Global Soil Partnership Background Paper

(prepared by the GSP Technical Working Group)

Contents

After six months of intense preparatory activities, a major meeting to launch a Global Soil Partnership (GSP) was conducted by the United Nations Food and Agriculture Organization (FAO) at its headquarters in Rome, Italy, from 7 to 9 September 2011. The meeting was organized in collaboration with the Joint Research Centre (JRC) of the European Commission (EC). The main

purpose of the meeting was for FAO to present to its member countries and key stakeholders a proposal for a GSP and to obtain reactions and recommendations on the way forward towards the establishment of such a partnership.

The meeting fully approved the necessity for such a partnership, and conclusions and agreement were that a Technical Working Group (TWG) would be established for preparing the zero draft version of the Terms of Reference (ToR) for the establishment and implementation of the GSP. The TWG was established on 17 October 2011. This document constitutes the zero version of the ToR resulting from deliberations of the TWG facilitated by FAO. It includes all TWG contributions in a single consolidated working document to be further submitted to the Open Ended Working Group of FAO tasked to prepare the final version for endorsement by FAO governing bodies.

1 Background of the Global Soil Partnership (GSP)

Soil is a finite natural resource. On a human time-scale it is non-renewable. However, despite the essential role that soil plays in the life of people, there is increasing degradation of soil resources due to inappropriate practices, burgeoning population pressures and inadequate governance over this essential resource.

The renewed recognition of the central role of soil resources as a basis for food security and their provision of key ecosystem services, including climate change adaptation and mitigation, has triggered numerous regional and international projects, initiatives and actions. Despite these numerous emergent activities, soil resources are still seen as a second-tier priority and no international governance body exists that advocates for and coordinates initiatives to ensure that knowledge and recognition of soils are appropriately represented in global change dialogues and decision making processes[1]. At the same time, there is need for coordination and partnership to create a unified and recognized voice for soils and to avoid fragmentation of efforts and wastage of resources.

On the basis of a recommendation by FAO's High-Level External Committee (HLEC) on the Millennium Development Goals to the Director-General (13-14 October 2009) and through discussions and conclusions from the 22nd Committee on Agriculture (COAG) (Rome, 16-19 June 2010), preparatory activities were initiated by FAO to explore the possibility of establishing a Global Soil Partnership according to the recommendations by COAG (CL 140/3).

Soils, the foundation of agricultural development and ecological sustainability, provide the basis for food, feed, fuel and fiber production, clean water availability, nutrient cycling, organic carbon stocks, one quarter of global biodiversity, and serve as a platform for construction and construction material. However, soil quality varies with site conditions and management practices. The area of fertile soils is limited and is increasingly under pressure by competing land uses for cropping, forestry, and pasture/rangeland as well as for energy production, settlement and infrastructure, raw materials extraction, etc. The increasing degree and extent of soil degradation processes due to mismanagement and land use changes are threatening this resource and urgent action is needed to reverse this trend if we are to assure the necessary food production for future generations, mitigation of climate change, provision of clean groundwater, and dimunition of biodiversity loss. Maintaining healthy soils required for feeding the growing population of the world and meeting their needs for biomass (energy), fiber, fodder, and other products can only be ensured through a strong partnership. This is one of the key guiding principles of the GSP; in addition to maintaining soil for other essential ecosystem services on which humans depend for water regulation and clean

[1] The United Nations Convention to Combat Desertification (UNCCD) has a limited geographical scope to drylands.

water supply, climate regulation, biodiversity conservation and cultural services. The conservation and, where possible, enhancement and restoration of world soil resources through sustainable and productive use should therefore be the ultimate twinned goal of the GSP.

Soil is important for mitigating climate change and its proper management can also support human adaptation efforts. Soil is both a source and a sink of greenhouse gases; there is a delicate balance between sink and source functions. Soils worldwide contain up to five times as much carbon as the atmosphere. The annual flux of carbon dioxide between soil and the atmosphere is also large and estimated at seven times that of carbon dioxide from fossil fuels. Waterlogged and permafrost soils hold major stocks of carbon but due to lowering of the water table and thawing of permafrost may become important emitters of two potent greenhouse gases, methane and nitrous oxide, as a result of climate change and land use change.

