



# Ninth Asian Soil Partnership Meeting

# Philippines progresses and news on Sustainable Soil Management and Soil Health

23 - 24 April 2024 10am to 1pm GMT+7

GINA P. NILO, Ph.D

Director, Bureau of Soils and Water Management and Chair, Asian Soil Partnership

#### **GSP Action Framework 2022-2030**

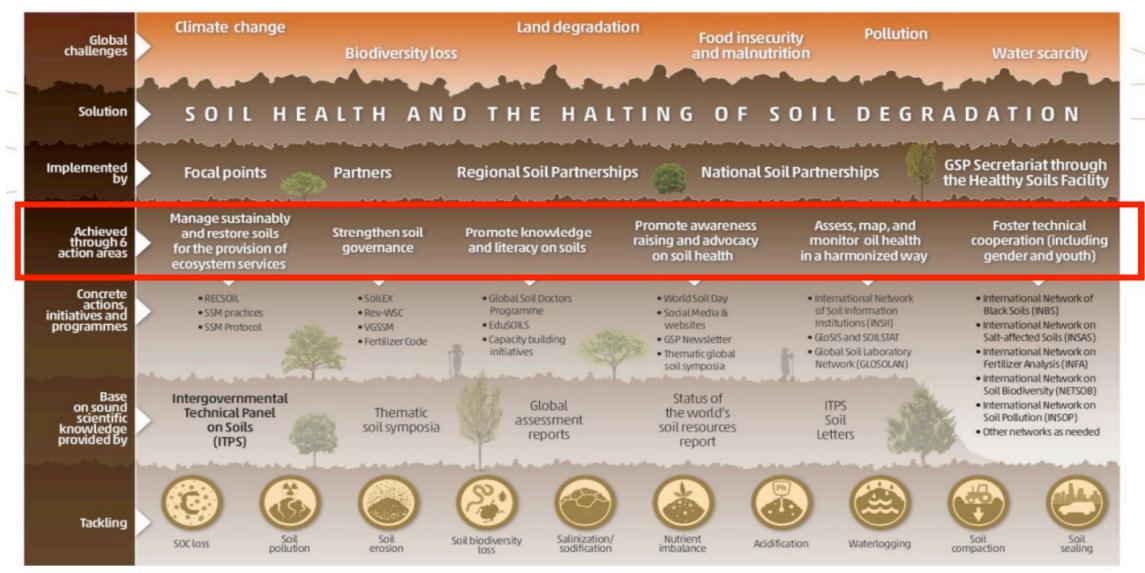


Figure 1. GSP Action Framework



# National Soil Health Program



Since 2020, the DA-Bureau of Soils and Water **Management** has spearheaded the National Soil Health Program. This aims to have a **systematic** and holistic approach in addressing soil health to ensure sustainable use and management of soil resources and enhanced productivity and income.



Pillar 1: Promote sustainable management of soil resources for soil protection, conservation and sustainable productivity



Pillar 2: Encourage investment, technical cooperation, policy education, awareness and extension in soil



Pillar 3: Promote targeted soil research and development focusing on identified gaps, priorities and synergies with related productive, environment and social development actions



**Pillar 4: Information and Data** 



Pillar 5: Harmonization of methods, measurements and indicators for the sustainable managementment of soil resources

ISO/IEC 17025: 2017

LA-2016-299B ATEL-1-1021-299B Laboratory Services Division

LA-2023-423A Soil and Water Resources



# The National Soil Health Program (NSHP)

#### BSWM contribution to the DA's Vision:

## Climate Resilient Food and Nutrition Secured Philippines

NSHP provides a holistic and systematic approach in addressing soil health to ensure sustainable use and management of soil resources, enhanced agricultural productivity and increased farmers income.

# Key Components: S.M.S.

- 1. Strengthen Soil Laboratories
  - 2. Monitor Soil Health
- 3. Sustainable Soil and Land Management Implementation

ISO/IEC 17025. 201



# Launching of NSHP as DA-Banner Program





Sec. Kiko Tiu Laurel

Pagkatapos po ng meeting kahapon sa Commission on Appointments, agad akong dumiretso at nakibahagi sa selebrasyon ng World Soil Day 2023 na may temang "Soil and Water: A Source of Life".

