



Food and Agriculture
Organization of the
United Nations

National updates on soil:

IRAQ

Iman Sahib Salman

ph.D in soil Science

Ministry of Agriculture

National Focal Point

7th NENA Soil Partnership Meeting

22-23 March 2022



Main activities implemented under Pillar 1



Food and Agriculture
Organization of the
United Nations



Regional Implementation Plan of
the NENA Soil Partnership:
towards sustainable management
of soil resources

7th NENA Soil Partnership Meeting | 22-23 March 2022



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Abdelhakim Ouzzane	Algeria
Abdelmagid Ali Elmobarak	Sudan
Abdulrahman Suliman Alhabeeb	Saudi
Arabia Achouri Kamel	Algeria
Ahmad Majar	Syria
Ahmed Mahameed	ITPS member
Ali Abdulla	Syria
Ali Hameed Al Shabani	Bahrain
Aline Saker	Lebanon
Alireza Parastar	Iran
Amaal Abdelgadir Hassan	Republic of Sudan
Claudio Zucca	ICARDA
Daniel Dale	FAO Regional Office – Near East and North Africa
(RNE) Ghassan Hamdallah	Jordan
Gaudensio Veanansio Monia	South Sudan
Hamdan Salem Al Wahaibi	Oman
Hedi Hamrouni	Tunisia
Hussam H. M. Husien	Syria
Imad Ghanma	Palestine
Iman Sahib Salman	Iraq
Mahmoud Hasan Alfraihat	Jordan
Mohamed Almashreki	Yemen

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Protocol for the assessment of sustainable soil management

- Developed by GSP and its ITPS at the 8th session of the GSP plenary Assembly in June 2020

Protocol for the assessment of sustainable soil management

1. Introduction

The objective of this protocol is to provide a framework, based on a set of indicators, for government officials, NGOs, and other stakeholders involved in development projects, to determine if implemented soil management practices are sustainable and in line with the definition of Sustainable Soil Management (SSM) included in the Voluntary Guidelines for Sustainable Soil Management (VGSSM) (FAO, 2017). This protocol and its indicators, parameters, and methods should be regularly revised and updated according to the evolution of soil sciences and the results obtained during its use in the field, reflecting local, national and regional realities. The measurement of recommended indicators provides an evaluation of a soil's ability to maintain prioritized ecosystem services, and therefore improve farmers' productivity and income in a sustainable manner. This document is built on existing work of the FAO's Global Soil Partnership (GSP): the revised World Soil Charter (WSC) (FAO, 2015), The Status of the World's Soil Resources (SWSR) report (FAO and ITPS, 2015), and the previously mentioned Voluntary Guidelines for Sustainable Soil Management.

The VGSSM define Sustainable Soil Management (SSM) as:

"Soil management is sustainable if the supporting, provisioning, regulating, and cultural services provided by soil are maintained or enhanced without significantly impairing either the soil functions that enable those services or biodiversity. The balance between the supporting and provisioning services for plant production and the regulating services the soil provides for water quality and availability and for atmospheric greenhouse gas composition is a particular concern".

Following this definition, the elements to be considered for the assessment of SSM are:

- Supporting and provisioning services for plant growth for food, livestock, fibre and forestry;
- Supporting services for below ground biodiversity;
- Regulating services for water quality and quantity; and
- Regulating services to increase carbon sequestration and limit the emission of greenhouse gases.

In other words, a sustainably managed soil has the ability to grow food, fibre or energy crops, or undertake other human activities that have an impact on soil, in such a way as to avoid adverse effects on the soil or the wider environment, including waterways and biodiversity.

SSM supports a number of Sustainable Development Goals (SDGs):

- Sustainable productivity (SDG 2: ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, and that progressively improve land and soil quality).
- Soil water availability (SDG 6: freshwater withdrawal as a proportion of available freshwater resources).

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Voluntary Guidelines for Sustainable Soil Management(VGSSM)

Implementation at the national level proposed approach



Organization of national multi-stakeholder workshops.



Main activities implemented under Pillar 1



**Attend the 9th GSP plenary 8-10 September 2021
virtual meeting using Zoom platform**



7th NENA Soil Partnership Meeting | 22-23 March 2022



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You are viewing FAO/GSP Isabelle Verbeke's screen View Options

 Food and Agriculture Organization of the United Nations

NENA governance 2021 – 2023

NENA Chair: Mr. Rachid Moussadek, Morocco
Vice Chair for North Africa: Mr. Abdelmjid Zouahri (chair of NENALAB), Morocco
Vice Chair for the Near East: Mr. Hamed Al Thuhli, Oman

-  Pillar 1 Chair: Ms. Rafla Attia (Tunisia)
-  Pillar 2 Chair: Ms. Leila ben Dhiab ben Daya (Tunisia)
-  Pillar 3 Chair: Mr. Bahram Taheri (Iran)
-  Pillar 4 Chair: Mr. Rachid Moussadek (Morocco)
-  Pillar 5 Chair: Mr. Imad Ghanma (Palestine)

