

# GLOBAL SOIL PARTNERSHIP: a global drive for soil awareness?



Ronald Vargas Rojas  
Aberdeen, 18 September 2013



GLOBAL SOIL  
PARTNERSHIP

# SOILS ARE IMPORTANT!

- Basis for the provision of food, fibre, fuel and medicinal products.
- Stores and releases water, both for plant grow and water supply.
- Greatest pool of soil organic carbon.
- Regulates carbon, oxygen and plant nutrient cycles (N, P, K, Ca, Mg, etc).
- Sustains biological activity, diversity and productivity.
- Habitat for seeds dispersion and dissemination of the gene pool.
- Central role in buffering, filtering and moderation of the hydrological cycle.
- Platform for urban settlement and as material for construction.



# PROVISSION OF ECOSYSTEM SERVICES BY SOILS



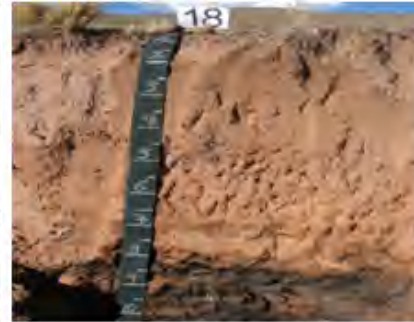
## Life support services

- The soil renews, retains, delivers nutrients and provides physical support for plants;
- It sustains biological activity, diversity, and productivity;
- The soil ecosystem provides habitat for seeds dispersion and dissemination of the gene pool for continued evolution.



## Provision services

- Soil is the basis for the provision of food, fibre, fuel and medicinal products to sustain life;
- It holds and releases water for plant growth and water supply.



## Regulating services

- The soil plays a central role in buffering, filtering and moderation of the hydrological cycle;
- It regulates the carbon, oxygen and plant nutrient cycles (such as N, P, K, Ca, Mg and S) affecting the climate and plant production;
- Soil biodiversity contributes to soil pest and disease regulation. Soil micro-organisms process and break-down wastes and dead organic matter (such as manure, remains of plants, fertilizers and pesticides), preventing them from building up to toxic levels, from entering water supply and becoming pollutants.



## Cultural services

- Soil provides support for urban settlement and infrastructure;
- In some cultures, soils may also be of specific spiritual or heritage value.
- Soils are the basis for landscapes that provide recreational value.

# SOILS ARE IMPORTANT!

We do not have to convince on this to the Soil Scientists but to the general public and the Decision makers/takers!

We need to change the common opinion about soils.....



