



Soil doctors Program and Implementation for Sustainable Land Management in Thailand

by

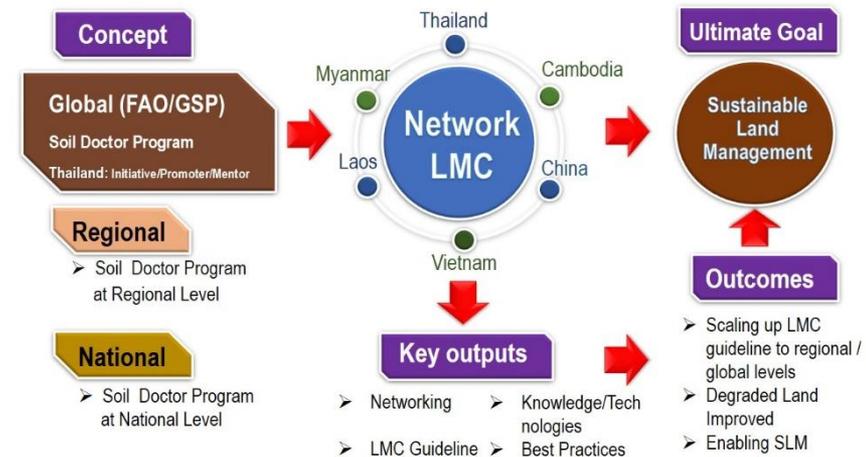
Bunjirtluk Jintaridth

Department of Land Development

THAILAND

DEVELOPMENT AND PROMOTION OF SOIL DOCTOR PROGRAM FOR SUSTAINABLE LAND AND AGRICULTURAL MANAGEMENT PRACTICES IN LANCANG-MEKONG COUNTRIES FUNDED BY LANCANG-MEKONG COOPERATION SPECIAL FUND.

The overall objective: to assist LMC promoting sustainable land and agricultural management practices through development and promotion of soil doctors program. It also provides opportunities for stakeholders in the sub-region to cooperate in building a network of sustainable land and agriculture management.



Project Framework

Acknowledgements

- **Department of Land Development (LDD)**
- **Lancang-Mekong Cooperation Special Fund (LMC)**
- **Food and Agriculture Organization of the United Nations (FAO)**
- **Research and Development of the Volunteer Soil Doctors and Network Management, LDD**
- **Center of Excellence for Soil Research in Asia (CESRA)**



Regional

- Soil degradation, soil erosion, and problem soils such as saline soils, acid soils, peat soils and sandy soils including low organic matter reduce the plant production and impact environment.
- Improper land use results in soil degradation.



Lead to poor living condition of farmers.



Regional (cont.)

- Only 2,000 staffs of Land Development Department in which responsible for soil problems and management in Thailand, therefore it is not enough for implementing soil management and improvement.
- Farmers and local people are, therefore, encouraged to participate in soil resource maintenance, and implementation.



Therefore, “Volunteer Soil Doctors” have been established to carry on soil management in each village since 1995.

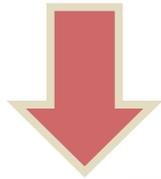
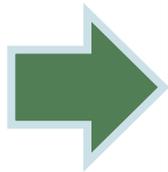