Lupa at tubig ang pundasyon ng agrikultura, kaya naman ay binibigyang-pugay ko ang DA-Bureau of Soils and Water Management sa paglunsad ng National Soil Health Program!

Patuloy po nating isulong at suportahan ang mga initiatives na naglalayong siguruhin ang sustainable at progresibong agrikultura ng bansa.

#ParaSaMasaganangBagongPilipinas











Management System ISO 9001:2015



ig ay Pag-ingatan at Pangalagaan Tungo sa maunlad na Agrikultura at Kabuhayan"

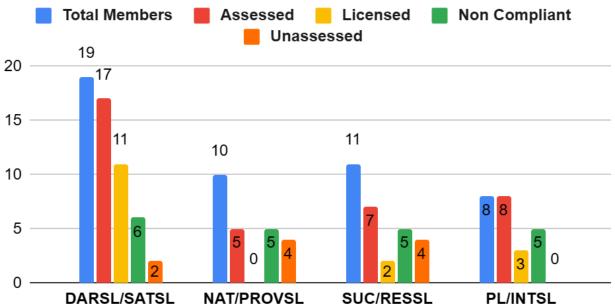
# Sthrengthening of Soil Laboratories

# Implementation of PD 1435 and Establishment of PHILNASOLAN

- Network established last 2019, with annual general assembly conducted.
- Promoted harmonization of methods for Soil Organic Carbon, Soil Electrical Conductivity, Soil Available Phosphorus – Olsen, Bray I and Bray II, Soil Bulk Density (2023), & Soil respiration (2023)

PL/INTSL 16.7%

# STATUS OF LTO-SL OF PHILNASOLAN MEMBERS



# SUC/RESSL 22.9% 48 NAT/PROVSL 20.8%

#### **DISTRIBUTION OF MEMBER LABORATORIES**

**Total Member** 

Laboratories:

LA-2016-299B LA-2023-423A
ATEL-1-1021-299B Soil and Water Resources
Laboratory Services Division Research Division

"Lupa't Tubig ay Pa Tungo sa Maunlad na DARSL/SATSL 39.6%



# threngthening of Soil Laboratories



#### Distribution of Technical and Scientific Equipment and Laboratory Supplies to Regional Soil Labs

























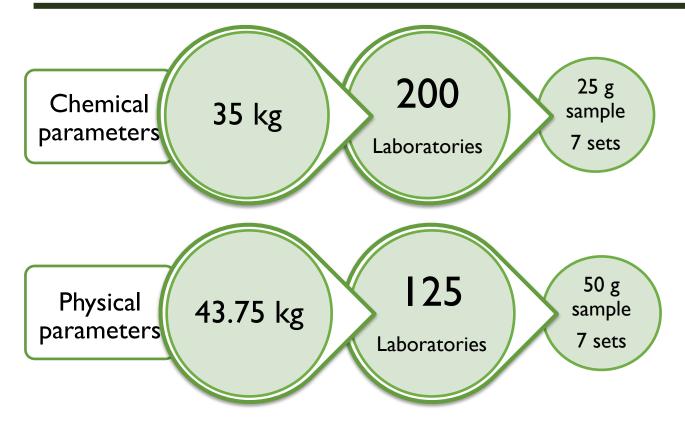








# **SEALNET PT Status**



SAMPLES UNDER CUSTODY OF PHILIPPINE NUCLEAR RESEARCH INSTITUTE (PNRI)

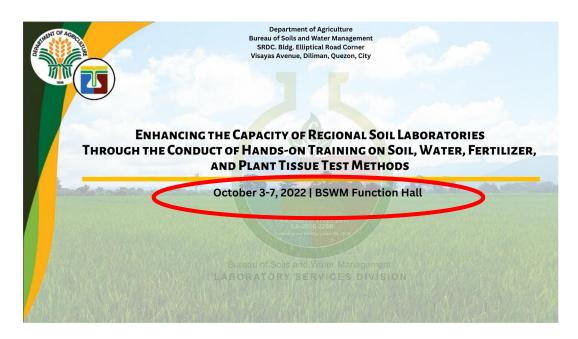
ON-GOING COLLABORATION WITH FAO – PH AND GLOSOLAN FOR DELIVERY OF SAMPLES ABROAD.

