Plenary Meeting of the Eurasian Soil Partnership (EASP)

10- 11 September 2014

Samarkand, Uzbekistan

Workshop Report

Abbreviations

ADB	Asian Development Bank
CACAARI	Central Asia and the Caucasus Association of Agricultural Research Institutions
CACILM	Central Asian Countries Initiative for Land Management
CGIAR	Consultative Group for International Agricultural Research
ECFS	Eurasian Center for Food Security
EASP	Eurasian Soil Partnership
FAO	Food and Agriculture Organization
GEF	Global Environmental Facility
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit
GLADIS	Global Land Degradation Information System
GM	Global Mechanism
GSP	Global Soil Partnership
ICARDA	International Centre for Agricultural Research in Dryland Areas
ICBA	International Centre for Biosaline Agriculture
IFAD	International Fund for Agricultural Development
ITPS	Inter-governmental Technical Panel on Soils of the GSP
IYS	International Year of Soils
LADA	Land Degradation Assessment in Drylands
MoA	Ministry of Agriculture
NGO	Non-Governmental Organization
RWSR	Report on Status of World Soil Resources
SDC	Swiss Development Cooperation
SLM	Sustainable Land Management
SOTER	Global Soil and Terrain Database
SSM	Sustainable Soil Management
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
USDA	United States Department of Agriculture
UZGIP	Design and Research Institute, Ministry of Agriculture and Water Resources of Uzbekistan
WB	World Bank
WOCAT	World Overview of Conservation Approaches and Technologies
WSD	World Soil Day (5 December)

Contents

1. Acknowledgements

This report was jointly prepared by the Eurasian Centre for Food Security (ECFS), serving as the Secretariat of EASP, and the Food and Agriculture Organization of the United Nations (FAO). The report was compiled by Iwona Piechowiak (FAO) and Maria Konyushkova (ECFS) and edited by Ines Beernaerts (FAO) and Pavel Krasilnikov (ECFS) .

The International Center for Biosaline Agriculture (ICBA), is gratefully acknowledged as co-organizer of this workshop. Finally, special thanks are addressed to Ronald Vargas, Vanja Maslovarik and Maryse Finka from the GSP Secretariat at FAO HQ for supporting the organization of this workshop.

2. Introduction

The Global Soil Partnership (GSP) is a major international initiative with a vision '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'. The Regional Soil Partnerships are to assist the GSP to move into concrete field action at regional, national and local levels through 'Implementation Plans'.

The Eurasian chapter of the Global Soil Partnership was successfully launched on November 20 2013 in Moscow, Russia (see www.fao.org/europe/sec/sec/12news/en/) with a final 'communiqué' appointing the Eurasian Center for Food Security (ECFS) as the Secretariat. The launch workshop was a first step to support the development of a dynamic community of practice of soil specialists and practitioners and paved the way towards an implementation plan for sustainable soil management and the reversal of alarming soil degradation trends in Eurasia with a preliminary identification of key soil issues.

GSP Plans of Action for Pillars 1, 2, 4 and 5 were endorsed during the second Plenary Meeting on 24 July 2014 in Rome, Italy. The Plenary urged for the imminent development of Implementation Plans at regional level and further implementation of actions. The first Plenary Meeting and Steering Committee Meeting of the Eurasian Soil Partnership (EASP) held in Samarkand, Uzbekistan from 10th September till 11th September 2014, in the framework of the International Conference on Arid Land Studies (ICAL2) on 'Food Security and Innovations in Arid and Semi-arid Agro-ecosystems' had for main objectives to introduce the endorsed Plans of Action for each of the five Pillars of the Global Soil Partnership (GSP), agree on the regional priorities, outline the process for finalizing the formulation of the EASP Implementation Plan, formalize the partnership and agree on the expected outputs for each of the five pillars with initial discussion about specific activities (e.g. celebration of World Soil Day and the International Year of Soils 2015).

The present workshop report summarizes the proceedings of the first Plenary Meeting and Steering Committee Meeting of the Eurasian Soil Partnership (EASP).

3. Day 1 - First regional plenary meeting of the EASP

There were two presentations introducing the GSP and the priorities of the EASP. Another presentation outlined results and lessons learned of Central Asian Countries Initiative for Land Management (CACILM 1), national priorities and process for the development of CALCIM2 project[1] and a concrete multi-country project proposal on salinity management under GEF6.

3.1. Status of the Global Soil Partnership

Ines Beernaerts (FAO Sub-regional Office for Central Asia) gave an overview of the current status of the GSP. She stated that soils, which are an essential component of land resources, are under pressure for feeding the growing population of the world by 2050 and sustain ecosystem services. The world population is projected to reach over 9 billion by 2050 and global food production is expected to increase by 60% by that time to feed all people. Since 95 % of food production is soils-based, world food security depends on fertile soils.

To address the challenges ahead, GSP was launched in September 2011 with the support of the European Commission. GSP was endorsed by FAO members during the 23th session of the committee on agriculture and 145 session of the FAO council. The mission of the GSP is 'to develop capacities, build on best available science and facilitate the exchange of knowledge and technologies amongst stakeholders for sustainable management of soil resources at all levels. The GSP support the restoration of degraded soils as a crucial input to the sustainable development agenda'.

