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24–25 May 2023, Tashkent, Uzbekistan

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Tashkent, Uzbekistan, 24–25 May 2023

Report prepared by the secretariats of the Eurasian Soil Partnership and the Global Soil Partnership.

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Vice-Chair: Alexander Chervan (Belarus)

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Executive Secretary: Pavel Krasilnikov (the Russian Federation)

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Acronyms

CA	Central Asia
CACILM	Central Asian Countries Initiative for Land Management
EASP	Eurasian Soil Partnership
ECFS	Eurasian Centre for Food Security of Lomonosov Moscow State University
ENPARD	European Neighbourhood Programme for Agriculture and Rural Development
EUROSOLAN	European and Eurasian Soil Laboratory Network
FAO	Food and Agriculture Organization of the United Nations
Fertilizer Code	The International Code of Conduct for the Sustainable Use and Management of Fertilizers
NFP	National Focal Point
GEF	Global Environment Facility
GBS map	Global Black Soil Distribution Map
GLOSI	Global Soil Information System
GLOSOLAN	Global Soil Laboratory Network
GSOCmap	Global Soil Organic Carbon map
GSOCseq map	Global Soil Organic Carbon Sequestration Potential Map
GSOC-MRV Protocol	Protocol for measurement, monitoring, reporting and verification of soil organic carbon in agricultural landscapes
GSP	Global Soil Partnership
GSASmap	Global Map of Salt-affected Soils
GSERmap	Global Soil Erosion Map
GSNmap	Global Soil Nutrient and Nutrient Budgets maps
INBS	International Network on Black Soils
INSAS	International Network of Salt-Affected Soils
INFA	International Network on Fertilizer Analysis
INSII	International Network of Soil Information Institutes
INSOP	International Network on Soil Pollution
LDN	land degradation neutrality
NETSOB	International Network on Soil Biodiversity
RECSOIL	Recarbonization of global agricultural soils
RUSOLAN	Russian Soil Laboratory Network
SIS	soil information system
SSM	sustainable soil management
SSM Protocol	Protocol for the assessment of Sustainable Soil Management
SLM	sustainable land management
SWSR	Status of the World Soil Resources
VGSSM	Voluntary Guidelines for Sustainable Soil Management
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
WG	working group

General description of the meeting

The **sixth Plenary Meeting of the Eurasian Soil Partnership (EASP)** took place on 23 to 24 May 2023, at the Tashkent City Palace Hotel in Tashkent, Uzbekistan, in a hybrid format (in-person and virtually). The meeting was jointly organized by the Secretariat of the Global Soil Partnership (GSP) of the Food and Agriculture Organization of the United Nations (FAO), the EASP, and the FAO Country Office in Uzbekistan with the financial support of the Ministry of Foreign Affairs of the Russian Federation.

The meeting was attended by the EASP national focal points (NFPs) and representatives of nine countries of Eurasia: Azerbaijan (online), Armenia, Belarus, Georgia (online), Kazakhstan, the Republic of Moldova, the Russian Federation, Türkiye (online) and Uzbekistan (see Annex 1: List of participants). The programme of the meeting can be found in Annex 2.

On the first day, the EASP regional facilitator, Natalia Rodriguez Eugenio, presented a report of the status of the GSP and the main activities under the new GSP Action Framework for 2022-2023, which are of interest to the Eurasian region. The main topic of discussion was the transition from the five GSP pillars of action (Pillars) to six action areas (Action Areas). The executive secretary of the EASP, Pavel Krasilnikov, presented the general report on the activities of the EASP for 2019–2022, dividing the results into the six Action Areas. After the statement, two reports were made on the results of the most extensive activities of the EASP: the Global Soil Laboratory Network (GLOSOLAN) activities (Elena Shamrikova) and capacity building for the creation of national soil information systems (Oleg Golozubov). Then the NFPs presented country reports on GSP activities (reports from Armenia, Belarus, Kazakhstan and the Republic of Moldova were made in person, with those from Georgia, Türkiye, and Uzbekistan being online). The presentations were accompanied by informative discussions.

The second day of the meeting began with a discussion of the ways to adapt EASP to the new GSP Action Framework for 2022-2030 (Natalia Rodriguez Eugenio) and how to identify priority steps for current GSP activities. Further presentations were made online, with an example of regional cooperation such as the *Integrated natural resources management in drought-prone and salt-affected agricultural production landscapes in Central Asia and Turkey* (CACILM-2) project (Makhmud Shaumarov, online), new funding opportunities like the Global Environment Facility (GEF)-8 (Maria Cruz Ferro Vasquez) and other FAO projects in the region related to soil (Tania Santivanez).

The EASP working plan for 2023–2025 was prepared by the EASP Secretariat in accordance with the new GSP Action Framework for 2022-2023, considering regional interests, the current situation in countries, and the urgent needs identified during the meeting. The work plan was adopted after detailed discussion and can be found finalized in Annex 3 in the form of a table, containing the main planned outputs and actions, responsible executives, timeframes and preliminary budget.

The Tashkent Communiqué was adopted, which fixed the obligations of the members of the Eurasian Soil Partnership for 2023–2025, as well as the results of the election of the new leadership of the EASP. Murat Temirzhanov, NFP of Kazakhstan, was elected as the new Chair, and Alexander Chervan, NFP of Belarus, was elected as Vice-Chair.

Zoom recording of the event is available at the following links:, [23 May 2023](#) access code: 71g&t?vn; [24 May 2023](#) access code: Tyy5A*J^.

The Sixth EASP Plenary Meeting was held in parallel with [the Second Meeting of the International Network of Salt-Affected Soils \(INSAS\)](#). The programme of the INSAS meeting included an international workshop on *Managing salt-affected soils for a sustainable future*, technical meetings of INSAS and GLOSOLAN, training on analytical studies of saline soils, the use of hydrological models for the assessment of the transfer of soluble substances, and the use of soil scanners based on electromagnetic induction including processing of the data obtained by them (software product EM4Soil) for the creation of digital soil properties maps.

The field trips to the bottom of the former Aral Sea, the reforestation site of the International Aral Sea Basin Innovation Center (IICAS) (Muynak) and the pilot site of the Scientific and Technical Research Partnership for Sustainable Development (SATREPS), were held for the participants of the INSAS and EASP meetings, where experiments on the application of halophytes for the restoration of saline soils were conducted (Karabuga). The events received wide coverage in the media (see References).

1 Welcoming remarks and *tour de table*

Pavel Krasilnikov opened the event with a welcoming speech, thanked the GSP Secretariat and the host country: Uzbekistan, recalled the Fifth EASP Plenary Meeting held in Chisinau, the Republic of Moldova, in 2019, and outlined the main areas of work of the current meeting. He also noted that the GSP had changed the way it worked. In accordance with the new [GSP Action Framework 2022-2030 \(FAO, 2022\)](#), it was necessary to make the transition from the five Pillars to the Action Areas.

Natalia Rodriguez Eugenio, welcomed participants on behalf of the GSP Secretariat, expressed gratitude to the Government of Uzbekistan and the FAO office in Uzbekistan represented by Sherzod Umarov for organizing the meeting.

Sherzod Umarov, FAO Representative Assistant in Uzbekistan, delivered a welcoming speech.

Pavel Krasilnikov thanked colleagues for the participation and invited everyone to introduce themselves.

The list of attendees is given in Annex 1. Two participants, the NFP of Georgia, Ekaterina Sanadze, and the NFP of Uzbekistan, Shovkat Kholdorov, attended online.

After the participants got acquainted, Natalia Rodriguez Eugenio declared the meeting open and suggested moving on to the agenda.

2 GSP developments of regional interest (Natalia Rodriguez Eugenio)

Natalia Rodriguez Eugenio presented a report on the status of the GSP and its main activities under the new Action Framework 2022-2030.

At present:

- 164 NFPs represent their countries in the GSP, more than 500 partner organizations and members from different countries (the last list is constantly being actively updated);
- there are seven regional partnerships;

- four subregional partnerships in Europe: the Alpine Soil Partnership, the EASP, the Pyrenean Soil Partnership and the Western Balkan Soil Partnership; and
- fourteen national soil partnerships (Brazil, Colombia, Costa Rica, Cuba, Italy, Mongolia, Malawi, Nicaragua, the Philippines, Portugal, Slovakia, Slovenia, Thailand, and Ukraine).

The new Action Framework 2022-2030 was adopted by the GSP Plenary Assembly in 2022. It was noted that there was a transition from GSP Pillars to Action Areas because the Pillars were too ambitious and hard to achieve. New work plans now include specific activities, targets and indicators.

At the plenary, it was determined which activities are most important in the Eurasian region to achieve the objectives outlined in these Action Areas.

It was noted that the main goal of the GSP was to improve and maintain the health of at least 50 percent of the world's soils by 2030. While it was an ambitious goal, she reiterated that every effort must be made to achieve it to preserve fertile soils for future generations.

Natalia Rodríguez Eugenio then briefly presented the main activities under the new Action Areas.

Action Area 1: Manage sustainably and restore soils for the provision of ecosystem services

One of the main activities in this area is the *Recarbonization of global agricultural soils* ([RECSOIL](#)) initiative. The importance and relevance of the initiative to restore the carbon content of agricultural soils is due to the ability of soils to sequester atmospheric carbon, helping to reduce the climate change. Using sustainable practices, soils can absorb up to 2.05 tonnes of CO₂ per year and offset up to 34 percent of global greenhouse gas emissions from agriculture annually. But this can only be achieved through the interaction of different climate change mitigation strategies in agriculture, such as proper fertilizer management, animal manure management, fire management, and crop storage. This implies the implementation of best practices by farmers to maintain and increase soil organic carbon (SOC) stocks and reduce greenhouse gas emissions, as well as to improve soil health and co-benefits (ecosystem services), if possible, and inclusion in carbon markets at the national or international level.

The RECSOIL initiative is supported by the Global Soil Organic Carbon Map (GSOCmap), and technical documents such as [the Voluntary Guidelines for Sustainable Soil Management \(VGSSM\)](#), [the International Code of Conduct for the Sustainable Use and Management of Fertilizers](#) (Fertilizer Code), the Recarbonizing global soils- A technical manual of recommended management practices, [Manual for the Implementation of the Soil Doctors Global Programme at the country level](#), as well as the [Protocol for the assessment of Sustainable Soil Management](#) (SSM Protocol), [A protocol for measurement, monitoring, reporting and verification of soil organic carbon in agricultural landscapes](#) (GSOC-MRV Protocol) and other FAO GSP reports and documents.

To date, the RECSOIL initiative has been implemented in the countries of the Caribbean region and in sub-Saharan Africa, but there is already an agreement to implement the project in countries of other regions. Among the EASP countries, Kazakhstan and Uzbekistan will soon join the RECSOIL initiative.

Action Area 2: Strengthen soil governance

To support soil management, FAO has developed key documents such as VGSSM, the Fertilizer Code and the [Revised World Soil Charter](#).