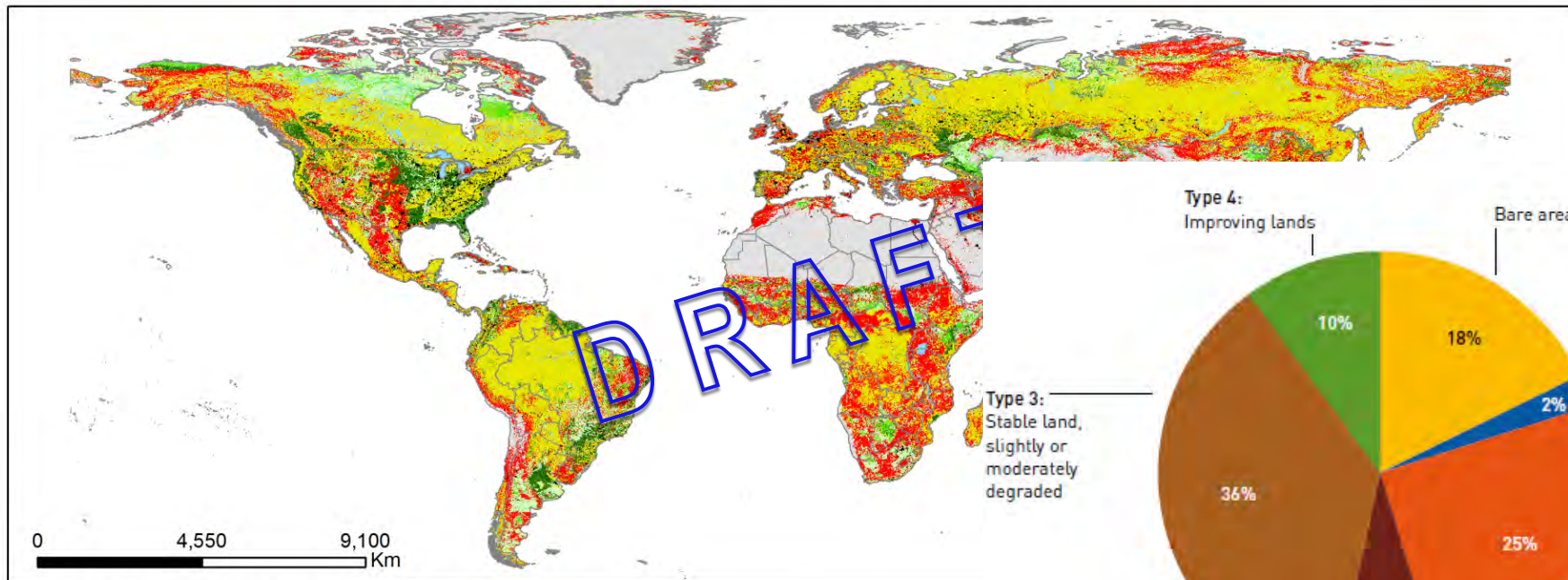
# GENERAL PERCEPTION ABOUT SOILS



- ☐ Soils are always there, not like water that once scarce, it has serious implications for life!
- ☐ Why to invest on soils if there is no visible needs such as in a drought?
- ☐ Soils just need some fertilizer and they will produce enough food.
- ☐ There are vast extensions of soils that could be used for many uses.