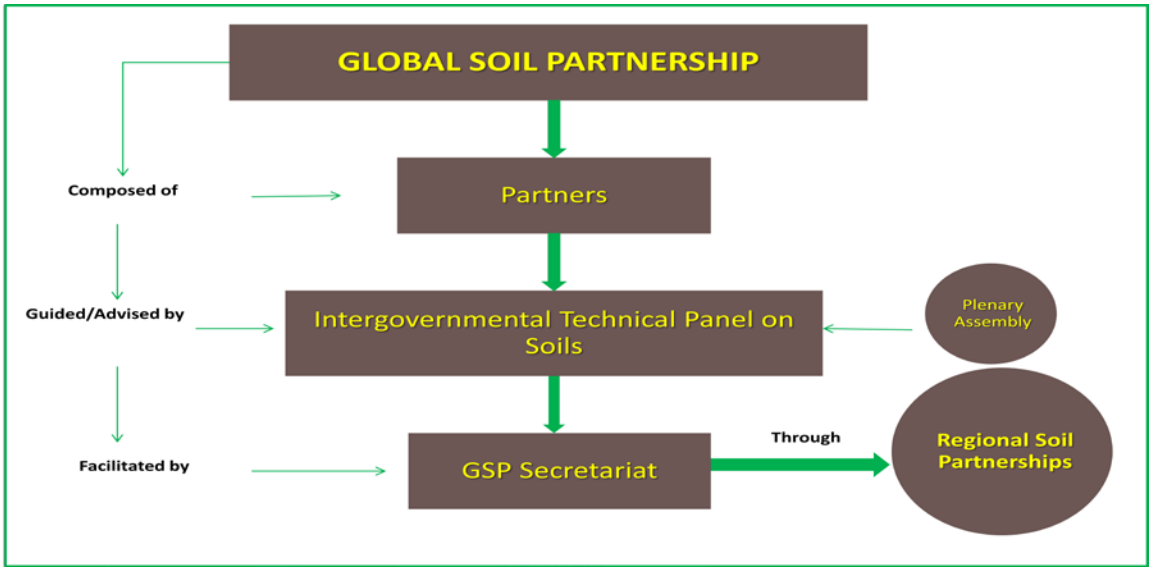

Figure 1 Structure of the Global Soil Partnership

The 'Structure of the GSP' is presented in Figure 1. The GSP is composed of partners, advised by the Intergovernmental Technical Panel on Soils of the GSP (ITPS), facilitated by the Secretariat

[1] CACILM -2 Integrated natural resources management in drought prone and salt-affected agricultural production landscapes in Central Asia and Turkey Project

and implemented by Regional Soil Partnerships. The establishment of the Inter-governmental ITPS was approved by the first plenary assembly (June 2013), with experts elected for a term of 2 years and having to report to the Plenary Assembly, with the aim to provide scientific and technical advice on global soil issues primarily to the GSP.

The GSP is composed of 5 Pillars of Action, see Figure 2. During the second GSP Plenary Assembly (22 - 24th July 2014), plans of Action for GSP pillar 1, pillar 2, pillar 4 and pillar 5 were endorsed by Member Countries.

GSP Pillars of Action

I. Promote sustainable management of soil resources and improved global governance for soil protection , conservation and sustainable productivity;
II. Encourage investment, technical cooperation, policy, education, awareness and extension in soils;
III. Promote targeted soil research and development focusing on identified gaps, priorities and synergies among economic/productive, environmental and social dimensions;
IV. Enhance the quality and availability of soil data and information: collection, analysis, validation, reporting, monitoring, integration with other disciplines;
V. Harmonization of methods, measurements and indicators for the sustainable management and protection of soil resources.

Figure 2 GSP Pillars of Action

In addition the following documents were endorsed: Guidelines for Regional Soil Partnerships; Plan of Action for the International Year of Soils (IYS) and plans for the celebration of World Soil Day 2014 and 2015; Healthy Soils Facility tool for mobilizing resources to support the implementation of Implementation Plans and, updated World Soil Charter; see Figure 3.

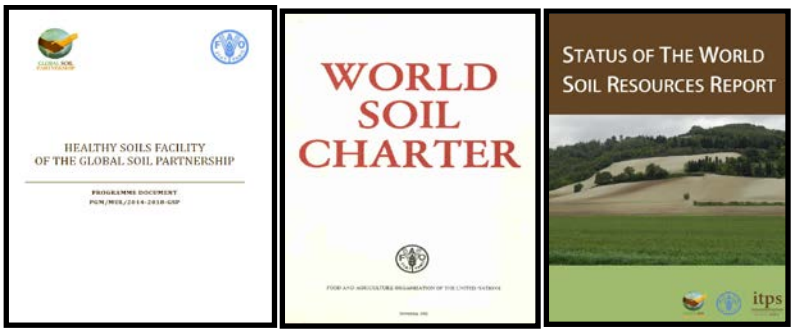

Figure 3 Healthy Soils Facility and World Soil Charter and status of the World Soil Resources Report documents

It is also worthwhile to note that, during the Second ITPS Session (7-11th April 2014), members agreed on the way forward for the production of the first version of the new "Report on Status of World Soil Resources (RWSR)", to be issued in 2015, and Soils Brief as contribution to the "Sustainable Development Goals and the Post 2015 process". Regional chapters on the status of soil resources in the regions will be an added value of this report and EASP is invited to indicate on how to produce this regional chapter for Eurasia. The report will be produced in a regular basis (every 3-5 years) and it will assist member Countries to establish baseline (2015) for the

proposed indicator ('Area of land /soils under sustainable land management') and monitor progress against the proposed target ('By 2030, 30 per cent increase in area of land in agriculture and forestry under sustainable management ensuring restoration of degraded soils, conservation of biodiversity, and increasing provision of productive, ecological and socio-cultural services'). Other sources of information to monitor progress include: GLADIS[2] and LADA- WOCAT mapping tool[3].

Discussions:

In the following discussion, the EASP Secretariat clarified that the Status of the World Soil Resources Report is being developed by the Intergovernmental Technical Panel on Soils (ITPS). As agreed by the Editorial Board, the first ever version of this report will be launched on 5 December 2015 as part of the International Year of Soils 2015 celebration. Apart from ITPS members, recognized soil scientists are invited to contribute to the different chapters of this report. It is expected that this report will become the official reference on global soil resources, therefore its development will follow a very strict and rigorous scientific process. The target audience of this report will be policy makers, decision takers, scientific and development communities and the general public.

In addition, the EASP Secretariat explained that the regional partnership is established among interested and active stakeholders and is based on common interests. The EASP partnership 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, the EASP 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.

3.2. Outcomes of the consultation for the priorities of the EASP

Pavel Krasilnikov (ECFS) gave an overview of the online consultation on Combating Soil Salinization in Eurasia which was initiated by the ECFS in collaboration with the World Bank. It took place between May 12 and June 6, 2014. The objective of this e-consultation was to generate a discussion on how best to promote sustainable management of soils subject to salinization in the Eurasian region (Russia, Central Asia and the Caucasus) in order to develop the Action Plan of EASP. The discussion also aimed to identify research gaps and strategies to increase awareness of the issue of soil salinization and attract investments for soil reclamation and improvement. The topics discussed during this e-consultation were related to 5 pillars of the Action Plan of the GSP and were formulated in the following questions:

[2] GLADIS - Global Land Degradation Information System:
www.fao.org/nr/lada/index.php?option=com_content&view=article&id=161&Itemid=113&lang=en
3 LADA- WOCAT (Land Degradation Assessment in Drylands: www.fao.org/nr/lada/ – World Overview of Conservation Approaches and Technologies www.wocat.net/):

Topic 1: How should soil management be improved to reduce soil salinization? What approaches and methods should be recommended for their efficiency, cost, and technical simplicity?

