



A soil doctor giving advice to a group (Supranee Srithanboon)

The soil doctor network for integrated farming (Tailândia)

DESCRIÇÃO

A “soil doctor” network in Khon Kaen province has transformed saline areas previously dedicated to rice cultivation into sustainable, integrated farming systems.

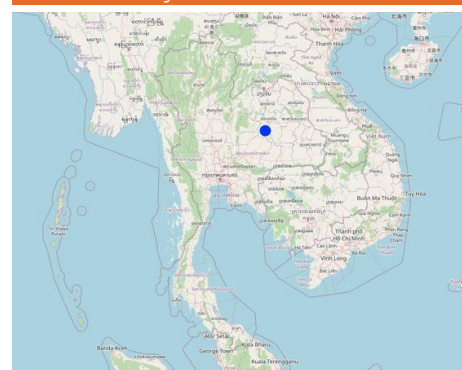
Most agricultural areas in Northeast Thailand rely on rainfall, and some face the added challenge of saline soils. Rice is the dominant crop, cultivated primarily under rain-fed conditions. However, climate variability has intensified, leading to changes in rainfall distribution and creating further uncertainty for farmers. Additionally, labour shortages have emerged due to an ageing population and rising labour costs. In response to these challenges, adjusting the agricultural system from monoculture rice cultivation to integrated farming offers a viable alternative for enhancing sustainability. Integrated farming promotes product diversity and food security, helping farmers reduce risks associated with climate variability and market fluctuations.

The Soil Doctor Network, a community-based initiative supported by the Land Development Department, plays a pivotal role in promoting sustainable land management. The program trains and empowers local farmers to become volunteer “soil doctors” who serve as local experts and advisors. These soil doctors undergo extensive training in soil management, integrated farming techniques, and sustainable agricultural practices. They assist fellow farmers in improving soil health and adopting more resilient farming methods. Soil doctors are organized into local networks at the village or sub-district level. Experienced soil doctors lead these networks, acting as coordinators to ensure effective communication and collaboration among members. They also liaise with government agencies to secure technical support, financial assistance, and up-to-date information on sustainable farming practices.

A Soil Doctor Network’s impact can be witnessed in Ban Doo Noy, Non Daeng sub-district, Non Sila district, Khon Kaen province. This area, previously dedicated to monoculture rice cultivation conducted once a year, has undergone significant transformation through the adoption of integrated farming. Farmers have leveled fields, widened levees, dug ponds, drilled artesian wells, and diversified their crop production. Today, the farms in Ban Doo Noy feature a variety of crops, including rice, papaya trees, bananas, and grass for livestock grown on the levees, alongside vegetable cultivation. Post-harvest crops such as sunn hemp, sweet corn, sugar cane, and cattle raising have been incorporated, further enhancing productivity and resilience. The integrated farming system has also effectively addressed the issue of saline soils by improving soil structure, preserving moisture, and reducing salinity accumulation. The use of cover crops, crop rotation, and organic matter enrichment has played a crucial role in mitigating soil salinity and preserving the natural ecosystem. These sustainable practices have improved soil fertility and water retention, enabling farmers to maintain long-term agricultural productivity.

Through the sustained efforts of the Soil Doctor Network, local land users in Northeast Thailand are now better equipped to manage their land sustainably. By fostering knowledge-sharing and community-driven initiatives, the network has empowered farmers to reduce their reliance on external support while ensuring long-term productivity and resilience in the face of climate and economic challenges.

LOCALIZAÇÃO



Localização: Non Daeng sub-district, Non Sila district, Khon Kaen province, Tailândia

Geo-referência de locais selecionados

- 102.67696, 16.01623

Data de início: 2017

Ano de término: n.a.

Tipo de abordagem

- ☐ Tradicional/Indígena
- ☐ Iniciativa/Inovação local recente
- ☒ Baseado em projeto/programa



Planting papaya trees, bananas and grasses for feeding animals on the ridge after being enlarged (Supranee Srithanboon)



Sunn hemp and sweet corn are planted after the rice is harvested. (Supranee Srithanboon)

OBJETIVOS DE APROXIMAÇÃO E AMBIENTE PROPÍCIO

Principais metas / objetivos da abordagem

- 1.To establish a network of soil doctors who apply integrated farming techniques for the sustainable use of saline soil areas.
- 2.To disseminate knowledge on creating food diversity for households located in saline soil regions.
- 3.To facilitate access to support from both government and private sectors.

