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Global Soil Partnership Plenary Assembly



Seventh session

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Progress under the GSP Pillars including the development/execution of implementation plans: for information and decision (GSPPA:VII/2019/4)

Executive Summary

- The five “Pillars of Action” underlie the technical work of the GSP, which is carried out at all the appropriate levels, from the global through the regional down to country level. Based on the agreed “Plans of Action” for each Pillar, specific activities, products, governance dimensions and needs for funding and capacity development were more concretely addressed through so-called implementations plans.
 - The central GSP organs, the Regional Soil Partnerships, as well as individual GSP partners, are particularly challenged to engage in the realization of these implementation plans. Thanks to the active commitment of partners, a significant number of activities are currently being implemented along the five pillars, some at a more advanced stage than others. However, the overarching goal remains for the GSP to ensure the full execution of the five global (and regional where formulated) implementation plans. Financial resources are very much needed for that purpose, including the secondment of technical experts to the Secretariat
- The present document aims to highlight the progress made under each Pillar for the attention of the Plenary Assembly.
- For instance, the implementation of the Voluntary Guidelines of Sustainable Soil Management is progressing including the development of the International Code of Conduct for the Sustainable Soil Management which is submitted for endorsement of the upcoming 41st FAO Conference.
 - A database on soil-related legal instruments (called SoiLEX) is under development by the GSP Secretariat in response to planned activities 1.1.1 and 1.1.2 of the Pillar 2 implementation plan. The SoiLEX database will facilitate exchange of knowledge and

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experience in legal matters related to soil protection, conservation, and restoration.

- Awareness raising continue with the implementation of activities via the World Soil Day 2018 celebration, awarding of the Glinka World Soil Prize and the King Bhumibol World Soil Day Award.
- An e-learning platform named EduSOILS is also under development by the GSP Secretariat, in cooperation with partner universities and accredited course providers. It will serve to build the capacity of interested stakeholders, in terms of adequate skills and knowledge base so that they can collect the necessary data and interpret the results for decision-making.
- The first major product of GLOSI (Global Soil Information System) is the Global Soil Organic Carbon Map (GSOCCMap). It has allowed to demonstrate that a GSP country-driven mechanism has worked well, together with the process of scientific supervision by the ITPS and operational oversight by INSII members. This first experience should be rapidly scaled up to fully establish GLOSI. However, there are still a number of critical challenges regarding Pillar 4 and GLOSI which need to be addressed by GSP partners.
- The GLOSOLAN network, and associated SEALNET and LATSOLAN, have also demonstrated their utility in improving the quality of laboratory analyses and generating technical exchanges among countries.

Suggested action by the GSP Plenary Assembly

The Plenary Assembly may wish to:

- acknowledge progress made in the implementation of the Voluntary Guidelines for Sustainable Soil Management and invite member countries to implement it at national level;
- encourage members to support the endorsement of the International Code of Conduct for the Sustainable Use and Management of Fertilizers at the upcoming 41st FAO Conference and thereafter support its implementation;
- welcome the work implemented under the International Network of Black Soils and invite its members to continue the implementation of its workplan;
- acknowledge the extensive work done so far in developing SoILEX, a global online database on soil-related legal instruments;
- endorse the use of SoILEX as a living tool that will contribute to raising awareness of the importance of legal frameworks for soil protection and conservation;
- invite members to review the legal frameworks available for each country under SoILEX and update or amend them when necessary;
- identify the major gaps between laws and policies and scientifically demonstrated real needs;
- take note of the successful WSD celebration on 5th December 2018 and the programme foreseen for WSD 2019;
- endorse the theme proposed for WSD 2020;
- encourage member countries, other partners and new stakeholders to organize WSD celebrations using the 2019 and 2020 themes;
- invite resource partners to contribute to the implementation of the sustained communication plans envisaged by the Secretariat;
- take note of the successful organization of the Glinka World Soil Prize in 2018 and the

programme foreseen for the 2019 award ceremony;

- invite partners to disseminate the call for nominations for the Prize so that the process is more fully inclusive and ensures submissions from the different regions of the world;
- invite resource partners to financially contribute to the implementation of the Prize beyond 2019 (as it is currently sponsored by the Russian Federation for a limited period);
- take note of the successful organization of the King Bhumibol World Soil Day Award in 2018 and the programme foreseen for the 2019 award ceremony;
- invite partners to disseminate the call for nominations so that the process is fully inclusive and ensures submissions from the different regions of the world;
- request the GSP Secretariat to continue coordinating the overall implementation of the EduSOILS platform and to ensure its effective promotion and use;
- invite GSP partners to contribute to the e-learning platform by providing or developing relevant learning materials, identifying new topics to be included in the course catalogue, and financially supporting the implementation and maintenance of the platform;
- invite members to contribute to the development and consolidation of the online R&D platform, RESoil, by answering the questionnaire and providing information on all relevant programmes, projects and courses that will be incorporated into the database. Members are also invited to use and promote the use of the RESoil platform within their networks;
- acknowledge progress made in the establishment of GLOSI and invite members to be actively represented in INSII;
- nominates the chair of INSII;
- decide that the International Union of Soil Sciences, Global Soil Map Working Group to be represented in the Pillar 4 Working Group to support the development of fine resolution grids of soil properties.
- invite countries to be actively involved on the preparation of the Global soil salinity soil erosion and SOC sequestration potential maps;
- decides the format for acknowledging the contribution of INSII members into global maps when publishing scientific articles in international journals;
- welcomes the proposal for preparing a report on the state of knowledge on soil biodiversity covering current status, challenges and potentialities and to make it available for consideration by the Subsidiary Body on Scientific of the CBD;
- invite members to join in the work of GLOSOLAN, including SEALNET, LATSOLAN and AFRILAB;
- endorse the planning document for proficiency tests under GLOSOLAN and the concept note for the best practice manual on soil laboratory analysis; also financially support the execution of proficiency tests by GSP partner institutions;
- endorse the resolution for the exchange of soil samples for research purposes under GLOSOLAN;
- endorse the amendment for the GSP Soil Data Policy to include soil laboratory inputs;

4.1 Pillar 1

4.1.1 Implementation of the Voluntary Guidelines for Sustainable Soil Management

1. The VGSSM, which were endorsed by the 155th session of the FAO Council in December 2016, were developed through an inclusive process with the aim to provide general technical and policy recommendations on sustainable soil management (SSM) for a wide range of committed stakeholders. In fact, the VGSSM present generally accepted, practically proven and scientifically based principles to promote SSM and include guidance to all stakeholders on how to translate these principles into practice, be it for farming, pastoralism, forestry or more general natural resource management. The guidelines focus mostly on the provision of ecosystem services and elaborate on the principles outlined in the revised World Soil Charter, taking into account the evidence provided in the Status of the World's Soil Resources (SWSR) report.
2. The implementation of the VGSSM is taking a central place under Pillar 1. Attention is continuously given to disseminating the VGSSM, which were initially published in the UN languages, and are being translated into local languages as needed. Multi-stakeholder national workshops were organized in Thailand, Iran and the Maghreb region, where the countries developed strategies on the implementation of the VGSSM and addressing known barriers to adoption. Attention is also given to advocating implementation at national level. The VGSSM are being used as a reference for several GSP outputs such as the "Protocol for assessing sustainable soil management" or "the International Code of Conduct for the Sustainable Use and Management of Fertilizers". To ensure more concrete actions, and as a result of a global dialogue (mainly with countries), it was decided that implementation would be strengthened by a call for proposals for small projects applying the principles of the VGSSM. This initiative should facilitate research and partnerships leading to examples of SSM practices to be scaled up at regional level.

