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Global Soil Partnership Plenary Assembly

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Report on normative tools and actions on sustainable soil management

(GSPPA: XII/2024/6)

Executive Summary

- To fulfil the mandate of the Global Soil Partnership (GSP) as endorsed by the 145th Session of the FAO Council in December 2012, the GSP promotes the adoption of sustainable soil management (SSM) through various actions, including the development of normative tools for their uptake at all levels, particularly at national level.
- This document summarises the progress related to SSM since the 11th Session of the GSP Plenary Assembly.
- Several activities have been implemented to raise awareness and improve soil governance at the international and national levels, including the continuous update of the SoiLEX platform, the development of a legal guide on SSM, as well as the technical assistance to countries in the process of adopting soil protection legislation.
- The Green Path of the Recarbonization of agricultural soils (RECSOIL) initiative, is under implementation in eight countries, four of them started in the first half of 2024. While there is a growing demand by countries to replicate this initiative, FAO faces financial limitations in responding to such requests.
- The Global Soil Doctors Programme (GSDP) is implemented in 21 countries, in collaboration with national promoting institutions. The GSP Secretariat provides certified training, technical support, soil doctors kits, posters and field exercises tailored to the local context. However, there are financial limitations to meet the ever-increasing demand of implementing the programme in more countries.

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Suggested actions by the GSP Plenary Assembly

The Plenary Assembly may wish to:

- express appreciation for the efforts made in the implementation of the GSP normative documents and invite Members and partners to adopt the Voluntary Guidelines on Sustainable Soil Management (VGSSM) and to use the SSM Protocol;
- acknowledge the efforts made in raising public awareness on soil governance, especially through the SoiLEX platform and encourage Members to contribute to its update in the future; and
- acknowledge the progress made in the development and scaling up of the RECSOIL initiative and the GSDP implementation worldwide, acknowledge the financial and in-kind contributions of GSP Members and partners to its implementation, and invite resource partners to provide funding to advance them on the ground.

Background

1. As endorsed by the 145th session of the FAO Council in December 2012, “*the mandate of the Global Soil Partnership (GSP) is to improve governance of the limited soil resources of the planet in order to guarantee healthy and productive soils for a food secure world, as well as support other essential ecosystem services, in accordance with the sovereign right of each State over its natural resources*”.
2. To fulfil this mandate, the GSP promotes the adoption of sustainable soil management (SSM) through various actions, including the development of normative tools for their uptake at all levels, particularly at national level.
3. The Voluntary Guidelines for Sustainable Soil Management (VGSSM), which were endorsed at the 155th Session of the FAO Council in December 2016, continue to be the main tool to advocate for SSM.
4. The Protocol for the Assessment of Sustainable Soil Management (SSM Protocol) assesses whether soil management practices are compliant with the VGSSM, through a system of simple indicators and detailed instructions. The Protocol is being implemented in several FAO projects that may have an impact on soils and through the GSP’s RECSOIL initiative.
5. The implementation of [the International Code of Conduct for the sustainable use and management of fertilizers](#) remains a priority for the GSP. This has been developed through several soil fertility management projects worth over USD 40 million. Likewise, the Global Symposium on Soils for Nutrition and the establishment and operation of the International Network on Soil Fertility and Fertilizers (INSOILFER), are reported in the GSPPA: XII/2024/7 and GSPPA: XII/2024/9.
6. This document provides an overview of the progress made in SSM since the 11th Session of the GSP Plenary Assembly.

6.1 Status of soil governance and SoILEX update, including implementation of the Voluntary Guidelines for Sustainable Soil Management and the SSM Protocol.