Soil also acts as a filter for pollutants entering into the terrestrial ecosystem. An intact soil filters organic and inorganic pollutants and provides clean ground water serving as an important source for drinking water all over the world.

Soils may be home to over one fourth of all living species on earth, and one teaspoon of garden soil may contain thousands of species, millions of individuals, and a hundred meters of fungal networks. Many of the functions performed by soil organisms provide essential services to human society. These include nutrient cycling, soil formation and primary production. In addition, soil biodiversity influences the regulation of atmospheric composition and climate, water quantity and quality, pest and disease incidence in agricultural and natural ecosystems, and human diseases. Soil organisms may also control, or reduce environmental pollution. Finally, soil organisms also contribute to provisioning services that directly benefit people, for example the genetic resources of soil microorganisms can be used for developing novel pharmaceuticals.

2 Vision and Mission

The vision of the Global Soil Partnership is to improve global 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 sustain other essential ecosystem services on which our livelihoods and societies depend including water regulation and supply of clean water, climate regulation, biodiversity conservation and cultural services.

The mission of the GSP is to develop capacities, build on best available science, and facilitate/contribute to the exchange of knowledge and technologies among stakeholders, existing multilateral environmental agreements, and technical and scientific bodies of a similar nature, for sustainable management of soil resources at all levels with a view to enhancing food security, protecting ecosystem services, and in this way contributing to poverty alleviation in an era of global demographic growth and unsustainable consumption patterns.

3 Disclaimer

The Global Soil Partnership is a voluntary initiative and does not create any legally binding rights or obligations between or among its members or any other entities under domestic or international law.

The GSP reinforces that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities

within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. (Principle 2, Rio Declaration on Environment and Development).

4 Strategic Objectives

Through enhanced and applied knowledge about soil resources as well as a harmonization process, the Global Soil Partnership will:

- Create and promote awareness among all type of stakeholders (scientists, decision/ policy makers, land managers, civil society, etc.) that healthy soils and sustainable soil management are the precondition for human well-being and economic welfare and therefore play the key role for sustainable development;
- Address critical soil issues that are globally and regionally relevant for sustaining the provisioning services through soils, in particular towards increasing food security, enhancing climate change adaptation and mitigation, preventing groundwater pollution and through sustaining their regulating and supporting ecosystem services in a context of global demographic growth;
- Guide soil knowledge and targeted research in accordance with national conditions and needs to address concrete challenges on the ground through a common communication platform, including an Intergovernmental Technical Panel on Soils (ITPS) to provide an authoritative voice on technical and scientific issues;
- Establish an active and effective network for addressing soil cross-cutting issues, including national and international soil health (soil biodiversity) best practices, and ensuring synergies among relevant agricultural, forestry, environmental and human development processes;
- Develop sustainable management strategies for different soils considering their potentials and limitations for different types of uses and taking into account the wider socio-economic context as well as national needs and policies;
- Promote access to soil information and advocate the need for new soil surveys and data collection especially in those countries where soil information is obsolete and coarse and does not respond to user demands;
- Promote investment and technical cooperation in all related soil issues to address fundamental issues in different regions aimed at sustainable management of soil resources;
- Promote institutional strengthening and capacity development of soil institutions at local, national, regional and interregional levels; and.
- Promote necessary public and governmental awareness on the World Soil Day (December 5th) as established by the International Union of Soil Sciences (IUSS), with a view to its adoption as the World Soil Day by the United Nations General Assembly.