4.1.2 Proposed protocol for assessing sustainable soil management

3. The ITPS and the GSP Secretariat had previously identified the need for developing a protocol to assess if a given soil management practice is in line with sustainable soil management, as defined by the ITPS in 2015. A first draft was developed and presented at the 6th session of the PA, where it was recommended to refine the document. A new draft was developed which provides a practical method for different stakeholders to determine if current soil management practices are sustainable, and where they are not, to identify potential actions to improve their sustainability. This new protocol is available in Annex 2 of [GSPPA: VII/2019/3](#).

4.1.3 Status of the International Code of Conduct for the Sustainable Use and Management of fertilizers

4. The International Code of Conduct for the Sustainable Use and Management of Fertilizers ("Fertilizer Code") was developed in response to COAG's request to increase food safety and the safe use of fertilizers and in response to the third UN Environment Assembly (UNEA3) declaration on soil pollution, as well as a way to support the VGSSM. The Fertilizer Code also aims to address issues from a global perspective, i.e. in terms of contributing to the Sustainable Development Goals (SDGs). The Code embodies a locally adaptable framework and voluntary set of practices. By following or adhering to the guidelines and recommendations provided in the Code, different stakeholders directly or indirectly involved with fertilizers can contribute to sustainable agriculture and food security from a nutrient management perspective.
5. The Fertilizer Code was developed through an inclusive process and presented to the 6th PA, which welcomed the draft and recommended a second online consultation for final review. This online consultation process took place from 15 June to 15 July 2018, where comments from multiple stakeholders were received and taken into account. The updated version was presented to the 26th

session of COAG for endorsement and the request to forward it for consideration of the Council in December 2018. The Committee mandated its Bureau to undertake another consultation process to prepare a revised text to be submitted to the FAO Conference.

6. The Fertilizer Code was briefly discussed at the FAO Council (3 – 7 December 2018), while a new consultation process was opened (5 October 2018 to 18 January 2019) and the GSP Secretariat and the ITPS prepared a revised draft Fertilizer Code, based on the feedback and comments received. The revised Code was discussed at the COAG bureau meeting of 1 February 2019, and it was decided to allow more time for the Regional Groups to provide minimal comments. A final consultation process took place from 1 February 2019 to 25 February 2019, and the comments from the Regional Groups were incorporated into a final Draft of the Fertilizer Code.

7. The document is being submitted to the FAO Conference in June 2019 for consideration and endorsement. The text is available here: <http://www.fao.org/3/mz476en/mz476en.pdf> .

4.1.4 International Network of Black Soils

8. As part of the Global Symposium on Soil Organic Carbon (GSOC17), the International Network of Black Soils (INBS) was launched on 21 March 2017. The INBS aims to preserve the available black soil resources in the world and ensure their sustainable and productive use for future generations.

9. To date 27 countries have officially joined the INBS. The network has organized its first workshop on 10-12 September 2018 in Harbin, China, together with an International Symposium on Black Soils. This last meeting was organized in collaboration with the Ministry of Agriculture and Rural Affairs of China and the government of the Heilongjiang Province and with support from FAO. The Symposium aimed in particular to identify relevant research gaps within countries endowed with black soils. More than 300 participants attended the symposium and the workshop. The delegates from 18 black soil countries/regions and members of the INBS signed the Harbin communiqué (<http://www.fao.org/3/CA1524EN/ca1524en.pdf>), agreeing to advance science and technology at the service of black soil management in the world. Meanwhile, there was an interactive exchange within the network to agree on a definition of black soils and the preparation of a work plan.

The priorities identified by the INBS in the Harbin Communiqué are:

- complete a delineation of the areas identified as Black Soils according to the criteria adopted at national level;
- support implementation the Voluntary Guidelines for Sustainable Soil Management in the areas designated at national level as black soils;
- perform a global assessment of black soils and publish it as a formal report of the Global Soil Partnership;
- develop a capacity development programme on the management of black soils;
- prepare a policy brief on the importance of black soils and advocate for binding legislation for the full protection of these soils for future generations;
- streamline black soils data as part of a monitoring sub-component of the Global Soil Information System (GLOSIS);
- develop a “Best Available Practice” knowledge bank as part of INBS Information System.

10. A side event on “Black Soils for food security and climate change adaptation and mitigation” was organized during the UNFCCC COP24 by FAO/GSP, in collaboration with the Institute of Soil Science and Plant Cultivation of Poland on Wednesday (5 December 2018).

11. As recommended by the Global Symposium on Soil Organic Carbon, experts of INBS developed a black soil chapter of the: Technical Manual on SOC Management. The chapter includes best SOC management practices of black soils in Eastern Europe, Central Asia, East Asia, Southeast Asia, North America and South America. It describes the details of the management practices, discusses the co-benefits or conflicts with other practices and potential barriers to adoption, and considers their adoption within the cultural and socio-economic context. Moreover, the chapter analyzed the potential of C sequestration of the recommended management practices in black soil regions.

12. Interested countries agreed to develop a black soil map based on the definition of black soils and decided to use Digital Soil Mapping (DSM) as the method. INBS plans to organize one regional workshop on the subject where it is expected that the BS map delimitation can be achieved for the respective countries by the end (or close to the end) of the workshop.

The second workshop of the network will take place in October 2019 where the preparation of the status of global black soil will be discussed.

4.2 Pillar 2

4.2.1 Towards the strengthening of soil governance (e.g. SoilLEX)

13. Sustainable soil management and soil protection lack adequate legal instruments due to the lack of perception and understanding of the importance of soil for sustainable development. Filling the critical current gap of adequate policies and legislation remains a top priority.

14. According to the Pillar 2 Implementation Plan, policy development related activities should be implemented at the national level, while they can be mediated or supported based on shared experiences and information. To facilitate knowledge and experiences exchange and in response to specific activities 1.1.1 and 1.1.2 of the Pillar 2 Implementation Plan, the GSP Secretariat has started the establishment of a database of soil policies and legal frameworks named SoiLEX.

15. Relying on the work done so far by the FAO Legal Office, which maintains a comprehensive, up-to-date legislative and policy database (FAOLEX), one of the world's largest electronic collection of national laws, regulations and policies on food, agriculture and natural resources management, the GSP Secretariat has extracted and analysed current soil-related legal instruments from all member countries. Those legal instruments were grouped according to the most relevant keywords, such as soil threats, soil protection and conservation, and soil restoration.

