TAY JUHANA FOUNDATION

ANNUAL REPORT 2023

Enhancing Resilience in Food Security

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Our Vision

An ensured food security for humanity and the achievement of relevant Sustainable Development Goals through environmentally, socially, and economically sustainable agriculture system of suboptimal wetland, lowland, and flatland.

Our Mission

CONDUCTING RESEARCH

Catalyze research and development to advance sustainable agricultural innovation on suboptimal wetland, lowland, and flatland.

CONSULTING

Provide consultancy for independent and collaborative works on sustainable agriculture practice of suboptimal wetland, lowland, and flatland.

EDUCATING

Educate all the relevant stakeholders on effective water management system in wetland agriculture.

ADVOCATING

Facilitate the advocacy to stimulate change towards food resilience through relevant policy recommendations.

ROAD MAP

2018
CONDUCTING RESEARCH
Scientific Research and Innovation

2025
CONSULTING
Suboptimal Land Farming

PRESENT
EDUCATING
Program & Communication Tools for the Needed Change

SLAI

2030
ADVOCATING
Building Alliance to Influence the Agrifood Policy

Foreword

As we turn the page on another year, the pressure to nourish a growing population intensifies, while our precious resources – land, water, and climate – face unprecedented strain. But within this uncertainty, a seed of hope blooms: the power of sustainable practices to unlock the power of previously overlooked lands and safeguard our planet's future.

This year, Tay Juhana Foundation has been at the forefront of this verdant revolution. Under the Sustainable Peatland Agriculture (SPA) program, we delved into the once-misunderstood world of peatlands, revealing their potential as a hidden reservoir of agricultural productivity. Through meticulous research and innovative techniques, we managed to generate scientific findings that underpin a broad spectrum of sustainability framework.

Thus, using our platform called Suboptimal Land Agriculture Initiatives (SLAI), we're embracing the potential of suboptimal lands, from arid plains to saline soil, by tailoring crops and irrigation methods to their unique needs. This isn't merely about reclaiming land; it's about fostering resilience, building communities, and empowering farmers to become stewards of their own food security.

This report is a testament to the tireless work of our team, alongside the farmers, researchers, and communities who join us on this journey. In each page, you'll find stories of collaboration, ingenuity, and unwavering commitment to a future where food security blossoms on sustainable ground.

The path ahead is far from smooth. Climate change casts a long shadow, and the global food system demands constant innovation. But we face these challenges with the unwavering belief that, by nurturing every inch of soil, by empowering communities, and by embracing the science of sustainable land management, we can cultivate a future where food security thrives for generations to come.

Sincerely,
Tay Juhana Foundation

THE REASON WE EXIST

Global challenge and how TJF works

Food security is a condition where everyone has sufficient access to safe and nutritious food that meets their dietary needs and preferences for a healthy and active life. However, food security is also threatened by climate change and global disruption, which have caused extreme weather events, natural disasters, crop failures, food price spikes, and social unrest. According to the World Bank, the global food price index increased by 30% in 2023, reaching the highest level since 2011. This has worsened the situation of the poor and vulnerable, who spend a large share of their income on food.

One of the potential solutions to address food security challenges is to utilize suboptimal lands for agricultural production. Suboptimal lands have physical, chemical, or biological limitations that hinder crop productivity. Some examples of suboptimal lands are dry, peat, sandy, and saline. Suboptimal lands are available abundantly. They are accessible to regional and local communities. Leveraging suboptimal lands to produce food enables more nodes of area to have local resilience in securing their food supply.

Food on suboptimal lands

We can unlock the potential of the lands for food production. To ensure everyone can eat, we also need to work on the bigger picture.

First, we work on where the food can grow. We strategize to support sustainable food crop production in suboptimal lands.

Second, we work on how the harvested food can reach people. We eliminate factors that can affect people's capability to access the food. This involves the need to fix the food and agriculture system.