5 Composition and Governance

Governance of the Global Soil Partnership is proposed to be composed of the following elements:

Figure 1: Governance of the Global Soil Partnership

5.1 Partners

The Global Soil Partnership should become an interactive, responsive and voluntary **partnership,** open to governments, institutions and other stakeholders at various levels. The different kinds of partners that will be needed include financial/funding partners, technical/scientific partners, advisory partners, and general partners. These partners could come from any kind of regional and national institutions/organizations working on soils (Governmental Organizations, universities, civil institutions, research centers, soil science societies, UN agencies, NGOs, private companies, farmer associations, donors, etc). Partners by default to the GSP are the FAO member countries who determine FAOs priorities as laid out in the Strategic Framework and Programme of Work and Budget of the Organization and according to the needs and priorities identified in their countries.

Representatives of different GSP partners will meet annually at a GSP Plenary Assembly to review actions of the GSP (see section 5.5).

A specific registration form for joining the GSP is found in Annex 1.

5.2 Intergovernmental Technical Panel on Soils (ITPS)

Establishment of an Intergovernmental Technical Panel on Soils (ITPS) is proposed to provide scientific and technical advice on global soil issues.

The ITPS is a core component of the GSP and should be formally established by the FAO Council according to FAO's rules and procedures. Members of the ITPS shall be nominated by the GSP Plenary Assembly for an initial term of 2 years, renewable for one additional term (with agreement of the GSP Plenary Assembly) and supported by specific Terms of Reference (ToR) to be prepared by the Technical Working Group and Open-Ended Working Group. These experts should act in their personal capacity, not receive instructions from any government or other institution, and provide the best possible scientific and technical knowledge available.

Initially, it's proposed that the ITPS shall be composed by twenty-seven recognized experts ensuring a proper regional cover, a proper scientific expertise (covering the range of scientific and practical

expertise encompassed by the GSP) and gender balance. The following is a proposed regional distribution of experts to populate the Panel (following the example of the FAO Inter-governmental technical working group on forest genetic resources):

- 5 from Africa
- 5 from Europe
- 5 from Asia
- 5 from Latin America and the Caribbean
- 3 from Near East
- 2 from Northern America
- 2 from South West Pacific

The ITPS will advise the GSP and FAO itself as well provide an authoritative technical voice on global soil issues, including to other relevant conventions, such as the UNFCCC, CBD and UNCCD. Close links should be developed between the ITPS and the newly established Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) in order to assure that soil related issues are adequately taken into account, eventually acting as a sub-panel of IPBES for soil issues.

5.3 GSP-Secretariat

The Global Soil Partnership Secretariat would be the coordination and facilitation body in charge of facilitating the implementation of the GSP actions through its regional partnerships and networks. The GSP will be hosted by FAO in view of its global mandate. The GSP Plenary Assembly will nominate the GSP Executive Secretary at its first plenary meeting (expected to take place in the second semester 2012). Under the guidance of the GSP Plenary Assembly and seeking the technical and scientific advice of the ITPS, the GSP Executive Secretary will be responsible for supporting implementation of GSP activities according to the pillars and strategic objectives to be prioritised and established, initially, on a biennial basis, but later with a five year and a longer term planning perspective. The GSP Plenary Assembly will review the activities of the Executive Secretariat annually.

The GSP Executive Secretariat will also work on governance, finance, communications, planning, and operational management of GSP programmes and administration. Direct links will be established with Regional Soil Partnerships (RSP) in each region (according to FAO classification: Africa, Asia, Europe and the Caucasus, Latin America and the Caribbean, Near and Middle East, North America and Southwest Pacific) to facilitate implementation of the GSP plan of action in each region through close interaction and consultation with national members and soils networks. The Secretariat will promote establishment of necessary partnership and networking and communication activities in those regions where well established soil networks and collaborative processes are lacking. The Secretariat will endeavour to coordinate the GSP work with other Rio Conventions, notably the UNCCD.

