



Global Soil Partnership Plenary Assembly



Sixth session
Rome, 11-13 June 2018
Report on Regional Soil Partnerships

Executive Summary

- An effective network of Regional Soil Partnerships (RSPs) is key to the achievement of the GSP mandate and objectives, as specified in its Terms of Reference. To date, all regions and in some cases sub-regions, have established RSPs and have developed their own Regional Implementation Plans. However, there is a need for sustained and balanced institutional backup and commitment from partners within the area, so as not to depend on the willingness of a few individuals from some countries, a situation which does not guarantee further growth or the full recognition of the RSP at regional level.
- The Secretariat has continued to make use of all available funds to facilitate the functioning of viable RSPs, and especially the execution of Regional Implementation Plans (RIPs). Yet, these resources are limited in the face of the range of valuable activities listed in these plans, particularly in those regions where much external support is needed.
- While the present document provides some information in telegraphic form, the Chairpersons of, or representatives from the various RSPs are to provide oral reports on major achievements, especially with regard to RIPs and the way forward.

Suggested action by the GSP Plenary Assembly

- The Plenary Assembly may wish to:
 - renew its call to all partners to actively participate in, and support the RSPs, including empowering these RSPs to execute Regional Implementation Plans (RIPs).
 - invite resource partners to support the RSPs, and especially the execution of RIPs. Similarly, member countries from the different RSPs may be urged to align their programmes to the substantive thrust of the RIPs in order to advance sustainable soil management within the region in a consistent manner.

I. Background

1. Section 5.4 of the GSP Terms of Reference stipulates that: “*Regional Soil Partnerships (RSPs) will be established among interested and active stakeholders in the regions. These RSPs will work in close coordination with FAO Regional Offices and their activities will be supported by the GSP Secretariat. The RSPs will establish an interactive consultative process with national soil entities and relevant regional institutions.*”

2. Hence, the Secretariat has continued to give due priority to supporting the execution of the various regional implementation plans. To date, all regions have established RSPs and RIPs. The GSP Focal Points appointed in many countries have been very instrumental in promoting these regional cooperation processes.

II. Overall progress report

3. A summary of recent (or planned) achievements in the geographical areas covered by RSPs is provided below.

A. African Soil Partnership (AfSP)

4. The main elements in the context of the AfSP are:

- A regional training on digital soil organic carbon mapping took place in Nairobi, Kenya in July 2017, while 5 AfSP countries (DRC, Mozambique, Nigeria, Tanzania and Zambia) also participated in similar training held at ISRIC in the Netherlands in June 2017.
- Many countries developed national soil organic carbon (SOC) maps, to feed into the Global Soil Organic Carbon (GSOC) map issued during the World Soil Day 2017 celebration. Various countries are now working on improving their national datasets and SOC maps, while others are working on producing the first version of the national SOC map. Unfortunately, numerous countries still do not have sufficient national data to produce national SOC maps.
- Various countries organized awareness raising activities as part of the celebrations for World Soil Day 2017.
- The AfSP Chair attended the 30th FAO Regional Conference for Africa (19-23 February 2018) and was able to meet with various heads of country delegations and development partners and discussed the possibility of organizing a High Level Ministerial Conference to follow-up on the 2006 Abuja Declaration. In addition, the Chair advocated the importance of putting sustainable soil management more effectively on national political agendas and copies of the Voluntary Guidelines for Sustainable Soil Management were shared with delegations.
- Projects (under FAO’s TCP) are underway to establish Soil Information Systems in Lesotho, Sao Tome and Principe, and Togo.
- A program is being developed with the title: *Afrisoils: Boosting soil productivity for a food and nutrition secure Africa*. The overall aim is to promote and implement SSM to increase food and nutrition security at all levels in African countries, while taking account of specific sub-regional and national dimensions. In preparation for this, countries are collecting and providing information on current soil-related projects, as well as identifying the sustainable soil management priorities and gaps to be addressed through Afrisoils.
- The third AfSP meeting will be held on 13 June 2018 to discuss and refine the Afrisoils program, as well as to review the functioning of the AfSP Steering Committee, and agree on a work plan for 2018-2020.