**TARGET DATE OF DELIVERY: APRIL 29, 2024** 





#### **Capacity Building Activities – Regional Soil Laboratories**









No. of participants – 37

gatan at Pangalagaan 'ikultura at Kabuhayan"



Management System ISO 9001:2015





#### Capacity Building Activities – Regional Soil Laboratories, Private Laboratories and SUC









No. of participants - 54

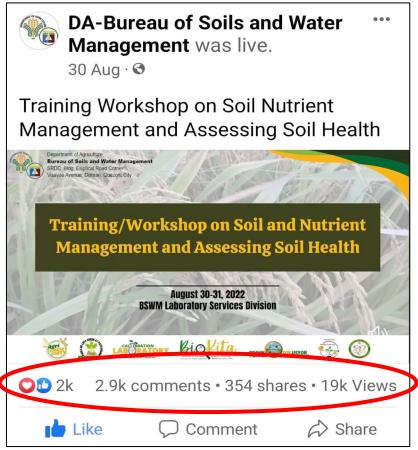








#### **CPD Accredited Capacity Building Activities**



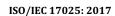




No. of participants – 3,413

No. of participants granted with 5 CPD units:

1,615 Licensed Agriculturists in the Philippines



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#### **CPD Accredited Capacity Building Activities**





No. of participants – 1,347

No. of participants granted with

12 CPD units:

959 Licensed Chemists in the

Philippines



"Lupa't Tubig ay Pag-ingatan at Pangalagaan Tungo sa Maunlad na Agrikultura at Kabuhayan"



# onitoring of Soil Health



#### FARMERS & AEW CAPACITY BUILDING - STK TRAINING



Proper collection of soil samples Soil analysis using STK Fertilizer Recommendations

2021 - Present No. of STK distributed - 1,935 STK in 285 municipalities

For 2023 - **472 participants** from different regions have benefited from trainings.

For 2024 BSWM LSD aims to establish **Community Soil Health Clinics** around the Philippines with **143 interested partners**.

By 2024-2025, with the collaboration of **16 Regional Soil Laboratories**, the BSWM Laboratory Services Division aims to distribute **5,614 STKs to 85 Provinces**.

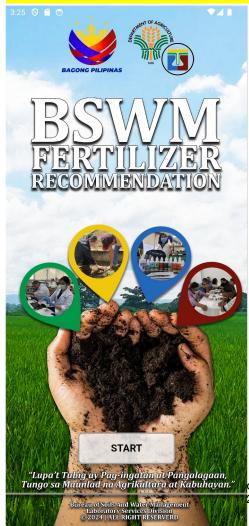
ISO/IEC 17025: 2017

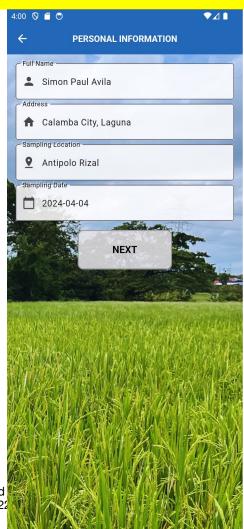
LA-2016-299B ATEL-1-1021-299B Laboratory Services Division

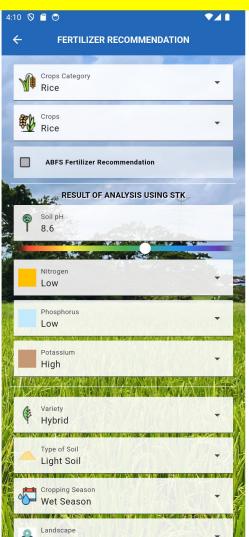
LA-2023-423A Soil and Water Resources Research Division