5.4 Regional Soil Partnerships (RSPs)

Regional Soil Partnerships should be formed among interested and active stakeholders. These RPSs will work in close coordination with FAO Regional Offices and will establish an interactive consultative process with national soils entities (soil survey institutions, soil management institutions, scientific soil societies, etc), regional soil science societies and other relevant regional mechanisms under the various related conventions. Preferably, they will build on existing regional networks or collaborative processes (e.g. African Network for Soil Biology and Fertility-AfNET), linking National and local networks, partners, projects and activities to ensure that the partnership process is country-driven. The RPSs should provide guidance on regional goals/ priorities and the

required implementation mechanisms and should regularly review progress in reaching common objectives and targets. In particular, RSPs should facilitate links with national and local soil management programs and activities with a view to strengthening work on soils and to develop synergies with other relevant initiatives and activities. Some of the activities of the RSP could be inter alia: a) analysis of soil research and international soil-related cooperation in the region (support GSP project/intervention data base); b) compilation of existing, available data sets (support GSP meta data catalogue); c) associate experts from member countries/ organizations of the regional network (support expert list); d) participation and mediation for harmonization and data base building (e.g. towards a new global soil data set); e) organization of capacity building activities in the frame of international/technical cooperation programmes; f) advise on regional positions and prepare regional statements to the GSP (identification of issues and hot spots etc.); g) strategic networking and fund raising in the regions.

5.5 Plenary Assembly

The Global Soil Partnership Plenary Assembly will be the main yearly meeting of ITPS members, GSP Executive Secretariat, representatives of the different partners and country members to FAO, including regional organizations such as the European Union. This assembly will be in charge of reviewing and prioritizing GSP actions, and facilitating a balanced regional decision making process.

5.6 Links with the Rio Conventions

Sustainable management of soil resources contributes directly and indirectly to all three Rio Conventions (UNFCCC, CBD and UNCCD) in terms of sustainable soil management, soil fertility and productivity, soil carbon fluxes and climate change and soil biodiversity.

The GSP is expected to contribute to all related global policy processes in an independent and authoritative way. At the core of its global authority will be the ITPS as an independent scientific advisory body for providing the necessary high-level scientific advice to policy makers and institutions dealing with soil related issues. Coordination and collaboration mechanisms should be established under multilateral agreements and other relevant international commitments on food security and poverty alleviation in accordance with the Millennium Development Goals.

The GSP will support the process leading to the adoption of sustainable development goals on soils in 2015, should the Rio+20 Conference agree upon such a process. The GSP will lead a process to place soils at a higher level of the political agenda in RIO+20. This advocacy will require an active participation of partner institutions and other likely-minded organizations, such as the UNCCD.

6 Pillars of Actions

In particular, the GSP will support the process leading to the adoption of sustainable development goals for soils. The GSP will contribute to environmental wellbeing, through for example, preventing soil erosion and degradation, reducing greenhouse gas emissions, promoting carbon sequestration and promoting sustainable use of agricultural inputs for soil health and ecosystems management. It will equally contribute to human wellbeing and social equity through improved use and governance of soil resources, finding alternatives to soil degrading practices through participatory experiential processes, and being sensitive to issues of gender and rights of indigenous peoples. In order to achieve these objectives, it is proposed that the GSP should address five main pillars of action:

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 soils.
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;

A short description of each pillar of action is presented below. However a plan of action for each pillar will be prepared separately through a consultative process and subject to approval by the GSP Plenary Assembly.

6.1 Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity

There is an urgent need to update the vision and guiding principles as spelled out some 30 years ago by FAO Member Countries in the World Soil Charter (FAO, 1981). The 13 principles listed in the charter are still valid, but need to be updated and revised in light of new scientific knowledge gained over the past 30 years, especially with respect to new issues that emerged or were exacerbated during the last decades, like soil pollution and its consequences for the environment, climate change adaptation and mitigation and urban sprawl impacts on soil availability and functions. New priorities for action as well as follow-up activities should be identified, taking stock of past experiences and learning from the failures and mistakes that have resulted in a still persistent global problem of soil degradation and unsustainable use of available soil resources.