**“Because it is everywhere, we tend to overlook the fact that soil is a limited natural resource”.**

# Land degradation affects soil health



## Land degradation classes



Low status; Medium to Strong degradation

Low status; Weak degradation

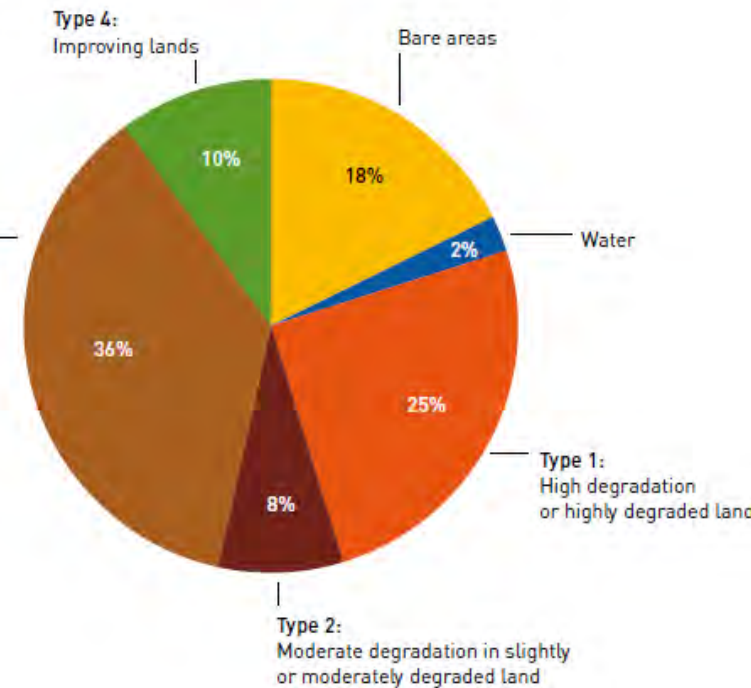
Low status; Improving

High status degradation

High status



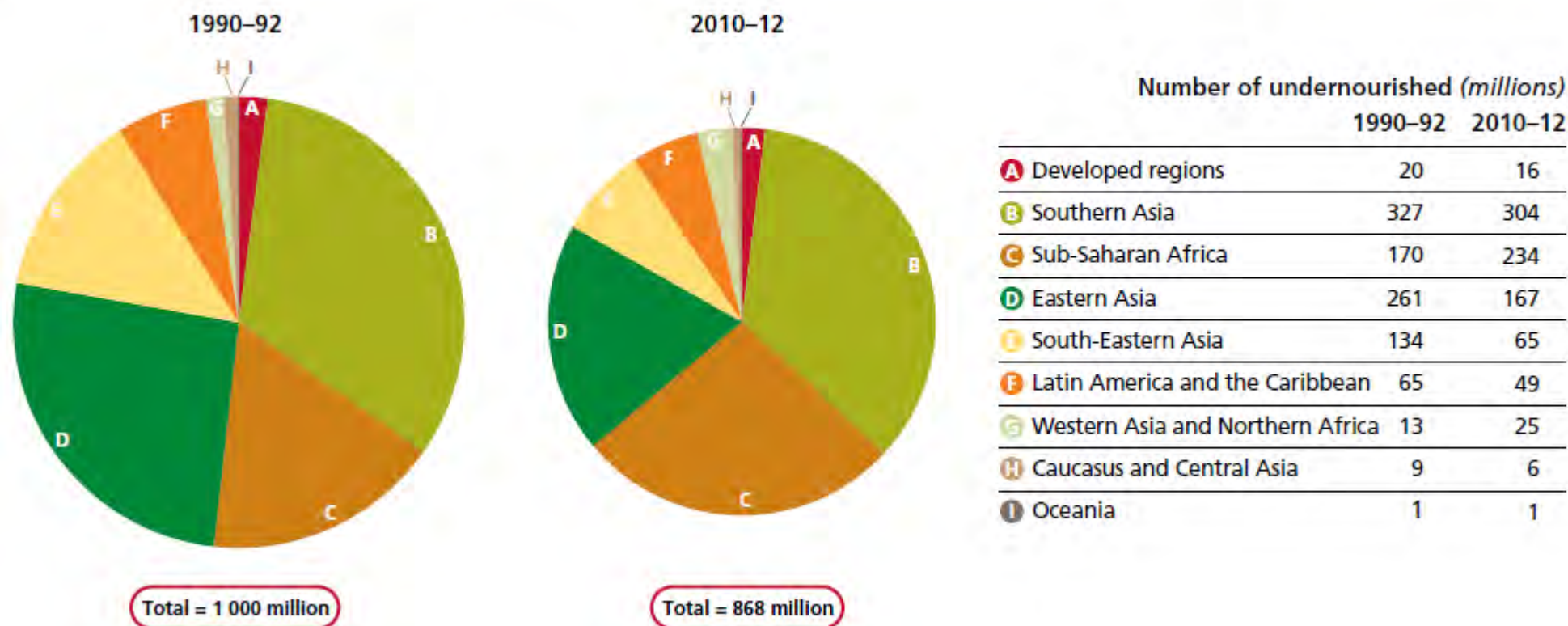
Source: F. O. Nachtergaele, M. Petri, R. Biancalani, G. van Lynden, H. van Velthuisen, M. Bloise, 2011. Global Land Degradation Information System (GLADIS) version 1.0. An Information database for Land Degradation Assessment at Global Level.



# STATUS ON FOOD INSECURITY 2012

FIGURE 4

The distribution of hunger in the world is changing  
Number of undernourished by region, 1990–92 and 2010–12



Note: The areas of the pie charts are proportional to the total number of undernourished in each period. All figures are rounded.  
Source: FAO.

# CHALLENGES AHEAD



Population growth

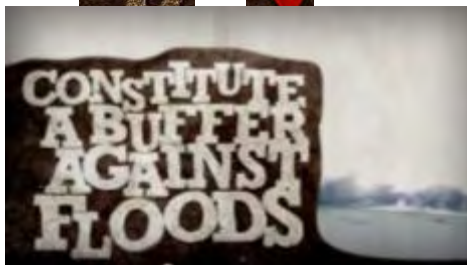
**+60%**

Globally increase on food production and also ecosystem services.....

Further Pressure on

**SOILS**

for



# ARE WE READY FOR THE CHALLENGE?



- **Awareness on the importance of soils is very poor.** Soils are everywhere symptom!
- Soil is a second priority in the decision making/taking processes.
- Investments on soils are far low of that required.
- Soil degradation continues and very limited efforts towards addressing it and restoring it are in place.
- Soil information is outdated and yet used to predict food production scenarios by 2050.