B. Asian Soil Partnership (ASP)

5. The main achievements are:

- The fourth ASP workshop was organized on 25 May 2018, with contributions from the GSP Secretariat, the Beijing Municipal Agriculture Bureau and the Beijing Soil Fertilizer Extension Service Station.
- The same workshop carried out an assessment of the activities performed by the ASP in 2017 and agreed on the activities for the period of 2018-2019. Many of these activities are ready for implementation by the concerned countries, and a call for investment support has been made.
- The selection of the ASP Chair and Secretariat for the next period, and the revision of the positions of ASP Chairs of the five Pillars of Action also took place at the same workshop.
- The terms of reference, governance arrangements and structure of the Center of Excellence for Soil Research in Asia (CESRA), were also discussed at the workshop in order to move forward for its establishment.
- Under Pillar 1, national initiatives to implement the VGSSM were taken, and a proposal for a regional TCP project on the implementation of the VGSSM was formulated.
- Under Pillar 2, the GSP Secretariat has been active to assist with the Soil Doctors programme in interested countries.
- Under Pillar 3, the first meeting of the Editorial Board of the Soil Atlas for Asia was held in March 2018. The table of content, based on countries' inputs, was presented in April. Preliminary information was collected on potential contributions by each author. As part of Pillar 4 activities, each country developed its national Soil Organic Carbon (SOC) map, which was included in the Global Soil Organic Carbon (GSOC) map launched at the World Soil day celebration 2017. These countries are now working on improving their national datasets and SOC map.
- As part of Pillar 5 activities, the South-East Asia Laboratory Network (SEALNET) was launched in November 2017. Four regional standard operational procedures (SOPs) for pH in water, organic carbon, exchangeable potassium and available phosphorus are being developed, as well as "Guidelines for implementing and maintaining good laboratory practices and quality management in soil laboratories". SEALNET is currently performing its first ring test for external quality control.
- Activities for execution in the 2018-2020 period were identified by the ASP Secretariat based on expectations in the regional implementation plan as follows:
 - a. Under Pillar 1, focus will be on: (1) creating a database on sustainable soil management practices, (2) producing/updating national guidelines on fertilizer application, (3) developing sustainable soil management and soil degradation indicators, (4) establishing SSM certification systems aiming at rewarding farmers and business people practicing SSM, and (5) the full establishment of the Center of Excellence for Soil Research in Asia (CESRA).
 - b. Under Pillar 2, focus will be on: (1) advocating for the implementation of the revised World Soil Charter and the VGSSM, (2) global guidelines of communication with policy makers which should be nationally adapted, (3) establishing an ASP Soil Prize in line with the Glinka World Soil Prize, and (4) strengthening extension services in the region relating to soils.
 - c. Under Pillar 3, the main focus will be on implementing research activities under CESRA. In this regard, a database will be compiled to cover research and development initiatives, and outputs on soil and land organized by sub-disciplines.
 - d. Under Pillar 4, focus will be on selecting benchmark data for soil description and monitoring purposes. This will contribute to SoilSTAT and the creation of National Soil Information Systems.
 - e. Under Pillar 5, focus will be on: (1) collecting reference soil profile databases for the creation of soil museums and the facilitation of training on soil, and (2) continued

implementation of SEALNET, addressing the performance of the laboratories, building capacity on good laboratory practice and quality control, and creating a database on laboratories' capacity.