Topic 2: What is the best way to increase public awareness and knowledge on issues of soil salinization and improved soil management? What is needed to improve the knowledge and skills of agricultural extension workers to better manage soil health? What is needed in order to attract investments for soil reclamation and improvement?

Topic 3: What are the gaps in scientific knowledge that need to be closed in order to improve the management of potentially saline lands?

Topic 4: How should soil salinity be monitored by remote sensing and field methods? Is there a need for creating a dynamic database on soil salinity?

Topic 5: Do we need harmonized methods for quantifying soil salinity (concentration, electric conductivity, grades of salinity etc. in different systems)? Regional vs. global harmonization of data: what should be done with legacy data on saline soils?

On Topic 1 (soil management), the set of recommendations was proposed to mitigate soil salinization:

- improved land levelling
- improved drainage systems
- efficient use of fertilizers and irrigation water
- the use of biological methods for pest and plant disease control
- the inclusion of legumes in crop rotation; the use of green manure
- soil mulching with plant residues

On Topic 2 (public awareness and knowledge), the following recommendations were proposed:

- to prepare and disseminate the easy-to-understand papers and brochures among policy makers, farmers and the public
- to include a chapter on soil salinity in school books on nature science. Besides, at the level of higher education, the curriculum should include various aspects of the formation, reclamation and management of salt-affected soils
- for professionals and, in particular, for those involved in the agricultural production, to prepare a research digest ,report best practices for combating soils salinity in Eurasia and promote the use of yield-response to water model (e.g. AquaCrop 4.0[4]) to guide farm management strategies
- to disseminate the information on the benefits of investing in projects related to combating soil salinization among potential investors. It is also necessary to disseminate information about the economic costs of inaction
- to promote transboundary water resources management in order to ensure the effective management of water and soils containing high amounts of salts

[4] AquaCrop FAO crop-model to simulate yield response to water: www.fao.org/nr/water/aquacrop.html

- to include the training activity in the educational and extension programs for educators as well as to develop specialized training on rehabilitation and management of salt-affected soils

On Topic 3 (filling the gaps of knowledge), the following issues were identified:

- description and quantitative definition of waterlogging and soil degradation
- improvement of measurements for combating soil salinization such as salt leaching, reduction of seasonal salinization, etc.
- development of methods and predictive models for calculation of underground water inputs into water balance (and salt budget) including the ones with the use of stable isotopes

On Topic 4 (monitoring soil salinization), the following issues were discussed:

- the need for the use of remote sensing data for soil monitoring. Soil salinity can be estimated on the basis of monitoring bare soil surface or through the state of vegetation. The constraints of remote sensing methods were discussed
- the data bases of salt-affected soils should be prepared in the GIS media and geospatial information systems should include soil, hydrogeological and other maps
- the list of e-links on soil data bases was given including those prepared by FAO, European Space Agency, USDA Salinity Laboratory, and SOTER[5]

On Topic 5 (harmonization of methods), the following recommendations were proposed:

- to develop the new classification of salt-affected soils based on electrical conductivity and chemical composition of salts (as different salts are characterized by different levels of toxicity)
- to develop the calibration scales (nomograms) correlating the existing data on soil salinity assessed using different methods
- to initiate the work on harmonization of methods for soil salinity assessment aimed at knowledge share and collaboration between countries and regions

The e-consultation on Combating Soil Salinization in Eurasia covered a wide range of issues related to soil salinity and a holistic approach for salinity management at both farm and catchment scales needs to be adopted. Measures to combat soil salinity should be considered in conjunction with other measures aimed at ensuring the sustainable intensification of agriculture one of the pillars of food security. The solution of these interrelated problems will contribute to the welfare of the population, especially those whose lives are largely dependent on agriculture, including in the countries of Central Asia and the Caucasus. Further, the e-consultation has shown that international cooperation is necessary to attract and target investment in land and water resources and there is a need to recognize the high importance of activities to address the problems of soil salinity performed by non-governmental organizations, such as the regional soil partnerships and ongoing collaboration with organizations of the Consultative Group for

[5] SOTER Global Soil and Terrain Database : www.fao.org/nr/land/databasesinformation-systems/soter/en/

International Agricultural Research CGIAR participating in the Program on Water, Land and Ecosystems.

Discussions:

During discussion, the question about new standards of irrigation water quality was raised. It was concluded that the existing standards are quite outdated and do not correspond to the present state of knowledge. As a result, it was proposed to develop the updated standards of water quality used for irrigation. A proposal was made to use the modern technologies (upload video materials on youtube.com, use social nets etc.) to raise public awareness of the issues and activities performed by the initiative. During the following discussion it was planned that the action plan of EASP should be discussed and finalized in the next two months.

3.3. The development of CACILM2: Perspectives for cooperation.

Gulchekhra Khasankhanova (UZGIP) gave an overview of the first phase of Central Asian Countries Initiative for Land Management (CACILM I) supported by GEF, GM of UNCCD, GIZ, UNDP, ADB, ICARDA, FAO, UNEP, IFAD, and SDC. The first phase was performed in 2006-2011 and achieved the following results (i) 7 Laws and 8 by-laws developed and adopted with direct contribution of CACILM national projects (ii) more than 20 000 people trained through CACILM network and knowledge products (on-site training, Atlas of Natural Resources, etc.) (iii) 30 best SLM technologies and approaches documented and placed in global knowledge database (WOCAT) (iv) 5 National Financial Strategies for resource mobilization for SLM interventions and measures developed for further capitalization. Benefits and outcomes of the national projects were following: (i) improved communication, exchange of experience: broad participation and awareness of targets groups (science, responsible institutions, public society and local communities), network of national and regional SLM experts (ii) increased interaction of global Rio Conventions; understanding at the national level that the land is the link for climate change adaptation and biodiversity conservation (iii) data, information and lessons learned for new initiatives at national and global level (e.g. GEF/FAO Decision Support for Mainstreaming and Scaling up of SLM).

