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“Ecosystem Services in the Asia-pacific Region”

# What is the *Satoyama* Initiative's Vision?

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# For the sustainable development of satoyama-like landscapes in the future

## Challenges are many, diverse and inevitable...

- Population growth/ decrease in rural area
- Urban and tourism development
- Commercial and intensive forestry and agriculture (loss of mosaic)
- High-yielding varieties of agricultural crops (loss of genetic diversity)
- Limited stakeholder participation
- Low management capacity
- Globalization
- Climate change
- Poverty



→ approaches based on a **comprehensive vision** are needed which integrates three point of view:

**Nature, Society, and Knowledge and techniques**



## Consolidation of wisdom on the sustainable use, reuse and recycling of natural resources and harmonious co-existence between nature and human society

- Good relationship between human society and natural environment **sustains** and **strengthen** the ecosystems and the services they provide to humans.
- Usage and management of natural resources must be conducted in a manner that **takes advantage of natural processes** and **integrates them with artificial processes**.
- Need to ensure that the natural resources in the area are **recycled** and the organisms may **reproduce**

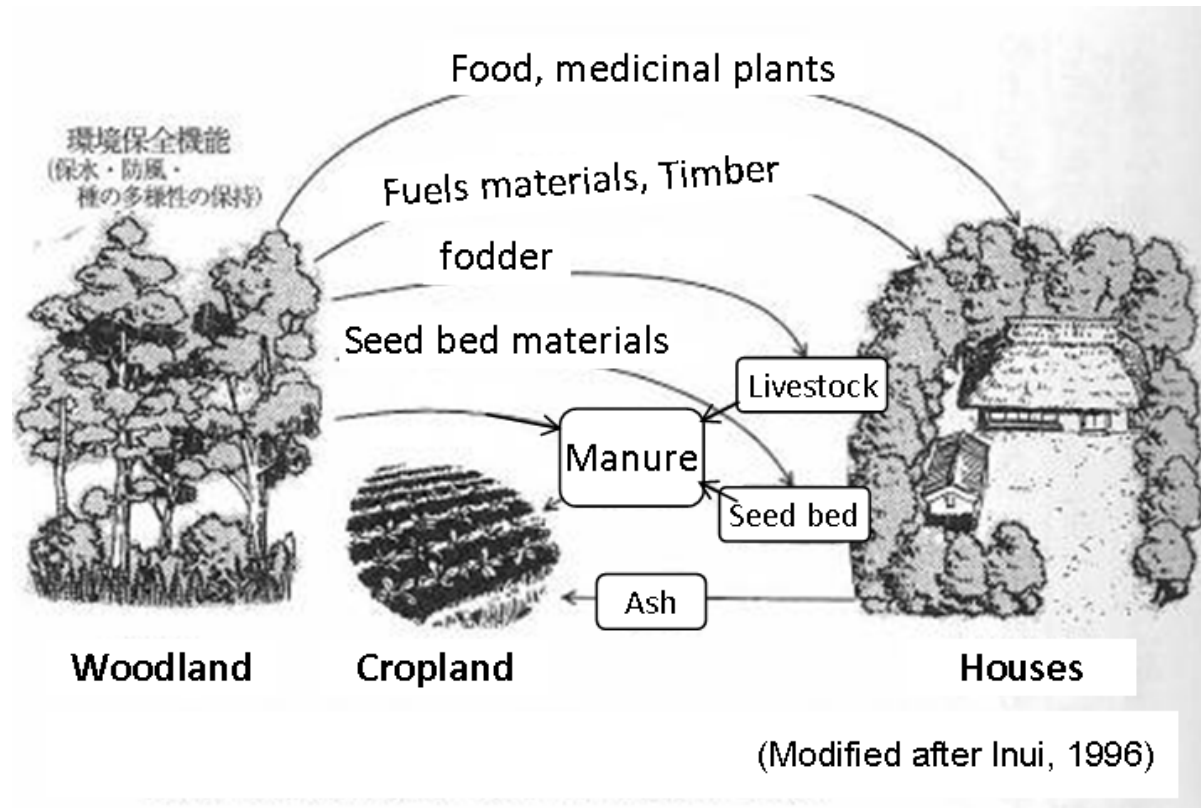


## Pekarangan (Homegarden)

- A mixture of agricultural crops, tree crops, and animals on the land surrounding a house.
- Combination of trees with different height and herbs
- Farmers try to optimize the use of space in in their homegardens, locating each crop according to its light, water, and fertility requirements.



