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Trees, Forests and Religion in Japan

Author: Omura, Hiroshi

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Panos Completes Successful Project



FIGURE 1 Samuel and Jane, two Kenyan narrators whose Mount Elgon testimonies were recorded by Panos, read from the first edition of their own histories in their native language, Sabaot. (Photo courtesy of the Kenyan Oral Literature Association)

The Panos Oral Testimony Mountains Project has been an extensive and successful project thanks to the steady support of the Swiss Agency for Development and Cooperation (SDC), and the commitment and energy of our partner organizations in 10 countries: Peru, Mexico, Lesotho, Kenya, Ethiopia, China, India, Nepal, Pakistan, and Poland. In each country the Oral Testimony Programme (OTP), together with our partners, trained a team of local interviewers, most of whom had no previous interviewing experience. Our partners then coordinated the collection of testimonies (usually between 30 and 40). All partners were supported to develop information outputs based on the testimonies for local and national audiences. The OTP checked, summarized, and analyzed English translations of the testimonies sent by partners and produced a booklet series (*Voices from the Mountain*) and an online archive (www.mountainvoices.org) for international audiences. A review of the booklet series will appear in the next issue of MRD.

A guiding principle throughout the international OT Mountains Project has been that process is as important as product. This informed the decision to train teams of local men and women, so that interviews were always carried out in people's first language, by someone familiar to them and with the local context. The belief in process also guided our working arrangements; if participation was to be meaningful, we had to respect the timetables and existing commitments of our partners, which meant that some projects took 3 or 4 years to get to the dissemination stage. Overall, the OTP aimed to encourage partners' ownership of activities. This approach most definitely paid off when the project became a springboard or catalyst for further activities driven by our partners: for example, community radio work in India, further oral testimony work in Poland, and our partner in Kenya becoming a leading national consultant on the methodology.

In IYM 2002 we provided all partners with a seed grant to go towards attendance at an international event or a community development activity. This was a great way to effectively close our formal relationship with partners and resulted in a varied portfolio of activities including participation at an international tourism conference in Mexico, a fuel-efficient stove project in Ethiopia, the construction of an irrigation channel in Pakistan, and the improvement of village electricity supplies in southwest China. Although the project formally ended in December 2003 many of our partners' activities continue.

In **India**, our partner, the Himalaya Trust, collected interviews in the high valleys of Garhwal in Uttaranchal, and Kinnaur in Himachal Pradesh. The testimonies are rich in environmental knowledge and full of concern about the changing natural resources, increasingly affected by deforestation, monoculture forestry, a decline in traditional agriculture, and infrastructure development (road building and the construction of the Tehri Dam). The impact of education and the related issue of migration are other key themes.

The Himalaya Trust has completed two Hindi booklets based on the testimonies for a series called *Eternal Wisdom*. The two booklets cover biodiversity and traditional farming practices; a third will focus on the changing position of women. Over the last two years, local coordi-

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nator Indira Ramesh has initiated and supported community radio work. This form of participatory communication is particularly appropriate in a mountain region where *"80% of village people listen to radio, yet they know nothing about what is happening in the neighboring village 10–12 kms away"* (CR participant). The programs aim to break down such isolation and stimulate discussion between and within villages. The Himalaya Trust used their seed grant for a community biodiversity conservation project with the aim of raising skills and income through the sustainable use of economic plants and regenerating natural mixed forests.

The narrators in **Peru** discuss the impact of the mining industry on a previously agropastoral society. The environmental damage is vividly described, as well as the fundamental changes to lifestyle the industry has brought to communities. One narrator describes the devastated landscape: *"The hillsides of the mountain range were pure pasture... now there's a mountain there, but it's a mountain of pure rubbish from the mine."*

Our Peruvian partner, Cooperacción, first mounted an exhibition using extracts from the testimonies to promote public discussion in the local communities. They then produced an illustrated book, *Minería y Comunidades: testimonios orales y gráficos* (a PDF version of this is available on www.mountainvoices.org). This was widely distributed and continues to be used to stimulate public debate and campaign for environmental improvements. Cooperacción used the Panos/SDC seed grant to allow a community representative to participate in an international mining conference in Canada.

Zdanie (www.zdanie.org.pl) coordinated an all-female team of interviewers who collected testimonies in the Sudety mountains, southwest **Poland.** These testimonies show how the complex political history of central Europe over the last 80 years has had a profound impact on a relatively remote highland area. The Klodzko valley once lay within Germany's borders; after World War II it was part of the territory "recovered" by Poland. Questions of identity, conflict, reconciliation and politics characterize this collection, but there is also much material on the changing environment, and perceived shifts in patterns of weather, wildlife, etc.

