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PROGRESS OF THE INTERNATIONAL INITIATIVE FOR THE CONSERVATION AND SUSTAINABLE USE OF SOIL BIODIVERSITY

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*This document can be accessed using the Quick Response Code on this page;
an FAO initiative to minimize its environmental impact and promote greener communications.
Other documents can be consulted at www.fao.org*



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I. INTRODUCTION

1. The International Initiative for the Conservation and Sustainable Use of Soil Biodiversity (known as the International Initiative for Soil Biodiversity) was formally established in 2006 as a cross-cutting initiative within the Convention on Biological Diversity's programme of work on agricultural biodiversity in order to increase the recognition of the essential services provided by soil biodiversity across all production systems and its relation to land management, including by sharing information, increasing public awareness, and promoting education and capacity-building. FAO has been the lead partner of the initiative, and the Commission received information on pertinent activities at its Fourteenth Regular Session¹.
2. This document describes progress made in the International Initiative for Soil Biodiversity since the Commission's Fourteenth Regular Session.

II. FAO ACTIVITIES

3. FAO updated its Soil Portal, covering all soil-related work, paying due attention to soil biodiversity². The portal covers the provision of essential information in terms of facts and figures and description of soil organisms, the role of soil biodiversity in relation to soil conservation and agriculture, and research in soil biodiversity.
4. As also reported at that time, a new initiative was being launched by FAO Governing Bodies, i.e. the Global Soil Partnership (GSP), the Terms of Reference of which were approved by the FAO Council in December 2012. The intent was *inter alia* to promote sustainable soil management; to strength soil governance at all levels; create and raise awareness among decision-makers and stakeholders of the key role of soil resources in sustainable development; to guide soil knowledge networks and research by providing a global communication platform and targeting research to effectively address soil-related problems on the ground; and to develop global governance guidelines aiming at improved soil protection and sustainable soil management and productivity. As such, the GSP contributes significantly to achieving the four main goals of the International Initiative for Soil Biodiversity³. Work on soil biodiversity is mainstreamed within this world-wide action-oriented partnership. For the information of the Commission, highlights of recent achievements of the GSP with connections with soil biodiversity are provided below.

Highlights of Global Soil Partnership achievements with soil biodiversity dimensions

Adoption and implementation of comprehensive Plans of Action

5. The Terms of Reference of the GSP contemplate five "Pillars of Action"⁴, while Rule VII of its Rules of Procedure specifies that corresponding Plans of Action (PoAs) should be developed following an inclusive and participatory process. Accordingly, Plans of Action for the five Pillars were formulated and formally adopted in the 2014-15 biennium by the Plenary Assembly (PA) of the GSP. This was followed by a phase of formulation, and in many instances early execution, of more concrete

¹ CGRFA-14/13/19

² <http://www.fao.org/soils-portal/en/>

³ More information on the Global Soil Partnership is available at www.fao.org/globalsoilpartnership.

⁴ The GSP Pillars are:

- 1- Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity;
- 2- Encourage investment, technical cooperation, policy, education awareness and extension in soil;
- 3- Promote targeted soil research and development focusing on identified gaps and priorities and synergies with related productive, environmental and social development actions;
- 4- Enhance the quantity and quality of soil data and information: data collection (generation), analysis, validation, reporting, monitoring and integration with other disciplines.
- 5- Harmonization of methods, measurements and indicators for the sustainable management and protection of soil resources

Global Implementation Plans (GIPs) and Regional Implementation Plans (RIPs) tailored to specific needs. The GIPs and RIPs are guiding the collective and individual engagement of GSP partners at all levels. The PA also encouraged the GSP Secretariat to facilitate the execution of these plans and recommended particularly to move into the full execution of the Pillar 4 Plan for establishing a Global Soil Information System and developing a Global Soil Organic Carbon map which is linked to the organization of the Global Symposium on Soil Organic Carbon in March 2017⁵, in which soil biodiversity is a crosscutting theme. As appropriate, these Plans include specific activities related to soil biodiversity.

Report on the Status of the World's Soil Resources

6. This Report was prepared under the aegis of the main technical advisory body of the PA, i.e. the Intergovernmental Technical Panel on Soils (ITPS). It is the first major global assessment of soil status and trends, based on available data and information. It is structured in three parts: I - Global soil resources, II - Global soil change, and III - Regional assessments and identification of knowledge gaps requiring targeted research. It involved voluntary contributions from more than 200 soil scientists worldwide. Besides the full report, a 90-page Summary for Policy Makers⁶ was also prepared. The final version of the report⁷ was launched on the World Soil Day (5th December 2015), as a contribution to the celebration of the International Year of Soils, 2015. Soil biodiversity was duly addressed in the report and the loss of soil biodiversity was identified as one of the ten threats affecting soil health globally. A new version of the Report is envisioned for 2020 and soil biodiversity will be a structural chapter of it.