16. These soil-specific legal instruments are presented in the SoiLEX database to be used as a facilitator of national analysis, by providing easily accessible models of effective soil policy that can guide country efforts to develop new legislation. SoiLEX will seek to compile existing regulatory and non-regulatory instruments worldwide to protect soil health.

17. In fact, most of the GSP focal points advised that there is a lack of specific soil-related legal instruments or that the existent ones were too old or the topic was covered just by general environmental protection legislation.

18. The GSP Secretariat will encourage national focal points to review the SoiLEX database and amend it as necessary with the latest legal instruments adopted in their countries. They should also seek benefits from this database as a source of successfully implemented legal instruments with potential for being scaled-up.

4.2.2 Report on the implementation of World Soil Day 2018, planned celebrations in 2019 and proposed theme for 2020

19. The GSP Plenary Assembly deals with the selection of themes of successive World Soil Day (WSD) celebrations, and more generally keeps abreast of developments related to WSD activities, including communication campaigns, digital and print materials. Accordingly, the PA has endorsed WSD themes for 2018 and 2019: i.e. respectively, “*Be the Solution to Soil Pollution*” and “*Stop Soil Erosion, Save our Future*”. The Secretariat gives due attention to an extensive media coverage of WSD, including a solid presence on social media networks.

4.2.2.1 Summary of WSD celebrations in 2018

20. The GSP co-organized formal ceremonies in Rome (FAO headquarters), New York (UN Secretariat), Bangkok (Ministry of Agriculture and Cooperatives of Thailand), and in Katowice, Poland for the 24th Session of the Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC). As mentioned above, a COP24 side event on “Black Soils for food security and climate change adaptation and mitigation” held on 5 December, contributed to raise awareness on soils and sustainable soil management practices on the field. The events in Rome ([webcast](#) and [Flickr photogallery](#)) and New York were broadcast live via FAO and UN channels. Thirty-four FAO regional, sub-regional and country offices around the world supported celebrations or advertising the campaign on the web and social media. Sponsored FAO events took place at the Lomonosov University in Moscow, the Federico II University of Naples and the Soil Museum of Salerno (Italy).

21. It may be noted that more than 300 events were organized in over 90 countries and were tracked through the [WSD interactive map](#). The majority of the events focused on how to be the solution to soil pollution (the chosen theme for the year) in terms of actions needed from different actors and stressing the importance of healthy soils for food security and nutrition; human health; essential ecosystem services and sustainable development. Smallholder farmers, children, civil society, government representatives showed their commitment to stop soil pollution in various ways, i.e. through training on sustainable soil management (Nigeria), the launch of national soil education programmes (Argentina and Costa Rica), marches (Bangladesh), webinars (Ireland), and conferences (South Africa and the US). A report of their experiences can be found under the section ‘[My Actions](#)’ of the WSD website and the [photogallery WSD18](#).

22. The joint FAO, UN Environment and UNDP report on “[Soil and nutrients loss in Malawi: an economic assessment](#)”, was launched on WSD 2018 in Rome together with the [third award of the Glinka World Soil Prize](#) (cf. item 4.2.3). Also on the occasion of WSD, the Kingdom of Thailand launched the Centre of Excellence for Soil Research in Asia (CESRA) and granted the first King Bhumibol World Soil Day Award during official celebrations in Bangkok (item 4.2.4). The FAO official press release together with a dedicated web-story triggered substantial coverage, with over 450 articles published from 4 -18 December 2018, especially in English and Spanish-speaking countries ([Newsroom](#)).

23. The [dedicated WSD website](#) was available in the 6 UN official languages and [WSD campaign material](#), consisting of [posters](#), [long infographic](#), ‘[everyone has a role to play](#)’ [postcards](#), [key messages](#), [banners](#), [videos](#) and printable logos for T-shirts, were widely disseminated, including through FAO corporate social media channels and through shipments of gadgets and materials to different countries, which were used by a large numbers of participants at different public events (e.g. Gabon, Sudan, Costa Rica). Thanks to a special “call for translation”, the [WSD logo is now available in more than 80 languages](#).

24. The digital campaign had positive results with 28 000 single users, 45 000 page views and 5 500 hours spent on the WSD website on 5 December (see the media report). A five-day corporate digital campaign was also launched on the main social media platforms with the support of the FAO corporate communication unit, regional and national accounts. It helped in disseminating the video-

message from the FAO Director General and a series of communication material to a wider range of users, thereby promoting WSD at global, regional and national levels. Only on the 5 December, over 300 FAO social media posts received over 7 000 mentions, reaching 120 million social media users in their feeds. Among others, Jane Goodall, DiCaprio Foundation, Beppe Grillo-Movimento 5 Stelle, Nature Conservancy, Conservation International, World Wildlife Fund (WWF), Greenpeace, Legambiente, Kellogg's, Syngenta, and the World Bank (WB) tweeted, commented and retweeted using the hashtags of the campaign.

25. WSD 2018 was a unique opportunity for the soil community to underscore the urgent need to step up collective efforts and boost debates about the vital role that soils play in daily lives.

4.2.2.2 Plans for 2019

26. For WSD 2019, it is intended to build a strategic communication campaign based on knowledge sharing and storytelling from the field with a range of engagement activities, along which contests, in addition to the usual official ceremonies at FAO headquarters in Rome and FAO regional and country offices, while seeking to involve an increasing number of actors and countries across the planet.

27. A dedicated website and extensive media coverage of the events, through journalists, photographers and camera operators from news organizations, and social media, together with the 2nd World Soil Day Award and the fourth Glinka World Soil Prize on the 5th of December 2019, will continue to be the main WSD awareness raising platforms. However, in order to effectively deliver pertinent soil-related knowledge and promote learning hubs across multiple platforms, it is important to go beyond the single occurrence of WSD and trigger public attention throughout the year with scheduled launches of new communication products and activities.

28. Constant interaction with the public and stakeholders is required to increase investment and soil-related technical cooperation, as well as policy development, and solid education and extension services. Only through a permanently engaged team, the Global Soil Partnership can maintain this level of public attention, developing appealing educational tools that can be used worldwide. In this regard WSD is to build on the advertising effort to place material on TV channels, city billboards, transports and entertainment networks and try to reach wider audience while continuing to nurture the interest and attention that was built in the past years.

29. The theme already chosen for WSD 2019 “*Stop Soil Erosion, Save our Future*” will surely facilitate the active support of the public and WSD organizers, relying on key messages, short animations, and awareness raising materials focused on this major issue. Beyond the global and regional events, the GSP Secretariat will continue to provide support for national celebrations via the printing and shipment of several key publications and informational material. A more detailed presentation of plans for WSD 2019 will be provided by the Secretariat during the PA.

Proposed theme for 2020

The following theme: “*Keep soil alive, protect soil biodiversity*” is proposed for 2020 for consideration and approval of the PA.