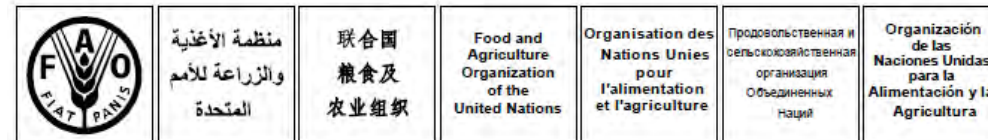
# GLOBAL SOIL PARTNERSHIP



GLOBAL SOIL  
PARTNERSHIP

# GSP Officially Approved by FAO MEMBER COUNTRIES

May 2012



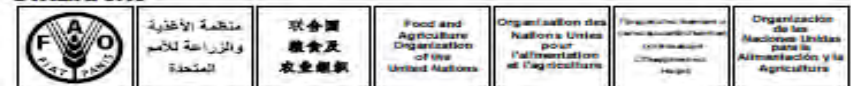
- During the last COAG 23 Session, the Committee, 193 member countries to FAO endorsed the establishment of the Global Soil Partnership, and welcomed the update provided by the Secretariat.

## COMMITTEE ON AGRICULTURE

29. The Committee endorsed the initiative of the establishment of the Global Soil Partnership, and welcomed the update provided by the Secretariat.
30. The Committee suggested the establishment of an Open-Ended Working Group to review the

CL 145/LIM/7 Rev.1

December 2012



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- At the 145 FAO Council the GSP ToRs have been approved and country members of FAO urged its implementation.

## COUNCIL

### Terms of Reference of the Global Soil Partnership (GSP)

#### 1. Background

1. Soil is the thin layer of material (organic and inorganic) on the Earth's surface that has been subjected to and influenced by environmental factors (parent material, climate, organisms, topography and time) providing the basis for plant establishment and growth and the provisioning of ecosystem services. Soil is a finite natural resource. On a human time-scale it is non-renewable. Soil is the foundation of agricultural development and sustainable development and provides the basis for food, feed, fuel, fibre, water availability, nutrient cycling, organic carbon stocks, biodiversity, and a platform for construction. The area of fertile soil is limited and is increasingly under pressure due to climate change and competing, unsuitable land uses, resulting in increasing degradation. Currently, 45% of the world's land is considered to be degraded. Urgent action is needed to reverse this trend. Healthy soils are required to feed the growing world population and meet their further needs. It is considered that this can only be ensured through a strong partnership which takes into account the existing initiatives and institutions.

2. During its Twenty-third Session which took place from 21 to 25 May 2011, the FAO Committee on Agriculture (COAG) endorsed the initiative for the establishment of the Global Soil Partnership.

3. The present Terms of Reference are based on the GSP Background paper prepared by a Technical Working Group composed of soil scientists established by FAO after the GSP meeting held from 7 to 9 September 2011. The Terms of Reference have been reviewed by an Open-Ended Working Group composed of Permanent Representatives which was set up upon COAG recommendation at its Twenty-third Session.

# Why a Global Soil Partnership?



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**SciVerse ScienceDirect**



## **Global governance of soil resources as a necessary condition for sustainable development**

Luca Montanarella<sup>1</sup> and Ronald Vargas<sup>2</sup>

In the current era of multiple crises, from food price, through climate change to economic failure, policy makers around the world are exploring opportunities to make a shift to a green economy. The international community is seeking new ways of developing the concept of sustainable development up to and beyond the Earth Summit in 2012, mainly with regards to practical ways for the coherent implementation of the three pillars of sustainability, moving away from trade-offs to synergies between the economic, social and environmental dimensions of development. Within that context, special attention to global soil resources should be paid, given that global soil resources constitute the basis for the provision of ecosystem services and at the same time those are limited and currently under pressure by various threats including competing land uses, such as energy production, housing and infrastructure, nature protection, mining and industrial activities. Future food security

### **Introduction**

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs [1]. Given the current population growth trends and the forecasted global population of more than 9.3 billion by 2050 [2], it seems a rather ambitious target to achieve. Non-renewable natural resources are being depleted at a rate that will certainly not allow future generations to meet their own needs, unless we adopt a new approach to the management of these resources. Sources of minerals, metals and energy, as well as stocks of fish, timber, water, fertile soils, clean air, biomass, biodiversity are all under pressure, as is the stability of the climate system. Whilst demand for food, feed and fiber may increase by 70% by 2050, 60% of the world's major ecosystems that help produce these



206. We recognize the need for ~~urgent action to reverse~~ land degradation. In view of this we will strive to achieve a land degradation neutral world in the context of sustainable development. This should act to catalyze financial resources from a range of public and private sources.