Zdanie organized an exhibition and catalogue, based on extracts from the testimonies with photographs of the narrators and the surrounding environment—past and present. They went on to gather additional testimonies with local German inhabitants and then worked with a major regional radio station to produce a series of radio programs based on these. A second exhibition and booklet (in Czech, German, and Polish) was organized to meet regional interest. Zdanie used their seed grant to support the Sudety Summit in September 2002, which was recognized as *"the most attractive IYM event in Poland."*

The Kenya Oral Literature Association (KOLA) and Interlink Rural Information Service (IRIS) coordinated the testimony collection in Mount Elgon district, **Kenya.** Given the area's relative fertility, people's concerns were less about environmental change, and more about poor access to markets and development facilities. Economic and political marginalisation was a key issue. One narrator, a male teacher, explains *"… when it comes to the sharing of the national cake, nobody remembers us… Our location in a mountainous region can be an excuse to deny us development, but it cannot convince anybody."* The narrators also talk of social change; the tension between preserving a strong cultural identity yet being open to learning from others is a common theme. KOLA published an English booklet based on the testimonies and then went on to produce two KiSabaot books. Being some of the first publications in the Sabaot language, they were quickly adopted by local schools and literacy groups. KOLA used the seed grant to set up a field office and library in Mount Elgon and to hold a local IYM celebration. KOLA have become recognized nationally for their skills in oral testimony and have been asked to contribute their expertise to a number of development projects, including the Chronic Poverty Research Centre's work in Kenya.

To view the testimony collections, please visit www.mountainvoices.org. You can order copies of the booklets in the *Voices from the Mountain* series by contacting otp@panoslondon.org.uk.

Olivia Bennett and Siobhan Warrington
Panos Oral Testimony Programme, Panos London, 9 White Lion Street, London N1 9PD, UK.
otp@panoslondon.org.uk

Trees, Forests and Religion in Japan

According to an ancient Shinto belief, a god descended to a high pine on an elegant mountain, to exist in a large or old tree. Sacred places, despite occupying only 0.55% of Japanese territory, have been marked by shrines for many years. The precinct of a shrine is distinguished by special trees. Twigs with leaves of Cleyra japonica *or* Illicium religiosum *are offered to a god or the soul of a dead person. More than 15 species in Japan have been identified for religious use. Because sacred forests and trees have significant roles, preserving a solemn atmosphere as well as the natu-*

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FIGURE 1 Ogatamanoki, *Michelia compressa* Sarg., at Aso-jingu shrine in Kumamoto prefecture, Japan. (Photo by author)

ral environment, they should be protected and conserved as a heritage for citizens.

Introduction

Animism was a primitive religion in ancient Japan. "There are gods in everything, not only living creatures but also surrounding all things" (Sugawara 1989). According to Shinto belief, a god descended to a high pine on an elegantly shaped volcanic mountain, to exist in a large or old tree. The Japanese word "mori" means the forest in the precinct of a Shinto shrine (Honda 2002). Such sacred forests have been conserved and managed by shrines for some centuries. The precinct of any shrine or temple is distinguished by special trees, and their twigs and leaves are offered to a god or the soul of a dead person (Tujii 1995). People today are apt to forget the original meaning of religious trees.

Trees and religion in Japan

There are more than 15 species (Tujii 1995) historically related to Shinto or Buddhism in Japan. Most occur in southwestern Japan. The Ogatamanoki tree, *Michelia compressa*, should be mentioned first, as the name "Ogatama" means "inviting soul." People believed that the tree has a special power to invite a god's soul, so they planted it at the front gate, or precinct of a shrine (Figure 1).

In Japan, pine trees (*Pinus thunbergii* and *Pinus densiflora*) are called "Mastu," which means "waiting for a god's soul to descend from heaven." For example, there is a legend in Kudamastu city, Yamaguchi prefecture, that the god of the polestar had come down into this tree in the precinct of a shrine, and shone for 7 nights. The shrine is called Kudamastu-jinjya. "Kudamastu" means "the pine tree to which the god descended."

It is a custom to plant pine trees in the precincts of shrines and temples, and to set twigs of pine at the gates of houses in every new year to wait for a blessing by the god. Because pine is a typical pioneer plant at a sunny place after cutting or forest fire, people expect recovery of pine forest. Pollen chronology has revealed that 72% of original forest had disappeared by 1500 BP and been replaced by second growth pines. The timing might correspond with the establishment of many shrines.