4.2.3 Report on the Glinka World Soil Prize

30. The Glinka World Soil Prize was established for the triennium 2016 – 2019 as per the features and award process outlined in the concept note approved during the fourth PA session of 23-25 May 2016. It may be recalled that this Prize, named after the prominent Russian scientist Konstantin D. Glinka, received initial financial support from the Russian Federation. It consists of a Glinka Medal and a check of USD 15 000. It honors individuals and organizations whose leadership and activities have contributed to the promotion and implementation of sustainable soil management in different regions of the globe.

31. Capitalizing on the awareness raising momentum generated by the International Year of Soil 2015, and the successful first two awards of the Prize in 2016 and 2017, the 3rd Glinka World Soil Prize was particularly faithful to one of the major objectives of reaching out to a wider audience.
32. The nomination process was officially open in July 2018 and GSP partners were invited to nominate appropriate candidates (organizations/individuals) and submit the nomination form by 30 September 2018. Following the call, eighteen nominations were received and analysed to assess compliance with established criteria. Accordingly, fifteen of those were deemed to be fully compliant with the specified requirements and consequently shortlisted. The Glinka World Soil Prize Selection Committee, which is composed of the Chair of the Intergovernmental Technical Panel of Soils, the Chair of the GSP Plenary Assembly, and the Chairs of the nine Regional and Sub-regional Soil Partnerships, was tasked to perform its mandated assessment of the candidates assisted by a ranking tool developed by the Secretariat. The winner of the Prize was designated and invited to attend the awarding ceremony during the World Soil Day celebration at FAO headquarters.
33. The 2018 Laureate is Professor Rattan Lal, Distinguished University Professor of Soil Science, Director of the Carbon Management and Sequestration Center at Ohio State University, US, for his brilliant life-long career, spanning over 50 years. Prof. Lal was presented with the Glinka World Soil Prize by the FAO Deputy Director General, Maria Helena Semedo and H.E. Mr Pyotr Viktorovich Ilyichev, Director of the Department of International Organizations of the Ministry of Foreign Affairs of the Russian Federation during the official WSD celebrations at FAO headquarters. Prof. Lal was mentioned by Reuters as part of the World's Most Influential Scientific Minds in 2015 and 2016, and honoured for his outstanding contribution to sustainable soil management and the protection of soil resources. The monetary prize of USD 15 000, was donated by Prof. Lal to an endowment to support the Carbon Management and Sequestration Center. Due recognition and promotion was granted through a dedicated [factsheet](#), [webpage](#), and a [video](#).
34. In 2019, information on the Glinka World Soil Prize will be disseminated through digital media, including social media networks, and will be an important element of the World Soil Day campaign. A call for nominations will be issued at the end of June 2019 and it is hoped that national focal points and partners will further disseminate it through their local, national and regional networks.
35. The GSP Secretariat is preparing a communication plan in order to raise the awareness by all stakeholders of the Glinka Prize 2019.

4.2.4 Report on the King Bhumibol World Soil Day Award

36. Noting the momentum gained since WSD establishment and recognizing the efforts made by individuals/institutions in organizing celebrations, the government of the Kingdom of Thailand has decided to establish and sponsor the King Bhumibol World Soil Day Award (WSDA).
37. The Award aims at encouraging organizers of WSD events at all levels to facilitate challenging and outstanding celebrations across the globe. It prizes one of the best celebrations held in the framework of the previous year's communication campaign. The Award comes in the form of a plaque and a prize of USD 15 000.
38. Following the call for applications issued in July 2018 with a deadline of submission of 30 September 2018, the forty-one nominations received by WSD event organizers were reviewed to assess compliance with established criteria. Accordingly, thirty-nine applications were judged to be in full accordance with the requirements. The WSD Award Selection Committee, which is composed of the nine Chairs of the Regional Soil Partnerships; the chair of the Intergovernmental Technical Panel on Soils (ITPS); the chair of the Global Soil Partnership Plenary Assembly (GSP) and a representative from the International Union of Soil Sciences (IUSS), was tasked to perform its mandated assessment of the candidates assisted by a ranking tool developed by the Secretariat. The winner of the Award was then designated and invited to attend the awarding ceremony during the World Soil Day celebration in Bangkok, at the Ministry of Agriculture and Cooperative of Thailand on 5 December 2018.
39. The winner of the first WSD Award is Practical Action Bangladesh, an NGO that celebrated WSD on 5 December 2017 in Dhaka and in 22 districts countrywide and whose participatory approach

successfully raised visibility on the topic of soil health. During these coordinated series of WSD events the winner engaged with over 5 000 people among farmers; soil scientists and technicians; extension workers; crop, fisheries and livestock professionals; engineers and agricultural entrepreneurs; government; NGO officials; community activists; policy-makers; youth; media personnel; practitioners; and, the general public.

40. Due recognition and promotion was ensured through a dedicated [factsheet](#), [webpage](#), and a [video](#). The award of the Prize was part of the official FAO press release for WSD 2018 and was sponsored on major media wires and on social media.

41. In 2019 information on the Award will be further disseminated through digital media, including social media networks, and will constitute an important element of the World Soil Day campaign with more communication material prepared around it. A call for nominations will be issued shortly before the 7th GSP PA and it is hoped that national focal points and partners will further disseminate it.

42. The GSP Secretariat is preparing a detailed communication plan in order to raise the awareness by all stakeholders of the King Bhumibol World Soil Day Award 2019.

4.2.5 Report on the Soil Doctors programme

43. The Global Soil Doctors programme, which fits conceptually with Pillar 2, promotes the establishment of farmer-to-farmer training systems and aims to build the capacity of smallholder farmers on the practice of sustainable soil management. By doing so, this programme directly supports governmental agencies and organizations working on agricultural extension at the field level. This programme also aims to teach farmers the principles of soil science and sustainable soil management, while providing them with tools that include a Soil Testing Kit (STK) and educational material. The GSP and the ITPS have carefully selected a kit that meets the objectives of the programme, in addition to having successfully developed posters on the main soil threats and applicable management practices, and a Soil Testing Methods Material (STMM) to be used in conjunction with the STK. Attention is currently given to identifying countries for implementation of the programme and advocates to support the Soil Doctors in the field.

4.2.6 Towards EduSoils

44. Under the Pillar 2 component on education and awareness raising, the online platform for education EduSoils is to be developed as a response to activities 3.1.1 and 3.2.1 of the corresponding Implementation Plan.

45. This FAO e-learning platform will offer a series of courses on soil-related issues to complement the current catalogue. The set of courses on soils will be grouped under the name EduSoils and it will be linked to the GSP website and the FAO Soils Portal.

46. This initiative aims to educate professionals, farmers, civil society, students and young soil scientists, as well as policy makers, on basic soil knowledge and more complex soil-related issues, such as the relationship of soils with other compartments such as water, air, food production and human health. EduSoils will be a living platform, as more courses oriented to different audiences and according to emerging concerns and interests will be included, as they are identified during global and regional GSP events.

