



Training on Knowledge Transfer for Using Sunn Hemp Green Manure to Improve Saline Soil for Rice Cultivation (Mr. Jirasak Siangsunthia)

## EXTENSION OF SUNN HEMP AS A SOIL AMENDMENT IN SALINE SOILS ( )

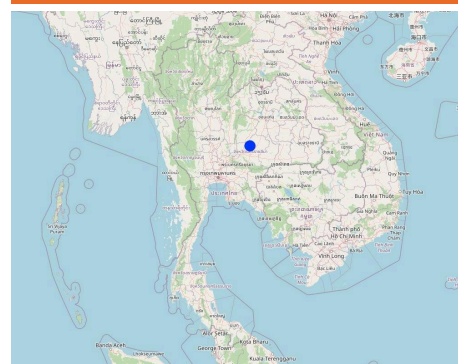
An outreach programme aims to educate farmers about the benefits of ploughing rice stubble into the soil and incorporating green manure crops such as sunn hemp - as well as other sustainable practices. Groups of farmers are formed, and they are assisted by various organisations including the Land Development Department and volunteer "soil doctors".

An outreach programme aims to educate farmers about the benefits of ploughing rice stubble into the soil, while incorporating green manure crops such as sunn hemp (*Crotalaria juncea*). It also provides demonstrations on proper and effective SLM techniques that enable farmers to apply this knowledge to improve their own lands. Farmers can generate greater and more sustainable income while reducing production costs. Agricultural staff of the Nakhon Ratchasima Land Development Station coordinate with local government agencies to organize activities and lead campaigns: they also help in planning and group formation. One particular group of 50 farmers is part of a project to encourage the use of organic substances instead of chemicals. A nine-member committee coordinates and drives its activities.

The purpose of group establishment is to exchange knowledge, create networks and develop clusters of active participant farmers to trade experience with SLM in relation to rice growing—including the cultivation of green manures and sunn hemp.

Agricultural academics and officers of the Land Development Department give training, as well as continuous advice, knowledge and support in managing areas with saline soils. The Rice Department provides salt tolerant varieties of rice. Government agencies provide some funding for the approach. They help preparing the learning process for coaching farmers in methods of natural agriculture. Study tours are also organised. Furthermore, a group of volunteer "soil doctors" with knowledge and expertise in the area lend their assistance and collaboration (note that the organisation and activities of soil doctors in Thailand has already been described in WOCAT's global database). In addition, monitoring is carried out jointly between farmers and officers of Land Development Department.

Between 2010-2011, Land Development Department officials promoted farmers to plant Sunn hemp to plow and cover the soil and create seedbeds to collect seeds for use in the next season, which reduces production costs and increases organic matter in the soil.



: Moo 5, Ban Kok Phrom, Non Thai sub-district, Non Thai district, Nakhonratchasima,

• 102.03417, 15.23985

:

: 2013

☐ / ☐ / ☒



Monitoring the yield of rice fields improved with green manure from sunn hemp (*Crotalaria juncea*). (Mr. Jirasak Siangsunthia)



The Rice Department promotes the use of salt-tolerant rice varieties which is associated with the main approach. (Mr. Mana Siangsunthia)

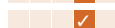
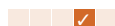
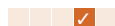
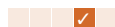
1. To build knowledge and understanding, and to provide farmers with access to soil, water and plant management technology to sustainably utilize saline soil areas.
2. To transfer knowledge regarding green manure plants (sunn hemp)-based saline soil management.

- / / : None
- : Volunteer soil doctors and government agencies provided assistance and resources, including funding and knowledge.
- : None
- / : A group of volunteer soil doctors with knowledge and expertise in the area and surrounding areas lent their assistance and collaboration.
- **SLM** : Farmer,s farmer groups, land users, students and others use green manure crops to increase rice production and reduce the use of chemical fertilizers in saline soil areas and to strengthen the agricultural sector. The purpose of a group establishment is to exchanges knowledge, create networks and develop groups of farmers who use green manure in saline soil areas.

