have been representing the ITPS in this process and the agreement with LEAP was that the ITPS will review the final draft document. Ms. Alcantara is following the process with LEAP on behalf of the Secretariat.

g. Outcome of the GSBC2: towards a Global assessment of Soil Biodiversity

The second Global Soil Biodiversity Conference (GSBC2) was held from 15-19 October 2017 in Nanjing, China and attended by Mr. Montanarella and Mr. Vargas. Mr. Montanarella mentioned that perhaps an assessment of global soil biodiversity could be done and that the ITPS should include more soil biodiversity work in its work plan.

Mr. Vargas supported this, indicating that loss of soil biodiversity is one of the ten main soil threats and therefore included in the VGSSM. Attention on soil biodiversity is increasing and FAO has the mandate from the CBD to implement the International Soil Biodiversity for Food and Agriculture Initiative. The CBD has high interest in the revival of this initiative and FAO has hired a consultant to start advocating for soil biodiversity at the CBD, paid by FAO. The consultant, Ms. Monica Kobayashi, will be based at the CBD offices. A plan needs to be developed for the way forward, starting with the global assessment on soil biodiversity which idea could be presented at the next CBD COP to be held in 2018. Mr. Montanarella indicated that this is still only a suggestion

and not yet part of the official ITPS work plan. In order to move forward, this suggestion needs to be reported to the 6th GSP Plenary Assembly and ensure that there are relevant experts in the new ITPS.

h. Other bodies like IUSS

Mr. Vargas indicated that ITPS collaboration started with other UN panels, but that it can also expand to include other organizations. Mr. Horn indicated that during the 6th ITPS meeting, the option of having an ITPS meeting during the World Soil Congress in August 2018 was discussed, but that this would be too late for the current ITPS members. However, ITPS collaboration can be enhanced through the implementation of the GSP Pillars such as Pillar 3 as discussed in Section 3 and Pillar 4 as discussed in Section 7 of this report.

12. Implementation of the GSOC17 recommendations: working group on SOC management

Ms. Viridiana Alcantara gave an overview of the eight recommendations made in the GSOC17 Outcome Document. Mr. Montanarella reminded members that the UNCCD and its SPI has a strong expectations to implement these recommendations as co-organizers of the event, hence a plan should be developed to implement these. Mr. Vargas agreed that a meeting will be organized with the three panels (ITPS, UNCCD-SPI and IPCC) to discuss the implementation of the recommendations.

Ms. Alcantara highlighted that special scientific issues were arranged in the journals of *Global Change Biology* and *SOIL*. Mr. Peter de Ruiter, who is leading the review of special issues on behalf of the ITPS, recommended that all ITPS members be reviewers and review the papers submitted to them as soon as possible. Since not that many papers are expected, this should not be too time consuming.

Ms. Alcantara further indicated that a working group has been established to develop guidelines on SOC management in support of the GSOC17 recommendations with more than 200 experts responding to the call. These guidelines will build on regional priorities and be presented in the form of a technical manual. A lengthy discussion ensued and the following points were highlighted:

- It was generally suggested that the structure of the manual follow land uses rather than biomes since the specificity of management follows humans rather than biomes.
- It was confirmed that the development of these guidelines is an ITPS activity since the ITPS initiated GSOC17. As such, the activity is led by Mr. Taboada with support from Ms. Alcantara. As ITPS member, Mr. Taboada is responsible for keeping in contact with ITPS members. However, since GSOC17 was co-organized by three panels, once the draft document is available, it will be submitted to the ITPS, UNCCD-SPI and IPCC for review.
- Ms. Alcantara will follow up with Mr. Taboada in terms of the above and further detailed comments to be addressed in the way forward. The timeline will be revised to allow sufficient time for a template on relevant successful practices to be circulated and completed by working group members.

Recommendation 2 of the GSOC17 Outcome Document entails the establishment of a working group to develop guidelines for measuring, mapping, monitoring and reporting SOC stocks. Mr. McKenzie stressed that such guidelines would need to collate what exists in terms of guidelines. Mr. Vargas suggested that a working group will be established to prepare them as suggested in the GSOC17 recommendations.

13. Celebration of World Soil Day 2017

Ms. Isabelle Verbeke from the Secretariat presented an overview of World Soil Day (WSD) material and activities for 2017 and the information was well received. The main events for the Secretariat will focus on the launch of the GSCOMap, the awarding of the second Glinka World Soil Prize and the launch of the PPP assessment in Rome. It is expected that the event will be attended by the Russian Viceminister of Agriculture and other high-level participants. The PPP assessment will also be launched during a high-level segment in Nairobi, Kenya.

