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للأمم المتحدة

# GLOBAL SOIL PARTNERSHIP PLENARY ASSEMBLY

## Second session

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## Endorsement of Plans of Action for the GSP Pillars

### General introduction

- 1) The Terms of Reference (ToR) contemplate five “Pillars of Action” for the GSP, while Rule VII of its Rules of Procedure (RoP) specify that corresponding Plans of Action (PoAs) should be developed following an inclusive and participatory process, and in accordance with agreed guidelines (Annex 1 of the RoP).
- 2) The draft PoAs before the present session of the Plenary Assembly are the result of an intensive formulation process involving a large number of contributors (on a purely voluntary basis) and culminating in their endorsement by the Intergovernmental Technical Panel on Soils (ITPS), in consonance with the mandate of the latter Panel. Document GSP 2/4 describes how the ITPS handled this important task, while the PoAs themselves may also include background information on the process used. This is not repeated here.
- 3) The PoAs are accompanied by an Executive Summary (as attached to this document for ease of consideration). In view of severe budgetary constraints, only the English versions of the PoAs are provided under separate cover.
- 4) The Chairpersons of the working groups which prepared drafts of these PoAs are expected to present them to the Assembly, and to assist with clarifications as required.

### Suggested action by the GSP Plenary Assembly

The Plenary Assembly is requested to review and endorse these Plans of Action.

## **6.1 Summary of Recommendations for Pillar One Plan of Action**

### **Recommendation 1**

Within the context of the GSP, Sustainable Soil Management is defined as :

“Management practices that protect soil and enhance its performance for the production of goods and provision of ecosystem services without degrading or impairing on- or off-site ecosystem functions.”

### **Recommendation 2**

FAO members need to take the first step in raising the global, regional and national status of soil and its sustainable management to a top priority by endorsing activities under this plan of action. This should be followed by the involvement of all levels of the GSP in advocating the importance of soil and its functions within the global ecosystem.

### **Recommendation 3**

Barriers preventing the implementation or adoption of sustainable soil management systems should be assessed as a first phase in the implementation of the PoA for Pillar 1 at global, regional and national levels.

### **Recommendation 4**

Appropriate sustainable soil management practices and systems should be identified for all land uses at regional and national levels using existing databases, adapted according to site characteristics and land user needs, and implemented at appropriate scales to restore and maintain soil functions and ecosystem services.

### **Recommendation 5**

Sustainable intensification of production should be supported by balanced soil fertility management using a range of available nutrients and appropriate physical management practices without causing negative environmental impacts.

### **Recommendation 6**

Cost-benefit analyses should be translated into information on the effectiveness of different sustainable soil management systems at implementation level for both sustainable soil management implementation, and the cost of inaction, in order to provide land users and policy makers with evidence based findings to support decision making for land use change and investment in sustainable soil management. Recommendations should be clearly packaged according to the target audience, and expertly communicated information needed for such analyses should be obtained through research conducted under Pillar 3.

### **Recommendation 7**

A global GSP system is needed to coordinate and monitor the promotion of sustainable soil management, implementation of specific activities aimed at addressing soil conservation, as well as soil restoration actions. This should be supported by the development of regional implementation plans, as well as regional facilitation for coordination and monitoring of implementation.

### **Recommendation 8**

A monitoring system should be developed at global and regional levels to measure progress in sustainable soil management implementation and its impact on improving soil functions. This includes the development of implementation targets and target dates for reporting purposes, as well as simple, easy to use indicators to measure soil condition.

### **Recommendation 9**

Global and regional partnerships should be developed, underpinned by the development of an effective communication strategy amongst all target groups directly or indirectly involved in soil management and used for capacity building, networking, technical support and sustainable soil management information dissemination purposes.

**Recommendation 10**

The GSP should encourage political decision makers and business sectors to develop national and regional level solutions and policies to regulate soil contamination and sustainable soil management in all land uses; create an enabling environment for sustainable soil management implementation and adoption; reserve productive and potentially productive soils for agricultural production purposes; and develop investment strategies for sustainable soil management implementation.