Lastly, we work to ensure people have access to food at all times. We deal not only with the current situation but also the future. To strengthen the system, we must strengthen the core, i.e. the human.

TJF exists to offer this radical idea: to work with lands that are often forgotten and deemed as unproductive. We refer to this land as suboptimal lands.

TJF Flagship Programs

Sustainable Peatland Agriculture (SPA)

TJF program that advocates science-based sustainable peatland management. Through a series of robust research, SPA provides evidences and new insights on how peatland agriculture can be sustained for a long-term while accommodating the environmental, social, and economic aspects.

Suboptimal Land Agriculture Initiatives (SLAI)

A platform designed to spotlight the success stories of local farmers engaged in suboptimal land cultivation across Indonesia. It oversees the production of diverse and nutritious food and highlights the SLA contribution to local food security.

Collabowriting

A collaboration program between article writers and TJF aims to promote issues related to food security, suboptimal land, and sustainable agriculture. This program aims to build public awareness of the importance of maintaining food security through sustainable agriculture.

Food Security and Sustainability Center (FOSTER)

A 20-hectare research center for innovative practices in growing food crops, livestock, and aquaculture. It established on suboptimal land in Riau to improve the local food security.

TJF media & people outreach in numbers

presented our research in front of

700+

audiences which stimulated new insight in peatland management

the TJF program has successfully attracted

76

partners to collaborate

sparked the interest of

2646+

digital audiences to learn more about the TJF program

TJF has been widely recognized and featured in

8

mass media

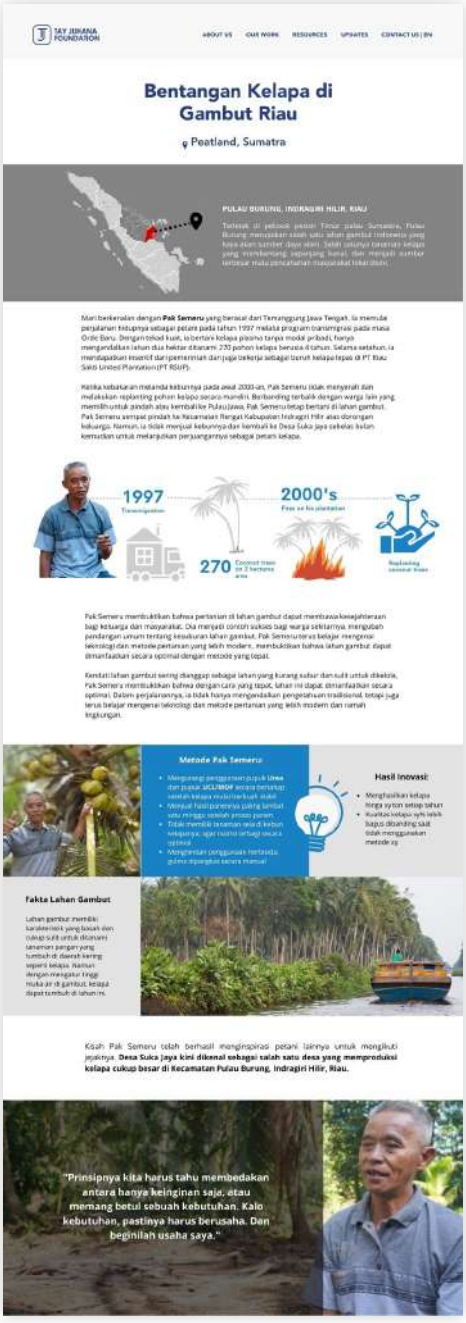
“

Always contribute to society. If you cannot contribute to society, do not be a burden to society.

Tay Juhana
1938-2016

SLAI

A platform to promote sustainable agriculture in suboptimal to strengthen food security



In fact that more than 78.2% of Indonesia's land comprises suboptimal conditions, as per data from Balitbangtan in 2015, underscores the imperative of optimizing land utilization to fortify future food security.