Volunteer soil doctors



Young volunteer soil doctors

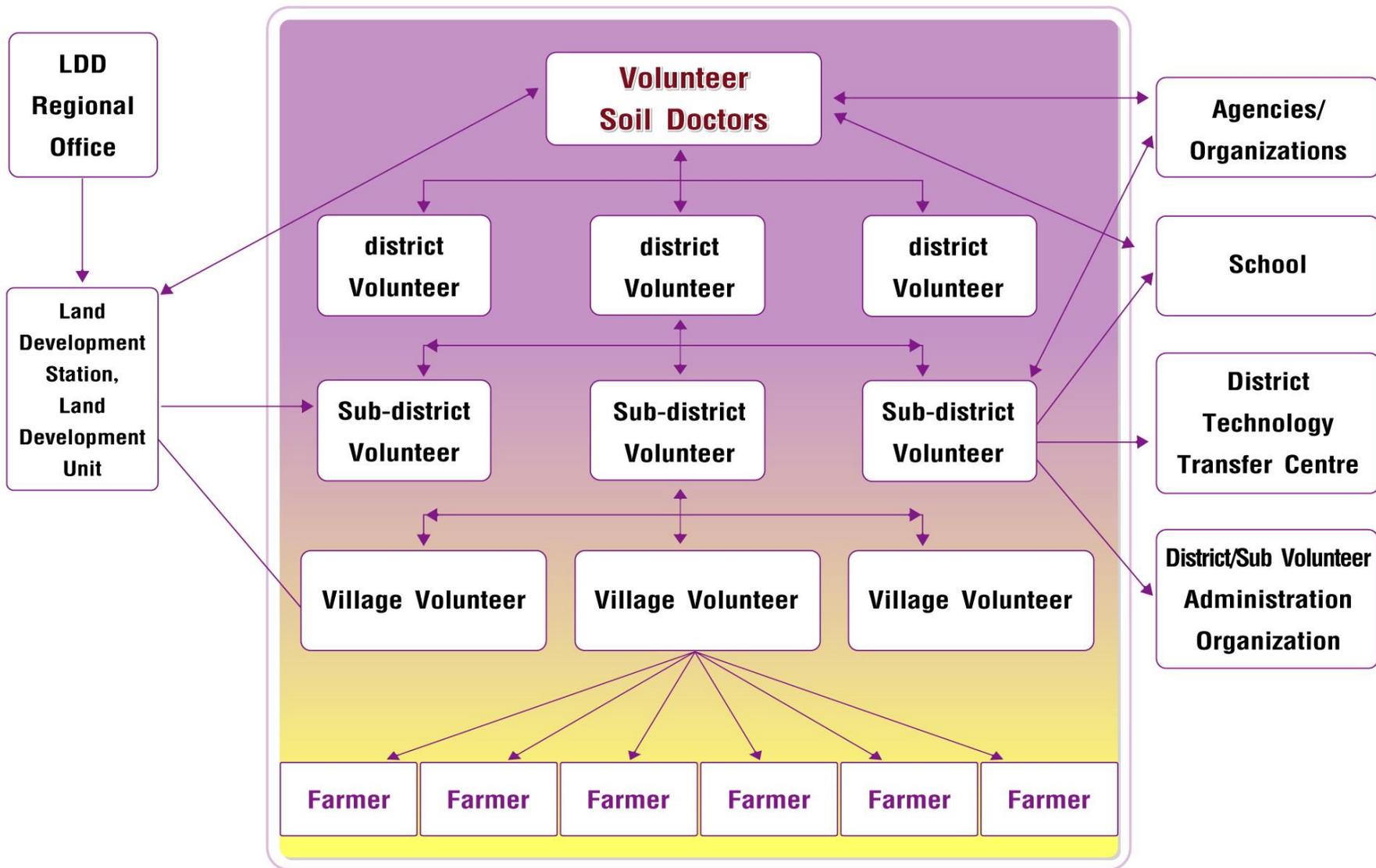




How is the network look like?

- At present, there are approximately 77,690 of them represent the LDD at village level. The figure is close to the total number of 77,690 to cover the whole country.





Network of volunteer soil doctors



What are the role of stakeholders?

- **Ministry of Agriculture and Cooperatives** : They provide funding or budgets to LDD for the soil doctors policies/ project activities every year.
- **Department of Land Development (LDD)** is the core organization to conserve and improve soil resources for agricultural productivity, food security, and sustainable land use, etc.
- **School**: Student-Teacher-Scientist-Community Collaboration Research Project on Sustainable Land Development Activities
- **Province/ District Technology Transfer Centers**: Centers for information and technology transfer especially through demonstration farms



How are they selected?

- **Good health, eligible, at least 20 years of age, willing to work .**
- **Keen on land development activities and reside in concerning areas .**
- **Already received a general training to be aware of the importance of land resources management, conservation and basic practices.**



○ **After completion of the general training course**

 a higher level training course will be further provided for 10 selected innovative farmers from each village.

 one among others will be appointed and registered to become a Village Soil Doctors





The role of “LDD”

- Invite farmers to participate in observation, study tour, workshop and others.
- having service center for information and technology transfer, especially through demonstration farms.
- Promoting the establishment of farmers to farmers training system. Therefore, they will learn and understand the knowledge, agricultural technologies, and sustainable agriculture on the basis of sufficiency economy, and participate with other people in the communities to understand as well.



What are their mission?

- They are entitled to carry out public relation activities in making announcements; delivering messages to farmers; inviting farmers to participate in observation, study tour, workshop and others.
- Being service centers for information and technology transfer especially through demonstration farms.
- Soil Doctors will be able to give basic recommendation and answer to possible questions that they may receive from farmers.



What is their mission? (con't)

- They are also entrusted to distribute to farmers some specific agricultural materials such as lime, fertilizer, seeds, and etc.
- They are assigned to help farmers know the type and cropping suitability of the lands they own in order to assist farmers to practice sustainable agriculture effectively.



What are the benefit and honor of being Soil Doctors?