7. Improving soil governance at all levels is part of the core mandate of the GSP. The partnership supports the development of specific national soil legislation and policies based on the Voluntary Guidelines for Sustainable Soil Management (VGSSM) principles.
8. The implementation of the [VGSSM](#) has been a priority for the Secretariat and efforts to advocate for their adoption at national level are ongoing. The VGSSM continue to be translated into other languages by interested partners.
9. The implementation of the VGSSM is now complemented by the Protocol for the assessment of sustainable soil management ([SSM Protocol](#)), which was endorsed by the 8th GSP Plenary Assembly at an ad hoc session in September 2020. The SSM Protocol constitutes a fundamental tool to assess if interventions implemented in the field are compliant with the definition of SSM.
10. The integral version of the SSM Protocol is now under publication and includes detailed instructions for its application in the field.
11. Efforts are being made to disseminate the SSM Protocol so that it is widely used in FAO and GSP projects that may have an impact on soils. It is also included as an integral part of the RECSOIL initiative (see 6.2).

12. The *Sustainable soil management for nutrition-sensitive agriculture in sub-Saharan Africa and South East Asia* ([Soils4Nutrition](#)) project, financed by the Government of Germany, focused on the selection and testing of sustainable soil management practices to improve the micronutrient content of soils and crops. The Soils4Nutrition project, developed the [Technical Guidelines on Soils for Nutrition](#), national fact sheets for the three beneficiary countries [Bangladesh](#), [Burkina Faso](#) and [Malawi](#), and an [educational module on Soils4Nutrition](#) as part of the Global Soil Doctors Programme (GSDP).
13. [Two projects in Uganda and Rwanda](#), funded by the South-South Cooperation Assistance Fund of the Government of China, were completed, focusing on building national capacity for sustainable use and management of fertilizers and soil fertility. Soil and fertilizer information databases were established, soil laboratory equipment was supplied, a wide range of stakeholders were trained, and demonstration trials were developed to promote good soil and fertilizer management practices.
14. The Department of State of the United States of America has generously extended a financial contribution of USD 20 million to FAO to support its efforts in Guatemala, Honduras, and Zambia. This funding aims to facilitate the advancement of soil mapping initiatives, thereby enhancing data-driven integrated soil nutrient management at both local and national scales through the project titled [Soil mapping for resilient agri-food systems in Central America and sub-Saharan Africa](#) (SoilFER). In line with the principles of inclusiveness, FAO collaborates closely with the governments of the beneficiary countries, as well as alongside existing initiatives and national and international stakeholders. The global component of the project became operational in May 2023, with the formal endorsement by the governments of Zambia in August 2023, Honduras in October 2023, and Guatemala in December 2023, marking the commencement of national implementation phases.
15. In a further commitment to agricultural sustainability, an additional USD 10 million was announced by the Department of State of the United States of America in December 2023 to expand the SoilFER project's reach to include Ghana and Kenya. This upscaling is in direct alignment with the objectives of the Vision for Adapted Crops and Soils (VACS), launched in February 2023 by the Department of State in partnership with the African Union (AU) and FAO. VACS seeks to create a solid foundation for crop productivity by mobilizing investment in the fundamentals above and below ground, including promoting crop varieties and building healthier soils in which these crops can grow.
16. The [SoiLEX platform](#) was launched in 2021 and, since then, has been continuously updated thanks to the support of national focal points and experts. The platform currently counts over 1 890 soil-related legal instruments from 174 countries, including laws recently adopted or in the process of being adopted.
17. Following the success of the [special issue published in 2022](#), the Soil Legislation Working Group was invited to participate in a second special issue on soil governance in ELSEVIER's Soil Security journal. The [second special issue](#) has been published as open access and includes 12 chapters that showcase different approaches to soil governance.
18. Two documents are under development to support efforts on soil governance: (i) a comparative analysis of regional and national regulatory frameworks on the protection and sustainable management of soils, and (ii) a legal guide on sustainable soil management.