Active work is carried out within the framework of the preparation of the [Status of the World's Soil Resources: Main Report](#) (SWSR). This FAO flagship report is the only document in the world that provides a summary of the state of knowledge of all the world's soils and the main threats to them. The GSP is currently preparing the second edition of this report, which is scheduled for release in 2025. The second edition will be more geared towards decision-makers and politicians. Therefore, it is very important to involve ESAP experts in this issue.

An important tool for SSM is the [SoiLEX platform](#), which contains national legal and regulatory documents related to soil. It is necessary to know the existing normative framework to implement SSM practices.

About 30 countries have specific soil legislation (state, local and regional laws relating to soil conservation and SSM). Only 17 countries have systematic national regulation, less than 10 percent of the 194 FAO member countries.

Action Area 3: Promote knowledge and literacy on soils

In this area, the main activity of the GSP is the Global Soil Doctors Programme, a farmer-to-farmer training initiative for farmers, implemented by local volunteers with the support of the GSP. Farmers are trained using SSM practices, general knowledge about soil and soil degradation processes and pass this knowledge on to other farmers in the community. "Soil doctors" receive training kits and posters, training tasks have been developed.

This programme is being successfully implemented in many countries, including Kazakhstan. More than 1 000 farmers were trained in the field in one year on SSM practices, necessary as online training is not a viable option. The programme was ready to be launched in 2020, but because of COVID-19, training took place in 2022.

The technical guide for policymakers and field practitioners [Addressing gender equity in sustainable soil management](#) is another important new publication that was presented at the World Day to Combat Desertification and Drought 2023.

Action Area 4. Promote awareness raising and advocacy on soil health

A variety of activities were organized as part of the World Soil Day (WSD) campaign. The WSD actively raises awareness of the world's population about the important role of soils through the media and social networks.

Natalia Rodriguez Eugenio noted that the number of registered annual World Soil Day events had increased from six in 2013 to 781 in 2021.

Action Area 5: Assess, map, and monitor soil health in a harmonized way

Active work is carried out within the framework of specialized soil networks.

The Global Soil Laboratory Network was established in 2017 to build and strengthen the capacity of laboratories in the field of soil analysis and to meet the requirements for harmonization of soil analysis data:

- Nearly 1 000 laboratories have been registered.
- Six regional networks of soil laboratories have been created.
- The establishment of more national soil laboratory networks continues.

To achieve this, standardized blind samples were delivered to laboratories for standardized testing, after which the results were compared and the quality of the analyses was assessed. Equipment was also supplied to the most successful laboratories to keep them up to date.

The [Global Soil Information System](#) (GloSIS): Basic information was still needed to develop global thematic maps, where countries nominated national institutions responsible for preparing soil maps on behalf of the government.

The idea of GloSIS is to have a centralized data collection system at the global level in the public domain.

The following global maps have been developed: the Global Soil Organic Carbon map (GSOCmap) (six versions from 2017 to 2022), the Global Soil Organic Carbon Sequestration Potential (GSOCseq) map (version 1 released in 2021, the second is in preparation), the Global Map of Salt-Affected Soils (GSASmap version 1 was released in 2021), the Global Black Soil Distribution Map (GBS map) (version 1 was released in 2022). The Global Soil Nutrient and Nutrient Budgets maps (GSNmap) and the Global Soil Erosion Map (GSEmap) are under development. Global Soil Information System maps are available online (see References).

More than 5 000 experts have been trained in digital soil mapping and laboratory soil analysis procedures. The equipment has been delivered to 17 laboratories in different countries. Each country should have its own capacity to perform quality laboratory tests to monitor soil health.

The GSP supports countries in the development of a national soil information system. A soil information system has been established in Kyrgyzstan.

Action Area 6: Foster technical cooperation

Symposia on soil organic matter loss, pollution, soil salinization, loss of soil biodiversity, and nutrient imbalances were held. Then, five technical working networks were established to increase international cooperation, exchange of experience and development of technical guidelines, as follows:

1. [International Network of Black Soils](#) (INBS).
2. [International Network on Fertilizer Analysis](#) (INFA).
3. [International Network of Salt-affected Soils](#) (INSAS).
4. [International Network on Soil Pollution](#) (INSOP).

5. [International Network on Soil Biodiversity \(NETSOB\)](#).

In recent years, the work of technical networks has resulted in many reports and reviews on the state of knowledge in a particular field of soil science, such as the *State of knowledge of soil biodiversity - Status, challenges and potentialities*, the *Global assessment of soil pollution* and others.

The network that was created most recently is NETSOB. Its activities are very relevant, related to the United Nations (UN) Convention on Biological Diversity (UNCBD). The GSP has a mandate of the United Nations Convention to Combat Desertification (UNCCD) to monitor and assess the status of soil biodiversity and will support UNCCD signatories in preparing mandatory reports on this topic. In December 2022, during the UNCCD Conference of the Parties (COP 15), GSP, NETSOB, together with partners, contributed to making soil biodiversity visible in the negotiations, proposed the creation of the [Global Soil Biodiversity Observatory](#).

Natalia Rodríguez Eugenio went on to briefly explain that over the past ten years, the GSP had supported 78 “on the ground” projects, mostly with farmers, in 117 countries with funding from sponsors, in total more than USD 60 million.

The GSP had also collaborated with other projects and initiatives such as the Global Environment Facility (GEF) (land degradation neutrality [LDN]) projects, the World Bank (agroecosystem projects), the [Green Climate Fund \(GCF\)](#) (climate change adaptation projects), and other FAO programmes such as [the Forestry and Farm Facility](#), [the EX-Ante Carbon-balance Tool \(EX-ACT\)](#) and [the Global Livestock Environmental Assessment Model \(GLEAM\)](#).

Among the EASP countries, in the current major GSP projects, such as the creation of the Atlas of Soils and the Soil Information System of Asia (SIS), supported by the [Asian Food and Agriculture Cooperation Initiative \(AFACI\)](#), Kazakhstan, Kyrgyzstan and Uzbekistan participate mainly the RECSOIL and the Global Soil Doctors Programme.

Discussion

During the discussion after the presentation, Pavel Krasilnikov thanked Natalia Rodríguez Eugenio and noted two important points for EASP:

1. The involvement of regional experts in the preparation of the Status of the World's Soil Resources: Main Report is very important, and experts should be appointed soon. In the first edition, Eurasian experts took a significant part in both, the global and regional blocs.
2. Often there is duplication of initiatives that come from different sponsors. For example, the third phase of the Russian project includes the creation of the information system for Uzbekistan, with the same initiative coming from the Republic of Korea. Several organizations are already involved in systems for collecting soil information. Sometimes this is not rational, since some officials, not having a clear idea of the situation in the country, take money from different sponsors and produce several unfinished systems. Sometimes products already exist, but it is proposed that these are financed again.

Natalia Rodríguez Eugenio replied that the funds received for the second time would not be used to create a second information system, but to build capacity. Also, she noted that Ronald Vargas, GSP Secretary, was trying to join forces and not duplicate work. Pavel Krasilnikov confirmed that the organizing activity was one of the important functions of the GSP.

Oleg Golozubov noted that the transfer from the GSP Pillars to the Action Areas could be seen as a transition to a project approach. However, key works on GSP Pillars 4 and 5 were not completed to the end, all cartographic products, and all projects required a national information system. The same teams solved different tasks. Pavel Krasilnikov emphasized that the institutions within the countries had competed, and the role of NFPs was to find compromise. Sometimes, even within the same ministry, two departments did not want to interact with each other. Therefore, the position of NFP should have been occupied by a person who was able to unite different departments.

Alexander Chervan informed participants that in Belarus, the situation of rivalry was due to the ownership of soil information. The collection of information was under the jurisdiction of several institutions, and their coordination was possible only "from above".

Ekaterina Sanadze informed participants that there was practically no information about soil resources in Georgia. The NFP could not do anything, but politicians and ministers had often a different position and view of the situation. She asked for assistance with funds to develop a SIS in Georgia. Natalia Rodríguez Eugenio pointed out that the GSP would try to mobilize resources to support the establishment of national soil information systems.

3 General report on the activities of the EASP from 2019 to 2022 (Pavel Krasilnikov)

General report on activities and their results during 2019–2022 was presented by Pavel Krasilnikov.

He noted that the last meeting took place in the Republic of Moldova in 2019 and since then it had not been possible to meet because of the COVID-19 epidemic, and the existing work plan could not be implemented. The last meeting, the Fifth EASP plenary meeting had been very productive, and the European part of the Eurasian Soil Laboratory Network (EUROSOLAN) was launched. Elena Shamrikova was actively involved in the work and was now the main actor in this activity in the region. The INBS was also launched, with experts taking a great part in its development, and as a result, the FAO book *The global status of black soils* (FAO, 2022) was published. Unfortunately, further activities of the network suffered because of the war in Ukraine.

On 15 December 2022, an extraordinary online meeting was held to discuss the possibilities of working in the new conditions. It was decided to continue work despite the sensitive political environment.

At the tenth European Soil Partnership (ESP) meeting, Natalia Rodríguez Eugenio presented a brief report on the activities of the EASP between 2019 and 2022.

The activity of countries varied greatly. It was noted that Turkmenistan was not accessible, and there was very low activity in Tajikistan, it was also necessary to establish connection with young specialists.

He also noted that, as Natalia Rodríguez Eugenio had already said, there had been a change in the activities of the GSP in connection with the transition from GSP Pillars to Action Areas. It should be noted that Pillars 4 and 5 had been transferred into Action Area 5: Soil assessment, mapping and monitoring in a coherent manner. The EASP has a significant number of results in this area.

Results for Action Area 1

Work continued the organization of the online events, several books were published, that work began in 2018-2019.

On 24 February 2021, on the Russian agricultural online platform “Golden Autumn”, the major regional scientific and practical webinar Sustainable Soil Management. Climate Change and Agriculture in the Eurasian Region: Threats, Challenges or New Opportunities was held. This seminar on the carbon agenda generated a lot of interest. The webinar was attended by 366 participants from Armenia, Germany, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Türkiye, Uzbekistan and Ukraine. The recording of the webinar is available online. Several books were also published (see References).

Several research projects on soil salinity and soil organic carbon (SOC) have been supported financially by the Ministry of Finance of the Russian Federation in the frame of the GSP (see References).

Also, the project *Development and application of innovative soil ameliorants to increase productivity and prevent degradation of drylands* is currently being implemented (a project supported by the Ministry of Science and Higher Education of the Russian Federation [2022–2024]). Field experiments are being carried out in the Russian Federation (Moscow) and Uzbekistan (Nukus region).

Results for Action Area 2

Progress is slower in this area because lobbying for laws is a very difficult process. At the same time, at the regional level, for example, in the Belgorod region, there is legislation that contributes to the protection of soils. There is a law on soil protection in Moscow, but as yet, there are no such documents at the federal level, although this is a work in progress.

The VGSSM has been translated into Turkish and Ukrainian and Türkiye has developed a national action plan for sustainable soil management (SSM).

The Armenian government is implementing a programme of intensive horticulture, with funds being available for subsidies and loans provided to land users at reduced rates. This government programme partly applies to soils. The European Neighbourhood Programme for Agriculture and Rural Development (ENPARD) aims to assist the Armenian government in promoting efficient and sustainable agriculture while improving conditions in rural areas. Technical support is offered in three key areas: institutional development, SSM and rural capacity building.