- They will be awarded with a certificate of competence with logo and tools.
- the basic training, some specific training courses will be given to them.
- Being a **soil doctor** is highly admired and respected with dignity.
- **Soil Doctors** are entitled to disbursement of allowances, accommodation and also transportation costs for conducting the tasks assigned by LDD. (For example, making primary soil analysis by using LDD test kits, making bio-fertilizer as well as acting as a lecturer to pass on the knowledge regarding land development.





They served and transferred technology of LDD from farmers to farmers

**Learning and understanding of Land Development
Technology.**





LDD staffs trained farmers how to using organic fertilizers, good agricultural practices which lead to the development of sustainable agriculture.



LDD staffs demonstrate “how to prepare bio-extract” and transfer knowledge the benefits of bio-extract to plants.





How to take soil samples





How to use pH test kit in the field





LDD staffs transferred agricultural knowledge @ The Center of Research and Development, and CESRA Nakhon-Ratchaseema province, THAILAND



LDD staffs provide training to people who are interested in agricultural technology and organic farming systems. (teaching how to use pH test-kit)



LDD staffs provide training to people who are interested in agricultural technology and organic farming systems.
(Teaching acid and acid sulfate soils improvement)





LDD staffs provide training to people who are interested in agricultural technology and organic farming systems.

(Teaching saline soils improvement)





“ Soil Biotechnology products” which LDD distribute to farmers for soil improvement in their lands.

The Global Soil Doctors Programme



Food and Agriculture
Organization of the
United Nations

Launch of the Global Soil Doctors Programme



Monday 5 October 2020
14:00 - 15:15 CEST

GSP Webinars



FAO's Global Soil Partnership had the pleasure to Launch the Global Soil Doctors Programme through an online webinar on Monday, 5 October 2020.

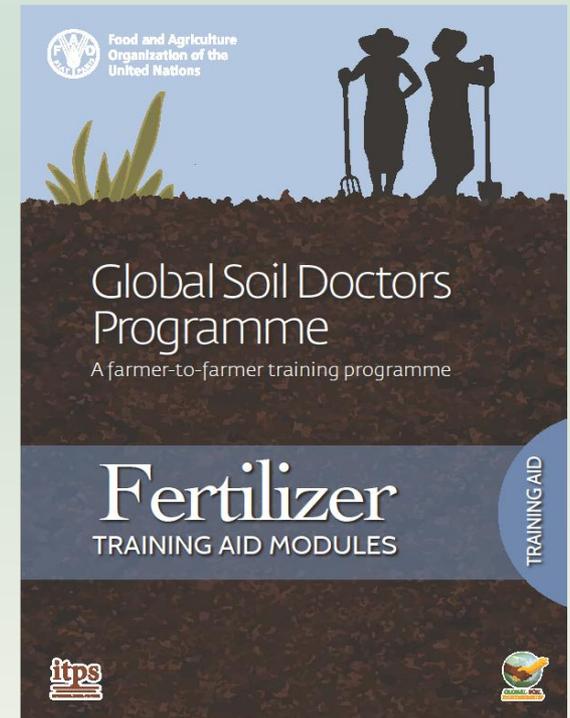
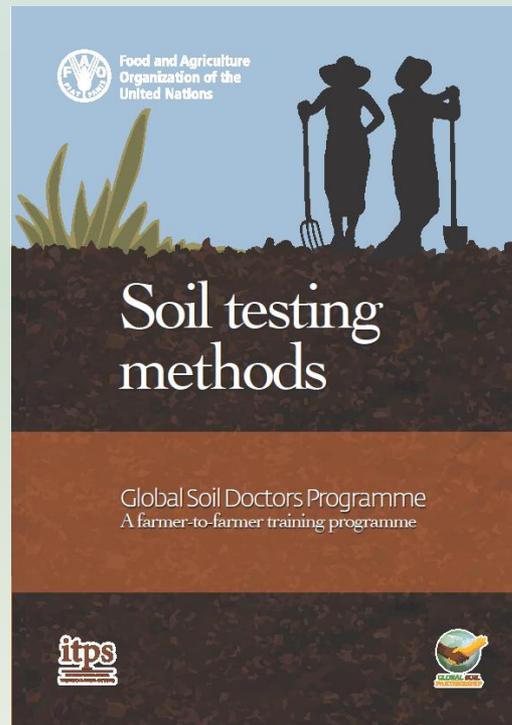
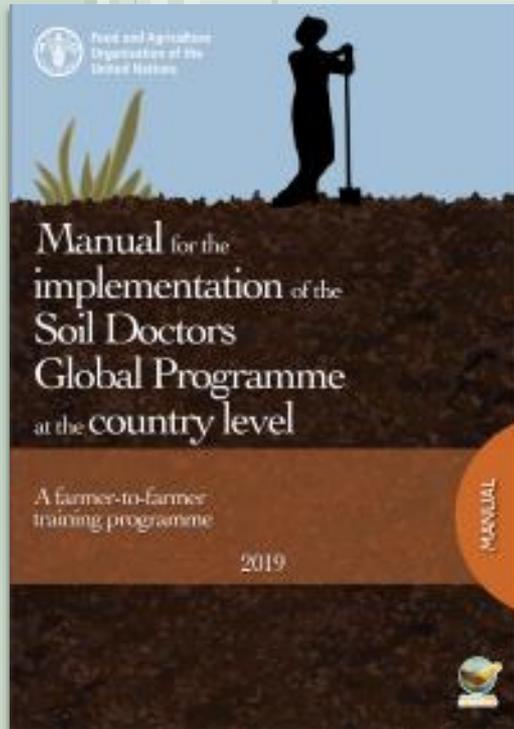
- **Global Soil Partnership (GSP) Secretary**