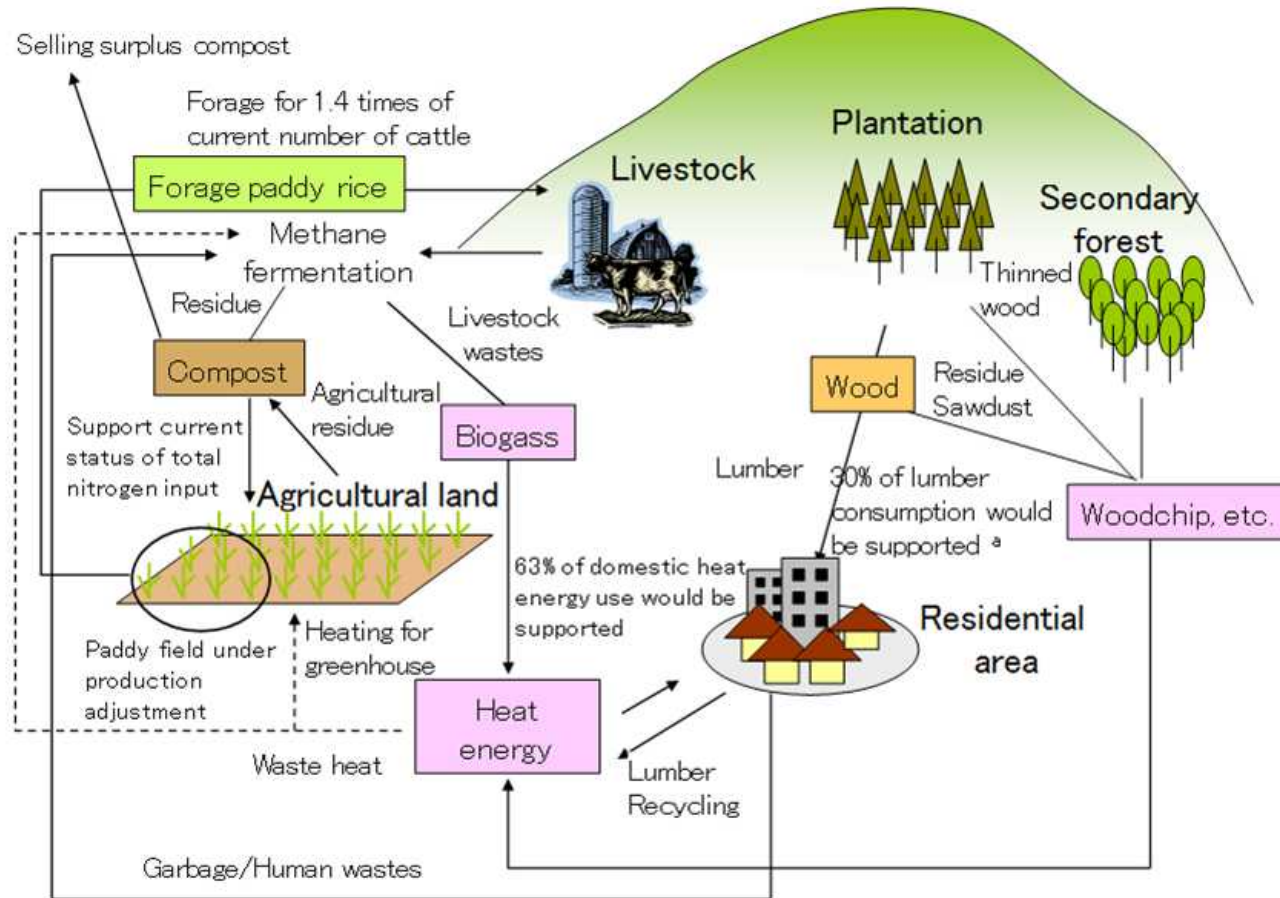
# Satoyama landscape in the past



There were systems for recycling biomass resources in the area.



# Satoyama landscape reconstruction possibilities in view of energy consumption in Saku City, Nagano, Japan



<sup>a</sup> Assuming 25 years-cycle for lumber construction.

Much attention is currently being focused on systems that recycle natural resources, particularly those that utilize biomass efficiently in areas as mechanisms of suppressing the production of carbon dioxide due to the combustion of fossil fuels.

# Integration of traditional ecological knowledge with modern science

- **TEK:** Knowledge of the regional environments including techniques on natural resource utilization and management
- Have been **experientially, practically or traditionally passed down** within the social and natural context of an area.
- Often rooted in a world view in which people, animals, plants and other structures in the universe are **linked to one another**.
- Provide us with important suggestions that are **suited to the societies and ecosystems of the regions of today**.