**Recommendation 11**

The GSP should directly link to and interact at global and regional levels with relevant global and regional initiatives and platforms related to soil management. This should be aimed at advocating the importance of sustainable soil management and implementation of sustainable soil management systems within all platforms, and enhancing synergy across the relevant decision making and implementation processes for more effective implementation by countries and regions.

## 6. 2 Summary of Recommendations for Pillar Two Plan of Action

### **Recommendation 1 (Policy)**

Many countries lack effective national policies and strategies for soil protection or sustainable management. Politicians, policy advisors, decision makers and associated institutions should be targeted, through formal FAO channels and on a bilateral basis by partners, to appreciate fully the true societal value of soils (i.e. environmental and economic) to their specific sector(s) in order to develop coherent legislation in line with the principles of the new World Soil Charter.

### **Recommendation 2 (Policy)**

Promote the development of appropriate guidance and policy framework so that countries undertake a harmonized assessment of the state of soil, trends, associated pressures and their impact, serving to identify areas that provide key services and functions and those most at risk from soil degradation.

### **Recommendation 3 (Policy)**

Engage advocates at all levels to ensure that soils are part of the Sustainable Development Goals and Post-2015 agenda.

### **Recommendation 4 (Education)**

Governments should introduce soil as a major theme into school curricula from an early age in order to boost the understanding of its value and functions. In parallel, they should reverse the declining trend at tertiary level, at least through its incorporation as a compulsory cross-cutting discipline for agriculture and other environmental science students.

### **Recommendation 5 (Education)**

Promotion of soil education to public society and all soil users through diverse and current communication channels (e.g. e-learning, distance courses, social networks and web forums). Cooperation with UNESCO programmes could bring great benefits.

### **Recommendation 6 (Education)**

Soil scientists should be encouraged and rewarded to engage with other disciplines in projects that demand multidisciplinary solutions to highlight the broad functionality of soil. Funding bodies should be made aware that research outputs should increasingly be judged both for scientific integrity as well as for their relevance and societal impact. Scientific output should take account of public consumption and use in education.

### **Recommendation 7 (Education)**

A framework should be developed in order to support the participation of young soils scientists from the developing world to participate in international training events.

### **Recommendation 8 (Education)**

Documentation, tools and curricula need to be developed and updated to provide training institutions at all levels with evidence based information about soil science, sustainable use of soils and the interaction between soils and the broader natural resource environment, as well as to incorporate other societal disciplines such as economy, social science, and communication techniques. The development of such documentation and training curricula should be driven by the GSP partners at global, regional and national levels.

### **Recommendation 9 (Awareness)**

GSP partners should jointly develop awareness approaches which can be easily adapted to different regions and scales of implementation. Under the auspices of the GSP, governments should consider sustained funding to large scale national outreach programmes. Regional Soil Partnership pages should be developed within the GSP website and Facebook pages to allow the various regions to post

region-specific information, targets and achievements. This will give audiences the opportunity to focus on information for their specific region and foster commitment to the listed information. A GSP Twitter handle should be created to disseminate crucial pieces of information, as well as a Linked-In profile to provide a platform for a wide range of professionals to interact in relation to soil management issues.

#### **Recommendation 10 (Awareness)**

The soil science community should promote strategies at all levels to engage with society at large and work with professional communicators and social scientists. This will include partnerships with major food retailers to develop public awareness campaigns.

#### **Recommendation 11 (Awareness)**

The implementation of World Soil Day should be supervised by the Global Soil Partnership Plenary Assembly. This celebration should be an opportunity to promote the importance of soil as a natural resource, as well as its sustainable use to contribute to future food security. The celebration of World Soil Day should also be used as a reporting platform during which Regional Soil Partnerships report to the GSP Secretariat on progress of regional implementation of the five plans of action.