Eminent panellists and speakers of the webinar.



COMMUNICATION/ EDUCATIONAL MATERIALS





Soil Doctors
GLOBAL PROGRAMME
GLOBAL SOIL PARTNERSHIP

Communication/ Educational Material

- a

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- a

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- a





Soil Doctors
GLOBAL PROGRAMME
GLOBAL SOIL PARTNERSHIP

WHAT IS...

Food and Agriculture Organization of the United Nations

what is Soil?

A DYNAMIC INTERFACE BETWEEN THE LIVING ORGANISMS, THE ROCKS AND MINERALS, AND WATER AND AIR

NO MY NAME IS SOIL! AND I AM THE SOIL DOCTOR'S ASSISTANT. I'M HERE TO TELL YOU A LITTLE BIT ABOUT SOIL.

TO MAKE SOIL, YOU NEED ROCKS, MOISTURE AND TEMPERATURE; TOPOGRAPHY; LIVING ORGANISMS; AND LOTS OF TIME!

SOIL IS A MIXTURE OF MINERALS, WATER, AIR, AND A BIT OF ORGANIC MATTER.

ORGANIC MATTER 5%
MINERALS 45%
WATER 25%
AIR 25%

MINERALS ON TOPSOIL MINERALS ON SUBSOIL

ORGANIC MATTER IS MUCH MORE ABUNDANT IN THE SURFACE (TOPSOIL) THAN IN DEPTH (SUBSOIL).

SO WE NEED TO TAKE GOOD CARE OF IT, ESPECIALLY SINCE IT IS VULNERABLE TO EROSION AND CAN DISAPPEAR IN A SECOND...

ALTHOUGH UNDERVALUED, SOIL IS ACTUALLY VERY USEFUL.

SOIL DOCTORS GLOBAL PROGRAMME

HOW TO...

Food and Agriculture Organization of the United Nations

take a soil sample

HOW TO

Disturbed Sample

BEFORE STARTING, MAKE SURE TO USE CLEAN MATERIAL, WHICH HAS BEEN WASHED

When to sample?

- Early enough in the cropping cycle so you can use the results to adapt your management practices;
- When the soil is not frozen or too overly wet.

1 Pick a spot 25-40 cm away from any plants, stumps, roads or buildings from the soil surface

2 Try to ALWAYS SAMPLE AT THE SAME DEPTH

3 If you use a shovel remove the soil once in order to have an equal proportion of each layer

4 Mark the plastic bag and put the volume of 2 cups of soil from the bucket into it

5 Analyze your sample with the Soil Doctors test kit or send to a lab

HERE I SUGGEST A GRID SAMPLING DESIGN BUT OTHER DESIGNS ARE POSSIBLE!

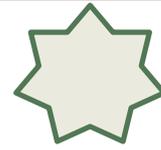
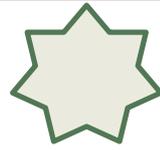
HETEROGENEOUS AND/OR BIG FIELD
Repeat steps 1 to 8

HOMOGENEOUS AND/OR SMALL FIELD
Pass directly to Step 8

Soil Doctors GLOBAL PROGRAMME

What are the next steps we should do for the “Soil Doctors Programme”?

- Powering farmers to safeguard sustainable soils
- Strengthening the capacity of farmers on Sustainable Soil Management (SSM) principles by providing them with targeted training on how to preserve and restore good soil conditions and functions. It also contributes to raising awareness of soils globally.
- Each Soil Doctor should received support and educational materials to conduct further farmer-to-farmer exercises on SSM, maximizing the impact of the programme over the long-term.



**Thank you
for your attention**