In this respect, it is important to note that the concept of soil / land potential as laid out in FAOs concept and methods of *Land Evaluation and Planning and the ecosystem services concept of the Millennium Ecosystem Assessment*, includes production as well as social and economic functions of the soil/land resource base and the capacity to sustain a full range of ecosystem services. Further to the costs, benefits and expected impacts of various soil management technologies and practices, and intervention approaches, the costs of no-action and the need for multi-disciplinary processes need to be taken into account in updating the charter and developing a road map for sustainable soil management and protection

The GSP should become the platform for discussion and agreement among policy makers and stakeholders on the best way forward to achieve measurable soil protection and management targets in a reasonable time frame, adapted to the particular conditions of different regions and ecosystems. New issues could be incorporated in a renewed soil charter such as those arising from increased pressures on fertile and non-fertile soil resources. Special attention should also be paid to ethnopedology (sustainable indigenous soil management) as it has shown its importance in terms of adoption and sustainability. Ideally the GSP should facilitate the compilation of a new World Soil Charter, incorporating new knowledge and experiences gained over the past 30 years and addressing the worldwide diversity of soils (i.e. pedodiversity).

6.2 Encourage investment, technical cooperation, policy, education awareness and extension services in soils

Investment and technical cooperation in soils over the last two decades have been lacking, but now greater attention on these invaluable resources is recognized. Soil knowledge and soil implications on water, climate, biodiversity, energy, food and poverty issues are not properly addressed in the general education system, so a wide effort is needed to create public awareness on the importance

of sustaining soils and their functions. This will require promotional and communication tools to raise awareness and educate and mobilize the informed involvement of stakeholders in the consultative processes. Soils expertise has been diminishing in international and national institutions because was not seen by the younger generation and the employment market as of interest in addressing the challenges of today's world. On the other hand, today's global challenges of food security, poverty and climate change are significantly affected by how we protect and manage the Earth's soils resources. Soils deserve much greater investment in all fields, including raising awareness raising and technical cooperation to train a new cadre of soil scientists with an interdisciplinary perspective capable of bringing the crosscutting issue of soils back into the centre of agricultural and environmental development processes.

The GSP should develop guidelines and recommendations for investment and technical cooperation on soils and how to mobilize these investments by encouraging:

- Investment by farmers, other land users and civil societies;
- Investment by countries through national programs and processes; and,
- Investment by development banks, GEF (Global Environment Facility) and other donors.

The GSP should also assess the available soils expertise, capacities and interests and respective gaps of both the private and public sectors in supporting:

- Technical cooperation by countries' research, education, extension and development agencies;
- Technical cooperation and support by the UN system and international bodies; and,
- Technical cooperation with land users and environmentalists and inclusion of their local knowledge.

Such a needs' assessment will lay the foundation for development of a coordinated strategic investment programme and plan of action for technical cooperation on soils including increasing awareness of a range of stakeholders and the general public on the importance of soils, enhancing soils expertise and capacities and coordinating actions from local to national, regional and global levels.

Creating awareness at all levels about the importance of soil resources for supporting life will be a key element of this pillar. Awareness raising campaigns, institutionalizing the World Soil Day (together with relevant institutions such as IUSS) and all sorts of mechanisms will be used in order to raise awareness and related support activities. Furthermore, education in the field of soil science should be reinforced as a profession, which has been recently neglected and as consequence there are limited technical capacities available for dealing with sustainable soil management.

6.3 Promote targeted soil research and development focusing on identified gaps, priorities and synergies with related productive, environmental and social development actions

There are a large number of research activities and projects related to soils around the world. Many projects would benefit from increased coordination with other on-going research activities. Communication amongst research communities dealing with various aspects of soils is often limited or non-existent and inter- and trans-disciplinary research is still very limited. Building bridges between various research communities could bring large benefits to the global scientific knowledge base and lead to more coherent soil related activities. Breaking disciplinary barriers among geology, soil science, agronomy, forestry, pasture/rangeland management, hydrology, water resources management, agro-climatology, ecology, soil biology and ecosystems research could improve the quality and applicability of research and provide new avenues for future integrated research and

development programs. The biophysical aspects of research must be associated with relevant research into social, political and economic issues that are inherently tied to the whole questions of soil protection/conservation through soil management.