#### **Recommendation 12 (Awareness)**

As a unique opportunity, the International Year of Soils 2015 should be used to engage with global stakeholders and initiatives in order to promote the crucial importance of soils for various functions such as food security, climate change adaptation and more. The IYS shall count on the participation and contribution of all partners based on a plan to be discussed and endorsed by the GSP Plenary Assembly. Among other points, full visibility within Expo Milano 2015 should be ensured in order to have an important global outreach.

#### **Recommendation 13 (Extension)**

Extension services should be supported (politically and financially) and revitalized to reflect the multi-functional services of soil, ensure the sustainable use of soil and reduce land degradation. Regional priorities need to be determined to reflect the disparities in agricultural extension knowledge, expertise, motivation and support, in order to develop solutions to recognized challenges and set goals for their implementation.

#### **Recommendation 14 (Extension)**

Soil information and priorities, as well as SSM priorities, technologies and approaches should be professionally and efficiently communicated to policy makers by skilled communicators. The GSP partners should promote efficient channels of communication to provide policy makers with the necessary information to promote the right policy environment for SSM.

#### **Recommendation 15 (Extension)**

Soil extension programmes such as the Soil Doctors Programme should be established in order to provide support and capacity development for extension on soils.

#### **Recommendation 16 (Technical Cooperation)**

Scientific and technical cooperation should be strengthened between partners of the Regional Soil Partnerships and other cooperation schemes. Effective programmes should be implemented at global, regional and local levels.

#### **Recommendation 17 (Investment)**

GSP partners should foster investments in soils to benefit society and future generations, making use in particular of the established “Healthy Soils Multi-Partner Platform”, and generate in-kind contributions to strengthen the implementation of GSP activities under the five plans of action. Assessments of the returns from investments (including cost-benefit analysis) should be made to provide soil users and policy makers with evidence based success stories.

### **6.3 Summary of Recommendations for Pillar Three Plan of Action**

## 6. 4 Summary of Recommendations for Pillar Four Plan of Action

### Recommendation 1

A prerequisite for sustainable management of soil resources is access to information on their distribution, condition and rates of change, from local through to global scales. All countries have a responsibility to obtain and act on this information to ensure the soil resources of the world continue to provide the ecosystem benefits and wealth necessary for a secure and prosperous future.

### Recommendation 2

The design and operation of the global soil information system will use soil data primarily from national and within-country systems and will focus on delivering products and information services for regional and global purposes including progress towards the Sustainable Development Goals and supply of data to other disciplines to ensure more integrated analysis. Agreements about harmonization requirements to ensure data can be compared and aggregated across scales are therefore essential.

### Recommendation 3

That the global soil information system and its associated Community of Practice formally joins and actively supports the much larger effort to build and maintain the Global Earth Observing System of Systems overseen by the group on Earth Observations.

### Recommendation 4

The Global Soil Information system will be comprised of consistent spatial data sets and services provided by a mix of institutions. However, national soil agencies will play a key role as facilitators for the collection, management, quality assurance and provision of data. In some cases, organizations may act on behalf of other countries through mutual agreement.

### Recommendation 5

The Global Soil Information System will rely on harmonized data systems to ensure global consistency. Data from contributing organizations need to conform to mutually agreed standards with defined procedures for translation between measurements methods using a global reference system.

### Recommendation 6

A stepwise approach to monitoring is proposed starting establishing reliable baselines for selected soil properties in priority regions. The effort (e.g. sampling frequency, number of measurements) devoted to operational monitoring at the global scale will be based on these initial investigations and supporting environmental monitoring and modeling.

### Recommendation 7

Aim to achieve net benefit for all partners involved in the global soil information system and monitor this through regular engagement and review. Ensure all data contributors have open access to all data within the global soil information system.

### Recommendation 8

Build a strong relationship between leading international research groups and Pillar Four so that the global soil information system benefits from the latest scientific and technical advances.