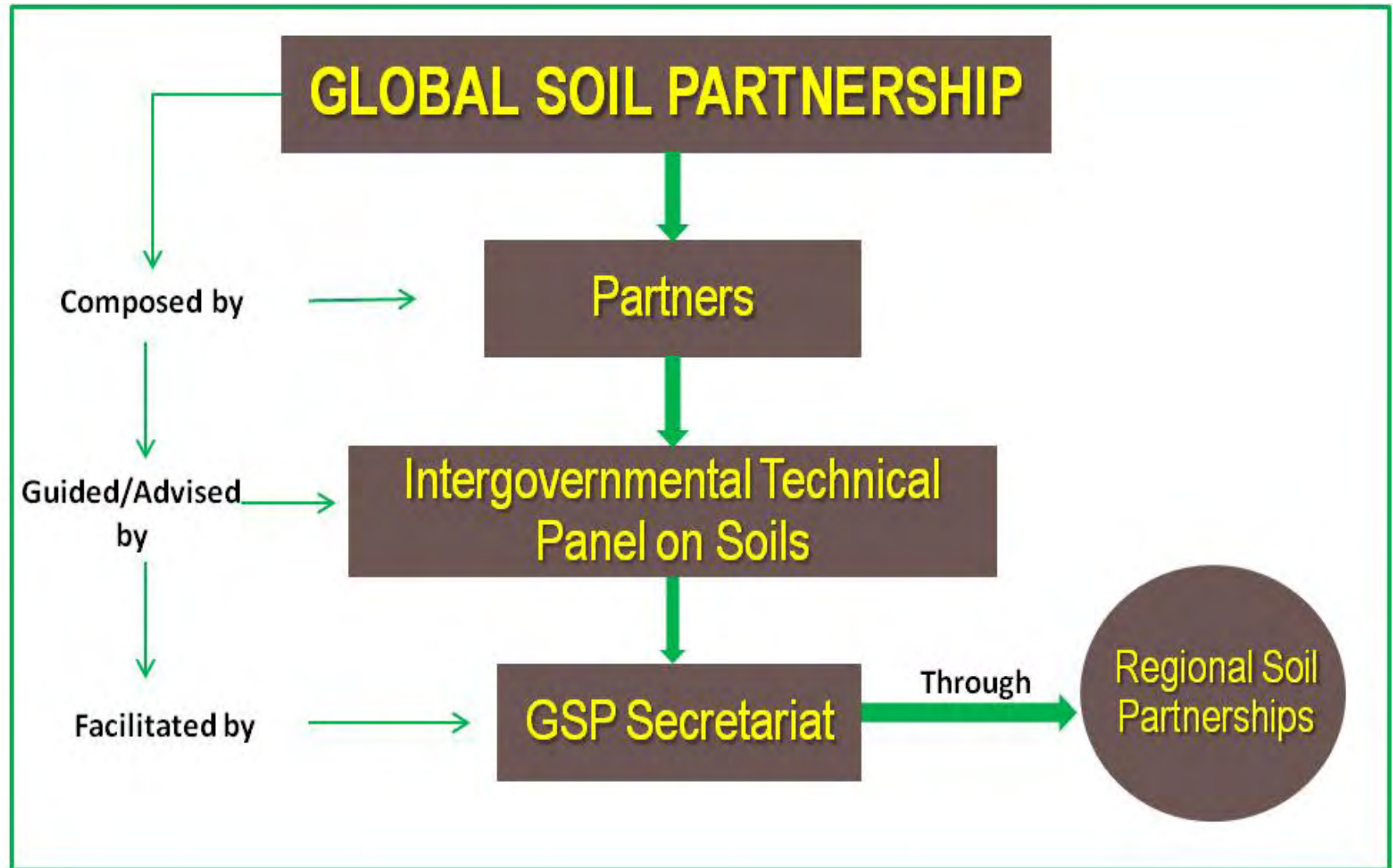
The global agenda provides a great opportunity for soil resources as its sustainable management is a key element for its achievement.



*Hunger can be eliminated in our lifetimes.*



# Structure of the GSP



# GSP Pillars of Action

1. Promote **sustainable management** of soil resources and **improved global governance** for soil protection 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, priorities and synergies among economic/productive, environmental and social dimensions;
4. **Enhance the quality and availability of soil data and information:** *collection, analysis, validation, reporting, monitoring, integration with other disciplines*;
5. **Harmonize and establish voluntary guidelines of methods, measurements and indicators** for soil protection and sustainable management.