The Sakaki tree (*Cleyra japonica*), the original name of which was "Sakai," meaning "a boundary," has been used to purify areas and distinguish holy places for Shinto gods. Twigs with leaves are offered to gods in shrines (Figure 2). The Sakaki is a low tree, but a pioneer plant, the same as pine.

Bamboo (*Phyllostachys bambusoides*) often designates holy places. For example, when erecting a high bamboo called "the holy tree" on a paddy field, farmers customarily prayed to a god for a good rice harvest. Bamboo is noteworthy for rapid growth, in which people sense the mystery of strong life (Muroi 1987). During the star festival, which was introduced from China, a cut bamboo tied with letters is used to convey wishes to stars. In rural districts of Nepal bamboo is used for reincarnation ceremonies.

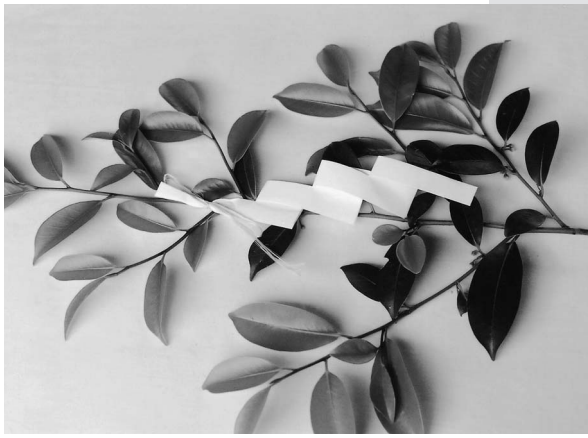
As memorials to Gautama Buddha (the historical Buddha), *Shorea robusta* and *Ficus religiosa*, followed by *Tiliaceae*, are common at temples in Buddhist countries. *Michelia compressa* and *Illicium religiosum* both belong to the family of Magnoliaceae, the flower of which resembles a water lily linked with the Buddha. In Japan, Buddhism absorbed Shinto beliefs based on animism.

In India a small temple is set at the foot of a sacred tree (Kawasaki 1987). In Nepal some trees linked with the Buddha are distinguished by painting on the bark of stems. Villagers have a custom of praying for prosperity to such trees at full moon. In Tibet, Lama Buddhists distinguished sacred trees by tying pieces of cloth around twigs (Ueyama 1969).

The peach tree (*Prunus persica*) was believed to have a special power that can drive away devils or thunder. This idea may have originated from Tao in China. Ueyama (1969) discussed Japanese religious beliefs connected with broad-leaved evergreen forest, comparing it with mountain villagers' customs in southeastern Asia. Owing to migration on the Eurasian continent, similar use of religious trees, the common significance of lime trees, and spatial distribution of religious trees in Japan, it is possible that the religious meaning and use of trees in Japan were transferred from the Eurasian continent. Before World War II, the Japanese people believed the special use of trees based on Shinto was unique to Japan's cultural identity. But today it is important to recognize that some foreign countries have similar religious concepts. A systematic comparison of examples can illustrate basic similarities and differences.

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FIGURE 2 Sakaki or *Cleyra japonica* prepared as an offering for a god. (Photo by author)



Giant trees

The Japanese word "Kodama" means "a tree's soul and its echo." The word "Hashira" means "the soul of a person of high rank," and "wooden poles taken from a large or old tree in which a god exists." In contemporary Japan there are still some large trees at places like steep mountains and sacred precincts of shrines that have been difficult to access. Yagishita (1986) has taken many fine photos of big trees all over Japan, and explained 47 typical examples. Among these, 21 examples are located in precincts of shrines and 13 in the precincts of temples.

A sacred straw festoon is often stretched around the bole of a big tree, and the gate of the Shinto shrine is built. People who wish to obtain the power of a long life often pray and touch the bark. Cutting down a large or old tree could provoke a curse from a god. On a camphor tree, ranked as the 5th largest in all Japan, a statue of Kannon, the god of mercy, was carved on a big knot at its bole by a priest called Gyo-ki in the Nara era.

The Japanese cedar (*Cryptomeria japonica*) and the camphor tree (*Cinnamomum camphora*) can grow very tall. Yagishita (1986) cites 9 examples of holy cedar and 6 examples of holy camphor. Some of them are conserved as natural monuments designated by the national government or prefectural governments.

At an altitude of 1000 m on Yakushima Island, some giant Japanese cedar trees attain heights of about 30 m and are over 2000 years old. They, too, have holy significance. A small shrine gate is set on the stump at the maximum diameter, 4.39 m, at breast height (Tagawa 1994). The surrounding primary forest was designated as a World Heritage Site in 1993. In Kyoto, Japan, the poles on the main stage of the Kiyomizu-ji temple were made of large *zelcova* trees, about 70 cm in diameter and 700 years old. In Kathmandu, Nepal, there is a 3-storey Hindu temple, Kastamandap, built of a single large *Shorea robusta*, the diameter and height of which were estimated at 1.5 m and 40 m, respectively. Large high poles are effective in preserving a solemn atmosphere.