Condições que permitem a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

- **Disponibilidade/acesso a recursos e serviços financeiros:** Volunteer soil doctors and government agencies provided assistance and resources, including funding and knowledge.
- **Colaboração/coordenação de atores:** A group of volunteer soil doctors with knowledge and expertise in the area and surrounding areas lent their assistance and collaboration.
- **Conhecimento sobre GST, acesso a suporte técnico:** The Soil Doctor Network emphasizes educating local farmers and community leaders on SLM principles, including soil health management, erosion control, and sustainable farming practices. By equipping soil doctors with this knowledge, they can provide guidance and support to other farmers, ensuring the effective application of soil management technologies.

Condições que dificultam a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

PARTICIPAÇÃO E PAPEL DAS PARTES INTERESSADAS ENVOLVIDAS

Partes interessadas envolvidas na abordagem e seus papéis

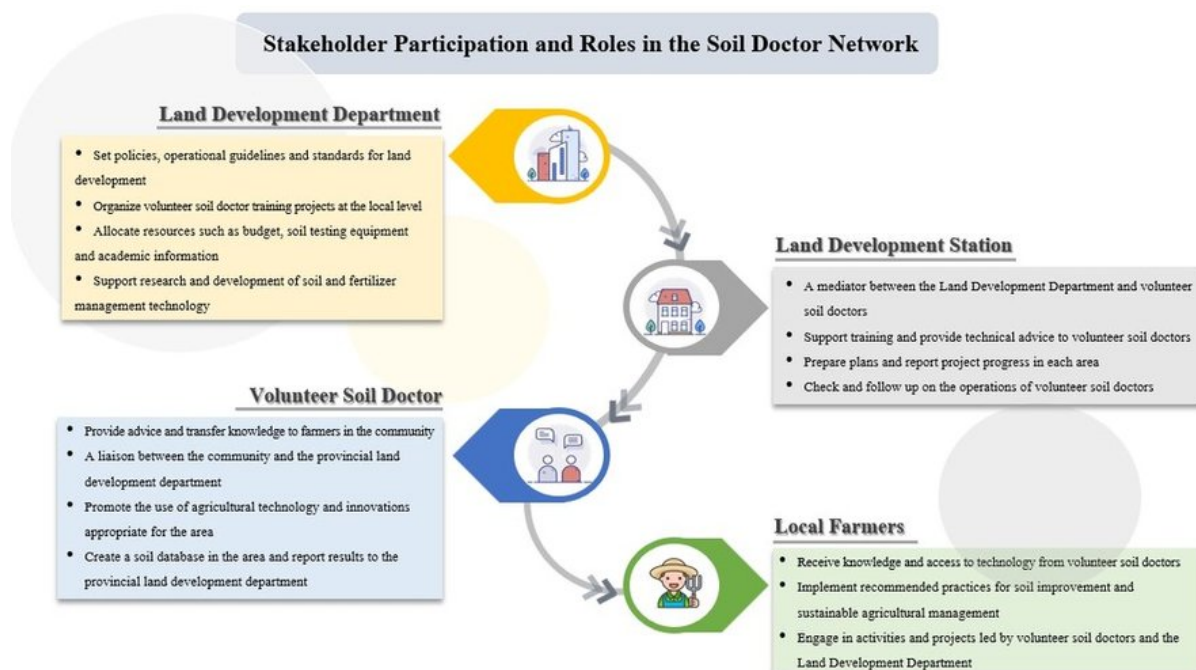
Que partes interessadas/órgãos de implementação estavam envolvidos na abordagem?	Especifique as partes interessadas	Descreva o papel das partes interessadas
Usuários de terra/comunidades locais	The group of farmers of the soil doctor network	It is the one implementing the approach of using the integrated farming technology in its own agricultural areas. There are 10 members participating in the network.
Especialistas em GST/ consultor agrícola	Land Development Department officers	They are the ones who transfer knowledge, support production factors such as Sunn hemp seeds etc., including giving advice regarding putting in use correctly, suitably and mutually studying changes occurring in areas with saline soil.
Governo local	Government agencies and local agencies	Government agencies and local agencies are the ones supporting in terms of knowledge of other related areas.
local land users	Farmers and the interested general public	Applying knowledge to develop their own agricultural areas due to the fact that production factors can be made locally with prices not so high