Suboptimal lands, ranging from wetlands to drylands, have historically been cultivated by local communities in the surrounding regions. Traditional farming practices, passed down through generations, have been instrumental in sustaining the livelihoods of these communities. Despite their historical significance, these land types are often perceived as incapable of yielding high-quality production and typically necessitate substantial investment in management.

The Suboptimal Land Agriculture Initiatives (SLAI) emerges as a platform designed to spotlight success stories of local farmers engaged in suboptimal land cultivation across Indonesia. Its primary objective is to furnish tangible evidence that suboptimal land agriculture can be executed efficiently and effectively through specific methodologies, addressing the food needs of communities while bolstering their economic foundations.

Moreover, this platform is envisaged to function as a repository and point of reference for farmers contending with similar land types. As SLAI progresses, it aspires to transform into a networking hub, collaborating with pertinent organizations and individuals to facilitate knowledge exchange and resource-sharing, all in the pursuit of advocating sustainable suboptimal land agriculture for enhanced food security.

By 2023, SLAI has amassed a collection of more than 10 stories from diverse regions in Indonesia, featuring various suboptimal land types, including peatlands in Riau and Kalimantan, swamplands in South Sumatra, and drylands in Yogyakarta and Lombok.

These narratives encompass a broad spectrum of crops, including food crops, horticulture, and annual/plantation crops. Throughout this narrative-gathering process, TJF has collaboratively engaged with several organizations active in the realm of sustainable agriculture.

SLAI Event

On November, as part of the accelerated development strategy for the Suboptimal Land Agriculture Initiatives (SLAI), TJF collaborated with Dompet Dhuafa to coordinate a training workshop for farmers in the swamplands of Desa Sumber Makmur, Kab. Banyuasin. The workshop is designed to serve as a platform for farmers to engage in discussions addressing the challenges encountered throughout the agricultural process, spanning from cultivation to harvest, particularly in swampy terrains.

The workshop successfully convened a diverse group of stakeholders, including representatives from the Department of Food Security and Horticulture in Kab. Banyuasin, faculty members from the University of Sriwijaya's Faculty of Agriculture, and ICRAF, a distinguished NGO specializing in agroforestry. Attended by 30 local farmers engaged in the cultivation of rice, vegetables, and plantation crops, the event facilitated an interactive discourse between the farmers and the presenters. This dynamic exchange aimed at identifying and deliberating potential solutions to the multifaceted challenges inherent in their agricultural practices.

Percentage of farmers (projected) based on the crop type:

35%
Food crops-farmer

15%
Horticulture plants-farmer

50%
Plantation crops-farmer

SLAI Media Coverages

Visiting Palembang and collaborating with ICRAF and Dompet Dhuafa have enhanced TJF's branding and media coverage in suboptimal land agriculture. The site visit and SLAI Workshop have received positive media attention from various local and national sources, such as:

1. Sriwijaya Update

(Published on November 11, 2023): This is an online news portal that covers various topics related to South Sumatra. The article reports on the SLAI Workshop and the site visit, highlighting the benefits of suboptimal land agriculture for food security and community empowerment.

2. Kompas TV Palembang

(Published on November 11, 2023): This is a local television station that is part of the Kompas Gramedia Group, one of the largest media conglomerates in Indonesia. The station broadcasted a segment on the SLAI Workshop and the site visit, showcasing the activities and outcomes of the initiatives. The segment also interviewed some of the TJF's Program Manager, who explained the vision and mission of TJF in suboptimal land agriculture.

3. Sumsel Satu

(Published on November 13, 2023):An online news platform covering regional developments.The article focuses on the positive impact and outcomes of the workshop.

4. Sumsel Update

(Published on November 11, 2023): This is another online news portal that focuses on South Sumatra. The article features the SLAI Workshop and the site visit, emphasizing the collaboration between TJF, ICRAF, and Dompet Dhuafa in developing suboptimal land agriculture. The article also quotes some of the participants and stakeholders who expressed their appreciation and support for the initiatives.

