The Concept of the *Satoyama* Initiative and Challenges and Ways and Means to Support Socio-ecological Production Landscapes

Prof. Kazuhiko Takeuchi
Vice Rector, United Nations University

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“Biocultural Landscapes” and “Socio-ecological Production Landscapes”

Biocultural landscapes

“Landscape formed as a blend of natural processes and human culture, which mutually affect each other.”

Socio-ecological Production Landscapes

Propose to integrate elements of biodiversity, for example,

“Dynamic mosaics of managed socio-ecological systems that maintain biodiversity and produce a bundle of ecosystem services for human well-being.“

“Satoyama and satoumi landscapes”

is defined as

“Dynamic mosaics of managed socio-ecological systems that produce a bundle of ecosystem services for human well-being." (Japan SGA, 2010)

Challenges facing socio-ecological production landscapes

Industrialization, urbanization, population increase and decrease, technological advancement, climate change

Weakening of traditional organizational system, Economic difficulties, Loss of traditional / indigenous knowledge, Nearsighted policy

Lack of awareness

- Conversion of land use (expansion of cultivated fields, etc)
- Unsustainable logging, and plantation
- Switch from multiple-cropping to mono-cropping systems
- Introduction of new crop species, such as high yield species
- Inappropriate cultivation / management method (excess use of agricultural chemicals etc.)
- Abandonment of land utilization and management
- Diseases and pest outbreaks

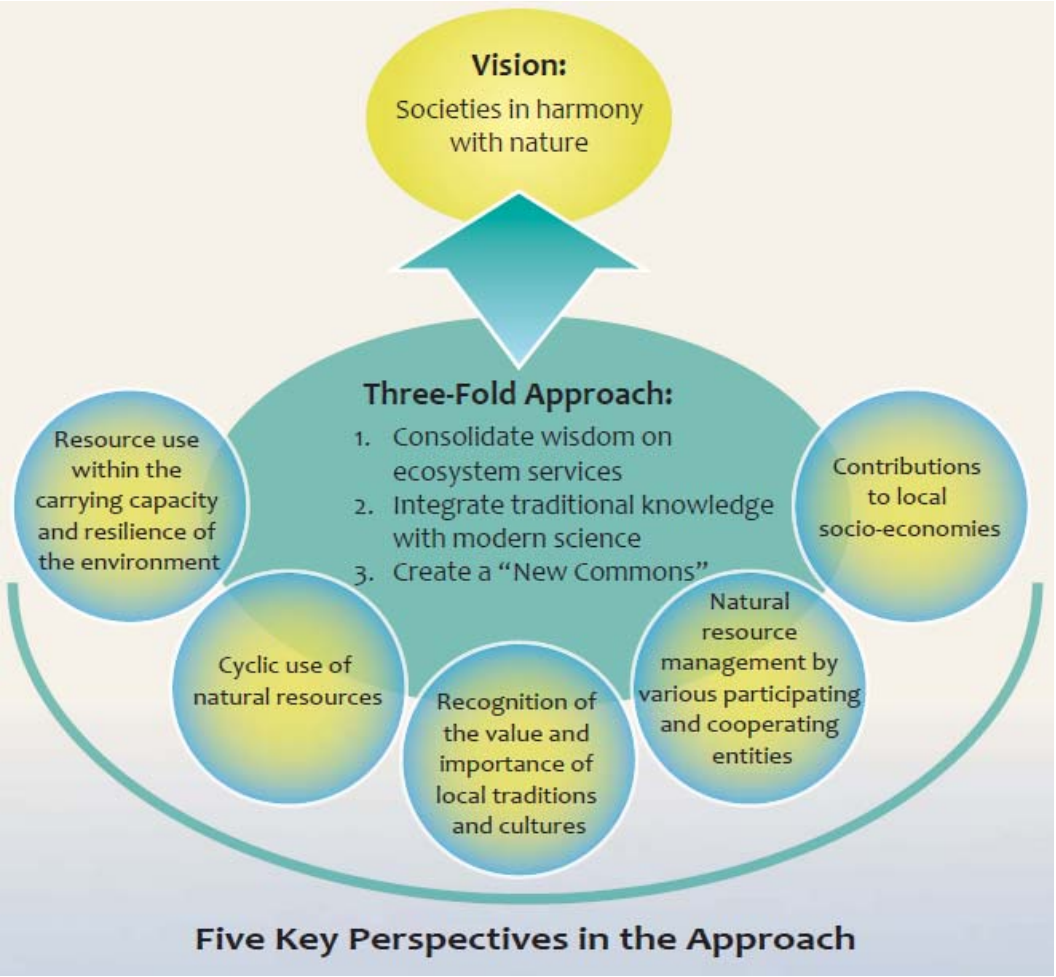
Loss of biodiversity and degradation of ecosystems