47. For the preparation and development of teaching materials, and to assure quality and pedagogical adaptation, the GSP Secretariat will have the support and participation of the ITPS, the Pillar 2 working group, in cooperation with partner universities and accredited course providers (such as the Interstate Technology & Regulatory Council – ITRC).

4.3 Pillar 3

4.3.1 Establishment of a soil research database

48. REsoil is to focus on the identification of existing soil research partners, soil research facilities and infrastructure, soil teaching and research programs, and soil related research gaps, to

provide a soil knowledge hub for researchers, policy makers, students and other stakeholders. It should provide a meaningful overview of where soil science training and research is taking place in the world. It is also intended to serve as a knowledge exchange and facilitation platform for the development of joint projects or programmes.

49. The following activities are to be carried out during the period 2019/2020:

- draft a questionnaire for research centers/institutes, soil testing facilities, soil research and academic programs;
- develop selection criteria for including relevant research centers/institutes, soil testing facilities, soil research and academic programs into the inventory;
- distribute the questionnaire through GSP channels (focal points, RSPs, pillar working group, GSP website and social media);
- collect data, organise it and refine the database/inventory;
- prepare the webpage under GSP website to make the inventory available online;
- publish the REsoil inventory, including communication plan for its advertisement;
- maintain and regular update the inventory.

4.3.2 Establishment of the Centre of Excellence on Soil Research (CESRA)

50. In December 2018, the Center of Excellence on Soil Research in Asia (CESRA) was established in Thailand with the purpose of promoting sustainable soil management (SSM) practices in Asian countries (as defined in the Soil Atlas of Asia) by implementing the principles of the revised World Soil Charter and the recommendations in the Voluntary Guidelines for Sustainable Soil Management (VGSSM). Soil experts from all countries in the region will meet at CESRA to share knowledge and experience, contribute to research and development, foster technical cooperation, build their capacities on SSM, develop case studies and ultimately provide sound scientific evidences to advise policy-makers at the national and regional level. As facilitator for the development and implementation of regional projects on soils, CESRA will contribute to achieving the Sustainable Development Goals (SDGs), and other global targets related to the sustainable management of soils.

51. CESRA will also be responsible for establishing the Asian Soil Information System (ASIS), as direct component of the Global Soil Information System (GLOSIS) and under the framework of the International Network of Soil Information Institutions (INSII). The activities in the work plan of CESRA will be aligned to regional and global priorities, as identified in the regional implementation plan of the ASP and in the global implementation plans of the GSP. In this regard, the GSP will provide technical support and guidance to the Centre and facilitate the establishment of South-South cooperation agreements as well as promote technical and scientific cooperation between Asia and other regions. The center has the potential to become a major operation arm of the GSP in the region. CESRA will report on its activities to the GSP Plenary Assembly.

52. The mission, structure, functions and work plan of CESRA were reviewed and endorsed at the 5th ASP Plenary Meeting in February 2019. CESRA will work in cooperation with soil institutions, institutes, departments, universities, agencies, etc. which can either join CESRA autonomously or be nominated by national GSP focal points. Entities interested in joining CESRA should (1) be specifically working on education, research and extension in soil management, and (2) be non-profit. Individuals cannot become CESRA members. National GSP focal points should (i) nominate institutions to join CESRA, (ii) coordinate communication between nominated institutions and spontaneous members at the national level, (iii) support communication between national members of CESRA and CESRA's Director General, and (iv) provide feedback to CESRA on technical issues in his/her country.

4.4 Pillar 4

4.4.1 Status of the execution of the Pillar 4 Implementation Plan

53. The main focus of the Global Implementation Plan ([Pillar 4 GIP](#)), supplemented by Regional Implementation Plans, is to build a federated Global Soil Information System (GloSIS) which is relying on national soil information systems. The Pillar 4 GIP also aims to build SoilSTAT as the statistics component of GloSIS and a tool for monitoring global soil resources.

54. Since the 6th PA, a series of key documents have been prepared for the design of the GloSIS with the support of the Soil Data Facility, INSII and Pillar 4 Working Group.

55. GloSIS design document includes a proposal based on both architectural and engineering building blocks. The document presents the general design of GLOSIS, lists its building blocks and outlines how data providers can participate in the GLOSIS federation. According to the design document, data providers will be able to participate by choosing one of the following levels:

- a. Tailored implementation – for data holders with an existing soil information system. The data holder is to be provided with data exchange standards to guarantee full interoperability with the GLOSIS federation;
- b. Reference implementation – for data holders that wish to setup their own soil information system. They will implement the GLOSIS reference node. Data holders opting for this option shall primarily be concerned with the compliance of their data and its loading into the database of the node;
- c. Support implementation – for data holders lacking the resources or knowledge to set up and maintain a soil information system. These data holders can submit the soil data they wish to share to the support node.

56. GSP will support and encourage the participation of countries and other data providers into GloSIS through a ‘CountrySIS’ framework. CountrySIS guidelines to define the technical specifications for such systems, together with an implementation manual, will be developed for this purpose.

While the design of infrastructural components of the GloSIS is in progress, FAO is supporting countries through Technical Cooperation Programme (TCP) projects to build their national soil information systems. These countries will be part of GloSIS by choosing the Tailored Implementation level. The countries/regions which built their soil information systems with TCP assistance are:

- a. TCP/SUD/3601 - Sudan Soil Information System and Digital Soil Mapping;
- b. TCP/CMB/3602 - National Soil Information and Land Suitability Evaluation System for Cambodia;
- c. TCP/AFG/3601 - Afghanistan Soil Information System (AfSIS);
- d. TCP/RLA/3613 - Development of Soil Information Capabilities for the Sustainable Management of Natural Resources in the countries of South America;
- e. TCP/MCD/3402 - Capacity development on digital soil mapping and development of the Macedonian Soil Information System (MASIS);
- f. TCP/STP/3604 – Soil information system of Sao Tome.

A detailed concept note for SoilSTAT has been prepared and made available through all GSP technical channels (INSII, Pillar 4 Working Group, ITPS, external relevant experts). The GSP Secretariat is currently taking the necessary steps to start the implementation phase.

4.4.2 International Network of Soil Information Institutions (INSII) and appointment of its Chair

57. The fourth meeting of the International Network of Soil Information Institutions (INSII) was held at FAO Headquarters, from the 6th to the 8th of November, 2018 ([INSII-IV/18/Report](#)). At that meeting, the INSII representatives discussed and/or reviewed the following:

- progress in implementing the Pillar 4 Implementation Plan and the Work Plan for 2019;
- technical documents for the design of the GloSIS and SoilSTAT (GloSIS Design Document, CountrySIS Concept Note, SoilSTAT Concept Note, Tier 1 and Tier 2 Soil Profile Database Technical Specifications);
- Global Data Products (Global Soil Salinity Map, Global Soil Organic Carbon Sequestration Map, Global Soil Erosion Map) being developed under Pillar 4.