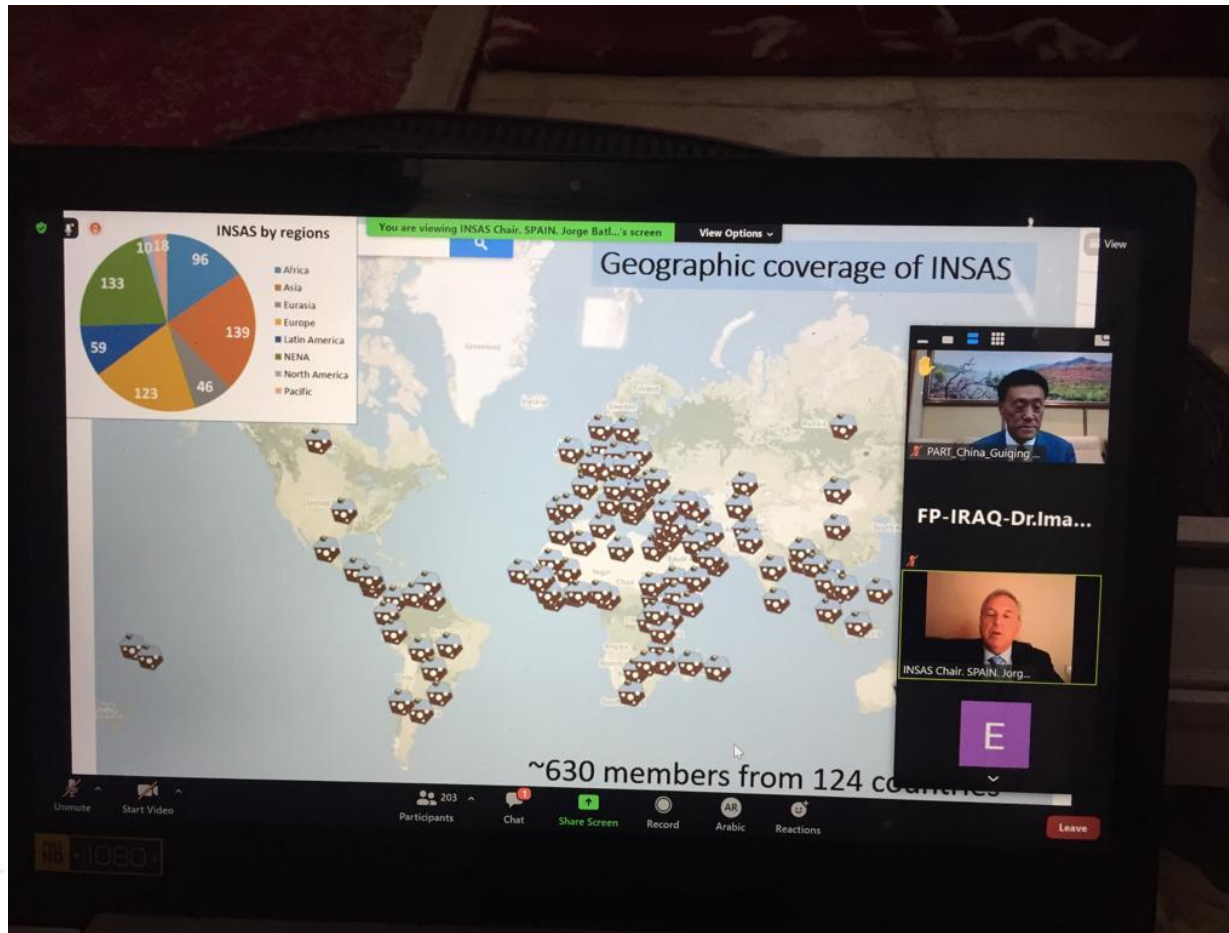
GLOBAL SOIL PARTNERSHIP 9th Plenary Assembly | 8 - 10 Sep