Results for Action Area 3

The Global Soil Doctors Programme is used in Kazakhstan in cooperation with the Central Asian Countries Initiative for Land Management (CACILM2 project). However, this programme is not well oriented for the region, since there are a large number of graduates in the field of agriculture in the territory of the former Soviet Union. As a rule, water user associations are able to hire professional agronomists whose level of training is higher than in many developing countries. This programme should be adapted to regional conditions, and will be implemented in Uzbekistan.

Another popular topic is the programme of carbon polygons, research fields. Within the framework of a large state programme, the Russian Federation are trying to create an extensive network of monitoring fields both in natural and agroecosystems.

In addition to this large state programme, there are private initiatives, such as the creation of the Sledovo youth carbon site in the Kostroma region of the Russian Federation. The Faculty of Soil Science supports the soil component.

A significant level of activity is also taking place along the line of soil museums.

It was noted that the V.V. Dokuchaev Central Museum of Soil organized several exhibitions dedicated to the International Year of the Periodic Table of Chemical Elements.

A very large project with the participation of the state-owned enterprise was the reconstruction of the Soil-agronomic Museum named after V.R. Williams based on the Timiryazev Academy. The museum has a significant collection of soil monoliths and soil samples.

Results for Action Area 4

In 2019, the fourth Annual International Scientific and Practical Conference on Food Security and Soil Science, dedicated to the celebration of the WSD, was held at the Russian Research Institute of Floriculture and Subtropical Crops in Sochi. The conference was attended by 98 specialists from Austria, Armenia, Kyrgyzstan, Mozambique, the Russian Federation, South Africa, Uzbekistan, and Uganda.

In 2020, the WSD event was held online, but nevertheless attracted a large number of participants and brought a lot of attention. Every year, the celebrations of the WSD are becoming more active, with events being held in Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Türkiye, Ukraine, and Uzbekistan. In 2022, only 31 events took place in the region.

The V.V. Dokuchaev Central Museum of Soil also held events within the framework of the international programme, Night of Museums in 2019, 2021 and 2022.

The events were held in Rostov-on-Don at the Southern Federal University with the participation of the Rostov branch of the Soil Science Society (2019), at the Perm State Agrarian Technological University named after D.N. Pryanishnikov, the theme *Soils, where food begins* was organized, at the Faculty of Soil Science of Moscow State University, with students organizing games for schoolchildren, etc.

The Timiryazev Academy together with the Diplomatic Academy of the Ministry of Foreign Affairs of the Russian Federation, PhosAgro PJSC and the Institute of Biology of the Komi Scientific Centre of the

Ural Branch of the Russian Academy of Sciences held an *International competition for the best applied scientific work "For maintaining soil health, protecting soils from degradation and depletion"* among students and young scientists. One of the main organizers was Ivan Vasenev, Vice-Chair of the Black Soils International Network, and Elena Shamrikova. Serious projects from the Russian Federation and Belarus were submitted for the competition.

Results for Action Area 5

This includes activities related to the creation of soil information systems.

The main support was provided to Kyrgyzstan and Turkmenistan in the framework of the creation of the Soil Atlas of Asia. Training was held in Bishkek in 2022, which was attended by 20 specialists from seven leading organizations of the country.

Filling in the attributive information of the base of soil profiles in Kyrgyzstan was carried out during the training at the Faculty of Soil Science of Moscow State University. Training was also held for 12 employees from two leading organizations of Uzbekistan: the Research Institute of Soil Science and Agrochemistry, State Unitary Enterprise, Analytical Centre for Quality, Composition and Soil Repository of the Ministry of Agriculture, and the Design and Research Institute "UZGIP".

Three areas of work were identified to create the National Centre for Agrarian and Soil Data of the Republic of Uzbekistan:

1. cartographic works, digitization of archival and modern cartographic materials;
2. creation of a data model and standardization of storage of agricultural and soil information, ensuring data compatibility in a multilingual environment; and
3. IT infrastructure, development of interface solutions and distributed architecture.

To create GSOCseq, GSASmap and GBSD maps, the GSP Secretariat with the participation of the EASP Secretariat conducted training for more than 65 specialists from the region.

Some EASP laboratories took part in GLOSOLAN ring tests in 2021 and 2022, successfully passed certification and received the right to receive support from FAO for the improvement of analytical equipment.

The region turned out to be one of the most active thanks to the efforts of Elena Shamrikova. Meetings were held in Rome (2020), Moscow (2021, 2022), Petrozavodsk (2021), Tashkent (2022), Ashgabat (2022), Pushchino and Syktyvkar (2022).

Currently, the national network of soil laboratories in the Russian Soil Laboratory Network (RUSOLAN) includes 14 laboratories, and is a very actively developing community.

Results for Action Area 6

In 2021 and 2022, members and experts of the EASP were involved in the global activities of the GSP:

- the creation of global maps (GSOCseq, GBSD map and GSNmap);

- Twenty-five authors from the EASP participated in the writing of the report on the global status of the black soils, presented at the official ceremony of celebration of WSD-2022 in Rome;
- INSAS activities and preparation of the *Report on the status of saline soils*.
- INSOP activities: eight EASP authors contributed to the development of the Technical Guidelines for the assessment, monitoring and reporting of soil pollution results.

The Eurasian Soil Portal is working. It was created eight years ago, with the design being updated three years ago. The site contains news materials translated into Russian, publications, and the results of the main activities of the GSP.

In Georgia, Kazakhstan, Türkiye, and Uzbekistan, a large number of brochures, posters and other products have been published to promote soil awareness in national languages.

Discussion

Elena Shamrikova raised the question of what had been implemented in a worst way? Pavel Krasilnikov replied that the worst situation is with data harmonization. There were no people willing to deal with the classification of soils. As for information systems, not much progress had been made in this direction either. Also, things were not going very well in the field of lawmaking, they had not learned how to lobby for SSM to be enshrined in law.

Gulchekhra Khasankhanova noted that the support was needed at the level of farmers, and it was necessary to support cluster packages of engineering solutions. Through FAO, a lot of work had been done to create guidelines, but nevertheless, common regional recommendations were taken as a basis, and standard project materials were needed, which, among other things, would comply with the standards of international banks.

Olga Yakimenko noted that in 2019, it was discussed that one of the most difficult problems was the harmonization of the Russian school with international methods (for example, phosphorus, that according to Kirsanov, had not been done anywhere else). At the time, it was intended to carry out harmonization and recalculations, but became clear that it was not realistic. It was necessary to formulate more clearly what could had been done in this direction.

Pavel Krasilnikov said that without harmonization, it was impossible to use historical archival data. Therefore, it was necessary to try to harmonize.

Gulchekhra Khasankhanova noted the importance to start with key areas with certain indicators, and that it was better to do recalculations and harmonization in small areas than not to do it at all.

Pavel Krasilnikov noted that they did not have standard soil samples, or even soil groups. And they faced the same problem that spectroscopy had faced. Spectroscopic research was becoming more popular all over the world, but the correlation between “wet chemistry” and spectroscopy only worked for specific conditions, for example, in a specific field. It was necessary to combine old analyses with new ones based on cluster calibration.

Murat Temirzhanov noted that in recent years, the legislation had been changed seven times, trying to improve it in the field of attitude to the soil, to the land.

Oleg Golozubov mentioned the connection between GSP Pillars 4 and 5. Initially, harmonization was the task of Pillar 5, which was led by Rainer Baritz, which was aimed primarily at ensuring the standardization of storage and transmission of soil information, rather than laboratories. It was also found that it was impossible to develop a single world standard. Therefore, it was decided to leave the standardization to national soil data centres. There was only one main principle: that the presence of a standard was better than its absence.

Pavel Krasilnikov noted the importance of moving in this direction in the sphere of soil chemical analysis and spectroscopy.

Olga Yakimenko said that there would be a problem recalculating soil phosphorus results when compiling the GSNmap and therefore, it was important to solve that problem.

Aizhan Karabayeva noted that there was a museum at the All-Russian Research Institute of Soil Science in Alma-Ata, and it was necessary to consider the ways to put it in order.

4 EUROSOLAN report (Elena Shamrikova)

Elena Shamrikova (Vice-Chair of EUROSOLAN, Chair of RUSOLAN, and head of the Russian reference laboratory, located in Syktyvkar and represented by two divisions) presented a brief overview of the activities of GLOSOLAN and the results of the work of EUROSOLAN from its creation in 2019 to the present. She thanked the organizers and the host country for the opportunity to make a statement and for the warm welcome.

She noted that the methods for measuring the chemical, physical and biological properties of the soil varied even within a single country, which prevented the formation of unified data arrays necessary for mapping, inventory, forecasting, and monitoring. This was due to historical, economic and other factors.

Currently, GLOSOLAN, established in 2017, already has 960 laboratories in the world. Its main goal is the global harmonization of methods and capacity building of soil laboratories. This is a multilevel national, regional, and global system. It has developed an inclusive approach to the harmonization of methods. For example, the harmonization of methods for the analysis of organic matter according to the Walkley-Black method and the development of standard operating procedures (SOPs) was attended by 67 laboratories from 52 countries from different continents. In harmonization, a bottom-up approach was being implemented: from national to regional and global.

Established in 2019 in Chisinau in the Republic of Moldova, EUROSOLAN currently has 221 laboratories in 43 countries and is growing steadily.

It was noted that the RUSOLAN network was launched in April 2022.

EUROSOLAN meets annually in the autumn to revise the work plan in accordance with the needs of laboratories in the region, formulate proposals for GLOSOLAN and monitor the state of laboratories and national networks in the region. All meeting materials are available here.

To date, within the framework of GLOSOLAN activities with the participation of EUROSOLAN, about 20 SOPs on the analysis of chemical, physical and biological properties of soils have been harmonized, and another 20 SOPs are under preparation.

EUROSOLAN prepared a protocol for measuring soil organic matter by the spectrophotometric method (Tyurin's method). The protocols of all methods have a common template and a uniform structure. Step-by-step procedures are discussed, there are sections on safety and waste disposal.

All protocols are freely available (open access) on the GLOSOLAN website in six languages. GLOSOLAN provides an excellent opportunity to use these techniques. If the work continues at such a quick pace, a large amount of methods will soon be published and available on the website. There is also a hope that governmental structures will recommend the use of these methods.

Some laboratories have training needs for these protocols. This is important as sometimes with large volumes of samples in laboratories, important procedures may not be considered, and then the results are poor. GLOSOLAN actively participates in the educational process, conducts regular free online training, and records and posts training videos on various methods on the website.

In addition to preparing SOPs, GLOSOLAN pays great attention to quality control of measurements. Interlaboratory comparison tests (professional tests) were carried out, more than 200 laboratories from more than 100 countries of the world participated in these tests. Conducting professional tests is a very important procedure for identifying problems and errors in measurements and laboratories are encouraged to participate in these tests. In 2023, the first Eurasian comparison tests will be launched.