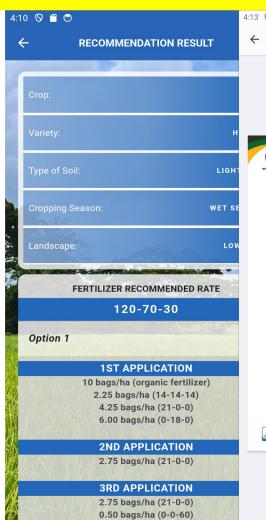


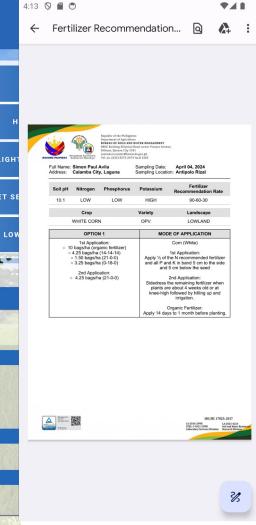
#### **Mobile Applications for Fertilizer Recommendations**













## Hands-on Training on STK Production and Analysis for RSL Personnel





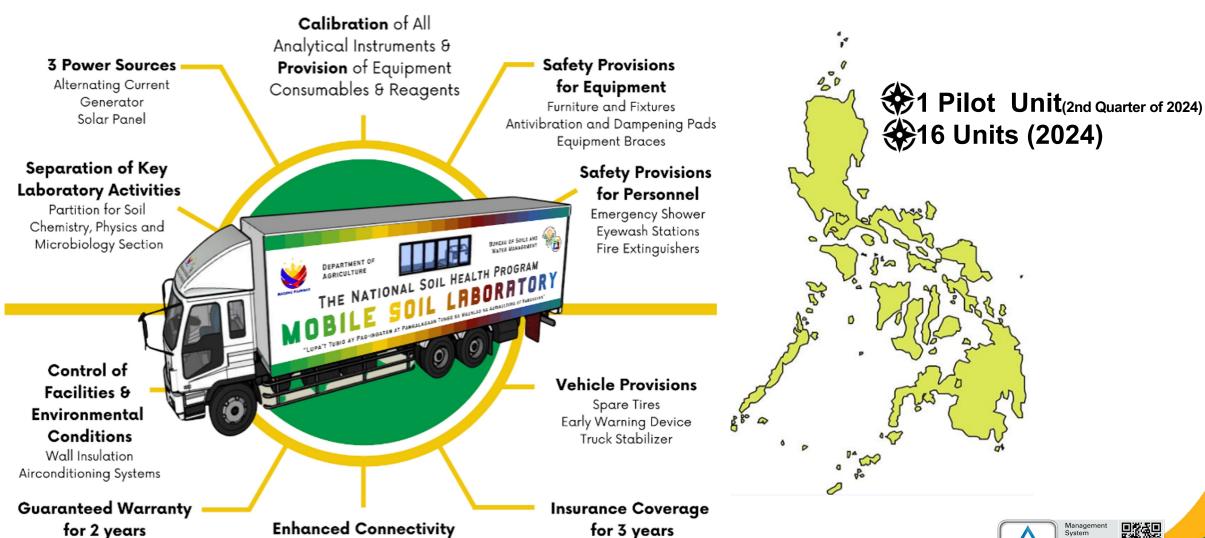




# onitoring of Soil Health



#### **Establishment of Mobile Soil Laboratories**



CCTV Surveillance System

WiFi Connectivity

#### Implementation of SLM in Sloping Areas of Corn



- Assess soil health status of upland/hilly land areas primarily used for cultivation
- Develop & promote a science-based approach that will enhance the full potential of upland/hilly land areas for agroenvironmental development
- Assess adoption of soil & water technologies, its benefits to farmers and environmental impact