Envolvimento do usuários de terra/comunidades locais nas diferentes fases da abordagem

	Nenhum	Passivo	Apoio externo	Participativo	Automobilização
Iniciação/motivação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Planejamento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Implementação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monitoramento/avaliação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Focusing on creating awareness and building interest among local land users, SLM specialists, together with representatives from the Soil Doctor Network, engage local leaders, farmers, and landowners through meetings, workshops, and demonstrations to introduce the concept of integrated farming and its benefits. They emphasize raising awareness of the benefits of sustainable land management, such as improved soil health and increased productivity. Land users are motivated by the potential for higher yields, cost reduction, and long-term sustainability. Local land users are actively involved in the development of customized plans tailored to their specific needs and environmental conditions. The implementation phase involves hands-on application of the planned activities, with local communities taking the lead. Local land users are actively involved in the development of customized plans tailored to their specific needs and environmental conditions. Participatory monitoring, data collection, and community feedback are conducted periodically to review progress, share experiences, and discuss challenges. Adjustments and Scaling Up based on the evaluation, necessary adjustments are made to improve practices. Successful methods are scaled up, and new farmers are encouraged to join the network.

Fluxograma



Tomada de decisão sobre a seleção da Tecnologia GST

As decisões foram tomadas por

- ☐ Somente usuários da terra (iniciativa própria)
- ☐ Principalmente usuários da terra, apoiados por especialistas em GST
- ☐ todos os atores relevantes, como parte de uma abordagem participativa
- ☒ Principalmente especialistas em GST, após consulta com usuários da terra
- ☐ Somente especialistas em GST
- ☐ Políticos/Líderes

As decisões foram tomadas com base em

- ☒ Avaliação de conhecimento bem documentado de GST (tomada de decisão baseada em evidências)
- ☐ Resultados de pesquisa
- ☐ Experiência pessoal e opiniões (não documentado)

SUPOORTE TÉCNICO, REFORÇO DAS CAPACIDADES E GESTÃO DO CONHECIMENTO

As seguintes atividades ou serviços têm sido parte da abordagem

- ☒ Reforço das capacidades/ formação
- ☒ Serviço de consultoria
- ☒ Fortalecimento da instituição (desenvolvimento organizacional)
- ☒ Monitoramento e avaliação

Reforço das capacidades/formação

Foi fornecido treinamento às seguintes partes interessadas

- ☒ Usuários de terra
- ☒ Equipe de campo/consultores

Tipo de formação

- ☐ Em exercício
- ☒ Agricultor para agricultor
- ☒ Áreas de demonstração
- ☒ Reuniões públicas
- ☐ Cursos

Assuntos abordados

Serviço de consultoria

Foi prestado um serviço de consultoria

- ☒ nas áreas dos usuários da terra
- ☒ Em centros permanentes

Fortalecimento institucional

As instituições foram fortalecidas / estabelecidas

- ☐ Não
- ☐ Sim, pouco
- ☐ Sim, moderadamente
- ☒ Sim, significativamente

no seguinte nível

- ☐ Local
- ☒ Regional
- ☒ Nacional

Descreva instituição, papéis e responsabilidades, membros, etc.

Institution roles and responsibilities: 1. Policy Formulation: Develops national policies, guidelines, and standards for sustainable land management. 2. Technical Support: Provides training, tools, and materials to local soil doctors and communities. 3. Capacity Building: Organizes training programs to enhance the skills of local soil doctors. 4. Monitoring and Evaluation: Oversees the implementation of the Soil Doctor Network and ensures that land users follow SLM practices effectively. 5. Research and Innovation: Conducts research on innovative farming technologies and sustainable practices and disseminates findings to local communities.

Tipo de apoio

- ☐ Financeiro
- ☒ Reforço das capacidades/ formação
- ☒ Equipamento

Mais detalhes

The approach fosters collaboration between institutions at different levels—government, local communities, research bodies, and the private sector, to ensure sustainability and scalability. Strengthening these institutions enhances local capacity, promotes shared responsibility, and ensures the continued success of the Soil Doctor Network for Integrated Farming.

