

## **Information Paper**

### **Satoyama-like Landscapes in the Asia-Pacific Region**

This paper is a synthesis of the summaries provided by government representatives and experts on the characteristics of satoyama-like landscapes in their countries as well as the information contained in the brochure “The Satoyama Initiative”(published in March 2009 by Ministry of the Environment, Japan) in regard to Japanese satoyama landscape. The special characteristics and significance that may generally be considered common to these landscapes had been set down in the discussion papers of the International Expert Meeting on International *Satoyama* Initiative Concept held on 25 July 2009; the discussion paper was shared with the government representative and the experts when they prepared the summary. The summaries provided also carry information on the benefits of these landscapes for biodiversity conservation and human well-being.

Summary papers were submitted by an expert from China and by government representatives from Cambodia, the Cook Islands, India, Indonesia, Iran, Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, the Philippines, Thailand and Vietnam, on the occasion of the Asia-Pacific Regional Workshop on the *Satoyama* Initiative Concept held from 1 to 3 October, 2009. The objectives of the workshop were to:

- review the management features of satoyama-like landscapes in the Asia-Pacific region and their benefits for biodiversity conservation and human well-being, and
- to discuss strategic elements of the vision and perspectives of the Satoyama Initiative.

#### **1. Characteristics**

##### **(1) Structure**

The adaptation of human beings to their local environment while making the best use of the available natural resources is one of the main forces behind satoyama-like landscapes. In particular, agriculture, forestry and fishing through the centuries, in and near human settlements, have had the most influence in shaping local landscapes all through the Asia-Pacific region. These activities are often associated with traditional systems of land management and have resulted in a mosaic landscape with diverse use. For instance, the long-term interaction between the indigenous people called the Ifugao, from the mountain province of Philippines, and nature has resulted in satoyama-like landscapes called *muyong*, *uma* and *payoh*. These are components of an agroforestry system in steep mountainous regions in the country. The *payohs* are rice production terraces, the *muyongs* are the untilled patches of forest covered with timber, bamboo, rattan palms, coffee, fruit trees, and other associated natural vegetation which are a source of timber products, fuel wood, medicinal plants, bio-pesticides, and other products, and the *umas* are fallow swidden land where the Ifugao plant other agricultural crops and build their homes. In Cambodia too, similar land use exists, although in community zones, which are one of the four zones that protected areas are divided into. Typically, residential lands, paddy fields and field gardens or swidden (*Chamkar*) may all be part of this zone. Vietnam too has many satoyama-like landscapes formed as a result of the long-term interaction between humans and nature through agriculture,

animal husbandry, forestry and fishing. In Lao PDR the mosaic satoyama-like landscape, like in other parts of Asia, may consist of wetlands such as rice paddies, water reservoirs and canals; fruit orchards, vegetable gardens, and fields of pulses and tubers; second-growth forests that provide firewood and medicinal plants; and human settlements. In Thailand too, the culture and way of life in rural areas have developed around and have been shaped by plant cultivation. Each village is surrounded by fields for rice in the lowlands or other crops in the highlands, streams, swamps and pastureland for grazing. In the Republic of Korea *maeul* (village) and *maeulsoop* (village forest) resemble satoyama landscapes and satoyama respectively. Traditionally *maeul* are composed of a mountain in the back, residential areas, streets, coplands, streams and ponds. However, the layout of these *maeul* is based on feng-shui, a fact that distinguishes it from satoyama landscapes.

## (2) **Community**

The management of natural resources in satoyama-like landscapes is often the responsibility of the local community. In Cambodia, the community zone, one of the four zones that a protected area is divided into, encourages and empowers local communities to become managers of their natural resources. A management plan for the zone, developed by the community in keeping with the potential of the site, defines the multiple activities that can take place, such as the development of plantations, fruit farms, rice fields, fishery lots, etc. To ensure that benefits are shared equally among community members, regulations have to be developed in advance.

In most local communities, the harvesting of natural resources is governed by rules that prevent overexploitation. In some cases the rules are clearly set down, while in others they exist in the form of cultural phenomena such as taboos. One example is from India where nature worship has helped preserve virgin forest in the form of 'sacred groves'. These groves, often situated near villages, comprise of patches of forest ranging from a few trees to several acres dedicated to local folk deities or tree spirits. The degree of protection varies from one grove to another; some tribes prohibit any human interference while others allow only deadwood or dry leaves to be collected. Religious beliefs associated with the sacred groves and traditional wisdom that contributes to forest protection could be suitably integrated with modern scientific forest management practices. In Indonesia, certain taboos associated with the daily life of traditional communities are also aimed at sustainable natural resource management. The community of Melayu in Riau has reserved forest stands (*hutan kepungan sialang*) of *sialang* trees which have a significant cultural value. Honey and rattan are harvested from these forests. In contrast, the Ifugao people of the mountains of the Philippines, have specific rules governing the management of natural resources. *Muyongs*, the untilled patches of forest, are cared for after the rice-planting season. The removal of climbing vines, thinning and pruning of the trees, inter-planting forest trees, fruit trees and coffee in the *muyongs* are accomplished through shared labor called *ub-ubbo*. Mature trees are cut only when large sized pieces of lumber are needed. The fruits of the rattan palms and other fruit trees are harvested annually and sold in local markets or brought to the nearby municipalities. The Ifugaos also have customary laws on the gathering of fuel wood, tree harvesting, and settling conflicts over ownership and use of the *muyongs*, that have evolved over time.