FOSTER

Collaborative Research for Community Empowerment

Food Security and Sustainability Center (FOSTER) is a partnership project between TJF and YBDA located in Kuala Enok, Riau. It aims to unlock the transform 20 hectares of tidal swamp land into agricultural, aquaculture, research center, and farmers training site.

FOSTER planned activity:

The land in Indragiri Hilir Regency is set to undergo FOSTER development plans, covering approximately twenty hectares.

Our planned activities are tailored to provide maximum benefit to specific individuals or groups. They are:

1. Vulnerable community groups living around FOSTER in Tanah Merah Village.
50 households in Tanah Merah Village will participate in pilot project activities such as cultivating food crops, livestock, and fisheries.

2. Indragiri Hilir Regency's Coconut Farmers
This community will benefit from Field Schools and training programs implemented by the Food Crop Program Implementation Unit, Livestock, and Fisheries.

3. Adolescents and Youth who live in Indragiri Hilir Regency
FOSTER will later open learning classes in Training, internship, or Field School, especially for developing technical skills and knowledge, including strengthening the entrepreneurial capacity of adolescents and youth in food crop cultivation, livestock, and aquaculture.

4. Universities in Riau Province and Indragiri Hilir Regency
FOSTER can be used as a research location, testing, or practice location for university lecturers, students, or researchers.

5. Government
YBDA and TJF will collaborate with Indragiri Hilir Regency and Riau Province governments to develop and manage wetlands and lowlands in FOSTER. This will enable the cultivation practices to be incorporated into government development programs for the community.

COLLABOWRITING

Inviting more people to raise awareness in food security issue

Collabowriting is one of the programs that TJF launched in 2023 to promote scientific writing on food security, suboptimal land, and sustainable agriculture.

Collabowriting invites anyone who is interested in these topics to submit their article outlines and collaborate with TJF's editors to complete their articles. The program aims to raise public awareness and create a collaborative movement for sustainable agriculture on suboptimal land.

The program also offers appreciation fees for the writers whose articles are published in external media. Since May 2023, the program has received about 80 outlines and selected and guided 4 articles to be published.

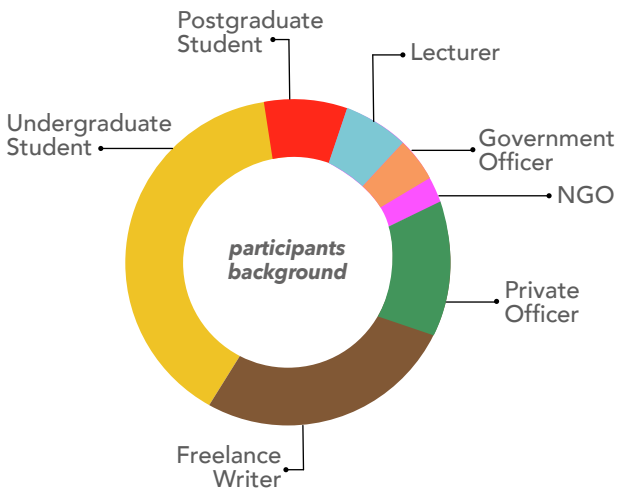
TJF believes that the public has the potential and capacity to contribute to the dissemination of knowledge and information about suboptimal land, as well as to the development of solutions and innovations for suboptimal land.

With this program, TJF hopes to provide opportunities and facilities for the public to express their ideas and thoughts through quality and useful scientific writing. TJF aspires to build networks and collaborations with writers to support the development of content and narratives that are in line with TJF's vision and mission.

65
article outlines submitted

31
outlines proceeded to the next stage of writing

4
published articles on well known media



DIGITAL PRESENCE

Spread the messages to secure our food

The Photo Story of 1st Winner of "Jaga Pangan Jaga Gambut" Challenge

Our program has sparked the interest of

2646+

digital audiences who are keen to learn more about sustainable suboptimal land agriculture and food security.