6.2 Implementation of the RECSOIL: recarbonization of agricultural soils

19. The Recarbonization of agricultural soils ([RECSOIL](#)) initiative, established in 2019, aims to scale-up the adoption of SSM practices, centred on soil organic carbon (SOC) maintenance and sequestration, to boost soil health and halt soil degradation and greenhouse gas (GHG) emissions.
20. The RECSOIL initiative uses the SSM Protocol to measure and verify the implementation of SSM and for the provision of ecosystem services. Additionally, [A protocol for measurement, monitoring, reporting and verification \(MRV\) of soil organic carbon in agricultural landscapes](#) (GSOC-MRV Protocol) is applied in combination with the [EX-Ante Carbon Balance Tool](#) (EX-ACT) to quantify the SOC stocks and to estimate greenhouse gas (GHG) emissions.
21. Based on the analysis of the [Global Soil Organic Carbon Sequestration Potential map](#) (GSOCseq), areas with the highest potential for implementing RECSOIL have been selected for implementation. The RECSOIL Green Path is being implemented in four pilot sites in Costa Rica, Ghana, Mexico, and Togo. Additionally, initial activities to identify project stakeholders and selection of intervention areas have begun in Armenia, Kazakhstan, Kenya, Morocco, and Uzbekistan. Funding has been secured for project implementation in Armenia, Kazakhstan, Morocco, and Uzbekistan and is under discussion for RECSOIL activities in Kenya.
22. An online application for expression of interest has been integrated into the RECSOIL website, through which partners in Brazil, Egypt, India, and Pakistan have expressed interest in implementing RECSOIL. While resources remain limited to implement RECSOIL in these areas, this expression of interest indicates potential future areas of work.
23. Partnerships with Land Degradation Neutrality (LDN) projects funded by the Global Environment Facility (GEF) have proved a fruitful avenue for the use of RECSOIL tools. Because soil carbon is a key indicator in LDN projects, RECSOIL activities and soil carbon metrics can enhance LDN activities. The implementation of RECSOIL in Uzbekistan will take place in partnership with a GEF-funded LDN project, while RECSOIL integration in LDN projects in the Plurinational State of Bolivia, Trinidad and Tobago, and Tuvalu is under discussion. When integrated into LDN projects, RECSOIL may be implemented in full or specific trainings and tools may be selected to enhance existing project objectives.
24. In Costa Rica, RECSOIL will be implemented with the overall goal to adopt the programme at national level into the National Payment for Ecosystem Services scheme. Mexico has also started piloting RECSOIL, in parallel to the development of a project proposal entitled RECSOILMEX for submission to the Green Climate Fund (GCF). In Togo, RECSOIL is being applied in cooperation with the FAO [Forest and Farm Facility](#) (FFF).
25. From January to March 2023, the RECSOIL initiative has trained 51 technicians from Costa Rica, Mexico, and Togo on the use of spatial analysis tools, data collection and harmonized soil sampling. Introductory trainings in Kazakhstan were completed in February 2024, with further training to be completed in Kazakhstan and Uzbekistan in the coming months. Training of laboratory personnel has also begun with the support of the GSP's Global Soil Laboratory Network (GLOSOLAN) for the use of standard operating procedures and quality assurance of analytical data.
26. SSM practices to implement in Costa Rica, Mexico, and Togo have been selected based on consultation with local and national project stakeholders and surveys assessing the primary concerns of farmers in collaboration with the GSDP (see 6.4).

27. The GSOCseq map was used to estimate the potential carbon sequestration associated with the selected practices. In Mexico, SSM efforts would help mitigate up to 59 tonnes CO₂eq annually across 140 hectares in Jalisco and Michoacán involving about 50 farmers in horticultural systems through cover cropping in agave crops and through intercropping in corn crops, while helping address the other soil threats identified. In Costa Rica, approximately 45 dairy and coffee farmers would reduce GHG emissions by up to 872 tonnes of CO₂eq annually across 500 hectares through grazing management, erosion control, and enhanced residue cover. Field observations in Togo revealed that degradation of native ecosystems necessitated a shift in management. Recommended practices included raising small livestock and facilitating agroforestry on fallow land to promote soil restoration. New management practices would reduce GHG emissions by approximately 146 tonnes CO₂eq annually across 250 hectares involving some 200 smallholder farmers.
28. The pilot projects in Costa Rica and Mexico have both reached the baseline assessment phase. Soil testing in both cases revealed additional soil degradation processes, such as erosion and compaction that should be introduced in next monitoring phases and addressed through SSM practices.