Unmute Start Video Participants 192 Chat 27 Share Screen Record Arabic Reactions

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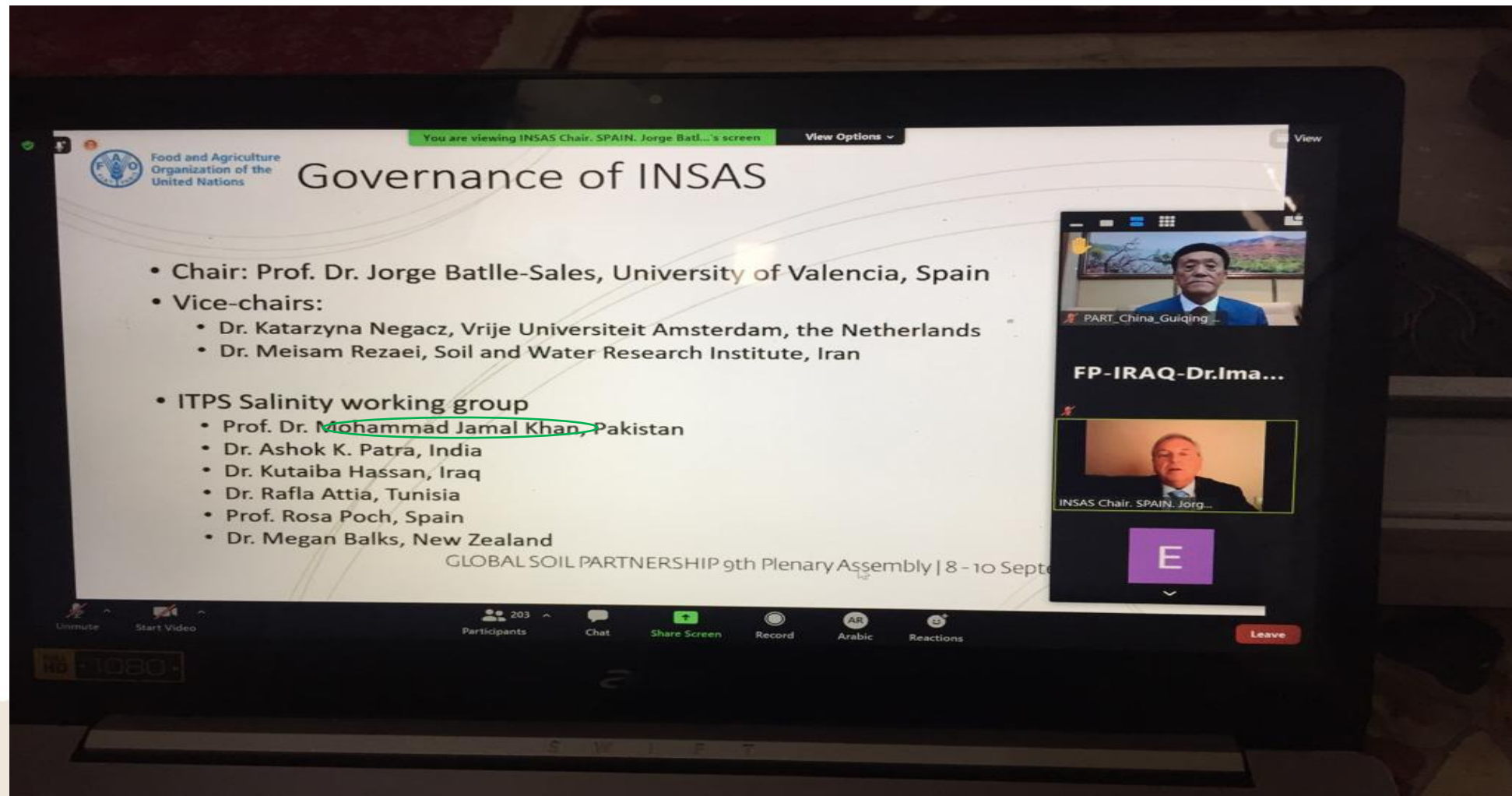
Main activities implemented under Pillar 1



7th NENA Soil Partnership Meeting | 22-23 March 2022



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The screenshot shows a Zoom meeting interface. The main content is a presentation slide from the Food and Agriculture Organization of the United Nations (FAO) titled "Governance of INSAS". The slide lists the following:

- Chair: Prof. Dr. Jorge Batlle-Sales, University of Valencia, Spain
- Vice-chairs:
 - Dr. Katarzyna Negacz, Vrije Universiteit Amsterdam, the Netherlands
 - Dr. Meisam Rezaei, Soil and Water Research Institute, Iran
- ITPS Salinity working group
 - Prof. Dr. Mohammad Jamal Khan, Pakistan
 - Dr. Ashok K. Patra, India
 - Dr. Kutaiba Hassan, Iraq
 - Dr. Rafla Attia, Tunisia
 - Prof. Rosa Poch, Spain
 - Dr. Megan Balks, New Zealand

At the bottom of the slide, it says "GLOBAL SOIL PARTNERSHIP 9th Plenary Assembly | 8 - 10 Sept".

On the right side of the Zoom window, there are two video thumbnails. The top one is for "PART_China_Guiqing..." and the bottom one is for "INSAS Chair. SPAIN. Jorg...". Below the thumbnails is a purple square with the letter "E".

The Zoom control bar at the bottom includes icons for Unmute, Start Video, Participants (203), Chat, Share Screen, Record, Arabic, Reactions, and Leave.

March 2022



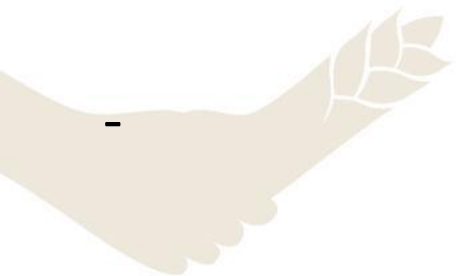
Main activities implemented under Pillar 2



Soil doctor

coordination with the directorate of Agricultural Extension and Training which its aims:-

- Build farmers knowledge abilities through Extension activities and training courses .
- Capacity building of the workers in Agricultural in the governorates.
- Transfer new Agricultural technologies through cooperation with Universities and Research Centers.





Main activities implemented under Pillar 2

Provides information by:

- Website and Social media.
- TV & radio programs.
- Radio programs
- Publications.
- Extensional articles.