Appointment of the Chairperson of INSII

58. INSII membership consists of institutions nominated by their governments and GSP partner organizations to contribute to Pillar 4 implementation; it is also the decision making body in relation to Pillar 4 activities. Mr Neil Mackenzie was elected as chairperson during the 5th Plenary Assembly. However, Mr. McKenzie retired in autumn 2018 and quit his INSII Chairperson role. Therefore, all duties were taken over pro tempore by the GSP Secretariat until the 7th GSP PA to nominate a new chairperson.

59. The GSP Secretariat opened a call for the position of INSII Chair and received three candidacies that did not meet the requirements. The Plenary is therefore invited to appoint an INSII Chair.

Change in the Composition of the Pillar 4 Working Group

60. The Pillar 4 Working Group, also chaired by the INSII Chairperson, is the supervisory body of Pillar 4 implementation. It is composed of representatives from the GSP Secretariat, the Soil Data Facility, the ITPS and regional partnerships, as well as Pillar 5 operatives. During the 4th INSII Meeting, a proposal (Annex 1) was made by the International Union of Soil Sciences, Global Soil Map Working Group to join the Working Group to support the development of Fine Resolution Grids of soil properties ([INSII-IV/18/Report](#)). The group expressed support to the proposal and seeking endorsement by the 7th GSP PA.

4.4.3 Report on the Global Soil Organic Carbon Map (GSOCmap) and follow up

61. The preparation of the Global Soil Organic Carbon map (GSOCMap) was mandated by the 4th Plenary Assembly to the ITPS and GSP Secretariat. This request was endorsed by the 25th session of the Committee on Agriculture (COAG) held on 26-30 September 2016 and the 155th FAO Council held on 5-9 December. Initially, the preparation of this map came as a request from the SPI-UNCCD as a contribution to the SDG process, particularly for monitoring of the SDG indicator 15.3.1. This

initiative gained further traction during the Global Symposium on Soil Organic Carbon (GSOC17). It was emphasized that the GSOCmap should form the reference layer for future updating and trend analysis.

62. The GSOCmap (version 1.0) was successfully launched during World Soil Day on 5 December 2017. The technical report describing the development of GSOCmap, and the 2nd edition of the “Soil Organic Carbon Mapping Cookbook” were released in April 2018. The secretariat updated the map t(Version 1.2.0) in May 2018. The list of countries which contributed with their national maps to the GSOCmap version 1.2.0 is as follows:

National SOC maps	Argentina, Armenia, Austria, Australia, Azerbaijan, Belgium, Bolivia, Brazil, Bhutan, Canada, Chile, Colombia, Costa Rica, Cuba, Germany, Denmark, Ecuador, Ethiopia, Finland, France, Ghana, Hungary, Indonesia, Iraq, Italy, Jordan, Japan, Kazakhstan, Kenya, Lebanon, Lesotho, Luxembourg, Morocco, Moldova, Mexico, Mongolia, Mozambique, Malawi, Nigeria, Nicaragua, Netherlands, Nepal, New Zealand, Panama, Peru, Philippines, Paraguay, Russian Federation, Sudan, Senegal, El Salvador, Slovakia, Slovenia, Sri Lanka, Sweden, Swaziland, Tanzania, Thailand, Trinidad & Tobago, Turkey, Ukraine, Uruguay, United Kingdom of Great Britain and Northern Ireland, United States of America, Uzbekistan, Venezuela, Vietnam
National SOC maps in cooperation with the GSP Secretariat	Dominican Republic, India, Lao People's Democratic Republic, Myanmar, Somalia, South Africa, Switzerland, Syria

63. After the launch of the GSOCmap, the GSP Secretariat has been supporting further capacity building in digital soil mapping (DSM) upon request by countries. Hence, DSM training workshops were organised in: Tehran, Iran (20 - 24 January 2018); Phnom Penh, Cambodia (25 February - 3 March, 2018), Santiago de Chile, Chile (28 May - 1 June 2018); Bogotá, Colombia (3 - 7 July 2018); Yogyakarta, Indonesia (22-26 April 2019).

64. Since 2017, the GSP Secretariat has been providing technical support do national experts when needed. In addition, it prepared updated gap-filling maps for several countries in Sub-Saharan Africa with the improved methodology of estimating bulk density. It is foreseen that another updated GSOCmap (version 1.5.0) is to be released during 2019. The GSOCmap technical report, GSOCmap leaflet, and the [GSOCmap contributors' web page](#) are also to be updated accordingly, properly acknowledging new and improved national contributions. Furthermore, the interpretation of the GSOCmap as requested by the 6th GSP Plenary Assembly is under finalization. The list of countries which sent their updated maps for the GSOCmap version 1.5.0 is as follows:

National SOC maps	Afghanistan, Argentina, Cameroon, Cambodia, Chile, Gambia, Germany, Madagascar
National SOC maps in cooperation with the GSP Secretariat	Bosnia and Herzegovina, Cuba, Czech Republic, Democratic Republic of the Congo, Ghana, Iran, Palestine Authority
Updated gap-filling maps prepared by the GSP Secretariat	Angola, Benin, Burkina Faso, Botswana, Central African Republic, Côte d'Ivoire, Guinea, Guinea-Bissau, Liberia, Namibia, Sierra Leone, South Sudan, Togo, Zambia, Zimbabwe

65. Considering the successful initial experience with the preparation of the GSOCmap, the Secretariat will seek to encourage and support new countries in producing national SOC maps. At the same time, there is a clear need for producing a SOC sequestration potential map and for a Global Soil Organic Monitoring System.

66. The ITPS and the GSP Secretariat are working on scientific publications regarding the GSOCmap. In addition, the GSP Secretariat is initiating a global campaign for the validation of the GSOCmap. All interested scientists worldwide are welcome to provide their SOC data for the validation.

67. As recalled above, the GSOCmap was originally triggered by a request from the SPI-UNCCD to support the SDG 15.3.1 indicator on SOC. Therefore, countries were supported to produce national SOC maps compatible with the UNCCD specifications, as their contributions to the overall GSOCmap project. Since the national maps were made with the best available data and approved by the government-appointed soil information institutions, it is reasonable that these national SOC maps are used by the countries for purposes of SDG reporting. However, in some cases, the countries still use default data (SOILGRIDS from ISRIC) instead of their own SOC maps, due to communication issues between national institutions and ministries. It is important that these issues are addressed at the national level in order to make sure that the best available soil information is reported.

68. Considering the importance of GSOCmap for national SDG reporting, the GSP Secretariat encourages countries to validate their national SOC maps with independent national data in order to assess their accuracy, compared to default SOC data provided by the UNCCD.

69. The countries that have not submitted their national SOC maps yet, are welcome to contact the GSP Secretariat and finalize their SOC maps for inclusion in the future updates of the GSOCmap.

4.4.4 Progress in the preparation of the Global soil salinity, soil erosion and soil organic carbon sequestration potential maps

70. In light of the request made by the 6th PA ([GSPPA-VI/18/Report](#)), the GSP is preparing the following three new global data products:

- a. Global Soil Salinity Map;
- b. Global Soil Erosion Map;
- c. Global Soil Organic Carbon Sequestration Potential Map.