C. European Soil Partnership, including Eurasia (ESP)

6. The main achievements of the ESP are:

- Organization of two Steering Committee meetings and the 5th Plenary Meeting with the support of the GSP secretariat. During the Plenary Meeting, the focal points reported on the state of the Implementation Plan in their countries. Progress under the 5 Pillars was assessed and projects with ESP contributions were presented. It may be noted that the European Union, through the DG ENV and the Joint Research Centre, strongly supports the ESP.
- Organization of the 5th Plenary Meeting of the subregional Eurasian Soil Partnership (EASP) in Tashkent with the support of the GSP Secretariat.
- In relation to the European Research Council (ERC): preparation of a letter and petition signed by the presidents of the European Soil Sciences Societies to request the establishment of an ERC panel dedicated to soil science. The main objective is to support early career soil scientists when applying for ERC grants (ongoing work).
- The ESP sent a message stating its interest in establishing relationship with the EJP-ASM (European Joint Programme on Agricultural Soil Management) to work jointly on preserving and improving the sustainable potential of soil resources in Europe and for the execution of the Implementation Plan, including the following actions:
 - Compilation of a European wide database on projects (including exact location, addressed soil threat, strategy, outcomes) to assess if these projects are successful in terms of the implementation of SSM strategies.
 - Organization of a workshop in Bratislava (European Network on Soil Awareness), contribution to the World Soil Day Inspiration Conference in Brussels, coordination with the EUROSOIL 2020 organizing committee.
 - Organization of summer schools, training programmes and support to teachers to take place in 2019.
- Publication by the sub regional Eurasian Soil Partnership of the following books :
 - Food security and land resources of Central Asia and Southern Caucasus
 - Manual for saline soils management
 - World Reference Base for Soil Resources (Russian translation).
- Support to a Small Grants programme on saline soils management in Eurasia, with five projects financed through the GSP Secretariat in Moldova, Belarus, Ukraine, Armenia and Uzbekistan.
- Organization, with the support of the GSP Secretariat, of a series of workshops in the Eurasian sub region, including:
 - Workshop on practical aspects of functioning of the Eurasian soil information system, Moscow (Russia), September 2017
 - Workshop on the management and reclamation of saline soils, Kharkiv (Ukraine), September 2017
- Opening of an extensive catalogue of Internet resources on the Eurasian Soil Portal <http://eurasian-soil-portal.info>
- Development of networks, identification and initiation of potential collaboration:

- Alpine Soil Partnership (AlpSP): project Link4Soils aims to build high awareness of soils at the municipality level and to promote ESP activities at the local and sub regional level (Alpine region). As the AlpSP shares in the general goals of the ESP, the possibility to transform the AlpSP into a fully-fledged ESP sub regional partnership (after the project closure) is currently being explored.
- Soil and Land Research Funding Platform-Inspiration: Assessment of the potential role of the ESP as a stakeholder for consultation and updating the Strategic Research Agenda. This is an opportunity for the ESP to identify research gaps and to assist in guiding soil research across the European region.
- Projects with ESP contribution (ongoing or planned):
 - GSOP18: reports on assessment of soil pollution in the European region and Eurasian sub region were prepared by the ESP secretariat with the support of the Steering Committee.
 - European Soil Atlas: preparation of the 2nd edition (2019)
 - SOER 2020 (European environment – State and Outlook) is a comprehensive assessment of the European environment’s state, trends and prospects. Contribution of the ESP is to be made to the SOER 2020, especially to the thematic assessment of land and soil in order to support EU environmental policies.
 - GLOSOLAN: about 50 laboratories in the European and Eurasian regions confirmed participation in GLOSOLAN. Due to this high level participation, the GSP secretariat suggested the establishment of RESOLAN Europe (ongoing initiative).

D. Near East and North Africa Soil Partnership (NENASP)

7. The main actions undertaken by the NENASP are:
- The governance of the partnership was updated and working groups for the five GSP Pillars of Action were formed.
 - The Fourth NENA workshop will take place on 13 June 2018 to review the governance of the partnership, the NENA regional implementation plan and to agree on the activities for immediate execution in 2018-2020.
 - A TCP Project to establish the Sudanese Soil Information System is under implementation.
 - Under Pillar 1, national initiatives to implement the VGSSM were taken. The partnership was also active in submitting inputs to the GSP Secretariat on the activities undertaken to implement the principles in the revised World Soil Charter (completion of the related online survey).
 - Under Pillar 2, the Soil Doctors programme was presented to NENA countries, which are now assessing the possibility to implement it at the national level. The NENA region was also active in celebrating World Soil Day, therefore raising awareness on the importance of soil resources.
 - Under Pillar 3, the first meeting of the Editorial Board of the Soil Atlas for Asia, which also involves countries in the Near East, was organized in March 2018. As part of Pillar 4 activities, NENA countries were supported in developing their national Soil Organic Carbon (SOC) map, which was included in the Global Soil Organic Carbon (GSOC) map. Countries are now working on improving their national datasets and SOC map.
 - Training on digital soil organic carbon mapping took place at ISRIC in the Netherlands, and in Iran, in June 2017 and January 2018 respectively.
 - As part of Pillar 5 activities, national reference laboratories were identified to participate in GLOSOLAN and to form the Regional Soil Laboratory Network (RESOLAN) for the NENA region, to be launched by the end of 2018.