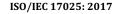
Alfonso Lista, Ifugao



Ilagan City, Isabela



Sumilao, Bukidnon



Laboratory Services Division

Soil and Water Resources Research Division







#### Implementation of SLM under the Manila Bay Rehabilitation Project



**Technology Demonstration Farm in Hermosa, Bataan** 



Farmers' Training in Abucay, Bataan

ISO/IEC 17025: 2017

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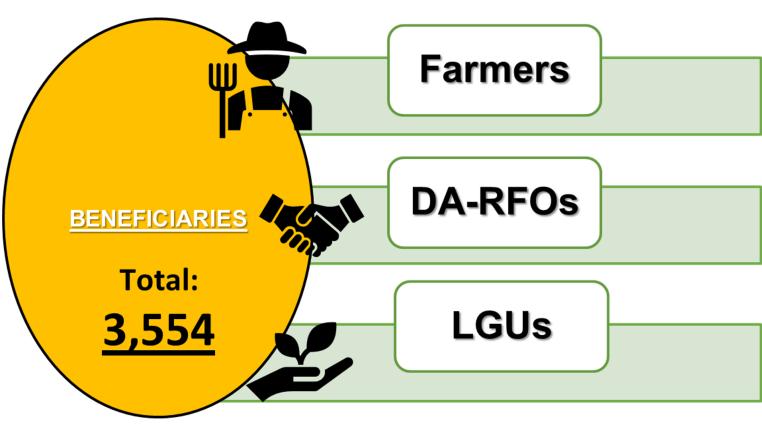




#### **Technology Demonstration-Adaptive Balanced Fertilization Strategy CY 2023**



2<sup>nd</sup> Cropping:1,105 Hectares



"Lupa't Tubig ay Pag-ingatan at Pangalagaan Tungo sa Maunlad na Agrikultura at Kabuhayan"





#### **Summary of ABFS Result-1st Cropping**

REGION	COMBO 2 (Target Yield: 5-6 tons/ha)	COMBO 3 (Target Yield: 7-8 tons/ha)	COMBO 4 (Target Yield: 6-7 tons/ha)		
CAR	6.44	-	5.55		
I	6.05	-	6.08		
II	5.35	-	5.44		
III	4.96	-	4.65		
IV-A	5.36	-	5		
IV-B	5.38	-	6		
V	4.43	-	-		
VI	5.82	-	5.15		
VII	5.43	-	6.05		
VIII	-	6.2	5.9		
IX	6.79	-	3.32		
X	7	-	7.67		
XI	5.53	-	5.22		
XII	3.78	-	3.38		
Average	5.56	6.2	5.34		



TIMING OF ORGANIC AND INORGANIC FERTILIZER APPLICATIONS				AMOUNT OF ORGANIC AND INORGANIC FERTILIZERS		
TIMING	MATURITY		COMBO 2	COMBO 3	COMBO 4 – Biofertilizer	
	100-110 days	111-120 days	121-130 days	Target Yield: 5-6 t/ha	Target Yield: 7-8 t/ha	Target Yield: 6-7 t/ha
BEFORE PLANTING						
30 days before transplanting	spread in the rice field or decompose			5,000-6,000 kgs of rice straw	7,000-8,000 kgs of rice straw	6,000-7000 kgs of rice straw
14 days before transplanting	Spread in the rice field the 10 bags of airdried chicken manure or commercial organic fertilizer or vermicompost		10 bags of airdried chicken manure or commercial organic fertilizer or vermicompost		Biofertilizer per Manufacturer Recommendation	
Seedbed: 7-10 DAS	Apply in the seedbed			1-2 kg ZnSO4		
Seedbed: 10-14 DAS	Apply in the seedbed			2-4 kg 14-14-14		
AFTER PLANTING					<b>Biofertilizer</b> per Manufacturer Rec.	
1st Application Vegetative stage	0-10 DAT/ 10-14 DAS	0-14 DAT/ 10-14 DAS	0-14 DAT/ 10-14 DAS	2 bags 14-14-14	4 bags 14-14-14	3 bags 16-20-0
2 <sup>nd</sup> Application Active Tillering	18-22 DAT/ 24-28 DAS	22-26 DAT/ 32-36 DAS	26-31 DAT/ 36-40 DAS	1 bag 46-0-0	2 bags Urea	1 bag Urea
3 <sup>rd</sup> Application Panicle Initiation	28-32 DAT/ 38-42 DAS	32-36 DAT 48-52 DAS	36-40 DAT 58-62 DAS	1 bag 46-0-0 0.5 bag 0-0-60	2 bags 46-0-0 1 bag 0-0-60	1 bag 46-0-0 0.5 bag 0-0-60