/		
?		
/	Group members accounting for 50 people	Taking action together to make the group and the network become strong in utilizing land correctly and suitably
/	Agricultural academics and officers of Land Development Department	Give advice, knowledge and support factors of production in managing areas with saline soil continuously
	1. Officers from Land Development Department 2. Students from Suranaree University of Technology	1. Monitor and assess saline soil management with organic matter together with water management in the area growing rice. 2. Study and use of electromagnetic measurement tools to predict soil salinity in the area for the benefit of salie land management during the growing season.
	Non Thai Agriculture Marketing Organization Non Thai Informal Education	1. Participate and coordinate in establishing the group 2. Preparing the learning process of conducting agricultural farming through the method of natural agriculture



/



Government agencies, group members transfer knowledge and take a study tour in order to implement learning and experiences in their own areas

Agricultural academics and officers of Nakhon Ratchasima Land Development Station participate in planning to establish the group of using organic substances to replace agricultural chemicals. The member group determines group rules and regulations together. Monitor and check together with Farmers and officers of Land Development Department

Nakhon Ratchasima Land Development Station coordinates with local government agencies to organize activities and campaign for plowing and burying rice stubble and green manure plants of Sunn hemp to improve the soil. Collaborating with government agencies both internally, such as the Land Management Research and Development Division, and externally, such as Rice Department, Cooperative Auditing Department and educational institutions. By participating in the transfer of knowledge in various fields, leading to the same goal: farmers can generate income and reduce production costs in their agricultural areas sustainably.



## SLM

	)	(		(	SLM	)
			SLM			
	SLM					
	SLM					
	/					

	/		
		(	)

/


Volunteer Soil Doctors

Consulting services: Land users access consulting services provided by volunteer soil doctors stationed at Non Thai district and the government agency "Nakhon Ratchasima Land Development Station".





This approach effectively enhances knowledge in managing saline soil for rice cultivation.

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• 1. Land users monitor climatic changes in predicting disasters to occur. This is used as data for planning cultivation. As a result, there will be no damage during yield harvesting.</li> <li>• 2. Regarding knowledge in managing soil, water and plants for utilization in areas with saline soil, previously, rice farming could be conducted only and there was lack of knowledge of correct and suitable saline soil amendment until currently, costs of production can be reduced.</li> <li>• 3. The fact that the wisdom obtained from learning and practices has been applied together with academic principles to restore areas with saline soil which are limitations and obstacles during the past ten years have been eliminated makes farmers utilize areas with saline soil sustainably.</li> </ul> | <ul style="list-style-type: none"> <li>• Before implementing the technology of planting sunn hemp as a green manure plant, the cultivation area is outside the irrigation zone. This has an effect on biomass of the sunn hemp</li> <li>• The farmers who join the group are ready to learn and observe the surrounding environment, including keeping up with climatic changes all the time. At certain time, there is shortage of labor. There are problems of expensive oil establishing the group is the guideline to solve the mentioned problem.</li> </ul> |
|---|---|



### Editors

Laksamee Mettpranee

William Critchley  
Rima Mekdaschi Studer

: 6

2024

: 21

2025

Mana Siangsunthia -  
Wannaporn Polsang (wpolsang555@gmail.com) - compiler  
Pitchanun Raksasarp - co-compiler  
Areerat Wangkaew (areeratwank@gmail.com) - co-compiler  
Bunjirtluk Jintaridth (jintaridth@yahoo.com) - Reviewer  
Prapa Taranet (prapataranet@gmail.com) - reviewer

[https://qcat.wocat.net/km/wocat/approaches/view/approaches\\_7275/](https://qcat.wocat.net/km/wocat/approaches/view/approaches_7275/)

### SLM

Technologies: SUNN HEMP AS A SOIL AMENDMENT AND FOR MITIGATION OF SALINITY

[https://qcat.wocat.net/km/wocat/technologies/view/technologies\\_7274/](https://qcat.wocat.net/km/wocat/technologies/view/technologies_7274/)

- Land Development Department (Land Development Department) -
- Decision Support for Mainstreaming and Scaling out Sustainable Land Management (GEF-FAO / DS-SLM)

- Final report : Improving information and developing a repository of sustainable soil management practices in Asia: <https://e-library.idd.go.th/library/Ebook/bib10906.pdf>
- Workshop Report: Outstanding soil doctors and technology for land management Thailand 4.0: [https://cesra.idd.go.th/App\\_Storage/publications/files/1031\\_1.pdf](https://cesra.idd.go.th/App_Storage/publications/files/1031_1.pdf)

This work is licensed under [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International](#)

