



Reweaving Human–Nature Relationships: The Satoyama Ethos in the LULUCF Project

In our [previous issue](#), we introduced *The Third Cultivation*—an agriculture paradigm grounded in **Nature-based Culture (NbC)**. In this issue, we turn our attention to a philosophy brought to life: **Satoyama**—a centuries-old Japanese **Co-cyclic land-management system** where **farming, forestry, and local resource** use are not just compatible with nature but **inseparable from it**. **Satoyama** is where rice paddies meet woodlands, where irrigation channels trace the contours of a forested slope, and where human livelihood is part of the ecological equation.

As we face intensifying **climate change**, the **Satoyama** ethos offers more than just nostalgic memory. It gives a practical model that integrates **biodiversity, land use, and community resilience**. These are not lofty aspirations; they are the very foundation of how we are approaching the [LULUCF Project in Indonesia](#).

From Landscape to Land Management: Reframing Satoyama

We often hear **Satoyama** described as a traditional, picturesque *landscape*. But that framing **undersells its significance**. While the term **Satoyama** is notoriously difficult to translate into English, it is essential to recognize that it is **not just scenery**—it's a **CoCyclic land-management system**, born of necessity and honed over centuries. The **CoCycle concept** is a **transdisciplinary framework** grounded in **coexistence, cooperation, cohabitation, and cycle system of materials and energy**.

The concept may have been given a relatively modern name, but the **roots go deep**. As far back as the Nara Period in the **8th century**, Japan was already feeling the **environmental strain of rapid development**. Timber was stripped from forests to build imperial cities and cast the Great Buddha, leading to widespread deforestation, flooding, and the collapse of coastal ecosystems. The damage was real—and recognized. In 676, Emperor Tenmu issued what's believed to be the world's **first forest conservation edict**, banning tree-cutting in the Kinai region.

It was policy grounded in **ecological feedback**. As environmental historian Conrad Totman argues in [The Green Archipelago](#), **Japan's forest governance** was not born of abstract environmental theory, but of **lived experience**. The connection between **environmental degradation** and **societal stability** was too direct to ignore.

That's what makes **Satoyama** so relevant today. It is **not a romantic relic of the past**. It's a system shaped by the hard realities of a **mountainous country with limited arable land**. It reflects an intuitive understanding: **humans are part of, not separate from, natural systems**. **Satoyama** is about **coexistence** and **circulation**. **Forests, water, farms, and villages** form an **integrated whole**. The flow of resources is **managed, not exploited**. The guiding principle is **reciprocity, not control**.

And that makes **Satoyama** more than just a historical curiosity. It offers a model—intellectual and practical—for today's push toward **Nature-based Solutions (NbS)**. As we confront the cascading crises of **climate change** and **biodiversity loss**, the **Satoyama ethos** reminds us that **sustainability** isn't a new invention. It's a **rediscovery**.

The Satoyama System: A Logic of Integration

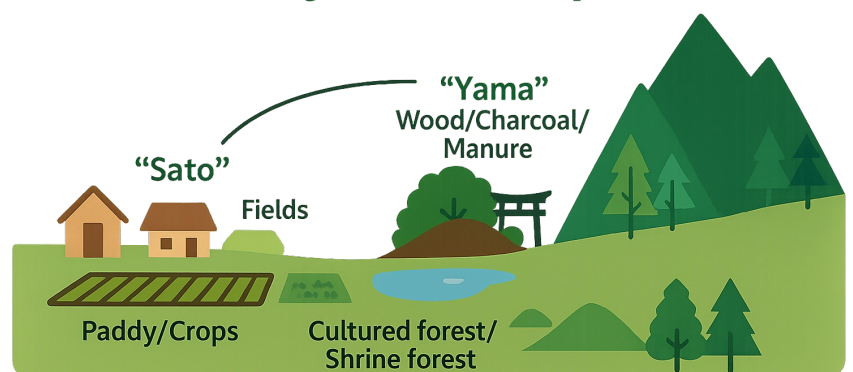
Typically located between **mountainous uplands** and **settled lowlands**, **Satoyama** integrates **forests (yama)**, **rice paddies**, **irrigation channels**, **grasslands**, and **villages (sato)**. These components form a **multifunctional mosaic**:

- **Forests** supply timber, fuel and leaf litter for compost.
- **Paddies** sustain not only rice, but fish and aquatic life that cycle nutrients.
- **Irrigation systems** connect ecosystems, enhancing both productivity and biodiversity.

Crucially, the **resilience** of **Satoyama** is no accident. It results from **long-term care, community stewardship**, and a deeply held **land ethic**—what we might call **“ecological mindfulness.”**

As Dr. Mitsuru Osaki, JICA Short-Term Expert, emphasizes, **Satoyama** operates through three interconnected dimensions:

Satoyama in Japan





- **Production**—securing food, fuel, and resources through regenerative means
- **Living**—maintaining the cohesion and livelihood of rural communities
- **Culture**—preserving knowledge systems, customs, and seasonal rituals that bind people to place

Together, these dimensions make Satoyama more than a model—it is a **socio-ecological tradition** where **nature and society co-evolve** through **mutual respect**.

Satoyama in the Tropics: Insights for Indonesia's Peatlands

While Satoyama emerged in Japan, its **principles travel elsewhere**. In Indonesia's **peatland regions**—Central Kalimantan, South Sumatra, and Riau—similar values are taking root through **AeroHydro Culture** under **the LULUCF project framework**.

In the Satoyama System, **agroforestry**—which integrates **forest functions** such as **water retention**, **hydrological cycles**, and **flood control** with agriculture—is essential. As **tropical peatlands** are ecosystems of both **water** and **forest**, the **Satoyama System** can function most effectively in such environments.

- **Peatland restoration**, like *Satoyama*, depends on **multifunctional management** that unites **ecological processes** with **human livelihoods**.
- **Community involvement** in **rewetting**, **replanting**, and **fire prevention** echoes *Satoyama*'s participatory ethic.
- **Agroforestry**—a defining feature of Satoyama—is essential in restoring the **degraded forest-agriculture interface** across Indonesia's peat zones.

Recovering a Logic, Not a Blueprint

To be clear, we are not advocating for the **literal replication** of *Satoyama* in the Indonesian tropics. **Cultural and ecological contexts differ**. What we advocate is the **revival of its core logic: circulation, coexistence, and cooperation**—principles that resonate far beyond Japan's rural edges.



The LULUCF Project embodies this ethos through **AeroHydro Culture techniques**. By **maintaining high groundwater levels** while **promoting oxygenation and nitrogen fixation**, revitalizing soils, and enhancing microbial life, we aim to **regenerate landscapes from the ground up**. These are **not just technical fixes**—they **reflect a socio-ecological approach in which human well-being and ecosystem health reinforce one another, much like in the *Satoyama* tradition**.

Our goal is **not to restore the past but to recover its logic**—applying it where it matters most today.

Closing Reflection: Listening to the Landscape

Satoyama teaches us that **resilience cannot be engineered** —it **grows through relationship**. As **Indonesia and Japan** strengthen their partnership on **land use and climate action**, we are reminded that **landscapes are not passive resources**, but **living partners** in our future.

Through **the LULUCF Project**, we are nurturing a **vision** in which **peatlands and people flourish together**—where the spirit of ***Satoyama*** can take root in the **tropics**.