Main activities implemented under Pillar 2



Training course about the good agricultural practices for seed producers



Field view of good agricultural practices for seed producers

Main activities implemented under Pillar 2



Greenhouse



Water Desalination system



Renewable energy system



Main activities implemented under Pillar 2

Contributing Nomination for :
King Bhumibol world soil
Day A word 2021

Glinka Word Soil Prize



Main activities implemented under Pillar 2



**Joined the event of World Soil Day 2021
official celebration on 3 December (online meeting
)**



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Main activities implemented under Pillar 3

Participation and nominated national specialist in the following topics :-

- life and soil biodiversity .
- soil pollution in the NENA Country.
- Soil fertility .
- water harvesting for addressing soil erosion .
- Conservation agriculture and carbon sequestration .



Main activities implemented under Pillar 3



Done

NENA SP_Policy Briefs.xlsx



	Life and soil biodiversity	Soil pollution in the NENA country	Soil fertility	Water harvesting for addressing soil erosion	Conservation agriculture and carbon sequestration
Algeria					
Bahrain					
Egypt					
Iran					
Iraq	Osama Abdul Rahman Owied email: asamaabd974@gmail.com	Sadeq Jaafar Hasan Dwenee e- mail: sadkjhdd@yahoo.com	Iman sahib salman email: eman_sahib@yahoo.com Nooruldeen Shawqi Ali email: shawqiali@yahoo.com	Alaa Adel Jasim email: alaa3239@gmail.com	Waleed Muhammed Mikhlef Al-Shafie email: waleedshafie@yahoo.com
Jordan					
Kuwait					
Lebanon					
Libya					
Mauritania					
Morocco					
Oman					
Palestine					
Qatar					
Saud Arabia					
Sudan					
Syria					
Tunisia					
United Arab Emirates					
Yemen					

Main activities implemented under Pillar 3

National survey on fertilizer use and management on December 2021



Food and Agriculture Organization of the United Nations

الاستبيان الوطني لاستخدام وإدارة الأسمدة

هذا الاستبيان موجه لجميع أصحاب المصلحة ذوي الصلة: نقاط الاتصال، المشاركون في الندوة عبر الإنترنت، جمعيات المزارعين، صناعة الأسمدة، جمعيات الأسمدة، المبادرات، المختبرات، جمعيات علوم التربة، منظمة الأغذية والزراعة جالتربة هي المورد الحيوي الذي نحتاجه للحصول على أكثر من 95% من غذائنا: إذا أردنا ضمان الأمن الغذائي العالمي فمن الضروري صيانة التربة وحمايتها. تعد مدونة السلوك الدولية بشأن الاستخدام المستدام للأسمدة وإدارتها (مدونة الأسمدة) أداة مهمة لتنفيذ المبادئ التوجيهية الطوعية للإدارة المستدامة للتربة (منظمة الأغذية والزراعة، 2017) مع إيلاء اعتبار خاص لاختلالات المغذيات وتلوث التربة. تمت المصادقة على خطة العمل لتنفيذ مدونة الأسمدة من قبل الجمعية العامة الثامنة في يونيو/حزيران 2020. ودعت الجمعية العامة البلدان الأعضاء إلى تطبيق مدونة الأسمدة على المستوى الوطني.

Main activities implemented under Pillar 3

Attend the 2nd meeting of the International Network on fertilizer Analysis (INFA) 29-30 June 2021 (Virtual meeting)

- importance of INFA and why do we need it.
- work plan
- Governance and election of chair and vice –chair .



Main activities implemented under Pillar 3



Received a report “soil fertility and implementation of sustainable soil management (SSM) to boost soil productivity “

Soil fertility and implementation of sustainable soil management (SSM) to boost soil Productivity in NENA region

1. Introduction

Soils are the product of multimillion years of genesis and evolution. They emanated from the weathering of geological rocks and interaction with light, temperature, rain water, vegetation, microorganisms, time and human interventions. Under natural conditions, balance is maintained between the organic matter formation and its mineralization with a release of nitrogen, phosphorous and sulfur, and between the soluble, exchangeable and fixed forms of macro and micro elements, which move from soil particles to the roots in soil solution through diffusion, mass flow and interception (Figure 1).

The diagram shows a cross-section of soil with a root system. Three mechanisms are labeled: 'Diffusion' with arrows pointing from soil particles towards the root, labeled with 'K, P'; 'Mass flow' with arrows pointing from soil particles towards the root, labeled with 'N, Ca, Mg, Cu, B, Mn'; and 'Root interception' where the root tip is shown cutting through soil particles. A 'Soil particle' is also labeled. Navigation arrows are present on either side of the diagram.