- Awareness raising activities on soil were organized in the region as part of the celebrations for World Soil Day 2017.

E. South America Soil Partnership (SSP)

8. The main achievements of the SSP are:
- In August 2017, the regular meeting of the South American Soil Partnership (ASS) was held with the main objective of implementing the VGSSM.
 - Under Pillar 1: A presentation was made to the seed fund of FONTAGRO "Development and validation of indicators of health and quality of agricultural land: Regional platform for monitoring and monitoring methodology", with the purpose of creating a multi-agency platform for monitoring the indicators and methodologies of soil health and quality of agricultural lands.
 - Under Pillar 2: A presentation was made in Montevideo to the 10 countries in the region of the Soils Doctor programme and they are currently exploring their interest in participating in pilot tests. Argentina and Brazil would also be willing to join the initiative.
 - Under Pillar 4: Under the auspices of the GSP and in order to map SOC, two training workshops on digital mapping were carried out in Mexico and Uruguay. The results obtained include ten national SOCMaps, delivered by each participating country for incorporation into the GSOCMap. To follow up on these information updating activities, it is proposed to strengthen the knowledge acquired, address new properties and resolutions and facilitate the monitoring of soil conditions.
 - Under Pillar 5: To launch the Latin American Soil Laboratory Network (LATSOLAN), twenty countries participated in the kick-off meeting of the network and agreed on working together on the harmonization of their soil laboratory procedures. In this regard, soil samples for a regional ring test were distributed to participants during the kick-off meeting. Ultimately, countries agreed to produce a regional "Manual on harmonized soil laboratory analysis" by the end of 2018.
 - A Regional GEF project is under preparation. It is to be focused on SSM, according to the food security objectives of the region. It will cover the monitoring of soil degradation, the implementation of the VGSSM and the creation of a Latin American observatory of soil health and quality to provide elements for decision-making and formulation of public policies.

F. Central America, Caribbean and Mexico Soil Partnership

9. The main achievements are:
- Celebration of World Soil Day (WSD) through different kind of activities in the 15 countries of the Region.
 - Radio and TV programs and newspaper articles were produced in the same countries related to soil degradation, SSM and WSD.
 - Promotion of SSM via more than 50 articles on journals, and a similar number of conferences in seven of the countries.
 - Educational activities dedicated to children, like the Symposium of Educational Innovations in the Teaching of Soil Science (by LSSS), in Mexico and other countries.
 - The Third Workshop of the Regional Soil partnership was held in Panama City (February 20-22, 2018), with the participation of the 15 countries and other partners and NGOs. Achievements and challenges of the last years were analysed, and a Plan for 2018-2019 was approved, together with the election of various officials for the RSP.

- Participation to the Third Workshop of the International Network of Soil Information Institutions (INSII), November 2017 (Costa Rica and Cuba).
- Development of a MSc Programme in SSM for Central America (Nicaragua, El Salvador, Guatemala and Honduras) by CRS together with universities of the Region and international Institutions like CIAT and University of Florida. It is to be initiated in the second semester of 2018 and to be converted into a Regional MSc Programme in 2019.
- Regional Workshops for Soil Laboratories Harmonization in Latin America, Mexico and The Caribbean and Launching of the Latin American Soil Labs Network (LATSOLAN) both held in March 2018 with the participation of 18 countries of both regions.
- Strengthening of Demonstration Areas of SSM in Central American countries (CRS), Mexico and Cuba, for the benefit of students and stakeholders.
- First Regional Workshop on Building Capacities for SOC Digital Mapping 2017 held in Mexico, with the participation and training of 38 experts of 14 of the countries of the Region. In addition, assessment of the data of the 15 countries of the Region for the elaboration of different country SOC digital maps as a contribution to the global SOC map. Elaboration of national SOC maps in ISRIC, June 2017 (Cuba and Costa Rica)
- Participation to the Symposium on Soil Pollution, FAO HQ in May 2018: papers were presented by several countries in the Region.