WSD celebrations will also be held in Moscow where the Secretariat will be represented. The event will consist of a plenary session, a soil parade and the laying of flowers next to the sculpture of Dokuchaev. This will be followed by three round table discussions on issues related to soil education and awareness, urban soils, as well as overall issues related to food security and soil science.

Mr. Gan-Lin Zhang suggested that different digital solutions be used to disseminate WSD information to include countries such as China which do not have access to Facebook and Twitter, for example.

Mr. Brajendra requested that digitally signed GSP certificates of attendance be sent to participants of WSD events.

Ms. Dos Santos Baptista Costa offered to arrange translation of WSD material into Portuguese and Ms. Verbeke agreed to make the relevant material available.

14. Date and venue of the next meeting

Mr. Vargas stressed that an ITPS meeting will have to be organized during the week of GSOP18, scheduled for 2-4 May 2018, to check the work of the fertilizer Code of Conduct, since ITPS members will be involved in the symposium by default.

Mr. Montanarella recalled that there will be a call for nominations for the new ITPS and urged members to inform their constituencies of the work programme moving forward to ensure the selection of a capable panel. Mr. De Ruiter indicated that the European group will meet with the European ambassadors early in 2018 to explain what the ITPS is doing in order to brief them well in advance. Mr. Vargas responded that the call for nominations will be launched in January 2018 and close in mid-February. The Secretariat will call on FAO members to organize regional groups to discuss the importance of appropriate nominations.

Mr. Pennock indicated that it is critical to prepare orientation for the next ITPS to explain what has been done before the meeting starts for new members.

It is not yet confirmed whether an ITPS meeting will be organized during the World Soil Congress in Rio. However, if it will be organized, it would be the first meeting of the new ITPS.

15. Any Other Business

All issues of other business were reported under the relevant sections where they were discussed as indicated.

16. Closing of the meeting

Mr. Mansur acknowledged the ITPS for their dedication to discussing an extensive programme and participating in the INSII and GLOSOLAN meetings. The importance of especially the GSOCmap and the report on PPPs was highlighted as milestone ITPS products to be launched through the GSP on 5th December 2017.

ANNEX 1. List of Participants

ITPS Members

Africa

Mr. Nsalambi V. Nkongolo (Democratic Republic of Congo)
Mr. Bhanooduth Lalljee (Mauritius)
Mr. Martin Yemefack (Cameroon)
Ms. Isaurinda dos Santos Baptista Costa (Cape Verde)
Ms. Botle Mapeshoane (Lesotho)

Near East and North Africa

Mr. Talal Darwish (Lebanon)
Mr. Ahmad S. Muhaimeed (Iraq)
Mr. Saéb AbdelHaleem Khresat (Jordan)

Latin America and Caribbean

Mr. Juan Antonio Comerma (Venezuela)
Ms. Maria de Lourdes Mendonca Santos Breffin (Brazil)
Mr. Fernando Garcia Préchach (Uruguay)

North America

Mr. Dan Pennock (Canada)
Mr. Gary M. Pierzynski (United States of America)

Asia

Mr. Gan-Lin Zhang (China)
Mr. Brajendra (India)
Mr. Amanullah (Pakistan)
Mr. Kazuyuki Yagi (Japan)

Europe

Mr. Luca Montanarella (Italy)
Mr. Gunay Erpul (Turkey)
Mr. Peter de Ruiten (The Netherlands)
Mr. Pavel Krasilnikov (Russian Federation)
Mr. Rainer Horn (Germany)

South West Pacific

Mr. Neil McKenzie (Australia)
Mr. Siosua Moala Halavatau (Tonga)

GSP Secretariat

Mr. Ronald Vargas
Ms. Viridiana Alcantara
Mr. Rainer Baritz
Ms. Liesl Wiese

Ms. Lucrezia Caon
Ms. Isabelle Verbeke
Mr. Yusuf Yigini
Mr. Kostiantyn Viatkin
Mr. Guillermo Olmedo
Ms. Dasom Jeon
Ms. Stephanie Reiter
Ms. Giulia Stanco
Mr. Matteo Sala

ANNEX 2. [Report of INSII](#)

ANNEX 3. [Report of GLOSOLAN](#)