Main activities implemented under Pillar 3

Attend the Global symposium on soil Biodiversity on 19-22 April 2021



Global Symposium on Soil Biodiversity



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Main activities implemented under Pillar 3



Participation in the Global symposium on salt –affected soil (GSAS21)
Virtual meeting 20-22 October 2021

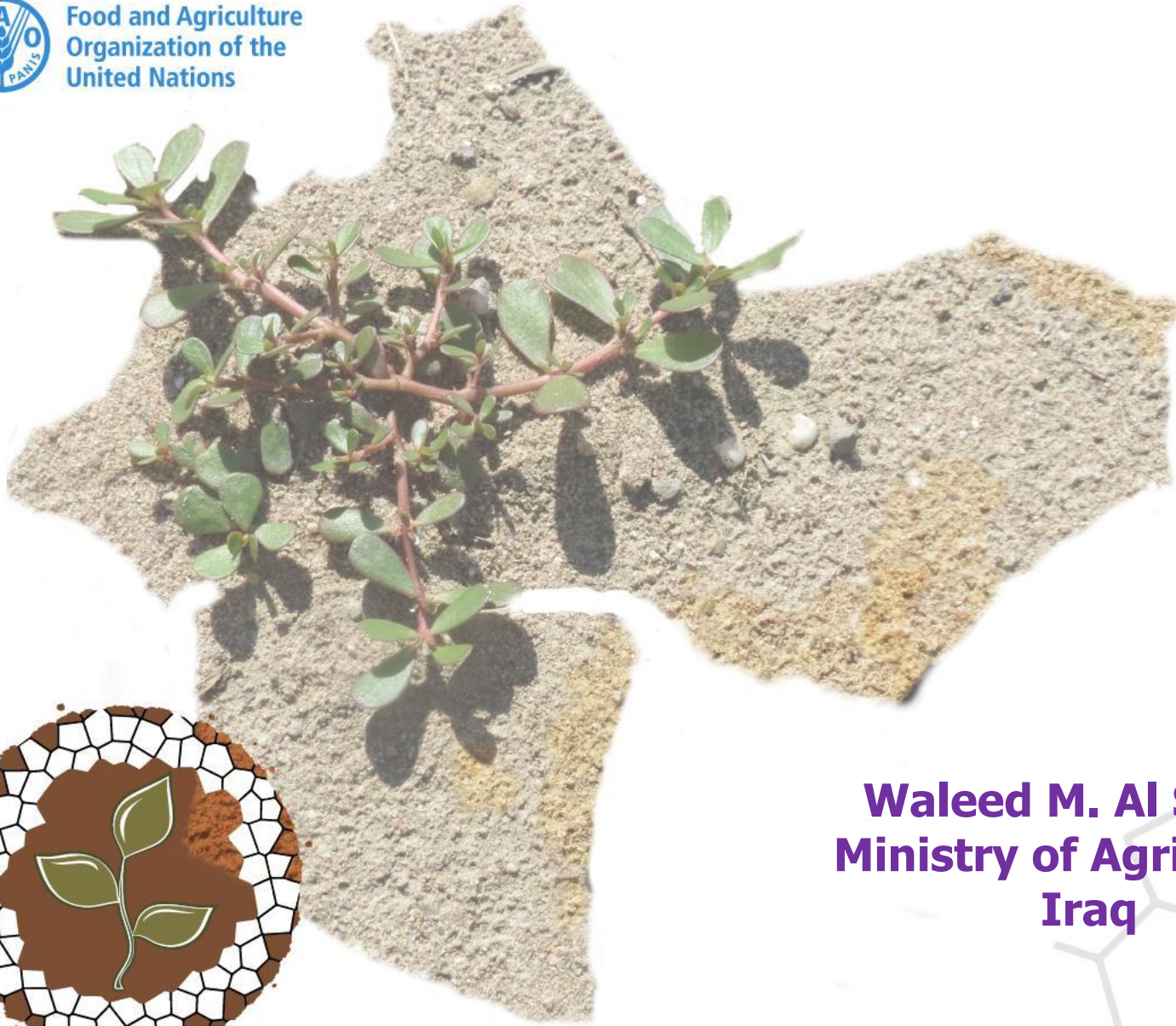


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GLOBAL SYMPOSIUM ON SALT-AFFECTED SOILS

20 - 22
October, 2021
Virtual meeting

Waleed M. Al Shafie
Ministry of Agriculture
Iraq



Main activities implemented under Pillar 3



Factors responsible for the accumulation of salt in soil

Human – induced factors

Misuse of land resources by farmers

Natural Factors

Marine sediments

Weather of minerals

Ground water

Climate

Main activities implemented under Pillar 3



Irrigation with
Drainage Water



Wrong Water Transfer



Irrigation with
Saline Well Water



Closed Drainage Canal



Main activities implemented under Pillar 3

Reasons for salinization of soils in Iraq:

First: Natural factors

- 1- Marine sediments
- 2 - mineral weathering
3. High level and salinity of ground water
4. Climate (Dry - Semi Dry)
5. Heavy soil texture
6. Climate change

Second: Human factors:

- 1- Traditional irrigation methods
- 2 - the uncontinuous maintenance of drainage networks in the reclaimed land
3. Traditional methods of transporting water through uncoated channels
- 4 - deterioration of the quality of irrigation water represented by the Tigris and Euphrates rivers.
5. Economic and social factors.