The first information letter has been prepared as an invitation to participate in professional tests and sent to 14 laboratories of the network. Laboratories receive a code for further anonymous testing with standard images. Usually a blind test is expensive, but GLOSOLAN's procedure is free. There is an agreement with Kazakhstan and Uzbekistan, and a preliminary agreement with Belarus and Moldova.

Such tests can uncover problems in the laboratory (such as poor-quality reagents, or bad distilled water, wrong humidity, or temperature).

Thus, the Eurasian International Comparison Test is being launched now.

Members of EUROSOLAN actively participate in international conferences and working meetings, where they compile the results obtained in different laboratories. Five abstracts from EUROSOLAN were submitted to the seventeenth International Symposium on Soil and Plant Analysis in Chile this year.

An important role for EUROSOLAN is in interaction with other regional networks, not only where the soil protocols are available. A lot of work has been done on the possibility of searching for transfer functions when trying to equalize the results of SOM analyses using the Tyurin and Walkey-Black methods. There is a way to equalize the results, giving an error of 20 percent. The network also worked with soils on carbonate rocks since inorganic carbon also introduces its own error into the results, with the results being published in the Geoderma journal.

She explained that most important thing to do was to find the same pedotransfer functions that would help combine the results of soil analysis accumulated over one and a half centuries and integrate them into common databases. Naturally, this was a very big job, with each method requiring its own approaches.

It was noted that the laboratory had worked with particle size distribution measurement methods. The procedures were categorically different with the Kaczynski method, which was used in the EASP and foreign approaches. An article in the journal *Soil Science* on this topic would be published soon. Those efforts brought different “schools” closer together. It was fundamental to bring together the results obtained in the framework of Western and Eurasian schools.

All relevant information about GLOSOLAN, EUROSOLAN and national networks is available [on the FAO website](#).

Discussion

Pavel Krasilnikov thanked Elena Shamrikova for such activity. Initially, only a small group of people, worked in this area at the Lomonosov Moscow State University. Then the Timiryazev Academy joined in, and now a lot of work in this direction was being carried out at the Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences. Gulchekhra Khasankhanova said that in 2017, they were asked to nominate a laboratory, but it was discovered that only one laboratory from the Geodezkadastr had accreditation. Laboratories without accreditation were not able to operate in Uzbekistan.

Elena Shamrikova noted that all EASP countries were included. The laboratory had been approved by the Ministry of Agriculture of the Russian Federation as a reference laboratory, and such a laboratory usually oversaw the activities of others within the country.

Pavel Krasilnikov proposed to conduct a training course at the regional level and included it in the work plan.

Yury Rozloga brought up the question regarding the accreditation of a laboratory to join GLOSOLAN. Elena Shamrikova specified that no accreditation was required to join. Even if the laboratory was not accredited, participation in the network was very useful for it from an educational point of view, to increase competence.

Pavel Krasilnikov informed that the accreditation procedure in the Russian Federation was a very formal process, which was mainly aimed at formal procedures, rather than quality assurance, so that, for example, all laboratory staff registered the laboratory as their main and permanent place of work. As soon as they had an accredited laboratory, it immediately separated from the faculty, and began to engage only in commercial activities. Accreditation did not always mean quality.

Gulchekhra Khasankhanova noted that the situation in Uzbekistan was different. If the laboratory was not internationally accredited, it could not accept orders. When working on a project in the Republic of Korea, it was necessary to send samples abroad due to the laboratory not being trusted and the rules changing every three months. Under the former USSR, they used to work without accreditations.

Olga Yakimenko expressed admiration for the efforts of Elena Shamrikova. She mentioned that many organizations in the Russian Federation felt self-sufficient and did not see the need to join the international network and improve methods, especially those that were part of the network of laboratories. She underlined, that, therefore, the integration of national networks into the international community was a very important educational mission.

Alexander Chervan stressed that the issues discussed were also related to lawmaking. If the fields of activity of laboratories were spelled out in soil-related laws, it might not be necessary to advertise international cooperation. Elena Shamrikova specified that there was no need of many laboratories to do that, because they had government orders.

Natalia Rodriguez thanked the participants for the productive discussion and for the work done by Elena Shamrikova.

5 Capacity building to create national soil information systems (Oleg Golozubov)

Oleg Golozubov expressed his gratitude to the organizers and the host country in general and offered thanks for the opportunity to make an addition to the report.

In November 2022, the training in Kyrgyzstan was conducted, attended by employees of the Kyrgyzstan National Agrarian University, the Republican Agrochemical Station, the Institute of Water Problems, and the Institute of Soil Science. The result of the training was the creation of a working group on the creation of a national SIS from the above organizations. It was also made a digital small-scale soil map of Kyrgyzstan based on the map of Mitalip Mamytov, linking it to the relief, and gave the opportunity to employees who came to Moscow for the next training to compare it with the map prepared by a third-party organization. The head of the agrochemical station entered the post-graduate studies of Moscow State University.

Pavel Krasilnikov spoke briefly about what has been done in Uzbekistan. He said, the education was the most important. In every country there were young people who were ready to learn, who studied and mastered technology, and quickly became valuable specialists but eventually disappeared from this activity. The NFP had presented that they were experiencing difficulties in accompanying the work for this reason.

He noted, that in the EASP countries no functioning soil information systems had been created at the national level in the correct sense of this term. Such systems were supposed to perform a number of functions, such as actively participating in international projects, and bringing permanent real benefit in the implementation of the practical tasks of the SSM at the national level. In most countries, the main tasks of land management at the state level were cadastral valuation, and bonding lands. However, that work required knowledge in soil science. In the Russian Federation, the assessment was mainly carried out by agricultural specialists, who tested the topsoil.

There is a very wide variety of data types in the region. Using the example of Uzbekistan, there are layers with only the boundaries of land areas, area boundaries containing soil contours, and soil maps. There is also a large variability in point data formats such as samples of surface agrochemical surveys, soil profiles, wells, and water samples.

The task of collecting and harmonizing all this information is difficult to solve by one organization. Many information departments in the countries are engaged in a single-layer presentation of information, where soil contours are drawn on the field map and a selection of soil sample points is set. The concept of layering (profiles) is difficult to explain and implement in production. In the Russian Federation, it has taken a long time.

Even within the same country there is a poor exchange of information. For many years there has been a multilingual system for presenting soil data in the international XML standard, the same as ISO 28258, the European standard SoilML (European Union INSPIRE Directive). The system is implemented in four languages, contains almost all soil characteristics, including laboratory methods with units of measurement in the form of a set of drop-down lists. The Krgyz language will be added to these four languages.

Uzbekistan uses Russian for soil descriptions with small features in the description of gradations, which can be constantly updated thanks to the open-source code. Soil descriptions are also in Uzbek, both in Cyrillic and Latin. The system is also able to handle Thai and Myanmar.

The work with the Republic of Moldova is going very well, except for the loss of data centre employees.

During this time, a system for training specialists has been developed:

- courses of introductory video lectures in all subjects (27 hours);
- three levels of video courses (72 hours) as an additional professional education at the Faculty of Soil Science of Moscow State University.

In addition to video lectures, there are also manuals and textbooks. Each student makes his own project for his territory.

It was noted that a year and a half ago, the Government of the Russian Federation adopted a new law on mass soil surveys, which are carried out by the centres of the Agrochemical Service. A huge amount of data began to arrive (tens of thousands of samples from one region in one season). In this regard, this work is very relevant.

Discussion

Pavel Krasilnikov noted that it was important to discuss what had already been done in this regard in Uzbekistan, to understand what the starting point for further actions on the soil information system was.

Gulchekhra Khasankhanova informed about the creation of the information system. They created the information system for the use and management land and water resources. Each organization was responsible for its own database. Since UZGIP worked throughout Central Asia (CA), they had soil map material from all over the country. Almost all maps were then digitized. For the first time in the early 2000s, within the framework of the Technical Assistance Programme of the Commission of the European Union (TACIS), they had participated in the development of the information system on agriculture, where they made the transition from the Uzbek soil classification to the FAO classification.

Key organizations were working on the creation of the information system, but that was determined by funding. The State Committee of the Republic of Uzbekistan on Land Resources, Geodesy, Cartography and State Cadastre (Goskomzemgeodezkadastr) updated the existing soil map every five to seven years, and could be used for planning at the national level. Within the framework of the CACILM1 project, FAO LADA specialists with the support of the Asian Bank and the GEF, created vector layers. Based on FAO guidelines for land use planning, global and national databases, all vector layers including climate were created. The reports and maps can also be accessed.

In the framework of the FAO decision support project, 15 countries of the world participated in the project, with only Uzbekistan participating from Central Asia. They were involved and supported by the training specialists in Wageningen, the Kingdom of the Netherlands. As a result, they made SOW maps, with regional salinity and reclamation maps being combined at 1:100 000 and 1:200 000 scale.

Many local projects have been currently being implemented, for example, a study for Karakalpakstan, for eight districts, where the right bank of the Amu Darya was completed.

However, the results of local investment projects were not combined into one database, and statistical information did not match, meaning that 4 million hectares of irrigated lands cannot be combined into the common information system.

Oleg Golozubov noted that the national soil information system should be based on large-scale mapping. The national SIS should include agricultural monitoring data. All successful projects in the Russian Federation and the CIS countries were connected by university science and data replenished from the Ministry of Agriculture. So far, this link has not worked out in Uzbekistan.

Gulchekhra Khasankhanova informed that Goskomzemgeodezkadastr was responsible for a soil information system. Part of the work on the economic assessment was transferred to another department, with digital maps for each farm, and the bonitet points calculated. Goskomzemgeodezkadastr regularly conducted salt surveys and filming (three or four regions per year), based on a soil map created by the Institute of Soil Science and Agrochemistry. While soil reclamation systems maps had not been found, soil information was available for the whole country.

Shovkat Kholdorov noted that the government system has changed, and that the State Committee for Zemgeodezkadastr had completed its work.

Three ministries are responsible for activities related to soils in Uzbekistan: the Ministry of Agriculture is responsible for developing agrochemical maps, salinity maps, and soil assessment maps, the Ministry of Water Resources is responsible for soil reclamation maps and the Ministry of Ecology, Environmental Protection and Climate Change for maps of soil pollution.

Shovkat Kholdorov informed that the previous year, the President of Uzbekistan had signed a new resolution, according to which all soil-related maps were to be collected at the Ministry of Agriculture. They had collected the entire archive, making their own single database (GOF). The ministry was to be asked to do a database exchange. Since last year, a new department in the Ministry of Agriculture has been created, called the Analytical Centre for Quality, Composition and Soil Repository. A single geoportal was created. There was enough soil data, but a lot of data were still in hard copies, which

was supposed to be digitized. For example, the soil salinity chart was updated every five years. Soil monitoring was underway. But a large number of maps was still to be digitalized.

Pavel Krasilnikov raised the question regarding the tasks to be solved with the help of FAO and the EASP. He asked how they were able to assist. Shovkat Kholdorov noted that the work on digitizing maps in the ArcGIS programme had begun so far only for soil assessment maps, because they were the most necessary for assessment.