The GSP should closely link to new global research initiatives, like the Global Research Alliance on Agricultural Greenhouse Gases, and should also provide input and support to the main scientific advisory bodies of the three Rio Conventions: IPCC for the UNFCCC, IPBES for the CBD and the UNCCD.

The GSP implementation mechanisms should be able to identify and support soil research and development priorities to address key soil issues that are relevant to the main programmatic areas but currently undertaken, or only in an uncoordinated way, by diverse organizations and institutions dealing with sustainable soil resources management, food security, climate change adaptation and mitigation, as well as water supply and quality. The aim will be to help focus and bring together wide-ranging soils research and knowledge to address the specific development challenges and concerns of today.

6.4 Enhance the quantity and quality soil data and information: data collection (generation), analysis, validation, reporting, monitoring and integration with other disciplines

Even though many soil data worldwide are rather outdated, as well as being inconsistent, incomplete and at coarse resolution, nonetheless the wealth of soil related information (soil legacy data) gathered during fieldwork is of tremendous value (especially regarding soil change assessment). It is of utmost importance to the GSP, that existing soil legacy data (in the form of hard copy documents, reports and maps), are scanned, digitized and made available through updated soils databases and information systems. Current global databases are still essentially using a mixture of information collected more than 50 years ago at the time of the compilation of the first global soil map by FAO/UNESCO and more recently under SOTER (Soil and Terrain Database) and other regional or national programs. The most recent Harmonized World Soil Database is essentially a compilation of these existing soil data into a common raster at 1 km resolution. With development in information technologies, there is an urgent need for updated high-resolution data and information on global, regional and local soil resources, for food security, climate change related issues, biodiversity conservation and other issues. Integration with other disciplines (e.g. hydrology, forestry, climate and engineering) is essential. Detailed and updated information on soil health and fertility, on soil organic and inorganic carbon content from soil profiles, and also on soil pollution and water holding capacity is missing in many countries.

Several new projects have been initiated for rapid compilation of new digital soil maps of the world. The GlobalSoilMap.net consortium (aiming to produce soil property maps), partially funded by the Bill and Melinda Gates foundation, as well as the EU funded eSOTER project within the Global Soil Data task of the GEO/GEOSS work program are the most relevant on-going initiatives. In addition, a number of regional and national soil data collection programs are on-going, like the Africa Soil Information Service (AFSIS), the European Soil Information System (EUSIS) and others. A main task of the GSP will be to build a partnership among the various soil data collection programs to develop synergies and cost savings by avoiding duplication of efforts. Ultimately the GSP should provide a common soil data and information platform responding to various users needs at global, regional, national and local scales.

Particular effort should be given to include soil information in ongoing and future projects on related topics e.g. the National Forest Inventories and other natural resource surveys, national adaptation and mitigation plans and so forth.

Past land capability classifications and land suitability assessments need to be revised, due to the adoption of new planting and sowing technologies, changes in farming systems, cropping patterns, modernization of irrigation systems, and development of cultivars or new species adapted to stressed environments as well as climate change. In some places, soils that were evaluated as being unsuitable for cropping are now being planted for cash crops using adapted germplasm and management technologies with reasonable good results for farmers.

The provision of soil data and information needed by the end users should be a guiding principle of the GSP. An extensive survey of the actual end user needs and requirements should be part of the work program of the GSP from its early stage.

6.5 Harmonization of methods, measurements and indicator for the sustainable management and protection of soil resources

While the availability of soil data and information is dealt with in a separate pillar, it needs to be emphasized that information about soils must first be gathered in a harmonized way; otherwise, experiences cannot be shared and combined. This is of utmost importance, for example, to utilize soil information for policy development and the building of observation systems. Harmonization and establishing guidelines and standards should not be a goal *per se* of the GSP. Standardization always implies a cost for the various stakeholders and therefore a clear cost/benefit analysis needs to be provided to justify any standardization activity. Many standards for soil measurements, observations, data collection and data management exist. The GSP will act to federate and facilitate a partnership among various actors to develop synergies and cost savings for all partners.