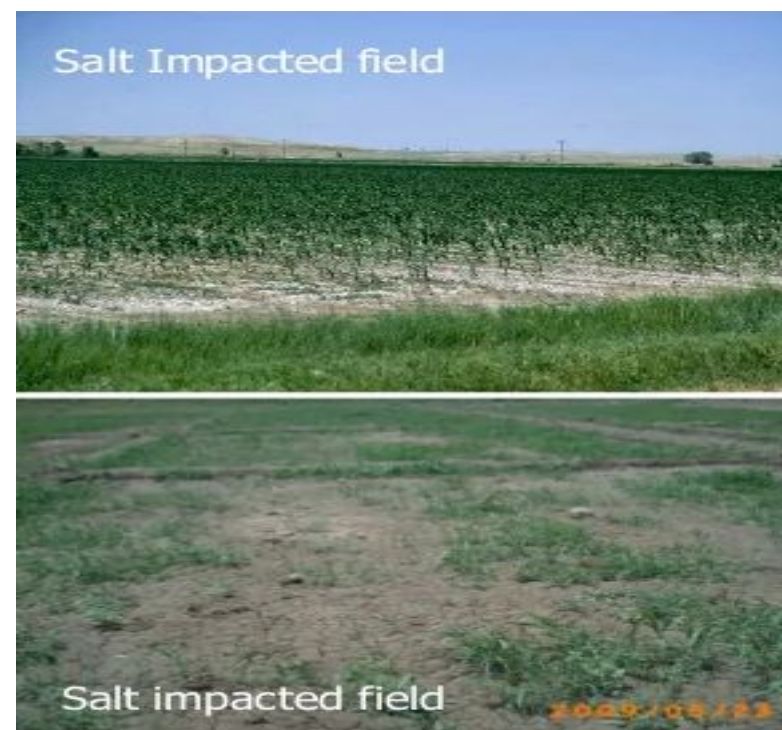


Main activities implemented under Pillar 3

Impact of Salt-affected soils on productivity



Effect of salinity levels on most crops yield	
Soil salinity level	% yield
Non saline	100
Slightly saline	70-80
Moderately saline	40-70
Sever saline	0-40
Very sever saline	0



Main activities implemented under Pillar 3

Water harvesting



Water Erosion in the NENA region

The Middle East and North Africa (NENA) region is particularly vulnerable to climate change. The severity of climate-change impacts is related to the geographic and ecological particularity of the region. The majority of countries in the NENA region belong to the hydraulic poor regions located between the tempered region of the Northern hemisphere and the inter-tropical region, characterized by scarcity and spatial and temporal rainfall variability. The Main characteristics of the NENA region climate are Heat Waves, rare precipitation and drought. So its classified into two main climatic stages: Semi-arid and arid. This risky environment is a favorable ground to develop severe forms of Erosion that leads to severe deterioration of the agricultural soil.

In matter of erosion types we notice water erosion and wind erosion, the first type is found especially in the region of the Mediterranean climate and the second one in found especially in the arid zone. The Maghreb region does not make any exception in this global context. In fact, the overlay of agricultural season with torrential rainfall period including the semi-arid landscape of the countries, made us witnessing a huge loss of fertile topsoil and then a remarkable regression of the agricultural production and the loss of many hydraulic constructions by siltation. For example according to the last erosion survey made by the Tunisian ministry of agriculture, 11 703 152 ha (75% of the country) are threatened by all Water Erosion forms and in many regions wind erosion and water erosion are combined. In Algeria Annual erosion (sheet erosion and rills) was 1.5 to 6.8 t•ha-1•yr-1 on bare soil, but overall erosion (sheet and linear (gully)) varies in even greater proportions and may reach record values (54 t•ha-1•yr-1). (Morsli and *all*, 2013)

I. Water Erosion factors

Tow types of factors induce the decrease of soils productivity due to erosion: natural and anthropogenic.

1.1. Natural Erosion Factors

1.1.1. Climate

We can say that the major factor is the climate; in fact, the Mediterranean climate is caractised by very dry and hot summer with wet and cold winter. The rainy period occurs between September and March when the land is bare without any vegetal cover. These rains are therefore a source of



Main activities implemented under Pillar 3



Iraq



**R: NENA Soil Partnership
- Policy Brief: Best
practices to prevent soil
erosion (including water
harvesting)**

Dear all,

Iraq



I would like to thank Alaa, Talal, Amin, and Imad for sending us their review of the document prepared by Ayda.

Main activities implemented under Pillar 3



Soil pollution

- Editorial Board for the FAO/UNEP/WHO Global Assessment Soil Pollution Report in 1/4/2021.
- Towards Zero pollution: Launch of the Global Assessment of Soil Pollution Conference in 4/6/2021