Gulchekhra Khasankhanova said that it was necessary to consider what kind of technical and methodological support was needed to organize work to create a common information system. Directly digitization was to be financed by the government, and was the task of the Ministry of Agriculture.

Within the framework of the project of the GEF, the Green Fund and the Korean Bank, diagnostics of laboratories of all services (plant protection, etc.) were carried out. An investment plan was prepared, and there was a report. All soil laboratories received equipment to improve their monitoring systems. Pavel Krasilnikov noted that the system for correcting maps and actively supplementing information was to be provided.

Shovkat Kholdorov informed that they were already creating different layers now.

Natalia Rodriguez summed up that it was important to study the project report of the GEF, the Korean Bank and the Green Fund, as well as consider Oleg Golozubov's proposal on training courses. It was necessary to consider the possibilities of harmonizing information in accordance with the FAO GSP standards.

6 Country reports on GSP activities (national focal points)

The Republic of Moldova (Iurie Rozloga)

in 2010, work began on the vectorization of a 1:10 000 scale map, with several people working on this for five years. The first round of mapping was vectorized, covering the entire territory. In 2017, the vectorization of the second round ended, but only for agricultural land. There were also misunderstandings between organizations.

Work is ongoing on mapping on a large scale (1:500 000 to 1:200 000), as well as work on assessing the yield, and on transferring from one category of use to another. This provides both jobs and data replenishment.

Last year, 178 new sections were added in the Republic of Moldova.

The question was which system to adopt. There were two systems on the table at the Ministry of Agriculture: the system of Moscow State University (INSPIRE SoilML) and Giprozem.

Now there are more than 2 000 sections with analytics in the MSU system. allowing maps to be displayed for irrigation, drainage, and melioration of solonchaks.

About 400 sections were taken to develop the Global Soil Salinity Map. Konstantin Viatkin helped with the analysis.

For the GSOCseq map, data was transferred, stopped at the modelling stage in R. Work is continuing on improving the SOM stock map and developing the GSNmap.

Participation in the UNCCD. Soil organic matter indicators are currently being assessed using maps. The previous head of the institute also had a large GEF project (see Annex).

At the legislative level, there is no law on soils. Only pollution laws remain.

Belarus (Alexander Chervan)

Large-scale soil research distinguishes Belarus because the law contains the word "soil". All government activities that relate to land management, at the same time relate to soil management and soil data. The positional accuracy of data in Belarus is good, but there are questions about the interaction of departments that are responsible for collecting and processing. The range of institutions that have soil information is very wide, as follows:

- National Academy of Sciences of the Republic of Belarus:
 - Institute of Soil Science and Agrochemistry;
 - Institute of Nature Management; and
 - Institute of Reclamation.
- State Property Committee of the Republic of Belarus:
 - Republican Design Institute of Land Management "Belgiprozem"; and
 - National Cadastral Agency.
- Ministry of Agriculture and Food of the Republic of Belarus:
 - Regional agrochemical stations.
- Educational institutions:
 - Belarusian State University (BSU): Research Laboratory of Landscape Ecology, Faculty of Soil Science and GIS; and
 - Belarusian State Technological University: Faculty of Forest Plantations and Soil Science.
- Governmental centres:
 - National environmental monitoring system: lands and soils, water resources (surface and ground), atmospheric and ozone layers, forests and other flora, etc.).

Among the activities for 2019–2023, there have been major conferences that pay great attention to soil, such as: *Improving soil fertility and the use of fertilizers*, and *The natural environment of Polesie and scientific and practical aspects of nature management*, a conference dedicated to the ninetieth anniversary of the Institute of Soil Science and Agrochemistry.

Work was carried out to return the lands subjected to radioactive contamination as a result of the accident at the Chernobyl nuclear power plant to agricultural circulation. [The Map of the Polesie State](#)

[Radiation -Ecological Reserve](#) was created, with approximately one-third of the reserve's lands being returned to circulation.

The sixth Congress of the Belarusian Society of Soil Scientists and Agrochemists was held in 2022 that discussed modern trends in soil geography and soil mapping using GIS and remote sensing amongst other subjects.

There was an exhibition of agricultural libraries.

There were Belarusian State University conferences dedicated to WSD (5 December) and GIS Day (15 November).

Results of some R&D included the formation of a high-precision basis for digital modelling of relief and terrain, including for soils, using LIDAR. Layering modelling.

There was a governmental programme for the reconstruction of reclamation systems. And a regional assessment of the ameliorative state of the soil cover for the purpose of their repair. The priority was assessed based on soil data and on that basis, it was decided that there was a need to continue hydrotechnical regulation.

There was a regional assessment (Polesie State) of the vulnerability of agricultural soils to wind erosion. The classification of the Belarusian soil science includes moisture at a detailed level.

A network of points for monitoring the state and evolution of soils on drained agricultural lands has been presented.

A huge amount of data has been accumulated both in physical and digital form. It is possible to simulate dynamics and participation in the GSNmap or another FAO global map can be seen as an achievable goal.

A National Atlas of the Republic of Belarus is planned, including soil maps and other aspects that has already been submitted. Belarus is interested in the development of projects on precision farming, as they show the level of development of knowledge in this direction and indicate the availability of data. Soil monoliths were selected for student laboratory work.

Questions

Pavel Krasilnikov raised the question of what the contribution of the GSP was, whether the approaches and developments of the GSP in some projects could be taken.

Alexander Chervan noted that four courses of GIS were implemented in accordance with the principles of the GSP on international standards for working with soil information. Students knew about the FAO GSP and its basic principles. The soil carbon map could be refined, and it was possible to propose a project to improve the map of organic matter stocks based on the maps of Belarus and Uzbekistan.

Armenia (Samvel Sahakyan)

The main problem for Armenia is that for various reasons, 43 percent of arable soils are not cultivated.

The government runs several programmes to support farmers, including investing in intensive horticulture, where every year about 1 000 hectares are introduced through intensive gardening, irrigation systems are being updated and drip irrigation is being created (Pavel Krasilnikov spoke about this in the general report).

Under the GSP programme, a project is being implemented by the Scientific Centre for Soil Science, Agrochemistry and Land Reclamation of Armenia: *Development of new methods for the restoration of secondary saline soils using local waste*. It is proposed to use cement plant waste to capture sulphur dioxide.

The most important thing is the creation of the National Soil Information System (ArmSIS) at the request of the Ministry of Economy of Armenia within the framework of cooperation with FAO. Large archival data from various institutions have been digitized. Hundreds of sections were digitized, and their coordinates were established.

According to GLOSOLAN, specialists participate in training courses, and receive methods. It is very useful for laboratories and agrochemical services.

Questions

Pavel Krasilnikov asked if all the maps that were available in hard copies had been digitized as well as where the information was stored. Samvel Sahakyan answered affirmatively, stating that there was a 1:200 000 soil map and the server was located in the agrochemical service.

Olga Yakymenko brought up the question regarding the location of the abandoned lands and the cultivation. Samvel Sahakyan replied that those lands were both in mountainous areas and in valleys. Usually because the owners were abandoning the land, if the land was not cultivated for more than three years, it was taken away by law, but no one actually did that.

Kazakhstan (Murat Temirzhanov)

Murat Temirzhanov thanked the organizers and the fraternal Uzbek people for the reception. He noted that he had recently joined the GSP and became the NFP this year.

According to government data, Kazakhstan currently has more than 90 million hectares of eroded and erosion-prone lands, of which 29 million hectares have been eroded. Degradation is especially acute in the Aral Sea region, in the Caspian region, around Lake Balkhash, the Semipalatinsk nuclear polygon, military polygons and industrial zones.

On 15 May 2023, the President of the Republic of Kazakhstan held a Security Council, which considered issues of environmental and water security, the issue of reclamation of eroded lands was discussed, and a decision was made to scale up the reclamation experience. Within the framework of the Desertification and Degradation Council, it was decided to scale up the experience of restoring

degraded lands. Control is carried out at a high government level. The state task provides for monitoring and inspection of agricultural land.

Between 2017 and 2021, soil and geobotanical surveys were carried out on an area of 33 million hectares, with bonitation being carried out for 25 million hectares. More than 33 million hectares have been digitized. In 2023, a survey is planned for an area of 68 million hectares. The total area of digitized agricultural land is 145 million hectares, or 70 percent. The total area is 205 million ha.

[The Automated Information System of the State Land Cadastre](#) (AIS GZK) is in operation. Layers represent qualitative information about the state of soils, cadastral numbers, etc. Digital land maps allow us to conduct monitoring by [the State Institute of Agricultural Aerial Photogeodetic Surveys](#) (GISHAGI). The institute now has 800 staff members (doubled from 400 in a year).

A national geoportal has been developed in cooperation with the World Overview of Conservation Approaches and Technologies (WOCAT) and the state corporation Cooperation for Citizens.

Over the past two years, the government has adopted seven laws and, in the implementation of the law alone, 40 by-laws are being adopted. Measures are provided to prevent desertification and degradation.

The Land Management Committee, in partnership with the Integrated Natural Resources Management in Drought-Prone and Salt-Affected Agricultural Production Landscapes in Central Asia and Türkiye (CACILM-2) project, has developed and is updating the national action plan to combat desertification.

In April, the President signed a law on the creation of the Unified Soil Service, whose functions will be to survey agricultural lands for their qualitative state, agrochemical and geobotanical soil surveys, monitor the condition of irrigated lands and analyse their ameliorative state. The new soil service will start working from 1 July 2023. In total, there were 17 regions in Kazakhstan, 14 of which had branches, and new ones will be opened in the other three regions. Soil laboratories and agrichemical services will be included, as well as three agrireclamation expeditions.

The Land Code was also updated, reducing the term for the withdrawal of unused land to one year, increasing the rate for non-use of land. There is database integration, NDVI layers, and cultures.

In December 2021, the first celebration of World Soil Day was held in Kazakhstan, together with the FAO office, with second being held in 2022.

It was hoped that cooperation with FAO would continue, and that participants were ready to use the entire administrative resource.

Questions:

Samvel Sahakyan asked if the lands in Kazakhstan were privatized. Murat Temirzhanov replied that only 1 percent of land was privately owned, with the rest of the land in long-term or short-term lease. There was a moratorium, so it was impossible to acquire land. If it was found out that the land was not used properly, it was taken away from private use. The previous year, 5 million hectares were

returned to government ownership, with 1 million hectares being returned the year before. The government allocated 9.8 billion tenge for two years for data digitization. The work was done in parallel, and all in one database. The new database – the Unified Real Estate Cadastre (EGKN) brought other databases cloudy: our AISGZK, the database of legal entities and others. To obtain a land plot, a citizen could apply from home.

Pavel Krasilnikov asked about the ways of solving the personnel issue: of where 400 qualified specialists would come from). Murat Temirzhanov noted that in Uralsk, Nursltan and Alma-Ata there were specialized universities that graduated in the "cadastre" or "land surveyor" specialties. Employees also came from subordinate organizations of the Department of Geodesy and Cartography. Memorandums had been signed with universities, where students followed internships (from working with documents to field trips).