71. Concept notes and technical product specifications for these global data products were prepared and made available to all relevant technical working groups and individual scientists (INSII, Pillar 4 Working Group, ITPS, external experts). The GSP Secretariat is currently taking necessary steps to implement required activities including capacity development training in various regions, and handbook manuals to provide countries step-by-step technical guidance.

72. The GSP will follow a country driven approach to develop such products. The contributions clearly are to be made by the countries themselves.

73. However, in the case of countries that are not able to respond to the data requests, unless it is explicitly requested to be left blank, a solution will be sought to fill the gap using available data and mapping/modelling approaches. All other countries will provide their national SOC stock maps according to the agreed technical specifications. The gap filling activity will ensure the complete global coverage of above mentioned data products.

4.4.5 Global report on the state of knowledge on soil biodiversity covering current status, challenges and potentialities

74. During the COP14 of the Convention on Biological Diversity (CBD), FAO and its GSP were invited to “consider the preparation of a report on the state of knowledge on soil biodiversity covering current status, challenges and potentialities and to make it available for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting held prior to the fifteenth meeting of the Conference of the Parties”.

75. The GSP Secretariat and its ITPS invited the CBD, the European Commission and the Global Soil Biodiversity Initiative to join the preparation of a concept note for its preparation. Members are invited to join this assessment and to provide suggestions to the process to be presented during the Plenary.

4.5 Pillar 5

76. Action so far mainly focused on building soil laboratory networks. However, two meetings (video conferences) of the Pillar 5 WG have been conducted. The group has developed a roadmap for action. Following the rules proposed in the global implementation plan, the acting chair has asked the other members of the Pillar 5 working group for their interest to continue chairing. So far, no volunteer has stepped up.

77. The following activities are herewith reported:

a) Tender Global Soil Information Model (Pillar5 GIP section 4.1)

After almost two years of preparation, a consultancy is now being discussed to do the work. A transparent selection process has been ensured, while offers in the range of the implementation plan were made, but sufficient funding is lacking. The implementation will require in-kind support by SDF and GSP Partners. Without such a harmonized data exchange model, GLOSI cannot be built, countries will not know how to transform their national data for GLOSI – interoperable web services, while ensuring the validity of existing national or other solutions.

b) Multi-domain soil indicator system

Soil indicators are needed from different policy domains, though largely already designed and existing soil surveys shall bring answers to residual problems. Links, synergies, models, definitions, methodical specifications are needed for Pillar 1 work (effects of sustainable soil management) and Pillar 4 (addressing policies with soil grids).

The Table of Content (ToC) for such an indicator system has been developed and discussed with the GSP Secretariat. The writing process has been initiated. A draft report will be presented to ITPS and the Plenary Assembly in 2020.

c) Other areas of harmonization

A road map for revising the obsolete guidelines for soil profile description has been developed; this includes reflections needed about the progress to harmonize soil classification, and synergies between both areas of harmonization. Progress in Pillar 5 will benefit from ongoing activities by the International Union of Soil Sciences (IUSS).

4.5.1 Global Soil Laboratory Network (GLOSOLAN) and endorsement of the revised GSP Soil Data Policy

78. The Second meeting of the Global Soil Laboratory Network (GLOSOLAN) was held at FAO Headquarters in Rome in November 2018 with the purpose of (1) reviewing the objectives, foreseen impacts and indicators to assess the performance of the networks, and (2) set up the GLOSOLAN work plan for the year 2019.

79. GLOSOLAN agreed to develop its own Standard Operating Procedures (SOPs), which will be consistent with those released by ISO. GLOSOLAN SOPs will be freely available, covering most frequently used methods worldwide in order to serve the less developed laboratories. By the end of 2019, GLOSOLAN will develop SOPs for sample pre-treatment, inorganic carbon (CaCO_3 equivalent), organic carbon by Walkley-Black and organic carbon by dry combustion.

80. In 2019, a global proficiency (ring) test will be conducted. All laboratories in Asia, Africa and Latin America, as well as a few laboratories from the other regions, will participate. GLOSOLAN is currently developing criteria for laboratories to qualify for this exercise, looking at their ease to import soil samples, their capability to conduct the analysis and their ability to submit results in time. Soil samples were prepared by the Mexican Colegio de Posgraduados following established standards and they are already available for distribution. In doing so, it was noted that the distribution of soil samples for research purposes is a very challenging activity due to the phytosanitary controls in the different countries.

81. Guidelines for producing and selecting standards samples for proficiency test were developed by GLOSOLAN. In order to facilitate the exchange of soil samples for research purposes under GLOSOLAN, it was realized that a formal resolution from FAO membership could facilitate the process. Therefore, a draft resolution for the exchange of soil samples for research purposes under GLOSOLAN was prepared and is available in Annex 2 for consideration of this plenary.

82. The already endorsed GSP Soil Data Policy was revised to meet GLOSOLAN needs, so that the policy does not cover soil information for mapping purposes only but also the source and the laboratories. The amended version is presented in Annex 3 for consideration of this plenary.

83. With the aim of supporting overall Pillars 4 and 5 activities, a working group tasked to harmonize historical and present databases was established. The Asia Pacific Network of Science and Technology (ASPAC), Wageningen Evaluating Programs for Analytical Laboratories (WEPAL) and the United States Department of Agriculture (USDA), committed to initiate the work by analyzing their historical databases.

84. The United States volunteered to lead activities on the harmonization of spectroscopy methods.

4.5.2 Regional Soil Laboratory Networks (RESOLANs)

85. The second meeting of the Regional Soil Laboratory Network for Asia (SEALNET) and Latin America (LATSOLAN) took place in November 2018 and March 2019, respectively. RESOLAN-Africa (AFRILAB) was launched in May 2019, while the launch of RESOLAN Europe & Eurasia was discussed at the sixth European Soil Partnership meeting. While the discussion about a European RESOLAN is still ongoing, the launch of RESOLAN-Eurasia will take place in October 2019 in Moldova. The creation of RESOLAN-Pacific and RESOLAN-NENA is being discussed.

86. Under SEALNET (<http://www.fao.org/3/CA3126EN/ca3126en.pdf>), 17 of the 18 countries in the network participated in the 2nd SEALNET meeting. Countries: (1) endorsed regional Standard Operating Procedures for pH in water, organic carbon, exchangeable potassium and available phosphorus, (2) agreed not to pursue work on the “Guidelines for implementing and maintaining good laboratory practices and quality management in soil laboratories” in favour of producing the GLOSOLAN Best Practice Manual, (3) reviewed and analysed the results the first SEALNET proficiency test, and (4) agreed on the representation of SEALNET in GLOSOLAN, which was reported by the SEALNET Chair and Vice-Chair at the 2nd GLOSOLAN meeting. Countries committed to participate in a second regional proficiency test and to adapt their work plan to GLOSOLAN decisions.