Protect Our Food, Protect Our Peatlands

In May-June, TJF initiated a digital competition named TJF Challenge: Jaga Pangan Jaga Gambut (Protect Food, Protect Peatlands) to commemorate World Peatlands Day, which is celebrated every year on June 2. The competition encouraged people living in peatland areas or having experience of farming on peatland to share their stories in the form of "Photo Story." Out of 29 photo stories from various regions of Indonesia submitted, five best photos were chosen based on their substance, narrative, and photo quality.

Let's Become Farmers on Suboptimal Land!

In September we conduct TJF Challenge to educate Instagram users about suboptimal land cultivation. Fourteen participants, including farmers, participated in the challenge and simulated sustainable farming on suboptimal land by sharing their methods through online resources. Three compelling stories emerged from the challenge which may be republished in the SLAI program. According to a survey, 42% of participants were previously unaware of suboptimal land, but after the challenge, everyone had a clear understanding of it.

One of the Winner of "Let's Become Farmer on Suboptimal Land" Challenge
The participant showcased the story of their related experience cultivating suboptimal land

SPA

Our findings to enhance food security

Is Coconut Farming in Indragiri Hilir Sustainable?

Indragiri Hilir, a region characterized by its fragile and suboptimal peatland ecosystem, simultaneously presents a potential "gold mine" for enhancing human prosperity. For centuries, this area has evolved as a primary coconut producer in Indonesia, contributing 10.6% to the nation's total coconut output. This prompts the question: Is the age-old practice of coconut farming on peatland sustainable? And what forms of sustainability can be leveraged to counter negative environmental narratives?

TJF's 2023 research focuses on developing a logical framework for long-term sustainability that is robust and broadly acceptable to various stakeholders. This framework aims to serve as a versatile and robust reference, particularly for analogous ecosystems—predominantly peatlands cultivated with perennial crops—underscoring their vital role in bolstering food security.

The concept of sustainability is intertwined with dynamic systems, inherently linking them to potential disruptions. This complex and comprehensive approach encompasses various dimensions, considerations, and perspectives, highlighting the intricate nature of sustainable practices.

Therefore, it is crucial to emphasize the need for systems to adapt and establish new stability in the face of disturbances. Assessing a system's resilience to disruptions involves incorporating the element of time into sustainability planning. The long-term resilience of a system forms the cornerstone of sustainability, fundamentally addressing the survival of future generations in the Indragiri Hilir landscape.

Given the extensive theoretical literature on sustainability, our focus is on formulating definitions that effectively address both theoretical complexities and practical challenges in measuring sustainability. The process of addressing the framework is more challenging than collecting and analyzing data for results.

Our sustainability framework analysis emphasizes the distinction between primary and secondary sustainability. Fundamentally, primary sustainability in agriculture pertains to the core practices and principles that directly contribute to the long-term viability of agricultural systems. Secondary sustainability involves practices and considerations that support primary sustainability efforts or address broader socio-economic and environmental aspects related to agriculture. In the more comprehensive context, improper management and adaptation within the realm of primary sustainability could precipitate a rapid breakdown of the current system in a relatively short period, marked by immediate and severe challenges. Conversely, a deficiency in secondary sustainability parameters might lead to a gradual erosion of the system's integrity, rendering it less sustainable. This gradual degradation could extend over a longer term, potentially impacting future generations.

By the end of 2023, we have achieved 100% collection of environmental parameters through collaborative research with Institut Pertanian Bogor, and 50% of socio-economic parameters. In 2024, we will continue to collect socio-economic data to support our narrative and complete the sustainability assessment, providing evidence that coconut farming in Indragiri Hilir is sustainable. We will also model the fragile environmental parameters for the future, with our primary goal being the sustainable management of resources for future food production.