Georgia (Ekaterina Sanadze)

Ekaterina Sanadze presented the activities carried out by the Ministry of Environmental Protection and Agriculture of Georgia (MEPA). Functions related to land use and SSM are distributed among different departments. The main ones are the following: the Land Use Department, the Land Resources Protection Department, the National Agency for Sustainable Land Management and Land Use Monitoring (LEPL), and the Melioration of Georgia LLC.

A working group has been set up to review national legislation related to land. After the revision of the laws, the Land Code will be created.

A pasture management policy document is under development. Its concept is based on determining the rights to use pastures in the country, creating pasture unions that will use the pastures of the villages under the lease. Based on this document, a legal framework for pasture management will be developed, which still does not exist in the country.

in the Kakheti region (municipalities of Lagodekhi, Kvareli), an integrated database of land resources is being created under a pilot project for the purpose of land registration and monitoring.

The Georgia Sustainable Agriculture, Irrigation and Land Use Project (GRAIL) – along with important issues of irrigation and land management – provides farmers with drip or, if necessary, sprinkler irrigation systems, and use of irrigation water in accordance with norms and rules. The project also provides for the organization of awareness-raising training to improve soil productivity.

To implement the fourth National Environmental Protection Programme, projects on crop rotation (Kakheti [448 ha]) and grain production (Shida Kartli, Kakheti [1 000 ha]) will be implemented in 2023 in the regions of Kakheti and Shida Kartli) using no-till technology.

in 2021, laws and by-laws on windbreaks were adopted, 10 000 hectares were inventoried, and the budget was provided through the World Bank.

Steps are being taken to prevent the practice of plant residues burning. The Waste Management Code includes fines.

A draft law *On soil protection* has been developed. Reclamation plans should include measures to improve soil fertility. A decision from the ministry is awaited.

The WSD was celebrated at the Centre for Environmental Education. It was a great event and every effort was made to explain the importance of the event. In 2022, the Prime Minister together with 60 organizations took part in the celebration. Young specialists were awarded for their contribution to soil conservation.

Türkiye (Sevinch Madenoglu)

Within the framework of GLOSOLAN activities, it was noted that there were currently two reference laboratories in Türkiye: the Laboratory of the Central Research Institute of Soil Fertilizers and Water Resources (TAGEM) and the Laboratory of Ankara University, Faculty of Agriculture.

In total, GLOSOLAN has ten research institute laboratories and six university laboratories. Three laboratories conducted tests and had received acceptable results.

The national network of laboratories has been established.

Main activities carried out in the country within the framework of the International Network of Soil Information Institutes (INSII). AGEM is the main organization involved in the creation of the GSNmap and the GSERmap. Experts were trained by FAO in creating maps. A project is under way to determine the content of plant nutrients and potentially toxic elements in agricultural soils in Türkiye, as well as the establishment of a database and mapping.

Participation in the work of other technical groups is carried out by different ministries and institutions. The Ministry of Environment, Urbanization and Climate Change, the Directorate-General for Combating Desertification and Erosion, and the Ministry of Agriculture and Forestry are responsible for agricultural research and policy (TAGEM).

EX-ACT and WOCAT training courses were held in Türkiye.

Türkiye is participating in the CACILM-2 project: Integrated Natural Resources Management in Drought-Prone and Salt-Affected Agricultural Production Landscapes in CA and Türkiye.

Türkiye also participates in the European joint Programme on Agricultural Soil Management (EJP Soil) project: Towards Climate-Smart Sustainable Management of Agricultural Soil (2020–2024). There are 14 research projects on subjects such as assessing the potential for atmospheric carbon sequestration by soils, carbon saving practices, soil spectroscopy, remote sensing, soil erosion mapping and reconsolidation, bioeconomics, and agroecological strategies to promote climate change mitigation and adaptation.

In response to a question from Natalie Rodriguez about the national soil information system, it was noted that in Türkiye there was also a situation where several ministries make their own databases and there was not enough agreement on joining efforts.

Uzbekistan (Shovkat Kholdorov)

There has been improved legislation in the field of SSM, through Decision RQ-277 of the President of the Republic of Uzbekistan: *On measures to create an effective system for preventing land degradation*. The law is very important, as it creates a legal basis for comprehensive measures to protect soils, providing soil, agrochemical, geobotanical and land management studies on a national scale, cooperation with international and regional organizations, organizing and conducting educational courses to prevent and combat land degradation, and develop evidence-based practical recommendations to prevent degradation, creation, and improvement of cartographic resources on soil salinization and agrochemical maps.

The Special Centre for Digitization in the Ministry of Agriculture of Uzbekistan recently published the digital results of soil and land monitoring. There is support for the private sector in the establishment of soil laboratories. Loans are available for those who want to make agricultural laboratories, as well as technical equipment support for existing laboratories. In 2022, ten new laboratories have been opened in different regions of Uzbekistan.

The Analytical Centre for Quality, Composition and Soil Repository recently received a modern instrument for analysis by optical emission spectrometry with inductively-coupled plasma (ICP-OES).

Between 2021 and 2023, 15 major international conferences were held on sustainable land management, preventing degradation, and improving soil fertility.

The Soil Quality, Composition and Repository Analytical Centre and the Institute of Soil Science and Agrochemical Research have raised awareness by conducting regular training for farmers.

The Soil Scientist Network of Uzbekistan has operated innovative services and ten mobile laboratories have been organized.

Shovkat Kholdorov invited colleagues from Central Asia to have closer cooperation, as all the parties had similar tasks.

Comments

Murat Temirzhanov noted that a delegation from Kazakhstan had visited the National Centre for Knowledge and Innovation in Agriculture in Tashkent. They were impressed by the level of knowledge, and there was much to learn. Pavel Krasilnikov noted that this was the essence of partnership: to learn from each other.

Comments and suggestions made on the first day will be incorporated into the work plan for 2023–2025.

Day 2: 24 May 2023

7 Adaptation to the new GSP Action Framework for 2022–2030 (EASP contribution to current and developing GSP products [Natalia Rodriguez Eugenio])

The Eurasian Soil Partnership will develop new modules, posters, exercises, and video training materials in national languages.

During day 1, several NFPs reported on new laws related to soil. In this regard, Natalia Rodriguez Eugenio asked NFPs to check whether it was necessary to update the SoILEX database.

As part of GloSIS: it will be possible to add to the datasets, revise or send updated maps, as well as the methodologies for their creation, in consultation with INSI.

For the GSOCseq map, she reported that material had been received from Georgia, Kazakhstan, the Russian Federation, and Türkiye. Other countries had been requested that they send their details or contacts in case they required additional assistance, as all countries participated in the training.

The situation was similar for the GSASmap, with data being received from Armenia, Azerbaijan, Georgia, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Türkiye and Uzbekistan.

Only the Russian Federation submitted data for the Global Map of Black Soils.

Maps for global soil nutrition and nutrient balance will be created soon, with 38 participants from the EASP having already been trained. Armenia did not participate.

Contributions to publications: The flagship publication is the second edition of the Status of the World Soil Resources: Main Report. Participants were also asked to complete the soil salinity questionnaire which would be required for the development of *The global status of salt-affected soils*.

With the transition to the Action Areas, it would be necessary to make a more realistic plan. How could the region be adapted to the new programme of action? It was suggested that the plans could:

- identify priority actions for the region;
- plan activities based on available resources;
- prepare a two-year work plan;
- elect chairs for the areas of action which will be implemented;
- adapt the activities that were in the work plans for the pillars; and
- organize short meetings more often to discuss status, at least every six months in an online format.

8 CACILM-2 project: an example of regional cooperation (Makhmud Shaumarov)

It was noted that the implementation period of the CACILM-2 project is between 2017 and 2024, in five countries of Central Asia and Türkiye. The main goals and components of the project were highlighted. One of the main objectives was to contribute to the goals of the UNCCD and the United Nations Framework Convention on Climate Change (UNFCCC), with the project growing out of the problems of drought and salinization in Central Asia. An interactive map of precipitation was produced and showed change over 20 years and the places with a sharp decrease in precipitation (the Aral Sea region).

The results of the regional activities were as follows:

1. the dissemination of integrated natural resource management (INRM) technologies; SSM technology valuation; investment packages for international financial institutions (IFIs);co-financing; and soil carbon financing;
2. conservative practices: Kazakhstan, Tajikistan, Uzbekistan (8 620 hectares);
3. salt-tolerant crops,
4. agroforestry;
5. salinity management;
6. drought management: drought monitor mapping and forecasting; drip irrigation in Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Technica and institutional actions:

1. improvement of water use;
2. Value Chain Development: An Assessment - Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan;
3. National capacity building: conservation practices, sustainable pasture management, drip irrigation and spray irrigation;
4. UNCCD instruments: Aqua Crop, Exact, Carbon Balance, Collect Earth, WOCAT, Sharp, ASIS; and
5. Farmer Field Schools.

It was noted that agricultural drought monitoring system was based on GIS from 2001 to 2021. Not all countries had developed national programmes.

Questions

Natalia Rodriguez raised the question of the third stage of funding of the project planned from the GEF. Mahmud Shaumarov replied, that would largely depend on the countries, as some were ready to continue working in that direction, and some had other priorities. Most likely the GEF would support activities in that direction, but perhaps the project would not be called CACILM, the name would be changed.

Natalia Rodriguez noted that it would be great if the NFPs were actively involved in the development of these proposals and made proposals for cooperation on saline soils and soil laboratories.

Shovkat Kholdorov thanked all for the assistance of the CACILM2 project in purchasing new modern equipment for several laboratories.

9 GEF8 new funding opportunities (Maria Cruz Ferro Vasquez)

Maria Cruz Ferro Vazquez made a presentation on how funds will be allocated for projects in the new GEF8 funding cycle in SSM and country application opportunities.

It was noted that projects most related to soil health could be submitted in three areas (focal areas): biodiversity, climate change and land degradation. The GEF served as the financial mechanism for several UN conventions: the UNCCD and the UNFCCC. The new GEF8 funding cycle began in 2022.

The goal of the “land degradation” area is to prevent and reverse land degradation processes, especially desertification and deforestation, through SSM and guided by the UNCCD strategy. A close connection with soils is carried out due to the main indicator of LDN: the content of soil organic matter. The “climate change” goal is to support transformational shifts towards zero greenhouse gas emissions and a climate-resilient way of development. The component is also associated with soil organic matter, and the ability of soils to sequester atmospheric carbon.

The goal of the “biodiversity” area is the conservation of a significant part of the world's biodiversity, its sustainable use and restoration.

The objectives of these three components are closely linked to the new areas of action of the GSP.

Typical structure of GEF projects:

- creation and strengthening of an enabling environment: capacity building and political and institutional interaction;
- practical implementation of SSM, including the creation of pilot areas and the scaling of technologies;
- knowledge management: dissemination of knowledge, outreach activities;
- control and evaluation of the project.

Any national ministry or international organization can act as the initiator of the project. The project is coordinated with the relevant ministries and external experts.

Projects are divided according to the volume of financing into full-sized and medium-sized (les than USD 2 million). Depending on this, the project development process differs.