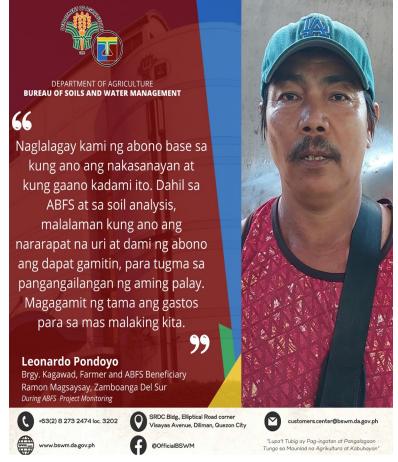
Nationwide techno demo in all regions with 100ha contiguous areas planted to inbred rice for 1st cropping showed increase in yield from provincial average and within target yield protocol.



#### Testimonies-Adaptive Balanced Fertilization Strategy







ISO/IEC 17025: 2017

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**Technical Briefing-Adaptive Balanced Fertilization Strategy** 

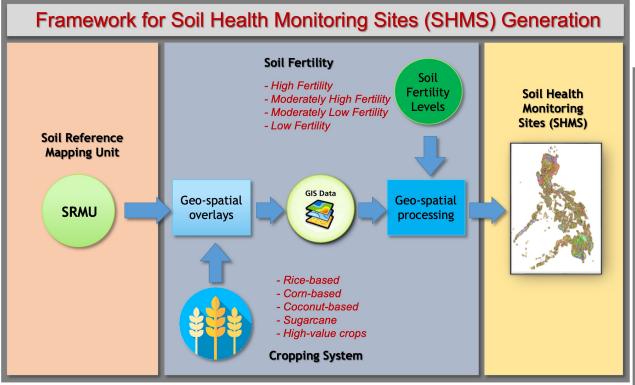


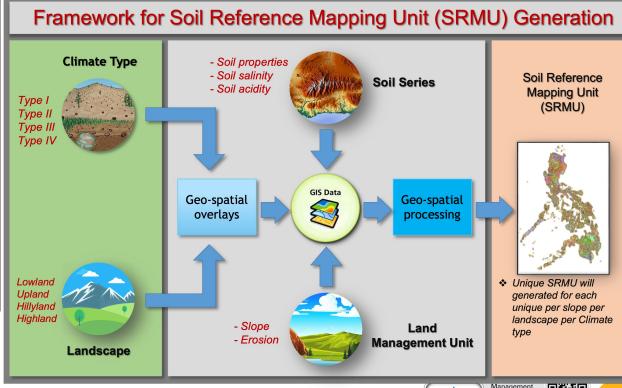






#### Framework in Monitoring Defining SRMU and SHMS





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LA-2023-423A Soil and Water Resources Research Division

# The Philippines contribution to the STATUS OF THE WORLD'S SOIL RESOURCES

2025

Collaborating Authors	Agency		
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Jose Nestor M Garcia, Ph.D	CAFS, University of the Philippines Los Baños, Laguna		
Dante E Margate, Ph.D	Department of Agriculture - Bureau of Soils and Water Management		





# Conduct of the 1<sup>st</sup> National Soil Health Summit



#### 350 ATTENDEES

- House of Representatives
- PCAARRD
- **\*** ACIAR
- DA Officials
- State University and Colleges
- Regional Soil Laboratories