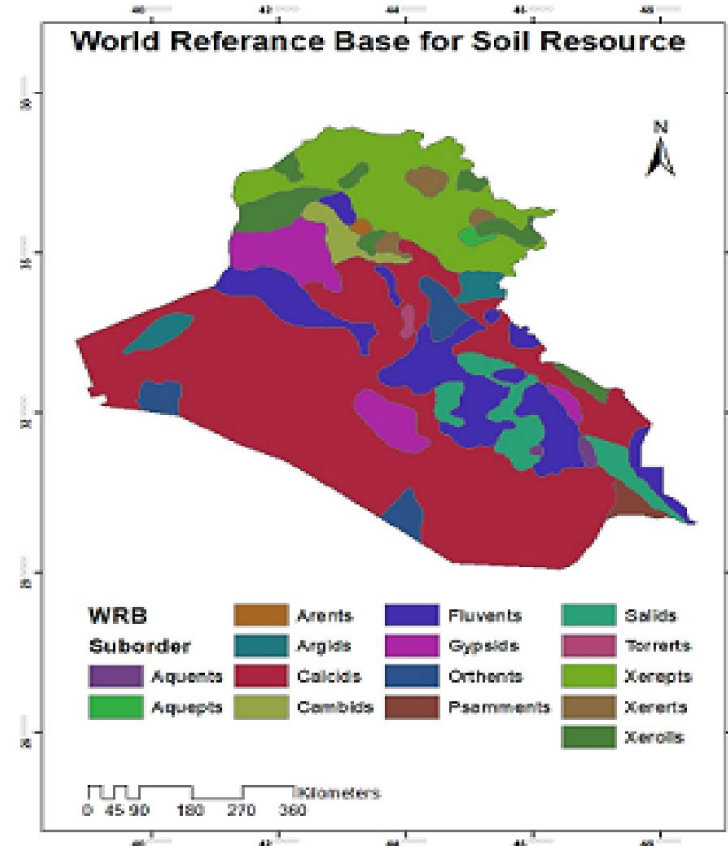


Main activities implemented under Pillar 4

Soil Atlas of Asia



- Attend workshop on modelling and mapping soil organic Carbon (SOC) sequestration potential in the framework of the Global soil organic carbon sequestration potential map on 12 may 2021 (GSOC seq)
- starting to take shape as FAO member countries begun sharing their result and main finding
- The GSO seq modelling & mapping exercise to enable countries to draw important conclusion regarding to the potential of soil .