G. Pacific Soil Partnership (PSP)

10. The main achievements include:

- Support to preparations for COP 23 by presenting a technical paper to Pacific Leaders in the pre-COP meeting on Climate Smart Agriculture: Nutrient and Carbon Smart Technologies.
- Support to Tongan Government's side event on Plant Health and Climate Change at the COP 23 in Bonn with a presentation on Climate Smart Agriculture (CSA).
- Support to the Pacific Rural Advisory Services by delivering a paper on Climate Smart Agriculture and vulnerability to climate change to the network members in August 2017.
- Set up of climate smart villages in Tonga, Kiribati, Marshall Islands and Tuvalu.
- PSP, ACIAR, IFAD and FAO co-organised and convened the inaugural atoll soil health workshop for the Pacific Islands in April 2017.
- PSP delivered a presentation on CSA, soils and water research priorities for the Pacific Region during a side event for agriculture research at the Pacific Agricultural Week held in Vanuatu, October 2018.
- Support to Fiji's UNCCD and FAO funded land degradation neutrality project – PSP will provide training in the diagnosis of soil health problems, and the subsequent solving of identified issues using quick soil test methods, plot trials and field experiments.
- Support to the Indian Soil Partnership in the running of an international conference on food and sustainable agriculture held in Dhanbad, Jharkhand from 27 - 30 March 2018. The PSP member delivered the key note address for CSA.
- PSP delivered a presentation to the ISTRC Pacific Branch symposium in Fiji from 24 - 27 April 2018 on CSA, and soil and water management. PSP is being looked at to lead in the area of soil health research and management.
- In promoting the Voluntary Guidelines for Sustainable Soil Management (VGSSM) - PSP is promoting the use of targeted compost on atolls and the use of *Mucuna pruriens* as cover crop in higher islands.
- PSP has worked with PIRAS to incorporate soil science into the capacity building component of the Pacific Regional Extension Plan. The Tongan and Fijian final strategic plan and Kiribati draft strategic plan have incorporated soil improvement and capacity building.
- A soil doctor program has been launched in Tonga, Kiribati, Tuvalu, Marshall Islands and Fiji using Hanna quick soil test kits, Solvita respiration tests, and the Palintest SKW 500 soil test kit.

- PSP members are also working with some national education systems to incorporate soil science into their school curricula.
- In some of the higher islands like Fiji, Samoa and Tonga, PSP in partnership with ACIAR and FAO have generated some good soil health technologies like the use of the cover crop *Mucuna pruriens* in root crop production. This has revived the taro industry in Taveuni, Fiji, and demonstrated in Samoa ways to improve taro production, improve labile carbon activity and the amount of total carbon in the soil. In Tonga it has been shown to mobilize fixed Al and Fe phosphate in volcanic ash soils, apart from improving crop productivity.
- On the atolls, PSP and ACIAR are analysing soils for nutrient levels and different sources of nutrients – rocks, algae, foliages, seaweeds, etc. and data used for targeting compost to address the nutrient limitations in soils – the term ‘targeted compost’ was coined.
- PSP, CSIRO and ACIAR are also addressing the increased incidence of droughts in the countries by promoting the use of bucket drip irrigation and mulches. Fullstops and chameleons are being installed in the countries for this purpose.
- PSP is now promoting Climate Smart Agriculture approaches (CSA). Soil health and water management technologies are fed to the package of practices for CSA
- The ACIAR Project SMCN/2016/111: Soil management in the Pacific Islands: Investigating Nutrient Cycling and Development of a soil portal, is going to use the concept of mass nutrient balance to guide nutrient cycling and management, and set up a Pacific Soil Portal.

H. North America Soil Partnership (NSP)

11. Many sustainable soil management initiatives and activities in North America are fully consistent with the objectives outlined under the five Pillars. These natural resource conservation initiatives undertaken by a wide range of public or private practitioners on a voluntary basis are driven by broad federal, state or county guidelines for natural resources conservation and environmental stewardship. The multiplicity of partners and the diversity of ongoing activities at many locations make it difficult to capture them fully. However, some notable recent developments at the national and non-government level are the Soil Health Institute (in the US) and the Soil Conservation Council of Canada. Also, noteworthy cross border cooperative activities include fora at which U.S. and Canadian conservationists developed joint implementation plans to better manage shared ecosystems by exchanging soil maps and related soil data as well as sharing interpretive maps between the U.S. and Mexico to promote habitats for migratory species.