The detailed sub-dimensions of sustainability we propose cover various environmental aspects specific to peatlands, including:

- **Water Management**
- **Protection of peat domes and coastal areas**
- **nutrient management and the implementation of no-burning practices**

Social considerations include:

- **social infrastructure of agriculture**
- **conflict resolution**

Economic factors encompass:

- **market certainty**
- **the development of a sustainable supply chain**

Additionally, supplementary aspects like government support are integral to this comprehensive framework. Adhering to these principles in the coconut agriculture ecosystem of peatlands is essential for steering the system towards enduring sustainability.

SPA

Showcased the findings to the world

TJF Researcher, Ihsan presented the research finding in Seminar organized by Indonesian Peat Association

Seminar at the Indonesian Peat Association

On September 14, 2023, the Indonesian Peat Association organized a seminar at the IPB International Convention Center, Bogor City. Themed "Responsible Peatland Management," the event attracted a diverse array of stakeholders, including government officials from the Ministry of Agriculture and local governments, academics, and practitioners focused on peatland issues.

The seminar was attended by 100 participants in person and over 400 online. The seminar addressed several misconceptions prevalent among non-tropical peat observers, providing scientific evidence to support a positive outlook on responsible peatland management in agriculture.

TJF contributed as a keynote speaker, presenting "Nutrient Cycle Technology in Coconut Plantations on Peatland: Impacts and Contributions to Responsible Peatland Management." Our research demonstrated the effectiveness of nutrient cycles in enhancing peat soil quality and sustaining productivity in coconut agriculture without relying on herbicides, pesticides, or synthetic insecticides.

The research is expected to improve peat farming practice with minimum fertilizer use and low carbon emission.

TJF Researcher, Ihsan presented the research finding in ICERM

International Conference on Environmental Resource Management (ICERM)

Hosted by the Faculty of Geography at Universitas Gadjah Mada, the 5th International Conference on Environmental Resource Management (ICERM) in Yogyakarta City featured TJF's presentation "Progress Towards Adopting Low-Carbon Agriculture on Peatlands for Sustainable Development in Indonesia." Our research shed light on the misunderstood aspect of emissions in peatland agriculture, comparing it with mineral soil cultivation. The presentation highlighted the viability of sustainable agriculture on peatlands and addressed common misconceptions about environmental impacts in these regions.

TJF Researcher, Ratu (second from the right) presented the research finding in ICAFEST

The International Conference of Agriculture, Food, and Environmental Science (ICAFES)

The 1st International Conference on Agriculture, Food, and Environmental Science (ICAFES), organized by the Faculty of Agriculture at Universitas Riau in Pekanbaru, Riau, featured over 100 presenters from diverse fields. TJF's presentation, "Towards Long-term Sustainable Supply Chain in Coconut Agriculture in Indragiri Hilir, Indonesia: A Preliminary Study" aimed to foster dialogue with experts in agricultural and peatland research. The presentation underscored the importance of proximity between coconut processing industries and raw material sources in strengthening the sustainability of the coconut agriculture supply chain. Emphasis was placed on managing stakeholder interests and improving resources available to farmers to enhance the overall efficacy of the supply chain.

Meet the Team

Besides the continuous support from TJF partners, none of the progress would have happened without our committed team. Thank you for making everything possible, this year and every year.

General Director
Tay Enoku

Executive Director
Tay Ciaying

Advisory Board Member
Christian Hsieh

Program Manager
Ika Zahara Q.

Program and Partnership
Andi Junila A.

Research Team
N Ihsan Fawzi, Ratu Nabillah

Media and Communication Team
Andri Kornelius, Dewi Mustika R.

Finance and Administration
Nurmila Handayani


SLAI


WORKSHOP PERTANIAN
LAHAN SUBOPTIMAL
Suboptimal Land Agriculture Initiatives (SLAI)
Kamis, 9 November 2023
Desa Sumber Makmur, Banyuasin, Palembang

TAY JUHANA FOUNDATION

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