The second phase of CACILM (CACILM2) will be carried out within the framework of GEF Land Degradation Focal Area Strategy under GEF6. GEF Land Degradation Focal Area embraces the landscape approach to promote integrated natural resource management. The landscape approach defined according to the WB, as taking both a geographical and socio-economic approach to managing the land, water and forest resources that form the foundation – the natural capital – for meeting our goals of food security and inclusive green growth. Integrated natural resource management is conscious process of incorporating the multiple aspects of resource use into system of sustainable management to meet the goals of resources users, managers, and other stakeholders (e.g. production, food security, profitability, risk

aversion and sustainable goals[6]. One of the priorities of CACILM2 will be to promote salinity management across sectors at wide scales as agreed by the Eurasian country-partners during the sub-regional meeting (Moscow, 2013). Prospective Country – partners are Central Asian countries and other members of EASP states, with consideration of countries having already reported salinity management as a priority for technical assistance from FAO. The Multicountry Salinity Management project would aim at scaling up integrated landscape management in salt affected agricultural production systems to maintain natural resources and agro-ecosystem services in support of food security and livelihoods.

Discussions:

The representatives of Ukraine, Turkey, Kazakhstan, and Uzbekistan fully supported the proposals of CACILM2 project. The representatives of other countries agreed that the landscape approach is the optimal way for comprehensive management of soils, but had their specific comments related to national priorities of soil management. The representative of Armenia reported that the area of salt-affected and solonetzic soils in the country amounts to 30 thousand ha but their use is not profitable at present. The representative of Belarus has underlined the importance of actions aimed at sustainable use and management of waterlogged lands. The area of saline soils in this country is very low (80-100 thousand ha) and they are found only near salt extraction plants. The problem of soil dehumification is very acute in Belarus due to the active development of peatbogs (300 thousand ha of them have been destroyed; 65% of lands are subject to dehumification). The representative from the Novosibirsk Soil Research Institute in Russia has reported that for the main part Western Siberia the problem of soil salinization is not very significant. He indicated that the key priority of soil management in Western Siberia is the rehabilitation of anthropogenically and technogenically degraded soils. He underlined that salt-affected soils are wide spread in Western Siberia, but their use at present is not economically feasible, but these soils should be protected as the basis for soil and biodiversity of the region. The representative from Tajikistan reported that the main area of the country is occupied by mountains, that's why the key issues of soil management are related to soil erosion, but also agreed that the issues raised in the talk of Dr. Khasankhanova are very timely and relevant for the initiative of EASP. The representatives from Uzbekistan proposed to include the following issues into the program of activity: social and economic issues of soils management; bridging the interests of farmers and decision makers; food security issues; organic farming; biological methods of farming; rainfed farming; indigo plants; short-term crop rotation; anthropogenic degradation of soils including oil pollution. In general, the main proposal to be added to the ones reported in the talk of Dr. Khasankhanova was related to the

[6] Sayer J.A. and Campbell.B, 2004. Cambridge University Press

development of measures and indicators for assessment of soil degradation and pollution.

4. Day 2 – The meeting of the steering committee of EASP

Day 2 benefited from 5 presentations covering the Pillars 1-5 of the EASP. They are briefly summarised here and are available on the FAO GSP website: http://www.fao.org/globalsoilpartnership/en/

4.1. Presentation and discussion of the implementation plan for Pillar 1

PILLAR 1

Promote sustainable management of soil resources and improved global governance for soil protection , conservation and sustainable productivity

Ines Beernaerts gave an overview of Pillar 1 (Working Group 1). She started with defining Sustainable Soil Management (SSM) as *"Management practices that protect soil and enhance its performance for the production goods and provision of ecosystem services without degrading and impairing on- and off site functions of ecosystems" (World Soil Charter, GSP 2014)* and stated that scaling up and mainstreaming SSM is a priority for FAO at sub-regional level for increasing area of land /soils under sustainable land management. She provided information on (i) importance of promoting SSM (ii) Pillar1 Summary of recommendations, with specific reference to available guidelines for increasing SSM implementation and the GSP Logical Framework, Figure 4.

Recommendation 1: Appropriate sustainable soil management practices and systems should be identified for all land users at regional and national levels using existing knowledge, adapted according to site characteristics and land user needs, considering cost-benefit analyses and social impacts. These practices and systems should be implemented at appropriate scales to restore and maintain soil functions and ecosystem services.

Recommendation 2: In light of the primary importance of food security, sustainable agricultural 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 3: All barriers preventing the implementation or adoption of sustainable soil management practices and systems should be assessed and policy and technical solutions proposed to create and enabling environment for sustainable soil management.

Recommendation 4: A monitoring system should be developed to measure the progress of implementation of sustainable soil management practices and systems

Recommendation 5: A GSP should facilitate the development of a capacity building strategy amongst all stakeholders to promote the adoption of sustainable soil management.

Figure 4 Pillar 1 Summary of recommendations

Discussions and formation of working group 1:

Pavel Krasilnikov kicked the discussion by asking the participants to develop the working group. In the discussion that followed it was emphasized that: 1) the EASP working groups need to develop work plan referring to the countries needs and the participants recommendations and in framework of EASP 2) For each pillar constitute community of practice and the participants need to define which working group(s) (pillar) they want to join; participation in one working group doesn't exclude participation in another working group 3) The nominated working groups members will be involved in defining of the working group outputs and timeframe 4) Members of the working groups will be responsible for maintaining good collaborative relationship with their GEF Focal Points and FAO Representatives based in Rome, FAO HQ 5) leader of the working group will be responsible for organising work of the group. Hakki Emrah Erdogan (Turkey) presented his broad experience on SSM (including LADA and CALCIM projects) and expressed interest to lead the working group 1. The nomination was supported by all participating courtiers. The following participants expressed interest to join the group: K. Toderich (Uzbekistan), I. Kurganova (Russia), G.Khasankhanova (Uzbekistan), D. Akimaliev (Kyrgystan),G. Nekushoeva (Tajikistan), B.Suleimenov (Kazakhstan),V.Androkhanov (Siberia-Russia) and I. Beernaerts (FAO); see summary of the working groups member in Table 1. Hakki Emrah Erdogan (Turkey) invited members of the Working Group 1 at the Soil Science Conference in Antalya, Turkey, 13-17 October 2014, for defining specific outputs of the Pillar 1 as part of the EASP Implementation Plan.