In Thailand, the king too is involved in the satoyama-like landscape by establishing agricultural stations in satoyama-like landscapes in the country. Here, activities such as testing new strains of crops and cultivating fruit saplings are carried out to assist farmers.

## **2. Challenges**

The rapid growth of population and the associated changes in resource use are one of the major challenges for satoyama-like landscapes. An increasing population means an increased pressure on available land and encroachment of forest land. Degradation of forests from overgrazing and human disturbances are threats to satoyama-like landscapes.

Unplanned development, particularly in the construction of elements that have a huge impact on the environment such as roads, railways, dams is often a disadvantage to satoyama-like landscapes.

The conversion of forest and agricultural land into land for housing and tourism development and urbanization, the loss of mosaic landscapes to commercial forestry characterized by monocultures, conflicting interests in land use, limited stakeholder participation or low community capacity in natural resource management, lack of enabling government policies, are all challenges in satoyama-like landscape conservation. These are especially a problem if the policies and systems governing resource management are not comprehensive, and if public awareness on sustainable natural resource use is low.

The development of high-yielding varieties of agricultural crops lead to loss in crop diversity and to intensive agriculture.

The loss of traditional belief systems, some of which are fundamental in managing satoyama-like landscapes, as well as the lack of documentation of traditional wisdom associated with the sustainable use of natural resources is another challenge. UNDP's Global Environment Facility (GEF) Small Grant Programme in Iran has shown by experience that the promotion of traditional knowledge and modern science requires new approaches and procedures. For these approaches to work, stakeholder participation, especially in local communities, is necessary at all stages. The importance of stakeholder participation was also noted in the case of the Cook Islands' International Waters Programme (IWP).

Appropriate land management schemes and zoning for land use planning are essential if satoyama-like landscapes are to survive. Globalization, climate change and poverty are the other factors operating on a large scale that affect satoyama-like landscapes.

In addition to these problems that are common to most countries in the region, there are a few that are country-specific. The aging and decrease in rural population is one of especial concern to Korea and Japan. Setting up reliable water systems is a challenge in arid countries of Central Asia such as Iran and Mongolia.

## **3. Benefits**

The creation of mosaic habitats, which are typically sturdier than monocultures, also provides a place for biodiversity. In some areas, the abundance of biodiversity is a result of human influence on the landscape. The satoyama landscape in Japan creates landscapes for various species of plants and animals. Rice paddies play an important role in biodiversity conservation by acting as stopover wetland habitats for migratory birds such as the

Golden Plover. Rice paddies also provide wetland habitat for various aquatic insects, crustaceans, fish and amphibians. Smaller paddies in narrow valleys or on steep slopes, with adjacent woodlands, are especially rich in biodiversity, since many species require both woodland and aquatic habitats to survive.

Satoyama-like landscapes in the suburbs also act as biological corridors and stepping stones for flora and fauna as well as buffer zones for protected areas. It is imperative that their conservation status is improved to ensure that they are beneficial for biodiversity conservation similar to the fragmented habitats adjoining the Guindy National Park in Chennai, India. Accurate information on the status of flora and fauna in satoyama-like landscape is also essential for their conservation.

Controls of the scale of wind, underwater flow as well as the control of temperature and humidity are other ecosystem services that village forests, such as the *maeulsoop* of Korea, provide. Leaf litters from these *maeulsoop* provide nutrients to adjacent rice paddies. Ingaunggyi, in the Southern Shan State of Myanmar, has abundant peat fields. When used wisely, as has been done by the Shan people, these provide fertile for growing rice in the rainy season and for dry cultivation in the winter.

Another benefit of satoyama-like landscape is a cultural one. The festivals, ritual activities celebrated by the community in satoyama-like landscapes are sometimes very much an inherent part of the culture and heritage of the country as well as good opportunities for cooperation in the community. Also, satoyama-like landscapes have aesthetic values. Remarkable sceneries of these landscapes have always been a powerful source of inspiration, imagination and creativity for peoples.