Before submitting the project, it is necessary to examine the GEF policy documents on the official website www.thegef.org and to contact the NFP.

10 Other FAO projects in the region related to soil (Tania Santivanes)

Tanya Santivanes described the main changes in agrifood systems over the past 40 years, and FAO's strategic programmes and regional perspectives. There is a regional initiative for the sustainable management of natural resources and conservation of biodiversity in a changing climate. Fifty-three countries are included, of which 17 are from the Europe and the Central Asia region. The following activities are carried out as part of the project: Improving land degradation management and SSM, engaging UNCCD NFPs (COP15). Close cooperation with the UNCCD and key partners such as WOCAT. Support to countries in the preparation of the UNCCD PRAIS 4 report. There is a large portfolio of LDN projects in the region (eight projects): Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Ukraine, Serbia and Türkiye. Subregional project SEC-CACILM-2: Kazakhstan, Kyrgyzstan, Tajikistan, Türkiye, Turkmenistan and Uzbekistan. Particular attention is being paid to reducing the level of pollution of agricultural soils in the region.

To demonstrate this, a case study was discussed that was based in Chym-Korgon village, Kemin district, Kyrgyzstan. The project location was on the former aircraft refuelling and aerial spraying range and storage area. The soil layer was highly degraded, with no vegetation compared to nearby areas. The microflora before the introduction of soil and the biological product was poor and was represented

only by bacteria of the *Bacillus* species. Before treatment, a chromatographic analysis of soils for pesticides revealed 19 types of pesticides. Regional technical platform on “green agriculture”: Facilitating the exchange of knowledge within the region and between other regions on various areas of green agriculture.

Shovkat Kholdorov expressed willingness to cooperate on the compilation of pollution maps of industrial areas, and other issues of soil pollution.

In response to the question of Samvel Sahakyan about the possibilities of reducing the negative impact of agrochemicals, the speaker replied that to reduce the pesticide load, all countries should work in two directions:

1. The establishment of an official roaster of pesticides and revision of legislation in the field of application of agrochemicals. In some countries there are roasters, but outdated, and our main task is to provide support in updating the lists of this roasters. Other countries don't have such roasters.
2. The introduction of "green agricultural technologies".

11 Adoption of the EASP working plan for 2023–2025

The EASP working plan for 2023–2025 was developed by the EASP Secretariat in accordance with the new GSP Action Framework for 2022-2030, considering regional interests and the status in countries, and urgent needs identified during the meeting. The development of the work plan was carried out considering the available resources. During the active discussion on the second day, all proposals were discussed in detail in accordance with the new areas of action of the GSP. The work plan, finalized in the form of a table with the main planned outputs and actions, responsible executives, timeframes and preliminary budget, is given in Annex 3.

To control the implementation of the work plan and discuss the interim results of work, it was decided to organize short online working meetings every six months.

12 Election of new EASP Chair, Vice-Chair and WG coordinators

During the EASP Extraordinary Meeting on 15 December 2022, Gulchekhra Khasankhanova declined to be the Chair of the EASP. The Vice-Chair of the EASP, Iurie Mosoi, refused to be the Director of the Institute of Soil Science, Agrochemistry and Soil Protection named after Nicolae Dimo and stepped aside from the activities of the EASP. In this regard, during the sixth EASP Plenary meeting, new candidates for these positions were proposed and unanimously approved by the participants.

Murat Temirzhanov, NFP of Kazakhstan in the GSP, was chosen as its new Chair, with Alexander Chervan, NFP of Belarus in the GSP, as its new Vice-Chair.

The seventh Plenary Meeting of the EASP was proposed to be held in Kazakhstan in 2025 in person. The intermediate online meeting is scheduled for the end of October to the beginning of November 2023. There was also a proposal to create a working Telegram-chat for the EASP members for efficient communication.

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- FAO. *Research project on soil salinity and soil organic carbon. Conservation of Black soils of Eastern Issyk-Kul of the Kyrgyz Republic*. Project coordinator Roza Orozakunova. Kyrgyzstan.
- FAO. *Research project on soil salinity and soil organic carbon. Development of new methods for reclamation of secondary saline soils using local waste*. Project coordinator Samvel Sahakyan. Armenia.
- FAO. *Research project on soil salinity and soil organic carbon. Groundwater and soil salinization in the Ararat plain of Armenia: assessment of the state and development of tools for sustainable soil management*. Project coordinator Karen Ghazaryan. Armenia.
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Annex 1: List of participants

No.	Name	Country	Organization and position
1	Amin Ismailov (online)	Azerbaijan	Institute of Soil Science, Ministry of Science and Education of the Republic of Azerbaijan
2	Samvel Sahakyan	Armenia	Ministry of Agriculture of the Republic of Armenia, Head of the Reclamation Section of the Department of Land Use and Reclamation, NFP of the GSP
3	Alexander Chervan	Belarus	Belarusian State University, Head of the Department of Soil Science and Geoinformation Systems, NFP of the GSP
4	Ekaterina Sanadze (online)	Georgia	Ministry of Environment Protection and Agriculture of Georgia, Head of the Department of Soil Management, Department of Melioration and Land Management, NFP of the GSP
5	Murat Temirzhanov	Kazakhstan	Ministry of Agriculture of the Republic of Kazakhstan, Chair of the Land Management Committee, UNCCD NFP, NFP of the GSP
6	Aizhan Karabaeva	Kazakhstan	FAO Liaison Office in the Republic of Kazakhstan, Project Manager of the CALCILM project in Kazakhstan
7	Iurie Rozloga	Republic of Moldova	Institute of Soil Science, Agrochemistry and Soil Protection named after Nicolae Dimo, Head of the Laboratory, NFP of the GSP
8	Pavel Krasilnikov	Russian Federation	Moscow State University named after M.V. Lomonosov (MSU), acting Dean of the Faculty of Soil Science, Executive Secretary of the EASP
9	Oleg Golozubov	Russian Federation	Moscow State University, Faculty of Soil Science, Leading Researcher; Eurasian Center for Food Security, MSU, Senior Research Fellow
10	Anna Kontoboytseva	Russian Federation	Institute of Ecology and Evolution. A.N. Severtsov of the Russian Academy of Sciences (RAS), MSU, Faculty of Soil Science, engineer, member of the EASP Secretariat
11	Alexey Sorokin	Russian Federation	MSU, Faculty of Soil Science, Senior Researcher
12	Olga Yakymenko	Russian Federation	MSU, Leading Researcher, Associate dean for International Relations

13	Elena Shamrikova	Russian Federation	Komi Scientific Centre of the Ural Branch of the Russian Academy of Sciences, Institute of Biology, Leading Researcher, EUROSOLAN, RUSOLAN, Chair
14	Sevinch Madenoglu (online)	Türkiye	Ministry of Agriculture and Forestry, General Directorate for Agricultural Research and Policy (TAGEM), NFP of the GSP
15	Shovkat Holdorov (online)	Uzbekistan	Ministry of Agriculture of Uzbekistan, Head of the Analytical Centre for Quality, Composition and Soil Repository, NFP of the GSP
16	Sherzod Umarov	Uzbekistan	FAO, Assistant Representative in Uzbekistan
17	Gulchekhra Khasankhanova	Uzbekistan	UZGIP LLC, Chair of the EASP 2019–2023
18	Natalia Rodriguez Eugenio	FAO	FAO, Land and Water Division (NSL), Land and Water Officer, GSP, EASP Regional Facilitator
19	Tanya Santivanez (online)	FAO	FAO, Team Leader, Agriculture and Climate Change, Regional Office for Europe and Central Asia.
20	Mahmud Shaumarov	FAO	FAO-Kazakhstan
21	Maria Cruz Ferro Vasquez	FAO	FAO, GSP, GEF Liaison Office

Sixth Eurasian Soil Partnership plenary meeting

23 - 24 May 2023

Tashkent, Uzbekistan

22 May 2023		
Venue: City Palace hotel, Tashkent, Uzbekistan		
8:30 – 17:00	International workshop: Managing Salt-affected Soils for Sustainable Future	
23 May 2023		
Venue: City Palace hotel, Tashkent, Uzbekistan		
8:30 – 9:00	Registration	
<i>Session 1: Opening of the workshop and GSP overview</i>		
<i>Moderator: Natalia Rodríguez Eugenio</i>		
9:00 – 09:10	Welcome and Opening Remarks	FAO EASP Secretariat GSP Secretariat
9:10 – 9:30	GSP developments of regional interest	Natalia Rodríguez, GSP Sec
9.30 – 10:30	General report on the activities of the Eurasian Soil Partnership (EASP) in 2019- 2022	Pavel Krasilnikov, EASP Sec
10:30 – 11:00	Coffee break	
<i>Session 2: EASP progress</i>		
<i>Moderator: Pavel Krasilnikov</i>		
11:00 – 11:20	Report on the implementation of the project: Support to the promotion of sustainable soil management in the framework of the Global Soil Partnership: Phase III	Natalia Rodríguez, GSP Sec
11:20 – 11:40	EUROSOLAN report	Elena Shamrikova, EUROSOLAN Vice-chair
11:40 – 12:00	Capacity development on digital soil mapping	Oleg Golozubov
12:00 – 12:30	Establishment of national networks and the role of the focal points	Natalia Rodríguez, GSP Sec
12:30 – 14:00	Lunch	
14:00 – 14:45	Discussion on progress done and left behind according to workplan 2020-2023	EASP Secretariat
25/26 May 2023 (optional)		
Venue: Nukus, Uzbekistan		
8:00 – 18:00	Field trip to the bottom of the Aral Sea area: saline agriculture and restoration of degraded agricultural areas	

Annex 3: EASP working plan 2023–2025

Results	Activity descriptions	Responsible and performers	Deadlines	Estimated funding
Action Area 1: Manage sustainably and restore soils for the provision of ecosystem services				
1.1. Active participation in the RECSOIL initiative and implementation of the latest key regulatory and technical tools of the GSP, such as the SSM Protocol , and the GSOC-MRV Protocol	1.1.1. Formulate proposals for RECSOIL pilot projects in the Eurasian region	National ministries, NFPs and GSP Secretariat	June–December 2023	Internal funds of governing institutions
	1.1.2. Promoting SSM practices, especially RECSOIL toolbox. Organization of a webinar on RECSOIL (based on the first results of the project implementation in Kazakhstan)	NFPs and lead organization from each country, GSP Secretariat	All period	Internal funds of governing institutions
	1.1.3. Application of SSM and GCOS MRV Protocol at pilot areas, assessing the impact of different agricultural practices on soil health and carbon sequestration, and developing ways to scale up best practices in the Eurasian region.	NFPs and leading organization from each country, GSP Secretariat, EASP Secretariat	All period	Internal funds of governing institutions
1.2. Supporting the creation of financial incentives, tax benefits or grants for farmers and landowners who implement practices that promote soil carbon sequestration	1.2.1. Promoting SSM and SLM carbon finance initiatives (outlining eligibility criteria, reporting requirements and funding mechanisms to incentivize the adoption of regenerative agricultural practices and land management practices)	NFPs, GSP Secretariat, EASP Secretariat	All period	No special funding required
1.3. Establishment of Working Groups (WGs) on Action Areas	1.3.1. Formation of WGs for the first four Action Areas: nomination of experts from each country	NFPs, EASP Secretariat, GSP Secretariat	August–September 2023	No special funding required