4.2. Presentation and discussion of the implementation plan for Pillar 2

PILLAR 2

Enhanced enable environment for sustainable soil management, conservation and restoration of salt affected soils in different landscapes and production systems

Hakki Emrah Erdogan gave an overview of Pillar 2 (Working Group 2). He presented the background information, objectives and the major components of the Pillar 2. He provided detailed information on the World Soil Charter components such as education, public awareness, extension, investment and technical cooperation. Pillar 2 works towards a greater appreciation and understanding of the values of soils at all levels of society. He stated that in many countries, many of the principles of the FAO World Soil Charter have not or are not being applied and that as a response, GSP underlines that politicians and policy makers must take note of the total value of soil and how it is being utilized across their territories. He also requested to develop implementation plan for Pillar 2, that will design a mechanism for capacity development and technical cooperation on soils in the Eurasian region. He also stated there is a need to assess the available soils expertise, capacities and interests and respective gaps of both the private and public sectors. As a final comment, he called for a systematic public awareness raising campaign in our region on how soil relates to people's everyday lives. And that it should be brief and vivid messages for the society and decision makers, it should not be only as part of

the World Soil Day celebrations and during the forthcoming IYS in 2015, but also as a sustained long-term outreach and education programme.

Discussions and formation of working group 2:

In the discussion that followed, the participants shared their current experience on promoting Pillar 2 related components via their universities/research programmes and expressed readiness to provide strong support to the working group 2. I. Savin (Russia) was nominated as a group leader on behalf of the EASP Secretariat with the view to maintain good balance of the different countries involvement. The nomination was supported by all participating courtiers. The following participants expressed interest to join the group: A. Tashmatov (CACAARI), B. Dosov, (CACAARI), D.Kahraman (Turkey), G. Kust (Russia), H. Ahmadov (Tajikistan) L. Gafurova (Uzbekistan). In addition, Mr Botir shared with participants an invitation to a land and water resources management workshop Turkmenistan on the 5th December 2014 organized by ICARDA and partner research institutions in Central Asia.

4.3. Presentation and discussion of the implementation plan for Pillar 3

PILLAR 3

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

Prof. Sviatoslav Baliuk gave a presentation on the priority directions of saline soil research. He presented the background information on the inventory of saline land and ameliorative land fund and stated importance of 1) Improving of diagnosis, classification and agroecological typology of saline and alkaline soils; 2) Standardization (harmonization) of methods for determining the composition and properties of saline and alkaline soils; 3) Reviewing, updating and numeralization of map materials and their matching with the instance of FAO, WRB 4) Inventory of saline land and ameliorative land fund, determination of their quality and prospects of different usage directions. He also presented prediction of the saline soil evolution under the action of natural and anthropogenic factors and environmental aspects of the saline soil usage. He also drew attention to developing and approving an inter-state research program for saline soil (Research Action Plan of EASP) and creating the Technology Transfer Centers Network in the EASP participating countries for the dissemination of saline soil improving technology.

Discussions and formation of working group 3:

In the discussion that followed Ukraine was nominated as a focal country to generate and collect sustainable saline soil management technologies (available expertise and human resources). The participants proposed to use for this purpose the WOCAT database/methodology and Database on Soil Resources developed by Russia, Ukraine and Belarusia. The EASP Secretariat stressed importance of developing concrete action plans and to

specify indicators and expected results.Svyatoslav Baliuk (Ukraine) expressed interest to lead the working group3. The nomination was supported by all participating courtiers. The following participants expressed interest to join the group: J.Turok (ICARDA), E.Pankova (Russia), S.Ismail (ICBA),V. Chiriliuc (Moldova),Mzhalilova (Uzbekistan), B. Sonmez (Turkey), A.Baghadasaryan (Armenia)

4.4. Presentation and discussion of the implementation plan for Pillar 4

PILLAR 4

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

Prof. R. Kuziev gave a presentation on the Uzbekistan experience on data collection (generation), analysis, validation, reporting, monitoring and integration with other disciplines. He presented the step-by-step procedure of soil survey in Uzbekistan. He indicated that, at present, there is a demand from farmers in Uzbekistan for detailed soil survey of farms. First, the detailed mapping in 1:2,000 scale is performed. The data obtained during the survey are transformed in the formats of GIS (Karta-2003 Panorama) and transferred to farmers. These data include cartographic data (the map of soil quality, which includes the information on salinity levels and type of salinity) as well as attributive data (data bases on soil properties).At the next steps, the generalization of farm's maps is performed. As a result, the maps of districts – regions – and the whole republic are created. The soil maps of districts are used for location of crops and for designing of ameliorative measures. The new maps of Uzbekistan are given in the Atlas of soil cover of Uzbekistan (in Russian and Uzbek languages). The approach to soil monitoring performed in Uzbekistan was also overviewed in the talk of Prof. Kuziev. He indicated that the monitoring is being done according to geomorphic regions. The monitoring plots (100-200 ha) at agricultural lands where detailed soil survey is performed were chosen in typical geomorphic positions. The data of repetitive soil surveys are transferred to Ministries or Agencies for further decision making. It was proposed that the approach developed in Uzbekistan can be modified and then adopted for the whole Eurasian focus region.

Discussions and formation of working group 4:

In the discussion that followed it was emphasized that: 1) there is a strong need to invest in research on the soil pollution issues and the formation of EASP is timely 2) The participating countries have a lot of experience in soil mapping : Belarus stated that have broad experience in mapping of soil quality and feasibility of producing certain crops at various levels (district/regional) , Kazakhstan stated that have started soil mapping using GIS system (including soil saline maps), Moldova added that also have electronic soil maps. R. Kuziev expressed interest to lead the working group 4. The

nomination was supported by all participating courtiers. The following participants expressed interest to join the group: A.Charnysh (Belarus), I. Savin (Russia), A. Sorokin (ECFS),M. Sahin (Turkey), B.Suleimenov (Kazakhstan),V. Chiriliuc (Moldova), S. Baliuk (Ukraine)