6.3 Implementation of the Global Soil Doctors Programme

29. The [Global Soil Doctors Programme](#) (GSDP), [launched in October 2020](#), is a farmer-to-farmer training initiative that aims to support farmers to enhance their capacities and knowledge on SSM. The programme has been designed to support national and local extension services and to fill gaps by training the leading farmer(s), or Soil Doctor(s), who can then train other producers in the community. The programme focuses on methods and tools for detecting soil degradation problems and providing sustainable soil management solutions.
30. The GSDP includes a set of knowledge materials composed of 28 [posters](#) on different topics, including soil science concepts and recommended practices, 20 [field exercises](#) on physical, chemical and biological soil properties, and an [educational soil kit](#).
31. The [GSDP webpage](#) was launched in March 2023 and provides information, documents and tools needed for the [implementation of the programme](#) by any [stakeholder](#). The links to download the [knowledge material](#) in different languages and a map detailing the [implementation sites](#) are also available on the website.
32. Five specific modules have been developed, available in the [Training Modules](#) section, according to the interest of the promoters and farmers participating in the programme. Other modules are currently under development.
33. Through collaboration with national promoters and ongoing FAO projects, knowledge materials have been translated into 18 languages, including four of the FAO official languages (Chinese, French, Russian, and Spanish), and other national and local languages such as Bengali, Chichewa, Dioula, Fulah, Kabye, Kazakh, Khmer, Lao, Mossi, Nyanja, Portuguese, Tem, Thai, and Tumbuka.
34. The programme is being implemented in 21 countries: Antigua and Barbuda, Bangladesh, Bolivia (Plurinational State of), Burkina Faso, Cambodia, Chile, Colombia, Costa Rica, Ecuador, Gambia, Kazakhstan, Lao People's Democratic Republic, Malawi, Mexico, Nigeria, Saint Lucia, Tajikistan, Thailand, Togo, Uzbekistan, and Venezuela (Bolivarian Republic of). To date, 657 trainers and 1 826 Soil Doctors have been trained, and 11 545 farmers are estimated to have been trained by Soil Doctors. Furthermore, the programme is also planned to be implemented in

Mozambique, Nicaragua, Panama, Trinidad and Tobago, Turkmenistan, and the RECSOIL pilot countries (see 6.2).

35. The continued viability of the programme is ensured by the active participation and support of GSDP partners, promoters, and donors. Their consistent inputs, whether in the form of resources, in-kind or financial contributions, play a key role in maintaining the effectiveness of the programme (see GSPPA: XII/2024/5). This collective stakeholder commitment provides a solid foundation for the programme's long-term success and impact. Efforts are being made to strengthen the monitoring of farmers' adoption and application of the knowledge acquired through the trainings, to enable reporting on the medium- to long-term impact of the programme.
36. The [CSIDS-SOILCARE Phase1: Caribbean Small Island Developing States \(SIDS\) multi-country soil management initiative for Integrated Landscape Restoration and climate-resilient food systems](#) project, funded by the GEF, is being implemented in eight Caribbean SIDS. The GSP has provided support for national soil survey designs and to the digital soil mapping process, in particular for the development of the soil organic carbon map, by training 15 participants from seven countries. Two pilots of the GSDP were carried out in November 2023 in Antigua and Barbuda and in Saint Lucia. Additional activities are planned on digital soil mapping, GSDP trainings, soil laboratory trainings and SSM assessment.