International Year of Soils 2015 and World Soil Day occurrences

7. Following original airing of proposals within GSP circles and subsequent resolutions 4/2013 and 5/2013 adopted on 22 June 2013 by the Thirty-Eighth FAO Conference⁸, the sixty-eight session of the United Nations General Assembly decided to designate 5th December as World Soil Day and to declare 2015 as the International Year of Soils⁹. FAO, within the framework of the Global Soil Partnership, was invited to facilitate the implementation of both the Day and the Year in collaboration with governments and various partners.

8. A broad range of events and activities took place in connection with International Year of Soils (IYS) celebrations throughout the year 2015 at all levels, from global to local. Those activities involved a wide range of stakeholders and interested parties, i.e. not limited to government entities and civil society organizations or the media but also the general public, including substantial numbers of students in schools and other teaching institutions. In the framework of the IYS and WSD, soil biodiversity was mainstreamed and a number of awareness raising material was produced and disseminated. The WSD 2016 theme was "Soils and pulses: symbiosis for life" which includes soil biodiversity and its implications to maintain it and foster it. The WSD 2016 counted with more than 140 events in around 80 countries and included simultaneous main events co-organized by FAO in New York at the UN HQ, Moscow, in Rome and the CBD COP13 in Cancun. A booklet with the same title¹⁰ was launched at this occasion.

⁵ <http://www.fao.org/about/meetings/soil-organic-carbon-symposium/en/>

⁶ <http://www.fao.org/3/a-i5199e.pdf>

⁷ <http://www.fao.org/documents/card/en/c/c6814873-efc3-41db-b7d3-2081a10ede50/>

⁸ C 2013/REP

⁹ A/RES/68/232

¹⁰ <http://www.fao.org/3/a-i6437e.pdf>

Voluntary Guidelines for Sustainable Soil Management (VGSSM)

9. The VGSSM¹¹ aim to be a reference providing general technical and policy recommendations on sustainable soil management (SSM) for a wide range of stakeholders. They were developed through an inclusive process, culminating by their adoption by the 4th GSP Plenary Assembly (Rome, 25 May 2016), by the 25th session of the FAO Committee on Agriculture. They were endorsed by the 155th session of the FAO Council¹².

10. The section of these guidelines covering soil biodiversity is represented below:

“3.7 Preserve and enhance soil biodiversity

Soils provide one of the largest reservoirs of biodiversity on earth, and soil organisms play key roles in the delivery of many ecosystems services. Little is known about the degree of biodiversity required to maintain core soil functions, but new tools for biochemical techniques and DNA analysis suggest significant progress in this area is possible.

- *Monitoring programs for soil biodiversity, including biological indicators (e.g. community ecotoxicology) and in-situ early warning signals, should be undertaken;*
- *Soil organic matter levels supporting soil biodiversity should be maintained or enhanced through the provision of sufficient vegetative cover (e.g. cover crops, multiple crops), optimal nutrient additions, addition of diverse organic amendments, minimizing soil disturbance, avoiding salinization, and maintaining or restoring vegetation such as hedgerows and shelterbelts;*
- *The authorization and use of pesticides in agricultural systems should be based on the recommendations included in the International Code of Conduct on Pesticide Management and relevant national regulations. Integrated or organic pest management should be encouraged;*
- *The use of nitrogen fixing leguminous species, microbial inoculants, mycorrhizas (spores, hyphae, and root fragments), earthworms and other beneficial micro-, meso- and macro-soil organisms (e.g. beetle banks) should be encouraged where appropriate, with attention to limiting the risk of invasive processes by promoting the use of local biodiversity and avoiding the risk of disturbance in soil services;*
- *Restoring plant biodiversity in ecosystems, thereby favouring soil biodiversity;*
- *In-field crop rotation, inter-cropping, and preservation of field margins, hedges and biodiversity refuges should be encouraged; and*
- *Any land use change in areas with high biodiversity should be subject to land use planning and in line with the UNCBD, UNCCD and other relevant international instruments and with national law.”*

11. The Secretariat will give utmost priority to assist all GSP partners, i.e. FAO members and institutions with interest in soils, in the implementation of the guidelines, including as appropriate those targeted to soil biodiversity.

Emerging issues related to soil Biodiversity

12. With climate change impacting natural resources and livelihoods, there are important emerging topics that are inherent to soil biodiversity and that require attention. These are: soil biodiversity and antimicrobial resistance, soil borne diseases and soil contamination. The Global Soil Partnership is working towards addressing them in a timely manner.

¹¹ <http://www.fao.org/3/a-bl813e.pdf>

¹² C 155/Report, paragraph 11

Other non -FAO activities

13. Because of the importance of soil biodiversity, soil scientists and other institutions have established the Global Soil Biodiversity Initiative. Under the leadership of the Joint Research Centre of the European Commission, the Global Soil Biodiversity Atlas¹³ was recently produced.

¹³ <http://esdac.jrc.ec.europa.eu/content/global-soil-biodiversity-atlas>