4.5. Presentation and discussion of the implementation plan for Pillar 5

PILLAR 5

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

H. Ahmadov gave a presentation on the state and perspectives of development of harmonized methods, measurements and indicators for the sustainable soil management in the post-Soviet countries. The current state is predetermined by the following (i) soil survey and practices of sustainable management and protection of soil resources in the CIS countries were mainly carried out in 1960-1980s;(ii) since the 1990s, in many CIS countries soil surveys in regional and national level are no more carried out, and the methods of sustainable management and conservation of soil resources have been assessed on the basis of questionnaires developed by international organizations;(iii) the data mentioned above are the main source for land inventory, economic evaluation and monitoring;(iv) in Eurasian countries, numerous methods of SLM and soil-ecological monitoring have been developed for the sustainable management and protection of soil resources. The problems related to soil data collection, unification and harmonization are : (i)international organizations do not pay due attention to soil surveys (ii) lack of international institutions (Conventions, Councils, etc.) reliable for soils as the source of food production (ii) large volume of soil data (even in a single country) but scattered in different institutions, different formats and not harmonized with each other. Significant part of soil data has been lost. The following recommendations were proposed: (i) harmonization of SLM approaches developed by scientists and farmers; (ii) adoption of harmonized indicators of effectiveness of soil ecological monitoring and SLM practices; (iii) adoption of SLM practices and soil protection farming in broader scale; (iv) provision of control over land use and soil monitoring at different scales; (v) transfer of soil cartographic data into digital formats; (vi) harmonization and unification of soil data bases existing in different countries; (vii) development of collaboration in the field of digital soil mapping (DSM) and assistance to developing countries in DSM training

Discussions and formation of working group 5:

H. Ahmadov expressed interest to lead the working group5. The nomination was supported by all participating courtiers. The following participants expressed interest to join the group: M. Konyushkova (ECFS), G. Nekushoeva (Tajikistan), Hakki E. Erdogan (Turkey), S. Baliuk (Ukraine), A.Charnysh (Belarus), R. Kuziev (Uzbekistan)

Closing discussion:

The pillar 1-5 presentation were followed by a hour debate chaired by the EASP Secretariat of which the highlights are summarized here: (i) G. Khasankhanova expressed her concern about the extension of work required to collect, generate and monitor information from various groups. In response EASP Secretariat informed that at the current stage the participants should focus on establishment of working groups (include possibility of combining them) formation of modalities and analysis of needs for founds/projects. (ii) Mr Botir proposed that each country should be involved in the Pillar 4-5. The EASP Secretariat agreed on that and stated that only specific candidates instead of countries can join the working groups, furthermore the participants should encourage their institutions to join the groups as a active members. (iii) another discussion launched by the EASP about the development of Action Plans for the working groups it was stressed that concrete actions and timeframe need to be developed for each action plan.

4.6. Celebrations of World Soil Day and International Years of Soils

The following activities were proposed by the participants: seminars/lectures, paintings/posters contests, regional meetings, conferences, competitions for farmers, organic markets. It was also proposed to organise an annual EASP meetings in partner countries and if possible to link with regional soil science related conferences (e.g. Soil Science Conference in Antalya, Turkey, 13-17 October 2014) with the view to ensure active involvement of local stakeholders and further advocate for the EASP activities.In addition participants stressed the importance of the government's involvement, collaboration with international agencies and development of a working plan for both International Years of Soils and World Soil Day. Turkey stated that it will provide as an example a work plan for last year soil related events, including World Soil Day and Soil Week event.

4.7. Election of the Chair and Vice-Chair of the EASP for the period 2015-2016

With view to ensure equal participation and balance of countries involvement and functions, (Terms of Reference of the EASP), the EASP Secretariat nominated as a chair H. Ahmadov (Tajikistan) and as Vice-Chair G. Khasankhanova (Uzbekistan). The nomination was supported by all participating countries.

4.8. Workshop conclusion

Some 25 delegates, from Armenia, Belarus, Moldova, Russia, Ukraine, Turkey, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, participated in the Eurasian Soil Partnership meeting. Delegates included representatives of national soil institutions (e.g. governmental, academic and research institutions), regional organizations from Central Asia (e.g. ICARDA, ICBA) and Eurasian

Soil Partnership Secretariat - Eurasian Centre for Food Security (ECFS) supported by FAO SEC and FAO Tajikistan office.

The meeting concluded that the Steering Committee successfully formalised the Eurasian Soil Partnership. An agreement was reached on the regional working groups that will prepare plans of action of the five Pillars of the GSP, see Table 1. The participants agreed on the following work plan:

A. Working groups will prepare Action Plans with concrete filed actions, focusing on salinity management and other key issues, by 30th October 2014
B. EASP Secretariat with support of the GSP Secretariat and FAO (sub-Regional office for Central Asia and Representation Office in Tajikistan) will review the draft Action Plans by 04th December 2014
C. EASP will develop an online Forum

Various experts involved with soil salinity management illustrated new and interesting techniques that will accelerate the development of regional database of sustainable saline soils management technologies and supporting maps. The meeting heard several suggestions on data exchange and standardization.

During the forthcoming Soil Science Conference in Antalya, Turkey, 13-17 October 2014, members of the Working group 1 were also invited to contribute to the development of the project proposal on Salinity management "Scaling up of integrated landscape management in salt affected agricultural production systems to maintain natural resources and agro-ecosystem services in support of food security and livelihoods" under GEF6 as first concrete step of the "implementation plan".

Chair EASP	H. Ahmadov (Tajikistan)				
Vice-Chair	G. Khasankhanova (Uzbekistan)				
	Pillar 1	Pillar 2	Pillar 3	Pillar 4	Pillar 5
Chair	Hakki E. Erdogan (Turkey)	I. Savin (Russia)	Svyatoslav Baliuk (Ukraine)	R. Kuziev (Uzbekistan)	H. Ahmadov (Tajikistan)
Members	K.Toderich (ICBA), I. Kurganova (Russia), G.Khasankhanova (Uzbekistan), D. Akimaliev (Kyrgystan), G. Nekushoeva (Tagikistan), B.Suleimenov (Kazakhstan) V.Androkhanov (Siberia-Russia) I. Beernaerts (FAO)	A.Tashmatov (CACAARI), B.Dosov, (CACAARI), D.Kahraman (Turkey), G. Kust (Russia), H. Ahmadov (Tajikistan) L. Gafurova (Uzbekistan)	J.Turok (ICARDA), E.Pankova (Russia), S.Ismail (ICBA), V. Chiriliuc (Moldova), Mzhalilova (Uzbekistan), B. Sonmez (Turkey), A.Baghadasaryan (Armenia)	A.Charnysh (Belarus), I.Savin (Russia), A.Sorokin (ECFS), M. Sahin (Turkey), B.Suleimenov (Kazakhstan), V. Chiriliuc (Moldova), S. Baliuk (Ukraine)	M. Konyushkova (ECFS), G. Nekushoeva (Tajikistan), Haki E. Erdogan (Turkey), S. Baliuk (Ukraine), A.Charnysh (Belarus), R. Kuziev (Uzbekistan)
Secretariat	ECFS (P. Krasilnikov), with support of FAO HQ (R. Vargas) & FAOSEC (I. Beernaerts)				