Monitoramento e avaliação

FINANCIAMENTO E APOIO MATERIAL EXTERNO

Orçamento anual em USD para o componente GST

- ☒ < 2.000
- ☐ 2.000-10.000
- ☐ 10.000-100.000
- ☐ 100.000-1.000.000
- ☐ > 1.000.000

Farmers and landowners spent their own money.

Precise annual budget: n.a.

Os seguintes serviços ou incentivos foram fornecidos aos usuários de terras

- ☐ Apoio financeiro/material concedido aos usuários da terra
- ☐ Subsídios para insumos específicos
- ☐ Crédito
- ☐ Outros incentivos ou instrumentos

ANÁLISE DE IMPACTOS E DECLARAÇÕES FINAIS

Impactos da abordagem

A abordagem concedeu autonomia aos usuários locais de terra, melhorou a participação das partes interessadas?

- ☐ Não
- ☐ Sim, pouco
- ☒ Sim, moderadamente
- ☐ Sim, significativamente

A abordagem melhorou a coordenação e a implementação economicamente eficiente da GST?

- ☐ Não
- ☒ Sim

Principal motivação dos usuários da terra para implementar a GST Atividades de sustentabilidade de abordagem

- ☒ Produção aumentada
- ☒ Lucro (lucrabilidade) aumentado, melhora da relação custo-benefício
- ☐ Degradação do solo reduzida
- ☐ Riscos de desastre reduzido
- ☐ Carga de trabalho reduzida
- ☐ Pagamentos/subsídios
- ☐ normas e regulamentos (multas)/aplicação
- ☐ Prestígio, pressão social/coesão social
- ☐ Afiliação a movimento/projeto/grupo/rede
- ☐ Consciência ambiental
- ☐ Costumes e crenças, moral

Os usuários da terra podem sustentar o que foi implementado através da Abordagem (sem apoio externo)?

- ☐ Não
- ☒ Sim
- ☐ Incerto

Land users can form local groups or cooperatives to share resources, exchange knowledge, and collectively address challenges. This reduces the need for external intervention by fostering peer-to-peer support. They can use locally available resources such as produce organic fertilizers (e.g., compost, manure) and soil amendments, reducing

- melhoria dos conhecimentos e aptidões de GST
- Melhoria estética
- Atenuação de conflitos

reliance on external inputs. Using simple soil-testing tools and techniques learned through the network, land users can periodically monitor soil health and adjust practices accordingly.

CONCLUSÕES E EXPERIÊNCIAS ADQUIRIDAS

Pontos fortes: visão do usuário de terra

- Having an opportunity to see managing the integrated farming area which has been achieved and being able to adjust it in their own areas.
- Having points of exchanging learning in the community, being able to access them easily.
- Having an opportunity to receive advice and exchange knowledge both from officers and the soil doctor network.
- Having an opportunity to receive support from government agencies and local agencies.

Pontos fortes: a visão do/a compilador/a ou de outra pessoa capacitada

- Transferring the technology of the soil doctor network about self-reliance, family labor and factors in the farm. This helps reduce production costs.
- Prototype soil doctors always provide knowledge data regarding production and give advice regarding suitable practices. This helps bring about security in occupation of the network group using integrated farming technology.

Pontos fracos/desvantagens/riscos: visão do usuário de terracommo superar

- Requiring a period of time for at least 3 years until changes can be seen in areas of saline soil.

Pontos fracos/desvantagens/riscos: a visão do/a compilador/a ou de outra pessoa capacitadacommo superar

- Agricultural areas are still affected from water qualities for agriculture from artesian wells in terms of receiving brackish water during the dry season. Some farmers solve the problem by digging a pond in the field to pull water from the artesian well to be stored before using it in the agricultural plot.

REFERÊNCIAS

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Data da documentação: 16 de Agosto de 2024

Última atualização: 10 de Janeiro de 2025

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Descrição completa no banco de dados do WOCAT

https://qcat.wocat.net/pt/wocat/approaches/view/approaches_7279/

Dados GST vinculados

n.a.

A documentação foi facilitada por

Instituição

- Land Development Department (Land Development Department) - Tailândia

Projeto

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

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