(Photos by R.N. Banaticla)



## Integration of traditional ecological knowledge with modern science (cont'd)

- Respect to the world views, history, cultures, traditions and customs that produced landscapes
- Integrating modern scientific knowledge with TEK in order to develop production and management systems in a changing socio-economic and environmental conditions including climate change





# Indicator species for diagnosing local land conditions

- Asking local people's perception of grassland conditions
- Scientific experiment on physiological characteristics of plants
- Integration of TEK and scientific knowledge



## Shrub steppe

Species name	Platability
<b>Degradation species</b>	
<i>Chenopodium album</i>	Very low
<i>Peganum nigellastrum</i>	Very low
<b>Restoration species</b>	
<i>Carex duriuscula</i>	High
<i>Stipa krylovii</i>	High

## Gobi steppe

Species name	Platability
<b>Degradation species</b>	
<i>Peganum nigellastrum</i>	Very low
<i>Chenopodium album</i>	Very low
<i>Bassia dasyphylla</i>	Very low
<b>Restoration species</b>	
<i>Carex stenophylla</i>	High
<i>Stipa glareosa</i>	High
<i>Stipa gobica</i>	High



*Peganum nigellastrum*



*Chenopodium album*



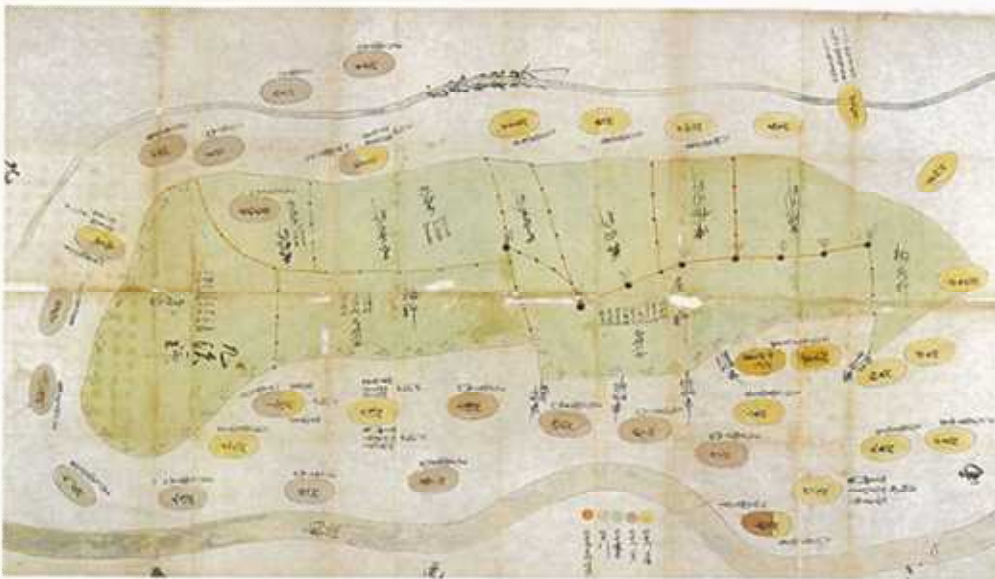
*Carex stenophylla*



*Stipa gobica*

# Creation of a “New Commons”

- **Commons:** the natural resources that are utilized and managed on a “shared” basis as well as the systems for such purposes.
- Not only human-nature relationships but also **human relations and social mechanisms** are important for sustainable use and management of natural resources.
- New regional comprehensive management bodies are needed



Map of commons from 17th century  
(grassland and surrounding villages)

(Sagamihara City museum, 2004)



## Creation of a “New Commons” (cont’d)

- Consists of farmers and foresters, new members to the community, urban residents, administrative bodies and NPOs, etc.
- In addition to production in agriculture, forestry and fishing, should also be responsible for processing and distribution activities.
- Preferable that local people care about wild animals in their area
- Link restoration/ conservation project with organic farming, tourism, and regional development



Reintroduction of Storks into the wild in Toyooka City



# Initiative's Threefold Vision

Consolidation of wisdom on the sustainable use, reuse and recycling of natural resources and harmonious co-existence between nature and human society

Integration of Traditional ecological knowledge and modern science

Creation of a "New commons"



# The Five Perspectives

Based on the vision, the perspectives of the Initiative form the approaches for the revitalization and advancement of satoyama-like landscapes.