According to Tsai Chih Chung (1992), in ancient China, *Ailanthus altissima*, called the "tree of heaven," was not cut due to the uselessness of its timber, and was left to become a high tree. People could rest and meditate under the shade of the crown, and deified it as the god tree in a village. This tree illustrated the Tao idea of "the importance of uselessness."

A large old tree has significance as a landmark, in terms of the spiritual pride in its high peculiar shape, as a recorder of climate history in its annual rings, as an indicator of species that suit a region's environment, and as a guide, with accompanying plants, to ecological rehabilitation of the surrounding area. Recently the Japanese people have recognized the importance of these large trees, and attempts are made to conserve them for citizens as natural monuments or a heritage designated by the national or regional government. There are many special doctors who can take care of old weak trees by means of soil physical or biochemical treatments.

Forest at a typical shrine

Shinto shrines and Buddhist temples have historically managed their forests, which total 208,000 ha, corresponding to 0.55% of Japan's territory. The number of individual forests managed is roughly 34,000. The average size is estimated as 6.1 ha, which is often larger than a private forest. These forests are mainly composed of broad-leaved evergreen trees mixed with Japanese cedar—the dominant species in the warm temperate climate of southwestern Japan, which is affected by the monsoons common in southeastern Asia.

The Kasuga-taisha shrine was established in AD 710 by the Fujiwara, who were high-ranking members of the government. Since then, Mt Mikasayama has been considered a sacred place where gods came down to pine and cedar trees from heaven. Since AD 841 timber cutting and hunting have been prohibited in the 300-ha forest of Mikasayama. The ecosystem of this primary forest has kept its dynamic nature, shows the climax phase, and includes a pure *Podocarpus nagi* forest. The importance of this forest was recognized by its designation as a natural monument in 1924, as a special natural monument in 1956, and as a World Cultural Heritage Site in 1998. Many deer in its precinct are protected as messengers from gods. This is different from European management of forests for hunting (Kawasaki 1987).

Nippon Shoki, the Ise-jingu Shinto shrine, is documented as having been established in 3 BC, and is the oldest of all the shrines in Japan. This shrine has a large forest, but it deteriorated due to overcutting of timber used for firewood by people who came to the shrine as tourists. The government carried out revegetation in the devastated areas to stabilize slopes in the 1950s. Today a forest of broad-leaved trees mixed with *Chamaecyparis obtusa*, the Hinoki tree, has been established. The Ise-jingu

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shrine has a custom of rebuilding every 20 years. Many big Hinoki trees have been used as architectural materials at this shrine.

In memory of the Meiji Emperor, the Government built the Meijijingu shrine, surrounded by planted forest, in Tokyo in 1920. Trees were contributed from all over Japan. Silviculture works were carried out in accordance with ecological concepts, taking account of species and composition. Today trees rich in diversity are adjusted to regional conditions and have the appearance of a natural forest, which also mitigates thermal conditions in the surrounding area during severe summers.

In the center of Nagoya city, the Astuta-jingu shrine is located at a legendary place known as "Ho-rai," which means "eternal immortality." At the front gate of this shrine *Michelia compressa* trees, also known as Ogatamanoki, are planted to invite gods from heaven. The precinct is covered by thick broad-leaved forest, which supplies a tranquil space for citizens and mitigates thermal conditions in the surrounding area.

The Usa-jingu shrine is located on northeastern Kyushu Island. In ancient times people from advanced cultures landed there from the Korean peninsula. This shrine influenced the government's political decisions. After Shinto became associated with Buddhist beliefs, the Samurai and Genji who governed Japan in the Kamakura era deified the gods at this shrine. Many *Cyclobalanopsis* trees are distributed near the central part of its precinct. The fruit of this species was a staple food for ancient people in southwestern Japan.

Shinto gave a spiritual basis to the cultural identity of the Japanese people, particularly before World War II. Today the Japanese have a tendency to think that science looks on religion as superstition, and can easily control nature. The idea that science can be used to manage forests has led to timber cutting and tree planting in areas that were formerly natural forests (Shidei 1985). Yet religious forests preserved from commercial cutting for centuries have played a significant role, both in preserving a holy and solemn atmosphere, as well as in regional environmental conservation. Such forests should continue to be conserved as natural monuments.