### Recommendation 9

Immediately establish full-time leadership and technical support teams, supply preliminary data products by 2015 and ensure the global soil information system is fully operational by 2018.

**Recommendation 10**

Train a new generation of specialists in mapping, monitoring and forecasting of soil condition, with an emphasis on countries where improved soil knowledge is essential for food security and restoration and maintenance of ecosystem services.

**Recommendation 11**

Develop the spatial data infrastructure and information systems necessary for delivering consistent and reliable soil information products as web services.

**Recommendation 12**

That Pillar Four supports the ongoing development and maintenance of three primary data sets central to the global soil information system (global soil grids, polygons and profiles) to be defined according to specifications responding to end user needs.

**Recommendation 13**

Update the current Harmonized World Soil Database and use it as the de facto standard soil grid for the world until better products are released.

**Recommendation 14**

The global soil grid is produced using a staged approach facilitated by the GSP's regionally based International Network of Soil Information Institutions, with short- and medium- term delivery dates including version 0 on World Soils Day in the International Year of Soils (2015) and Version 1 on World Soils Day in 2018, coinciding with the establishment of the fully operational Global Soil Information System.

**Recommendation 15**

Replace the FAO/UNESCO Soil Map of the World by completing the SOTER coverage for the world by incorporating the missing coverage from North America, Oceania and Europe using revised technical specifications.

**Recommendation 16 (Tier 1)**

Compile a large soil profile and analytical database for the world without the stringent requirement for a minimum data set (apart from geo-referencing and metadata) or representativeness.

**Recommendation 17 (Tier 2)**

Compile a database of harmonized soil profiles with comprehensive morphological, physical and chemical data that are globally representative of geographic regions, major soil types, or significant for other reasons. This dataset is a subset of the Tier 1 soil profile collection.

**Recommendation 18**

Encourage all GSP member countries to implement national monitoring with the capacity to detect soil change with time.

**Recommendation 19**

Undertake a feasibility study to identify investment priorities and design options for establishing a global system for monitoring and forecasting soil condition, and more specifically, explore how this can link to the FAO statistical system through the establishment of SoilStat.

**Recommendation 20**

A five-yearly report on global soil health is produced and endorsed by the Intergovernmental Technical Panel on Soils and it will be eventually informed by operational soil monitoring at global scale.

**Recommendation 21**

Supply information to existing global reporting mechanisms including the Sustainable Development Goals.



**Recommendation 22**

The ITPS will be responsible for development of the global soil information system and all operational aspects will be handled by a Pillar Four Management Committee. This committee will report directly to the ITPS and be chaired by a member of the ITPS. Members of this management committee will include representatives from an International network of Soil Information Institutions and a member of the GSP Secretariat.

**Recommendation 23**

A charter of ethics is developed for the global soil information system including protection of privacy of individuals and intellectual property rights.

## 6.5 Summary of Recommendations for Pillar Five Plan of Action

### Recommendation 1

As a mechanism for improving the comparability of soil data, all GSP members should adapt the scope of harmonization which includes legacy data as well as newly collected data, and which focuses on soil description, classification and mapping, soil sampling and analysis, exchange of digital soil data, and interpretation.

### Recommendation 2

The harmonization processes will follow the established principles for technical cooperation (commonality, inclusiveness, efficiency, multi-linguality) and operations (interoperability, extensibility, scalability)

### Recommendation 3

The implementation of the PoA under Pillar 5 will engage and be consistent with current standardization and harmonization activities, in particular those within the International Union of Soil Sciences (World Reference Base for Soil Resources, Universal Soil Classification, Soil Information Standards) and the International Standardization Organization (ISO TC 191 Soil Quality).

### Recommendation 4

Develop an over-arching soil description system designed to describe and explain soil features in a common and consistent manner to facilitate systematic application in all parts of the world.

### Recommendation 5

If no other national guideline for soil description is available, the FAO (2006) Guidelines for Soil Description shall be used. The guideline should be reviewed with the aim to develop it further as a new generic field book. Agreement on basic definitions and codes is required.