Action Area 2: Strengthen soil governance				
2.1. Support for the implementation of regulatory instruments and promotion of the development and adoption of legal documents on soil protection to promote soil management in the Eurasian region.	2.1.1. Encourage national experts to complete the SoiLEX soil law database, analyse existing national laws, and disseminate the database tools to stakeholders.	NFPs, GSP Secretariat	September–December 2023	No special funding required
	2.1.2. Organization of a subregional online seminar on soil management and soil legislation with the participation of decision makers and politicians interested in maintaining soil health	EASP Secretariat, FAO Liaison Office with the Russian Federation, GSP Secretariat, NC	March 2024	EASP Secretariat and FAO in-kind contribution
	2.1.3. Active participation in the development and adoption of legal documents related to the soil (laws, norms and rules on soil cultivation, the use of fertilizers and pesticides, documents encouraging conscientious land users, etc.)	NFPs	June 2023–May 2025	No special funding required
2.2. Explore new mechanisms and strengthen capacity building and cooperation among different stakeholders in soil management sphere	2.2.1. Special discussion on organic agriculture, soil protection and conservation agriculture, agroecological practices and other approaches	EASP Secretariat, GSP interns	January–March 2024	No special funding required
	2.2.2. Discussion the role of non-governmental organizations in soil management and identifying possible ways of cooperation	EASP Secretariat	April–May 2024	No special funding required
	2.2.3. Creation of a policy note on the importance of soil information for agricultural insurance and agrilimatic risk assessment	EASP Secretariat	July–September 2024	No special funding required
Action Area 3: Promote knowledge and literacy on soils				
3.1. Strengthening cooperation with FAO	3.1.1. Engagement of the cooperation between NFP and FAO country offices where it is possible	NFPs, GSP Secretariat, FAO Country Offices	All period	No special funding required

	3.1.2. Establishment of the FAO departments at universities (pilot projects in the MSU and Belarusian State University)	EASP Secretariat, FAO Country Offices, NFPs, University Administration	All period	Internal funds of stakeholders (universities and sponsors), Funds of the GSP Secretariat
3.2. Promoting awareness of SSM through multimedia events, media and social media.	3.2.1. Promoting special projects such as youth carbon landfills to improve soil literacy among schoolchildren	EASP Secretariat, NFPs, University Administration	All period	Internal funds of governing institutions
	3.2.2. Creation of a virtual library of open video lessons about soils for different levels from schoolchildren to master's degree using the GSP EduSOILS platform	EASP Secretariat, GSP Secretariat, NFPs, University Administrations, National Societies of Soil Science	All period	Funds from the GSP Secretariat, contributions from National Societies of Soil Science
	3.2.3. Participation in the organization of the international competition (presumably the competition named after T.S. Maltsev) for the best applied scientific work <i>For the preservation of soil health, protection of soils from degradation and depletion</i> among students and young scientists. Active dissemination of information about the competition among specialists from the EASP countries.	Russian State Agrarian University - Moscow Agricultural Academy named after K.A. Timiryazev, Belarusian State University, EASP Secretariat, GLOSOLAN/RUSOLAN	All period	Internal funds of the governing institutions, Funds from PhosAgro, Funds from the GSP Secretariat
3.3. Assessing the potential of existing knowledge extension services to create a unified SSM advisory service system for the EASP	3.3.1. Assess the potential of existing extension services for medium and small farms (farmer associations, NGOs, scientific and educational centres, agrochemical and agrometeorological services, etc.) to provide advice and training to	NFPs, EASP Secretariat GSP Secretariat	September–November 2024	No special funding required

	farmers and other target groups. Creation of an analytical note on this issue.			
	3.3.2. Identification of effective and reliable services in the EASP countries as key centres for the creation of a unified EASP advisory service system for technology transfer and knowledge dissemination of SSM/SLM in cooperation with the ESP and GSP.	NFPs, EASP Secretariat GSP Secretariat	December 2024–January 2025	In-kind contribution of the EASP secretariat, sponsorship funds (discussed)
3.4. Adaptation of the Global Soil Doctors Programme for the EASP countries	3.4.1. Adaptation and implementation of the Global Soil Doctors Programme to the regional socioeconomic conditions of Central Asia and the South Caucasus	GSP Secretariat, Soil Institutions	June 2023–October 2024	Funds from the GSP Secretariat
Action Area 4: Promote awareness raising and advocacy on soil health				
4.1. Development of existing soil museums and creation of new ones in the EASP countries	4.1.1. Creation and expansion of soil museums based on universities, research organizations and schools (virtual museums can be considered as an alternative)	GSP Secretariat, NFPs and other partner organizations	All period	Internal funds of partner organizations
	4.1.2. Promotion of exhibitions, events and competitions in soil museums in the region.	Central Museum of Soil Science. V.V. Dokuchaev, EASP Secretariat, GSP Secretariat	All period	Internal funds of partner organizations, non-monetary contribution of the EASP secretariat
4.2. Edition scientific - popular materials	4.2.1. Development of scientific advocacy materials on the important role of soils in ensuring food and environmental security, including the creation of infographics on the economic benefits of SSM in national languages	Secretariat, GSP Secretariat, NFPs	September 2023–May 2025	Internal funds of partner organizations, Funds of the GSP Secretariat

4.3. The World Soil Day Campaign	4.3.1. Celebration of the WSD, raising awareness of the event (an example of Georgia as a beacon), including thematic competitions.	NFPs, EASP Secretariat, GSP Secretariat	October–December 2023, 2024	Internal funds of partner organizations, Funds from the GSP Secretariat, in-kind contributions from FAO Country Offices
	4.3.2. Establishing links with the organizers of similar international thematic days and professional holidays, such as Earth Day, GIS Day, Land Surveyor's Day and others, and including soil topics on their agenda.	NFPs, EASP Secretariat, GSP Secretariat	All period	No special funding required
	4.3.3. Soil Educational and Popular Science Video Contest dedicated to the WSD	NFPs, EASP Secretariat	June–November 2023, June–November 2024 (field period for video recording)	PhosAgro funds
4.4. Expanding engagement with National Societies and Geographic Societies and the International Union of Soil Sciences	4.4.1. Invite and participate in the events of National Societies of Soil Science and Geographical Societies, as well as use their events to present the activities of the EASP.	EASP Secretariat, national societies and geographical societies, International Union of Soil Sciences	All period	No special funding required

Action Area 5: Assess, map, and monitor soil health in a harmonized way

5.1. Participation in GLOSOLAN activities	5.1.1. Support for the standardization of soil data and analytical procedures at the national and regional levels	EASP Secretariat, GLOSOLAN, RUSOLAN	All period	PhosAgro funds
	5.1.2. Cluster calibration of legacy analytical data using modern methods and equipment	EASP Secretariat, GSP Secretariat, RUSOLAN	All period	PhosAgro funds
	5.1.3. Cluster Calibration of Spectroscopic Data	EASP Secretariat, GSP Secretariat,	All period	PhosAgro funds
	5.1.4. Development of regional spectral libraries for soils	EASP Secretariat, GSP Secretariat,	All period	PhosAgro funds
	5.1.5. Organization of subregional courses, webinars, international scientific conferences; publication of scientific articles for EUROSOLAN capacity building	NFPs, EASA Secretariat, GSP Secretariat, RUSOLAN and National Soil Laboratory Networks, PhosAgro	All period	PhosAgro funds, Funds from the GSP Secretariat (under discussion)
	5.1.6. Organize the GLOSOLAN Soil Organic Carbon Proficiency Test 2023 for the Eurasia Region	RUSOLAN	June 2023–December 2023	PhosAgro funds, Funds from the GSP Secretariat
5.2. Contribution to GloSIS activities and the creation of global maps, as well as the maintenance of a multilingual soil description system and the functioning of national soil data centres	5.2.1. Further improvement of national GSOC maps at the national level, including national data from Belarus and Uzbekistan	Belarusian State University, Institute of Soil Science and Agrochemistry of Uzbekistan, EASP Secretariat	September 2023–December 2023	Funds from the GSP Secretariat (contribution from the Russian Federation)
	5.2.2. Improve GSOCseq soil carbon sequestration potential maps, including creating	EASP Secretariat	June 2023–December 2024	No special funding required

	higher resolution maps using the experience of the Russian Federation			
	5.2.3. Promote a free video course on the digitization of soil maps and the development of multi-layer soil databases based on the MSU (in combination with the promotion of knowledge about soils)	EASP Secretariat	September 2023–May 2025	No special funding required
	5.2.4. Provide remote technical support to national soil data centres	EASP Secretariat	September 2023–May 2025	In-kind contribution of the EASP secretariat
5.3. Promoting the International Soil Classification (WRB) as a parallel soil classification system through publications and training	5.3.1 Promotion of WRB through online trainings and translation into Russian and, if possible, other national languages	EASP Secretariat, National Societies of Soil Science, partner universities and organizations	June 2023–May 2024	Internal funds of partner organizations,
	5.3.2. Organize seminars (in person and online) to promote WRB in St. Petersburg on the basis of the Central Museum of Soil Science named after V.V. Dokuchaev, Soil and Agronomic Museum named after V.R. Williams and in museums of other countries	Central Museum of Soil Science, EASP Secretariat, GSP Secretariat	July 2023–April 2025	Internal funds of partner organizations, Funds of the GSP Secretariat
Action Area 6: Foster technical cooperation				
6.1. Contribution to the preparation of the 2nd edition of The Status of the World's Soils Resources: Main Report and <i>The global state of salt-affected soils</i> report	6.1.1. Nominate and support regional experts for the second edition of The Status of the World Soil Resources: Main Report	NFPs, EASP Secretariat	July 2023–September 2023	No special funding required
	6.1.2. Provide country reports on the status of saline soils	NFPs, EASP Secretariat	July 2023–September 2023	No special funding required

6.2. Active participation of EASP experts in international working networks	6.2.1. Invite national experts to join and participate in the International Network of Black Soil (INBS) and take part in its activities. Registration form INBS	NFPs, EASP Secretariat, partner organizations	All period	No special funding required
	6.2.2. Invite national experts to join and participate in the International Network of Salt-Affected Soils (INSAS) and take part in its activities. Registration form INSAS	NFPs, EASP Secretariat, partner organizations	All period	No special funding required
	6.2.3. Invite national experts to join the International Network on Fertilizer Analysis (INFA) and take part in its activities. Registration form INFA	NFPs, EASP Secretariat, partner organizations	All period	No special funding required
	6.2.4. Invite national experts to join and participate in the International Network on Soil Biodiversity (NETSOB) and take part in its activities. Registration form NETSOB	NFPs, EASP Secretariat, partner organizations	All period	No special funding required
	6.2.5. Invite national experts to join and participate in the International Network on Soil Pollution (INSOP) and take part in its activities. Registration form INSOP	NFPs, EASP Secretariat, partner organizations	All period	No special funding required