# FIRST GSP PLENARY ASSEMBLY

The first GSP Plenary Assembly (11-12 June 2013, at FAO) was a milestone as a number of crucial decisions for supporting soils were taken:

- ❑ Approval of the Rules of Procedure of the GSP
- ❑ Establishment of the Intergovernmental Technical Panel on Soils
- ❑ Support towards the celebration of World Soil Day and the International Year of Soils 2015
- ❑ Establishment of the Healthy Soils Trust Fund
- ❑ Request for the development and implementation of Plans of Action: focus on SoilSTAT and Global Soil Information, establishment of two global programmes on Sustainable Soil Management and Restoration of Soils.



# WHAT IS ITPS ?

## INTERGOVERNMENTAL TECHNICAL PANEL ON SOILS

- The first **Plenary Assembly** of the Global Soil Partnership endorsed the list of **27 experts** and approved the establishment of the first Intergovernmental Technical Panel on Soils.
- Members of the ITPS are experts appointed for a term of **2 years** renewable for one additional term.
- **Aim:** provide scientific and technical advice and guidance on global soil issues primarily to the GSP, and in relation to specific requests submitted by global or regional institutions.



# FIRST MEETING OF ITPS: SUMMARY AND RESULTS

The first meeting of the Intergovernmental Panel on Soils was held at FAO Headquarters (Rome) on **22-26 July 2013**.

## Election of Chair:

- The Panel elected Dr. Luca Montanarella as Chairperson to serve for a period of two years.



**Item 7.1. Soils and the Post Rio+20 SDGs:** A brief on Soils has been prepared as an input for the Post 2015 process. A working group has been established for contributing to the ongoing process.

**Item 7.2 Support to the GSP Pillars of Action:** The Draft Plan of Action for Pillar 4 was endorsed by the ITPS. The remaining Plans of Actions will be developed following the agreed Rules of Procedure under the leadership of the Secretariat. Certain ITPS Members joined specific Pillars for contributing to the development of their Plans of action .

# FIRST MEETING OF ITPS: SUMMARY AND RESULTS

**Item 7.3 - Preparation of a work plan and timetable for updating the World Soil Charter:** A working group has been established for developing the new version of the **World Soil Charter**. The goal is to present the new version at the 39th session of the FAO Conference.

**Item 7.4 - Links between ITPS and existing technical and scientific advisory bodies like IPCC, IPBES :** ITPS requested the Secretariat to send a letter to UN Conventions and relevant UN organizations presenting the GSP and its ITPS as a mechanism that could contribute with scientific advice on soils to their different actions.

**Item 7.5 - Status of World Soil Resources Report :** ITPS agreed to prepare a first **World Soil Resources Report** by **2015** (International Year of Soils) and discussed options regarding its content.

ITPS-I/13/Report

## First Meeting of the Intergovernmental Technical Panel on Soils

Rome, Italy, 22 - 26 July 2013



Food and Agriculture Organization of the United Nations

# WORLD SOIL DAY AND INTERNATIONAL YEAR OF SOILS 2015

The 38<sup>th</sup> FAO Conference adopted the following Resolutions requesting that:

- ❑ 5 December be declared ***World Soil Day***
- ❑ 2015 be declared ***International Year of Soils***

For final endorsement at UNGA during these days.



# HOW TO RAISE AWARENESS?

- ❑ The GSP has raised awareness on soils as a critical component of various activities and agendas. But it is not enough and we need more to consolidate soils in the full development agenda.
- ❑ We should avoid trying to make soils the objective per se but showing the great potential contribution of soils to food security climate change adaptation and ecosystem services.
- ❑ Producing attractive material it is fundamental...



# PLAN OF ACTION FOR PILLAR 2

**Encourage investment, technical cooperation, policy, education awareness and extension in soils.**

❑ We need short, medium and long term awareness raising activities that will consolidate and position soils at the decision making level. But all the target groups should be addressed.

❑ Awareness raising, education on soils, should be linked to investment, policy and actions. We should demonstrate that taking actions on soils will generate an impact that will enter by the eyes.....



# SOIL AWARENESS IS A LONG TERM ACTIVITY