### Recommendation 6

The systems for soil classification and correlation at the international level can be either the World Reference Base for Soil Resources (WRB) or USDA Soil Taxonomy until a new standard system is released. To this end, the GSP supports the development of the new Universal Soil Classification System.

### Recommendation 7

Create a reference system for the integration of soil maps from different sources and ensure harmonized products meet the needs of users (e.g. for monitoring under Pillar 4).

### Recommendation 8

Review existing practices for field sampling, sample preparation and measurement (including laboratory standardization and QA/QC) and prepare specifications and guidelines for harmonized approaches to the determination of the main functional properties of soils (i.e. chemical, physical and biological).

### Recommendation 9

As a significant added value to the considerable investment embodied in existing soil data, the publishing of interoperable soil data via web services should be promoted in order to make soil data more readily accessible.

### Recommendation 10

To enable the exchange of digital soil-related data, agreement is reached on a global soil information model, vocabulary service and meta-data standards. Implementation of this model-driven architecture will be consistent with the aspirations of the global soil information infrastructure (under Pillar 4).

**Recommendation 11**

Support the development of indicators for monitoring the condition of soils and to assess the needs and effects of sustainable soil management.

**Recommendation 12**

Support the development of effective correlation procedures and evaluation functions.

**Recommendation 13**

Because of the similarity of institutions involved with Pillars 4 and 5, the global soil information management committee, as proposed under Pillar 4, shall be extended to cover also Pillar 5. Close liaison with IUSS and ISO working groups shall be sought.

## 6. 6 Implementation of the Plans of Actions

- 1) The consideration and endorsement by the Plenary Assembly (PA) of the Plans of Actions (PoAs) under the five Pillars is obviously a critical first step in what was envisaged by the partners as perhaps the most important contribution of the GSP, i.e. the implementation under all the Pillars of a (hopefully) large volume of concrete activities at field level in all regions and countries (as well as the necessary complementary global level work).
- 2) Hence, both the partners represented in the Assembly and the Secretariat should gear up to addressing the successive and even more challenging stage.
- 3) It may be useful to recall what the Annex to the agreed Rules of Procedure as relates to PoAs, specifies in anticipation of this second stage, i.e.:

“f) The Secretariat will invite Partners to suggest how they could contribute to implementation of the approved PoA and will develop an implementation plan together with the working group (which prepared drafts of the PoA, etc.).

g) Implementation will be coordinated and facilitated by the Secretariat in close consultation with the interested Partners.”

Turning the approved PoAs into fully-fledged Implementations Plans will therefore be one of the main preoccupations of the Secretariat in the immediate future. It is hoped that partners would also bear in mind the importance of this further stage. It is especially important that this stage is completed as quickly as possible so as to allow for implementation of concrete projects and activities at all levels.

- 4) In light of the above quote, assistance will need be provided in several ways:
  - globally, especially where the PoA intimates substantial actions of global nature, e.g. under Pillars 4 and 5, this is to be done, as described above, by the Secretariat continuing to interact with the various working groups towards the formulation of more precise implementation requirements at such level;
  - via the nascent Regional Soil Partnerships (cf. Document GSP 2/9) in order to help the concerned partners formulate implementation plans of regional scope under the various Pillars. In this case, it may be noted that some catalytic resources to support what can be intuitively expected as a quite intensive and demanding process, are available through the project approved by the European Commission (cf. Document GSP 2/7), but much more is certainly required;
- 5) by pursuing vigorous resource mobilization efforts with the donor community (cf. also Document GSP

### Suggested action by the GSP Plenary Assembly

- The Plenary Assembly may wish to:
  - emphasize the importance of this second phase of translating the approved PoAs into viable, well-resource implementation plans, and call on all GSP partners to give due attention to it and provide inputs as required, especially at regional level;
  - encourage the Secretariat to assist partners in the ways described above, especially on the implementation of these plans.