Vision:

Realizing Societies in Harmony with Nature

- Building **positive human-nature relationships** by:
  - Maintaining and developing socio-economic activities (including agriculture, forestry and fishing) in alignment with natural processes
  - Ensuring that biological resources are managed and utilized in sustainable manner
- So that **biodiversity can be maintained**, and humans can enjoy a **stable supply of various benefits of nature (ecosystem services) well into the future**

Conceptual Structure of the Satoyama Initiative



Achieving the **Vision** (long term goal) by carrying out activities in accordance with the **Three-fold Approach**, which in concrete terms, entails the **Five Perspectives**.

Three-fold Approach

Consolidating wisdom on a stable supply of diverse ecosystem services

Integrating traditional ecological knowledge with modern science

Creating a “New Commons” or comanagement system

Perspective 1:
Resource use within the carrying capacity and resilience of the environment

- Essential to understand characteristics of biodiversity and ecosystems, so that careful consideration is paid to the carrying capacity and resilience of the environment
- Important to link sustainable resource utilization with long term stabilization and enhancement of agricultural productivity
- Important to apply adaptive management for an optimized use of ecological services to cope with the changing ecosystems

<**The Burren Hills, Ireland** >

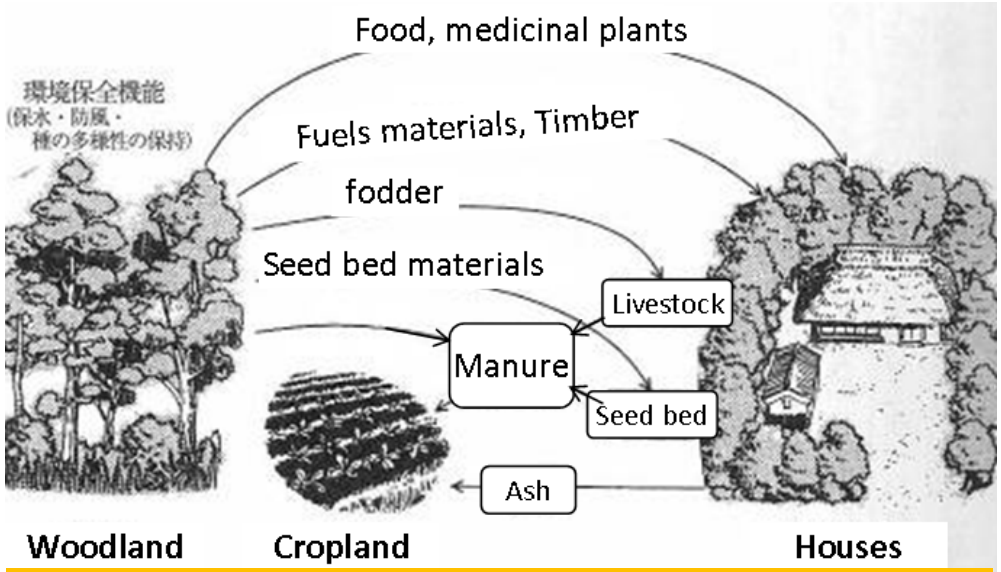
- Reverse transhumance system (winter grazing on uplands)
- Farm management based on traditional knowledge of natural carrying capacity (13 cows per winterage for 6 months)
- Ensures removal of accumulated dead vegetation and prevents overgrazing of the uplands

Winter grazing in winterage on Burren upands

(Source: Submitted report by P. Sharon et. al.)