87. Under LATSOLAN, 18 countries and more than 30 attendees participated in the 2nd LATSOLAN meeting. The countries: (1) harmonized their SOPs with SEALNET, (2) laid the foundation for LATSOLAN's internal quality control by filling out a survey, (3) discussed the 2018 results of the Proficiency Testing (PT) and evaluated various ways of analyzing the PT results rigorously, (4) provided soil samples for the global PT, (5) discussed LATSOLAN's position vis-à-vis GLOSOLAN (aligning to the agreements established in GLOSOLAN) and (6) defined the process of LATSOLAN's self-management and autonomy. All participating countries committed to participate in a global PT exercise in 2019.

88. Under AFRILAB, twenty five countries participated in the kick-off meeting. Soil samples for a regional ring test were distributed to participants during this meeting and regional standard operating procedures for sample pre-treatment, inorganic carbon (CaCO₃ equivalent), organic carbon by Walkley-Black and organic carbon by dry combustion were developed. Ultimately, countries agreed to adapt their work plan to GLOSOLAN decisions.

Annex 1: Change in the Composition of the Pillar 4 Working Group

Considering that:

- 1) The IUSS Working Group ‘Global Soil Map’ has been launched by the IUSS at the end of 2016. It’s main aims are i) to update the specifications of the GlobalSoilMap project for producing fine grids of soil properties, ii) to conduct research activities about the methodologies to predict these properties, iii) to provide assistance and training, iv) to report progress to the IUSS;
- 2) [Plan of Action for Pillar Four of the Global Soil Partnership](#) which was endorsed by the 4th GSP Plenary Assembly ([GSPPA IV/2016/4](#)) recommends the GlobalSoilMap specifications as a basis for delivering fine resolution grids of soil properties in the framework of the GSP Pillar 4 activities;
- 3) To ensure coordination and to avoid overlapping or delivering of different products in parallel, it is most important that the activities of the GSP Pillar 4 and of those of the IUSS WG ‘Global Soil Map’ are strongly connected.

Because of the reasons explained before, it is suggested that the IUSS WG ‘Global Soil Map’ to be invited as a member of the GSP Pillar 4 WG and participate at the annual INSII meetings. The representative will be the Chairperson of the IUSS Global Soil Map Working Group. However, another member of this working group may be nominated by this WG on a case-by-case ad hoc basis, depending on the topics of each meeting.

Conversely, the IUSS WG ‘Global Soil Map’ will invite a representative of the GSP P4 Working Group at each of its meetings. This representative will be the Chairperson of the GSP Pillar 4 Working Group or another member of this working group nominated by this WG on a case-by-case ad hoc basis, depending on the topics of each meeting.

The IUSS WG ‘Global Soil Map’ will contribute to GSP Pillar 4 WG activities by:

- Updating the specifications of the basic GlobalSoilMap specifications
- Contribution to writing/reviewing the specifications and cook-books of new grid products developed under the framework of GSP Pillar 4
- Providing inputs for developing new methods for harmonization and for calculations of uncertainties
- Providing help for capacity development and training depending on available resources
- Promoting GSP Pillar 4 products and activities towards the scientific community through reporting to IUSS and organizing scientific events.

Annex 2: Progress towards the international exchange of soil samples for research purposes under the Global Soil Laboratory Network (GLOSOLAN)

The 7th GSP Plenary Assembly,

Recalling the importance of soil resources for the provision of ecosystem services essential to life on Earth and human well-being,

Highlighting that evidence-based decisions made using harmonized and reliable data and information are critical to the achievement of sustainable soil management and food security and nutrition, a key objective in FAO's mandate,

Stressing the need to coordinate actions to harmonize and standardize soil analytical data and soil analysis methodologies globally,

Recognizing the potential of the Global Soil Laboratory Network (GLOSOLAN) to go beyond laboratory boundaries, with data generated from harmonized soil laboratories methods and procedures assisting countries with (1) improving or establishing a national monitoring system, (2) improving or establishing a National Soil Information Systems that can feed the planned Global Soil Information System (GLOSIS), (3) reporting on the achievement of the Sustainable Development Goals and other international programmes, (4) supporting decision making at both field and policy levels, (5) contributing to the development of international standards and indicators, (6) assessing and monitoring of degraded lands and/or lands affected by climate change and other threats, as identified in the Status of the World Soil Resources report, (7) interpreting soil resources for best use and management, (8) improving the connection between soil chemistry, physics and biology, (9) contributing to and improve soil classification and description, (10) assisting companies manufacturing laboratory equipment in improving their products, (11) expanding the opportunities for technical and scientific cooperation, (12) strengthening the capability of extension services, (13) identifying research needs, and (14) increasing investments in research.

Acknowledging the large and increasing participation of laboratories in GLOSOLAN, the many achievements of the network since its establishment in November 2017, and its well defined and challenging work plan,

Recalling the difficulties encountered by GLOSOLAN in exchanging soil samples for executing inter-laboratory comparisons in Latin America and Asia,

Having considered that GLOSOLAN provides laboratories participating in inter-laboratory comparisons with phytosanitary safe soil samples and detailed guidelines on how to handle the soil samples, minimizing the risks for any type of contamination,

Takes note of the need of GLOSOLAN to have a simplified procedure to internationally exchange soil samples for research purposes,

Welcomes the proposal of the GSP Secretariat and laboratories in GLOSOLAN to submit the request for establishing such a procedure to FAO member countries at the 27th session of the Committee of Agriculture.

7th GSP Plenary Assembly

05 June 2019

Annex 3: Amendment to the GSP Soil Data Policy

Amendment 1: Protection of data collected and exchanged in the context of soil laboratory harmonization activities (GLOSOLAN/RESOLAN)

1.1 Anonymity of soil laboratories

A general non-public laboratory code will be developed and maintained by the GSP Secretariat (for global actions), and by the respective secretariats of regional soil partnerships (for RESOLANs).

Individual laboratory performances are communicated individually. Such laboratory-specific reports are non-public.

1.2 Data storage and evaluation of ring tests

Methods and criteria for evaluation of rings tests are public.

Analytical data are stored by the above-mentioned secretariats, and are non-public.

The use of data from rings tests by the secretariats or other third parties require the consent of the ring test participants.

1.3 Results and publication

Results and reports have to be coordinated with the ring test participants. This includes the sharing of drafts and the option to review.

Results of rings tests are public, the codes (see a.) are applied.

Authorships and acknowledgements follow the GSP Soil Data Policy, section 3 (Ownership, data rights and citation).

Amendment 2: Publication of data produced by INSII members

Note: This amendment supplements section 3

2.1 Joint publishing

It is good practice that during the publication process (usually led by the ‘deriving institution’, or chairs of GSP working groups or writing teams), the data providers (usually INSII members) are invited to participate actively in the preparations of publications (evaluation, drafting). It is then also good practice to ask such supporting data provider to co-author a joint publication.

It is good practice to select a journal, which allows the co-authoring of a network/working group.