12. The main achievements are:

- A draft of the Pillar 1 Implementation Plan is under review. Once completed, the RIP for Pillar 1 will be developed.
- Representatives actively participated in the Pillar Two working group to develop the Pillar Two implementation plan. The final version was completed in December 2016 and is available at:

<http://www.fao.org/documents/card/en/c/c5eccc4-bf37-4de2-8f3d-9361342067ad/>

- Pillar 4 committee remains active and committed to developing an RIP in the near future.
- Partner countries are making strides to support the preparation of the Global Soil Organic Carbon Map (GSOCMap)
- Canadian Digital Soil Mapping Working Group was established including members from a wide range of stakeholders, and the group is still working on completing the map.
- The US - GlobalSoilMap Version 0.1 (STATSGO2) and Version 0.5 (SSURGO filled in with STATSGO2) has been released.
 - a. The GlobalSoilMap property maps are generated for:

Organic carbon, pH, clay, silt, sand, coarse fragments, effective cation exchange capacity (ECEC), bulk density (for < than 2 mm soil fraction and whole soil), available water capacity and soil depth.

- b. Each property is mapped at six standard depth intervals: 0-5 cm, 5-15 cm, 15-30 cm, 30-60 cm, 60-100 cm, and 100-200 cm based on spline functions.
The data is available at:
https://nrcsgeoservices.sc.egov.usda.gov/arcgis/rest/services/GlobalSoilMap_v01_ST_ATSGO2
https://nrcsgeoservices.sc.egov.usda.gov/arcgis/rest/services/GlobalSoilMap_v05
- Chairperson for Pillar 5 Harmonization for the North American Soil Partnership is in place and is a member of the writing team for the overarching GSP Pillar 5 Implementation Plan.
 - Pillar 5 partnership is developing meetings on the harmonization of soil characterization, classification, and mapping organized at the National Cooperative Soil Survey Conference in Boise, Idaho in June 2017 and at the Soil Science Society of America meetings in Tampa Florida, in October 2017. Additional harmonization involving international horizons nomenclature will be presented at the World Congress of Soil Science in August 2018.
 - The 2017 edition of the USDA Soil Survey Manual was published and distributed to international colleagues for contributing to technical material for Pillar 5.
 - Training webinars and YouTube videos on profile descriptions and soil classification continue to be produced and are available for international viewing.

Other activities by pillar are:

Pillar 1: Collaboration on Soil Health at SWCS Meeting 2017 Madison WI with Canadian delegation (Soil Health interpretations, SVI (Soil Vulnerability Index), Fragile Soil Index & NCCPI) (National Commodity Crop Potential Index); Bilateral Meetings with ARS/NRCS/AGCANADA at the George Washington Carver Center (GWCC) Washington DC with discussions including soil biology in agricultural resilience; CEAP Program NRCS; New National Forestry Soil Interpretations Group-planned collaboration-USFS, NRCS at the North American Forest Soils Conference Quebec City, Quebec (NY State NRCS-USFS); NRCS promoting Soil Health Principles at Canadian workshops; continued collaboration on urban soils initiated at the SUITMA international conference in 2015, in Mexico City, Mexico. The FAO's GSP initiative on Sustainable Soil Management was presented at the Soil Conservation Council of Canada's Summit "Soil Health in Guelph" in August 2017

Pillar 2: STEM program MOU and activities with NASA/USDA; National and International Collegiate Soil Judging Contests/Future Farmers of America Environthons; Interagency US Presidential Working Group on Soil

Pillar 3: Research Agenda-Soil Health; Urban agriculture; Climate change; Dynamic Soil Properties; Wetland; Soil Monitoring Network for dynamic soil properties within the National Cooperative Soil Survey

Pillar 4: MIR data Library Kellogg Laboratory Lincoln NE; addition of Soils data and samples to International Soil Collections system; Ecological Site Description (ESIS/EDIT database; NWCA Wetlands Data Collection

Pillar 5: Soil Survey Manual new edition 2017- Raster based systems; Soil Characterization Data (LIMS programming); Soil Taxonomy; Soil Health; Urban agriculture; Dynamic Soil Properties; Soil Monitoring Network for dynamic soil properties.