Table 1 EASP working groups and members

Annexes

Annex 1. Workshop program

The Plenary Meeting of Eurasian Soil Partnership

10 of September 2014, 14.30-18.20

DAY 1

Samarkand University, Samarkand, Uzbekistan

14:30-18:20	**First Regional Plenary Meeting of the Eurasian Soil Partnership** **Chair**: Pavel KRASILNIKOV, Eurasian Center for Food Security **Co-chair**: Gulchekhra KHASANKHANOVA, UZGIP Institute, Ministry of Agriculture and Water Resources of Uzbekistan
14:30-14:45 14:45-15:00 15:00-15:30	Ines BEERNAERTS *(FAO, Ankara)* **Status of the Global Soil Partnership** Pavel KRASILNIKOV *(ECFS, Russia)* **Outcomes of the Consultation for the priorities of the Eurasian Soil Partnership** Gulchekhra KHASANKHANOVA **The development of CACILM2: Perspectives for cooperation. Outline of the project proposal on salinity management.**
15:30-16:00	Coffee break
16:00-16:20 16:20-17:50 17:50 – 18:10 18:10-18:20	Pavel KRASILNIKOV *(ECFS, Russia)* **Introduction and presentation of the framework of the Implementation Plan** **Working group presentations towards development of working plans for each pillars as part of the Implementation Plan** **Pillar 1:** Dzhamin Akimaliev, Kyrgyzstan **Pillar 2:** Bülen Sönmez or Hakki Erdogan, Turkey **Pillar 3:** Svyatoslav Balyuk, Ukraine **Pillar 4:** Ramazan Kuziev, Uzbekistan **Pillar 5:** Hukmatullo Akhmadov, Tajikistan Ines BEERNAERTS *(FAO, Ankara)* **Agreement on the way forward and roadmap for finalization of the Implementation plan** Ines BEERNAERTS *(FAO, Ankara)* **Concluding remarks**

DAY 2

The Meeting of the Steering Committee of Eurasian Soil Partnership

11 of September 2014, 9.00-13.30

Samarkand University, Samarkand, Uzbekistan

EURASIAN SOIL PARTNERSHIP

PROGRAM

9:00-9:30 presentation of the Rules of Procedure of the Eurasian Soil Partnership (Secretariat) followed by discussion

09:30-10:00 presentation and discussion of the Implementation Plan for Pillar 1 (moderated by Ines Beernaerts, EASP Secretariat)

10:00-10:30 presentation and discussion of the Implementation Plan for Pillar 2 (moderated by Bülent Sönmez, Turkey)

10:30-11:00 presentation and discussion of the Implementation Plan for Pillar 3 (moderated by Svyatoslav Balyuk, Ukraine)

11:00-11:30 Coffee-break

11:30-12:00 presentation and discussion of the Implementation Plan for Pillar 4 (moderated by Ramazan Kuziev, Uzbekistan)

12:00-12:30 presentation and discussion of the Implementation Plan for Pillar 5 (moderated by Hukmatullo Akhmadov, Tajikistan)

12:30-12:45 proposals of the EASP activities for celebrating World Soil Day and International Year of Soils (Secretariat)

12:45 -13:15 election of the Chair and Vice-Chair of the EASP for the period 2015-2016 and review of the 'ad hoc' steering committee

13:15-13:30 concluding remarks (Ines Beernaerts, FAO)

Annex 2 List of workshop participants

Country	Contact name	Title	Institute	Contact
Armenia	Dr. Artur Baghadasaryan	head of Department of Irrigation and Water Management	Ministry of Agriculture	baghart@rambler.ru; frdminagro@gmail.com
Belarus	Prof. Andrei Charnysh	Deputy Director	The Institute of Soil Science and Agrochemistry	brissa_secretary@mail ru
Kazakhstan	Prof. Beibut Suleimenov	Deputy Director	Institute of Soil Science and Agrochemistry (KazNIIPA)	beibuts@mail.ru
Moldova	Prof. Vladimir Chiriliuc	Senior Research Scientist	Institute of Soil Science	ipaps_oimo@mtc.md
Russia	Prof. Vladimir Androhanov	Deputy Director	Institute of Soil Science and Agrochemistry Siberian Branch of the RAN	androhan@yanolex.ru
Russia	Prof. Irina Kurganova	Leading Research Scientist	Institute of Physicochemical and Biological Problems in Soil Science, Russian Academy of Sciences	ikurg@mail.ru
Tajikistan	Iwona Piechowiak	Junior Natural Resources Management Officer	FAO Representation in Tajikistan	iwona.piechowiak@fao.org
Tajikistan	Prof. Hukmatullo Ahmadov	Head of Unit	Tajik Soil Science Institute, Agricultural Academy of Science in Dushanbe	ahmadov@yandex.com
Tajikistan	Dr. Gulniso Nekushoeva	Chief Specialist	Tajik Soil Science Institute, Agricultural Academy of Science in Dushanbe	guliso@mail.ru
Turkey	Hakki Emrah Erdogan	Project Coordinator	General Directorate of Agrarian Reform, Ministry of Agriculture of Turkey	hakki.erdogan@tarim.gov.tr
Turkey	Mr. Mehmet Sahin	Deputy General Director	Ministry of Food, Agriculture, and Livestock, Ankara	mehmet.sahin@tarim.gov.tr
Turkey	Dr. Bülent Sönmez	Head of Research Department	Ministry of Food, Agriculture, and Livestock, Ankara	bsonmez@tarim.gov.tr
Ukraine	Prof. Svyatoslav Baliuk	Director	Institute of Soil Science and Agrochemistry	oroshenie@ukr.net
Uzbekistan	Dr. Gulchekera Khasankhanova	Head of Soil Reclamation and Irrigation Department	Design and Research UZGIP Institute, Ministry of Agriculture and Water Resources, Tashkent	g.khasankhanova@mail.ru
Uzbekistan	Mrs. S. Bobokulova	Interpreter	ICARDA	s.bobokulova@cigar.org
Uzbekistan	Mr. Botir Dosov	Technical Advisor	CACAARI/ICARDA	dosov.b@gmail.com