SECURING
FOOD AND NUTRITION
THROUGH HEALTHY SOILS













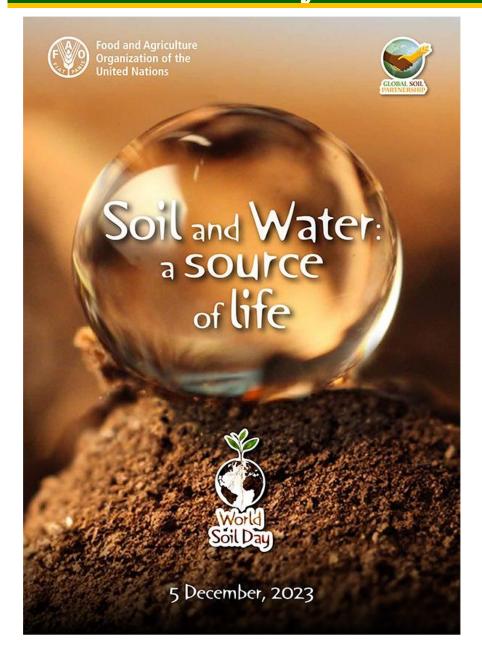
The Administration shall empower the Bureau of Soils and Water Management to achieve these goals, especially through capacitating Soil Laboratories across the country to yield better data. We are conducting a soil and land resources mapping and evaluation process that includes soil-based and land-based level assessment, soil sample analysis, and digital map preparations under the Philippine Soil Land Resources Information Program. The Administration is also exploring water security for climate-resilient rainwater technologies, and the conduct of cloud seeding operations for agriculture. All these to improve water conditions in production areas, in critical watersheds and in our reservoirs.

His Excellency Ferdinand R. Marcos, Jr.

President of the Republic of the Philippines
During the 1st National Soil Health Summit
June 21, 2023 | Ballroom, Diamond Hotel

# World Soil Day 2023





- WSD FUNWALK 2023
- WSD POSTER MAKING CONTEST 2023
- STK HANDS-ON TRAINING
- WSD NATIONAL PHOTOCONTEST 2023
- WSD TECHNICAL SESSION 2023



"Lupa't Tubig ay Pag-ingatan at Pangalagaan Tungo sa Maunlad na Agrikultura at Kabuhayan"







# Philippine Soil Partnership

# PSP MEMBERS



DA- RFOs and other DA- Attached Bureaus and Agencies

Partner Institution - 26

Individual Members- 67 Non-government Organizations/ Civil Society Organizations

No. of Organizations - 7

Individual Members - 7

State Colleges and Universities

No. of SUCs - 17

Individual Members - 30

Local Government Units: 2 Members: 3

**Private Sector** 

No. of Organizations - 2

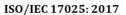
Individual Members- 2

No. of Institutions: 54

No. of Individual Members: 109

PSP members are composed of DA-attached Bureaus and Agencies, national government agencies, non-government organizations, state universities and colleges, civil society organizations, and private institutions.







#### Philippine Soil Partnership Organizational Meeting





Date: March 29, 2023

Venue: BSWM Convention Hall, Diliman, Quezon City

**Participants:** 100 participants from DA regional offices, national government agencies, non-government organizations, state universities and colleges, civil society organizations, and Private institutions.



# Focus Group Discussion on PSP Terms of Reference and Recarbonization of Soil Program



Date: September 29, 2023

Venue: BSWM Lecture Room 1, Diliman, Quezon City

Participants: PSP members from DA attached Bureaus and Agencies, national government agencies, non-government organizations, state universities and colleges, civil society organizations, and Private institutions.

Output: PSP Terms of Reference and Composition of Governance

Consolidated inputs for the implementation of Philippine Recarbonization of Soil Program





ISO/IEC 17025: 2017



LA-2023-423A Soil and Water Resources Research Division "Lupa't Tubig ay Pag-ingatan at Pangalagaan Tungo sa Maunlad na Agrikultura at Kabuhayan"



#### Philippine Soil Partnership 1st Plenary Assembly



Date: December 13, 2023

Venue: BSWM Convention Hall, Diliman, Quezon

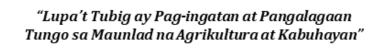
City

Participants: 150 participants (PSP members from DA attached Bureaus and Agencies, national government agencies, non-government organizations, state universities and colleges, civil society organizations, and Private institutions.)

Output: Approval of PSP Terms of Reference and Launching of PSP website



ISO/IEC 17025: 2017





Date: December 13, 2023

Venue: BSWM Convention Hall, Diliman, Quezon

City

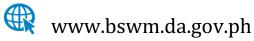
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ISO/IEC 17025: 2017

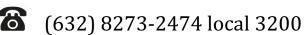


"Lupa't Tubig ay Pag-ingatan at Pangalagaan, Tungo sa Maunlad na Agrikultura at Kabuhayan."









#### **DA-BSWM**

Department of Agriculture-Bureau of Soils and Water Management