Perspective 2:
Cyclic use of natural resources

- Essential to consider the circulation of natural resources when utilizing and managing ecosystem services
- Important to take comprehensive cross-sectional approach
- Can help bring to realization low carbon societies through efficient use of biomass



Traditional cyclic use of natural resources in satoyama

(Modified after Inui, 1996)

<Spessart, Bayern State, Germany>

- Biogas generation from cow manure provides electricity to farms and restaurants operated by farmers, and liquid fertilizer for growing feed crops.

Cattle farming

Biogas generation plant

(Courtesy of Japan Wildlife Research Center)

Perspective 3: Recognition of the value and importance of local traditions and cultures

- Essential to respect histories, cultures, traditions, local efforts and dignity
- Important to scientifically explain the natural and social rationale behind the practices for reviving local cultures
- Important to forge fair and balanced relationships between relevant parties by incorporating deeply entrenched local knowledge with modern science
- Can help reduce outflow of population seeking better opportunities in cities by revitalizing rural villages

Toro Village communities

(Courtesy of Mr. Mohamad Shohibuddin)

Meeting on customary law on land and natural resources

(Courtesy of Mr. Mohamad Shohibuddin)

<**Toro Village, Central Sulawesi, Indonesia**>

• Villagers work with NGO to help bring customary law of land and natural resource utilization into statutory form

• Revived traditional customary law system and formalized rules governing resource management

Perspective 4: Natural resource management by various participating and cooperating entities

- Essential to enhance natural resource utilization and management through participation and cooperation of various entities in each planning and implementation stage
- Important to create mechanisms covering wide geographical area so that benefits and burden are shared among different entities
- Important to build active participation from broad cross-sectional fields and industries (scientist and private sectors)
- Can help bridge gap between rural and urban areas

A village along Lake Nyasa threatened by upland degradation

(Source: Submitted report by S.J. Nindi.)

<**Lake Nyasa and Matengo Highlands,Tanzania** >

- Due to deforestation and uncontrolled shifting agriculture on the uplands, soil erosion is causing serious environmental degradation to the lake ecosystems downstream
- Collaboration efforts have been taken by farmers in the upstream and downstream areas, universities and local government
- Such exchanges help promote awareness of the impact of their activities on ecosystems in the other region

Perspective 5:
Contributions to local socio-economies

- Essential to ensure active role of local residents in socio-economic systems, that allows them to seek out various benefits and opportunities rooted in local industries
- Important to provide economic and technical assistance to enhance local autonomy on resource utilization and to facilitate operation
- Important to develop new ways of resource use (ecotourism), and to create value added products (certifications, environmental friendly production, farm fresh schemes *etc.*)
- Important to promote education and develop local personnel to take the lead

Milling facilities of the community forestry enterprise in Ixtlan de Juarez

(Source: Submitted report by K. Matsuzaki.)

<Ixtlan de Juarez, Oaxaca State, Mexico>

- Community forestry enterprise based on indigenous governance system
- Employs 200 local residents in logging and milling industries
- Certified by SmartWood for its sustainable logging activities
- Profits gained are reinvested into social infrastructures, the enterprise's modern technologies and facilities

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Conclusion

- Benefits of socio-ecological production landscapes for biodiversity conservation and human well-being should be shared globally.
- Challenges facing socio-ecological production landscapes are common issues around the world.
- In overcoming these challenges, it is important that;
  - we understand the best ways of nurturing a stable supply of ecosystem services,
  - we make them more applicable to the society by integrating traditional knowledge with modern science,
  - and since these are not only technical problems, we need to involve wider collaboration among multi-stakeholders.
- Based on this concept, the *Satoyama* Initiative **can** bring to realization the Vision of societies in harmony with nature.
- In order to advance the Initiative, experience sharing and active cooperation with relevant bodies are essential.