Uzbekistan	Prof. Ramazan Kuziev	Director	Research Institute of Soil Science and Agro chemistry	Tel.: +998 712 460263/460950
Uzbekistan	Prof. Laziza Gafurova	Vice-Rector	National University of Uzbekistan,	glazizakhon@yandex.ru
Uzbekistan	Mr. Shoaib Ismail	Acting DRI	ICBA	s.ismail@biosaline.org.ae
Eurasian Soil Partnership (EASP) Secretariat /Russia	Prof. Pavel Krasnikov	Head of Department of Land Resources	Eurasian Center for Food Security, Lomonosov Moscow State University	krasilnikov@ecfs.msu.ru
Eurasian Soil Partnership (EASP) Secretariat /Russia	Aleksey Sorokin	Research Officer	Eurasian Center for Food Security, Lomonosov Moscow State University	alexey.sorokin@ecfs.msu.ru
Eurasian Soil Partnership (EASP) Secretariat /Russia	Julia Golovleva	Research Officer	Eurasian Center for Food Security, Lomonosov Moscow State University	julia.golovleva@ecfs.msu.ru
Eurasian Soil Partnership (EASP) Secretariat /Russia	Dr. Maria Konyshkova	Leading Research Scientist	Eurasian Center for Food Security, Lomonosov Moscow State University	konyushkova@ecfs.msu.ru
Eurasian Soil Partnership (EASP) Secretariat /Turkey	Ines Beernaerts	Land and Water Resources Officer	FAO UN Subregional Office for Central Asia (SEC)	ines.beernaerts@fao.org

Annex 3 Terms of Reference of the Eurasian Soil Partnership

1. Background

Terms of Reference of the Eurasian Soil Partnership (EASP)

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, 46% 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 2012, the FAO Committee on Agriculture (COAG) endorsed the initiative for the establishment of the Global Soil Partnership.

3. The Terms of Reference of the Eurasian Soil Partnership (EASP) are based on the Terms of Reference of the GSP and Guidelines for the establishment and consolidation of Regional Soil Partnerships. In their turn the Terms of Reference of GSP were 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. The Guidelines for the establishment and consolidation of Regional Soil Partnerships were endorsed by the Second Plenary Assembly of the GSP 22-24 of July 2014.

2. Nature

4. The Eurasian Soil Partnership (EASP) is a voluntary initiative and does not create any legally binding rights or obligations for its partners or for any other entity under domestic or international law.

5. The EASP recalls Principle 2 of the Rio Declaration on Environment and Development which provides 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 environments of other States or of areas beyond the limits of national jurisdiction.

3. Mandate

6. The mandate of the EASP is to improve governance of the limited soil resources of the region in order to guarantee healthy and productive soils for a food secure world, as well as support other essential ecosystem services, in accordance with the sovereign right of each State over its natural resources. The EASP should become an interactive and responsive partnership.

7. The EASP will also develop awareness and contribute to the development of capacities, build on best available science, and facilitate/contribute to the exchange of knowledge and technologies among stakeholders for the sustainable management and use of soil resources.

4. Objectives

8. Through enhanced and applied knowledge in soil resources, the EASP will:

a) create and promote awareness among stakeholders on sustainable soil management as a precondition for human well being;
b) address critical soil issues that are globally and regionally relevant for sustaining the provision of ecosystem services through soils, giving due consideration to links with water and other resources;
c) support the acquisition of relevant soil knowledge and the implementation of targeted research in accordance with national conditions and needs to address applied challenges on the ground;
d) promote links between existing multilateral initiatives and bodies to advance knowledge and scientific understanding of soil issues, capture synergies, while taking into account the existing and ongoing works and efforts that are being undertaken at the multilateral level, and without duplicating or prejudging the work under the competent fora.
e) develop sustainable soil management guidelines for the different soils considering their potentials and limitations, while taking into account national specificities and partners' development objectives and decisions;
f)promote access to soil information and advocate the need for new soil surveys and data collection;
g) promote investment and technical cooperation (including technology transfer) in all related soil matters to address fundamental issues in different regions;
h) promote institutional strengthening and capacity development of soil institutions at local, national, regional and interregional levels; and
i) promote the necessary public and government awareness of soils through recognition of a World Soil Day and celebration of an International Year of Soils.

5. Composition and Governance

9. Governance of the Eurasian Soil Partnership is proposed to be composed of the following elements:

5.1 Partners

10. The EASP is a voluntary partnership, open to governments, international and regional organizations, institutions, and other stakeholders.

5.2 Steering Committee

11. Steering Committee that consists of the representatives of Partners is the main governing body of the EASP that reports directly to the Plenary Assembly of Global Soil Partnership (GSP).

12. The number of the members of Steering Committee is not strictly limited, but should be in the range between 5 and 10 members to keep this body operational. The members of the first Steering Committee shall be appointed by the Plenary Assembly for a term of 2 years; the rotation of the members of the Steering Committee, complete or partial, should be done basing on the suggestions of the Partners.

13. The meetings of the Steering Committee are organized annually. The Steering Committee is leaded by the Chair of the EASP assisted by the Vice-Chair and facilitated by the Secretariat of the EASP.

5.3 Chair and Vice-Chair of EASP

14. The EASP is leaded by the Chair who is appointed by the Steering Committee for a term of two years without possibility for extension of this term. The main duties of the Chair are coordination of the sessions of the Steering Committee and promotion of EASP including actions related to the celebration of the International Year of Soils and World Soil Day. The Chair is assisted by Vice-Chair who is also appointed for a term of 2 years without posiibility to extend the service.

5.4 Secretariat of EASP

15. The Secretariat of EASP is appointed by the Steering Committee. It should be hosted by a national or international institution that is willing to provide in-kind support for the activities of the Secretariat. The main function of the Secretariat is to facilitate the implementation of the EASP actions.

5.5 Plenary Assembly

16. The EASP Plenary Assembly will meet only once for establishing the Partnership and appointment of the first Steering Committee. However, the Steering Committee may call for a Plenary Assembly if some important issues of strategic planning require broad discussion and contribution of all the partners.

6. Financial Implications

17. Financial implications of the EASP rely on the principle of "partnership". Each EASP partner may contribute with different inputs to the successful implementation of the EASP.

18. FAO will lead the EASP implementation process. Extra-budgetary funds will be mainstreamed to support implementation of EASP actions at regional and national levels.