Ongoing efforts as well as standards developed by the International Union of Soil Sciences (IUSS) and by other regional and national standardization committees and institutions, need to be brought within a common framework to reduce duplication of efforts and the proliferation of standards and methods (both laboratory and field) that are often not compatible. A well-documented example of lack of coordination and political will is soil classification, with still two (or more) main systems used in many parts of the world that are difficult to compare (correlate) and harmonize (like the US Soil Taxonomy of USDA and the World Reference Base (WRB) of the International Union of Soil Sciences (IUSS) endorsed by FAO). The recent initiative towards development of a common Universal Soil Classification (USC) should be facilitated by the GSP to provide a common platform for such a future system.

Harmonization should cover all aspects related to soil observation and measurement (both in the field at different scales and in the laboratory). This should include indicators, notably the development of a shared definition among stakeholders of soil quality, soil health and function indicators specific for various land uses and the standards for communication between soil scientists and other stakeholders. Previous work in the OECD framework for the development of a soil quality indicator, as well as on-going work in the EU and USA and similar initiatives in various regions should be brought under a common framework within the GSP. Development of common standards for soil health and fertility will facilitate the implementation of Integrated Soil Fertility Management (ISFM) and support ongoing regional activities, like the Soil Health Program of AGRA (Alliance for a Green Revolution in Africa) in Africa and others and will ensure due coordination with organic best practices/guidelines regarding soil conservation and management.

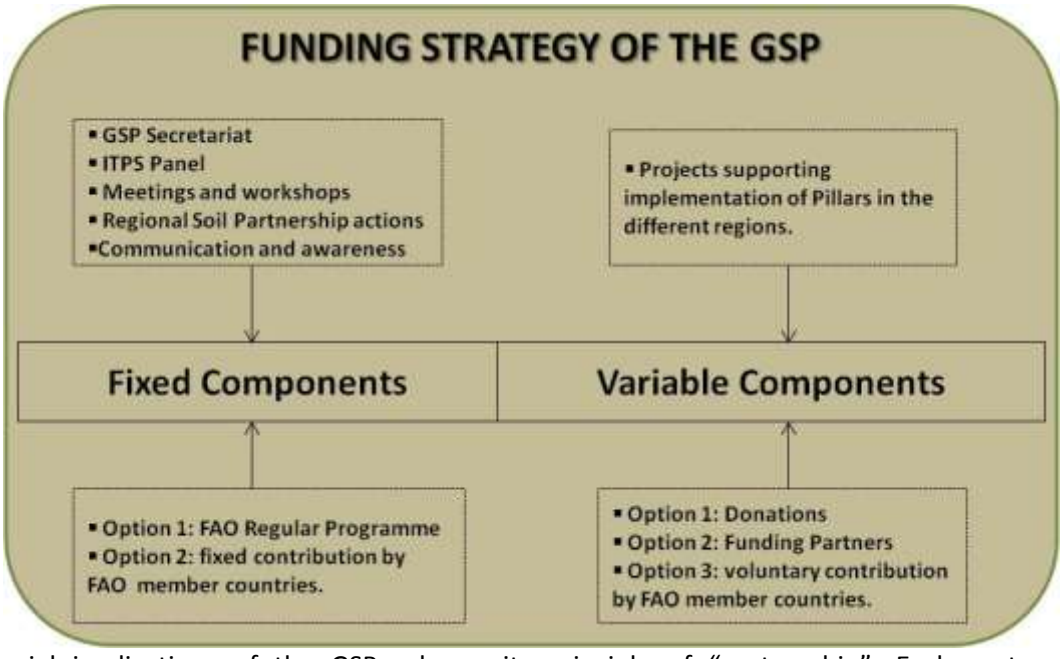
Harmonization is particularly beneficial for data management and integration. Adopting common flexible (as soils are highly variable globally and locally) standards for soil data will allow integration of soil information within wider spatial information systems for agricultural, environmental and land use planning objectives. Data interoperability (distinct from standardization) requires translation tools with shared definitions and metadata catalogues that will facilitate data access and use.