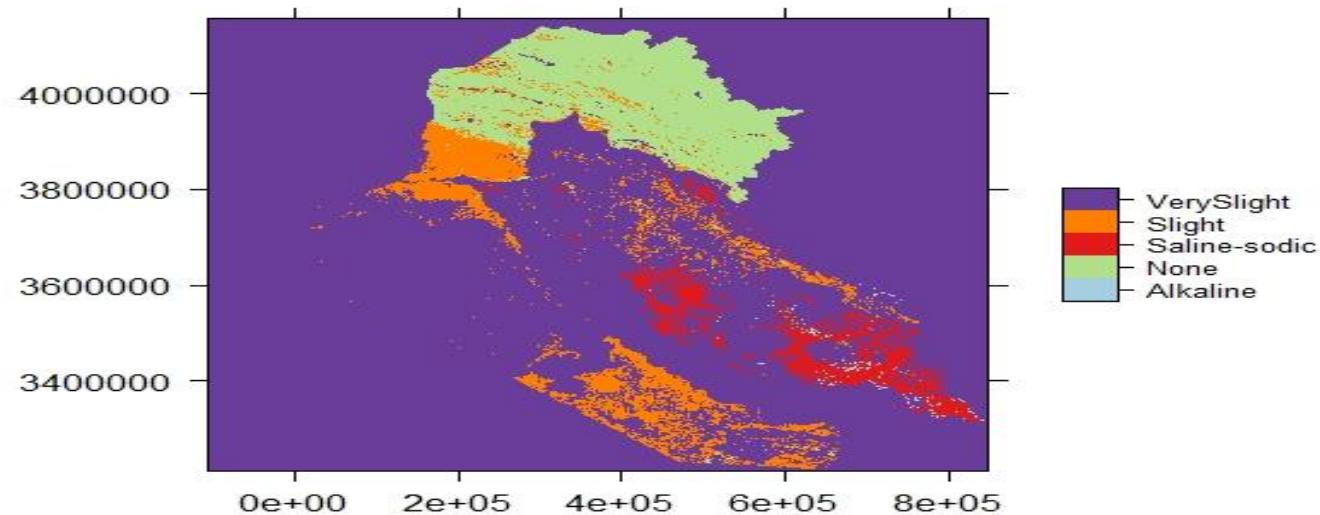


Main activities implemented under Pillar 4

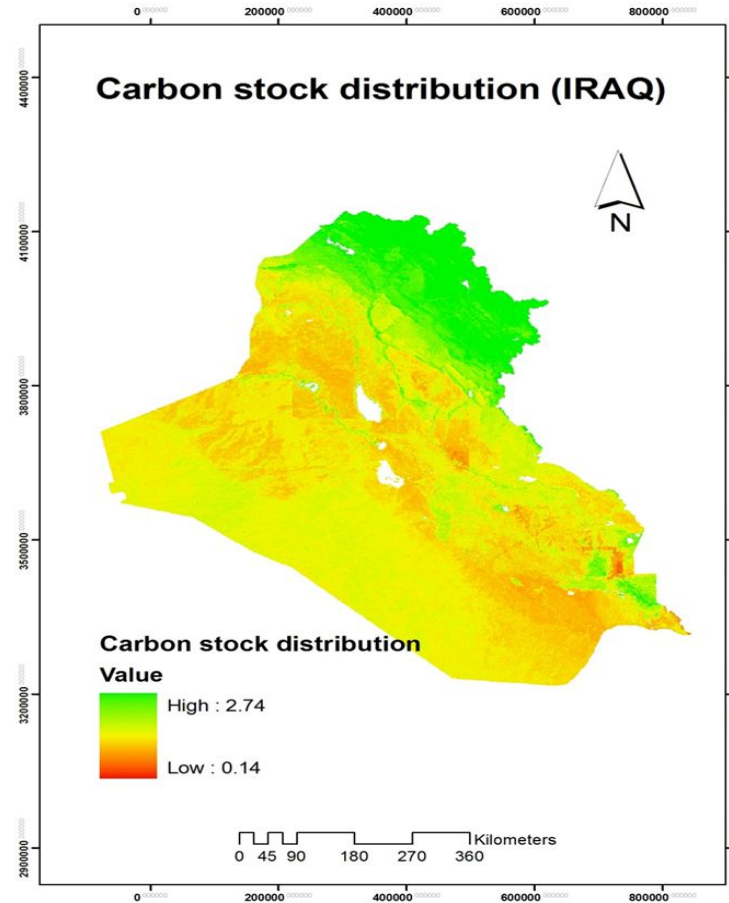


TCP RAB 3802 project

-Attend Mapping salt-affected soils in the NENA Regional training workshop on 7-11 Feb 2022
(virtual meeting)



Main activities implemented under Pillar 4



Main activities implemented under Pillar 4



Registration on the 5th Editorial Board meeting which will be on 3-5 May in this year it is objectives:-

- 1- Endorsement of the maps and related text .
- 2-Review of the text in the Atlas .
- 3-plan the next steps including the launch events of the Atlas .



Main activities implemented under Pillar 5

GLOSOLAN



- establishing the Review Panels to do the endorsement of the GLOSOLAN SOP 2019-2020 drafting of the SOP on soil nitrogen – Kjeldahl method, the global leader(s) for this SOP the Review Panel for the SOP on soil nitrogen – Kjeldahl method would be composed by: 1. Silbermann Ana, Uruguay, 2. Suat AKGÜL, Turkey, 3. Hana'a Adel Burezq, Kuwait, 4. Sadeq J. H. Dwenee, Iraq, 5. Ágnes Nagy, Hungary.
- IEEE-P4005 meeting . took place on 11th of February 2021 (Sub Group Discussion - Data saving).
- Working Group meeting, on 13th of April, 2021. A questionnaire for members of GLOSOLAN from the Near East and North Africa (NENALAB), 8-3-2021 for:
 - Particle size-distribution:
 - Exchangeable bases and CEC by ammonium acetate
 - Microbial biomass C and N by chloroform fumigation-extraction

Main activities implemented under Pillar 5



- First SG3 meeting (Data saving and archiving) on, 18 Mar 2021.
- The first meeting of SG 4: Cross calibration for spectral exchange (Optical + Thermal). on 16th March 2021.
- The P4005 Working Group meeting on behalf of IEEE-Standard Association entitled Standard Protocol and Scheme for Measuring Soil Spectroscopy on 31 march 2021.
- First meeting of SG 2: Thermal operational scheme on 25th March 2021.
- Working Group meeting was held on 13th of April : Technical Discussion, *USGS Denver Spectroscopy lab, USA, Spectrometer performance evaluation and measurement protocols.*

Main activities implemented under Pillar 5



- A questionnaire on harmonization process of the SOP in 4/5/2021 for :
 - Particle size-distribution by pipette method
 - Particle size-distribution by hydrometer
 - Moisture content by gravimetric method
 - Particulate organic carbon by physical fractionation
 - Quasi-total elements by digestion using aqua regia and EPA. This includes total heavy metals.
 - Exchangeable bases and CEC by ammonium acetate
 - Available micronutrients (Fe Zn Cu Mn Mo Ni Cd) – extraction using DTPA
 - Mehlich III for macro and micronutrients (including S and B)



Main activities implemented under Pillar 5



- The second SG3 meeting (Data saving and archiving), on 15th of June 2021 .
- The second meeting of SG 2: Thermal operational scheme (3 – 15 um). on the 10th of June 2021 .
- SG meeting held on 17th June 2021.
- The second meeting of SG 4: Cross calibration for spectral exchange (Optical + Thermal). on 22nd of June2021.
- Participated on 24th June , 2021 .” agricultural topsoil properties: the Italian test cases”, and the progress reporting of all SG activities.
- P4005 meeting on 13th September 2021.
- Completed a questionnaire of SOP harmonized by GLOSOLAN on 15th sept. 2021.

Main activities implemented under Pillar 5



- participated in the 2nd NENALAB meeting on 28 October 2021 in the framework of the Global Soil Laboratory Network (GLOSOLAN) activities. to update GLOSOLAN members from the Near East and North African region on GLOSOLAN activities and to discuss the position of NENALAB at the 5th GLOSOLAN meeting (23-25 November 2021).
- The Brazilian Soil Spectral Library Experience from scientific to society services, on 4 October 2021
- GLOSOLAN PT 2021, on 9thoct.2021 preparing for the proficiency test 2021.
- Participated in Measuring reflectance of undisturbed soil surface in the field under laboratory quality: A protocol to assess soil properties that are sensitive to the soil sealing phenomenon on 28th October 2021.
- The second plenary meeting on soil spectroscopy on 2 to 4 November 2021.



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*Thanks for your
attention*

**7th NENA Soil
Partnership
Meeting**

22-23 March 2022