Standardization at a global scale, as in the Global Spatial Data Infrastructure (GSDI) and Open Geospatial Consortium (OGC) or the globally interoperable distributed data system of the ICSU World Data System, as well as regional initiatives, like the Infrastructure for Spatial Information in the European Community (INSPIRE) directive of the EU, should be taken into account for the establishment of common standards for geo-referenced soil data and information. There is a need to develop a global harmonized soil information system that would allow access and use of data across a broad range of international initiatives (such as the Global Earth Observation System of Systems, GEOSS and INSPIRE) as well as supporting national, regional and local data interoperability and integration. The GSP could act as a facilitator for these various global and regional harmonization efforts.

7 Financial Assessment and Implications

Financial implications of establishment and implementation of the Global Soil Partnership needs to be assessed. This assessment must include an estimate of the financial needs for setting up the Executive Secretariat, establishing and setting up the Intergovernmental Technical Panel on Soils and implementing the actions for the coming four years at an international level and coordinated through the Regional Soil Partnerships. Moreover, the financial assessment should guide the development of a longer-term strategic investment and technical cooperation programme with interested funding partners.

An example of the funding strategy is found below:



Financial implications of the GSP rely on its principle of "partnership". Each partner should contribute with different inputs for the successful implementation of the GSP. FAO will lead the GSP process and it should through a prioritization in its programme of work, guarantee a basic budget from its regular programme to facilitate reasonable functionality.

8 Work Plan and Timetable

The partnership process should lead to the identification of priority actions to be conducted at international level and in each region for the period 2012-2014 under the five pillars of the GSP. These will be integrated into the initial biennial work plan and budget of the GSP. Advocacy for the

establishment or strengthening of the regional partnerships should generate required support for implementing the work plan and contributing to the 5 pillars.

A number of consultative workshops will be organized in order to discuss and develop specific plan of actions for each pillar of the GSP taking into account the regional priorities.

9 Communication Strategies and Soil Awareness

The Global Soil Partnership will need global and regional communication strategies for advocacy and sharing of information, experiences and tools, as well as for information development and scientific and technical support among the different partners and stakeholders. The GSP should develop such communication strategies and initiatives in close collaboration with regional and national partners working on soils and other concerned bodies that guide and support international, national and local development and investment programs. The GSP should promote soil awareness and education at all societal levels and must report frequently on its activities to the various forms of media.

10 Appendix 1 – Application Form

APPLICATION TO BECOME A PARTNER OF
THE GLOBAL SOIL PARTNERSHIP (GSP)

Please submit completed application form to the nearest Country or Regional Soil Partnership, or in their absence, directly to the GSP Secretariat at FAO HQ in Rome, Italy

We (name of organization):

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apply to become a Partner of the Global Soil Partnership. The organization hereby:
►agrees to abide by the World Soil Charter Principles
►pledges a willingness to actively participate in the GSP network
►act in accordance with the Terms of Reference for the Global Soil Partnership
►confirm that the information submitted with the application is correct, and ensure that any changes in the information will be reported to GSP.

Signature of the Chief Executive
Officer.....

Name.....

Date……

Organization Stamp/Seal

The following staff member is assigned as the GSP contact person:

Last
Name.....

First
Name.....

Designation.....
.

_____
The Applicant is hereby accepted as a Partner of the Global Soil Partnership, with the benefits, rights and obligations set out in the Global Soil Partnership's Policy on Partners:

For the Global Soil Partnership.....
Executive Secretary, Global Soil Partnership

Signature.....
.

Date.....
GSP Seal/Stamp