Conclusion

In Japan more than 15 tree species are related to the Shinto and Buddhist religions. Some large old trees in which gods are said to exist are located in shrines or temples. These religious uses of special trees, to summon the gods and identify sacred areas, are also found in other countries. It is important to understand that these uses are common rather than distinct to Japan. Shinto shrines have managed their sacred forests for many centuries. Because such forests and large trees have preserved a solemn atmosphere and also conserved parts of the natural environment, they should continue to be protected and conserved as natural monuments.

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Hiroshi Omura
Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University, 812-8581 Fukuoka, Japan.
homura@agr.kyushu-u.ac.jp

Fragile Mountains—Fragile People? Understanding "Fragility" in the Himalayas

Report on a Workshop in Norway

This workshop took place at the Centre for Development Studies (21–22 November 2003), and was co-hosted by the University of Bergen and the Chr. Michelsen Institute. Fragility is closely linked to the livelihood risks faced by people living in the Himalayan region. They live precariously on scattered, scarce resources that are insufficient or periodically unavailable due to disasters. There is now a consensus that human impacts on the environment are more complex and contingent than assumed earlier. Still, a central tenet of mainstream research is premised on the fragility of the Himalayan environment and, by implication, the mountain dwellers who depend on it for their livelihoods. The overall aim of the workshop was to elucidate how well the "fragility narrative" characterizes historical and contemporary ecological and social processes as well as man–nature interactions in the Himalayas. Could it be that mountain environments are less "fragile" and more resilient than often presumed?

The workshop participants represented many different disciplines, such as geography, glaciology, ecol-

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ogy, anthropology, and political science. Martin Price gave a keynote introduction on how the fragility concept is used in different ways in mountain environments around the globe. The other keynote speaker, Jack Ives, presented a précis of his forthcoming book, which aims to revisit the critique of the crisis scenario documented in the landmark book *The Himalayan Dilemma*, published in 1988. Ives has collected additional empirical support for his claim that it is not the poor mid-hill agropastoralist that is the main agent behind the "catastrophic cascade:" overpopulation in the mid-hill areas, deforestation, increased agriculture, soil erosion, and consequently catastrophic flooding in the lowlands.

The theme of climate change was dealt with from various angles. It was demonstrated that land use change from forest to agriculture would increase emissions of gases that affect the climate, especially methane. Global warming is considered the prime cause of the alarming retreat of Himalayan glaciers. However, complex deglaciation models, simulating glacier retreat and increased runoff, do not support claims that all glaciers will disappear within this century. Instead, the model predicts that heterogeneous topography will cause significant differences in the pace of retreat. A local case study showed that small glaciers might disappear within this century, whereas larger glaciers with a substantial proportion of ice above 5500 m will probably not disappear in the foreseeable future. It was also pointed out that most of the dramatic data on glacier retreat in the Himalayas are measured in meters per year, which says nothing about the actual volume of ice being lost.

A second workshop theme was deforestation. According to Ives' new book, both reforestation and deforestation occur in various parts of the Himalayas. Hence it is very difficult to be certain whether there is an overall decrease in average forest cover. However, deforestation is a serious problem in the West Himalayas (Pakistan), where it is closely associated with accessibility and the construction of new roads. The synthesis of ecological and socioeconomic interrelationships illustrates that the synergistic effects of socioeconomic factors and the available resource potential always govern the extent of forest degradation. For instance, it was shown that unresolved ownership and boundary disputes reduce commercial timber logging and cause logging operations to fall behind schedule. Consequently, the rate of deforestation is considerably lower in valleys where communal ownership of forests survives and hence is contested, than in valleys where ownership is privatized by influential villagers or by the state's forest department.

A third issue was soil erosion. A study in the Middle Hills of Nepal found that unmanaged forests with free grazing had more than twice the soil loss of managed forests without free grazing. However, annual soil loss from any grazing land is also much higher than from agricultural land, eg maize, millet, or irrigated rice fields. Although soil erosion is not mainly caused by agriculture, rapid soil redistribution may hinder the build-up of an A-horizon rich in nutrients and micronutrients. A natural zinc deficiency is a major problem in Himalayan agriculture, which causes zinc deficiency in the diet and increases susceptibility to diarrhea and other diseases.

The biodiversity issue was also elucidated. It is now a demonstrated fact that in the Nepalese Himalayas maximum plant diversity is at medium elevation (1500–2500 m). Diversity decreases towards the alpine zones and is lowest in the intensely cultivated subtropical lowlands. However, the moderately disturbed mid-hill forests, often found at the periphery of the cultural landscapes, may have more plant diversity than undisturbed or degraded forest. Thus it is important to preserve the cultural landscape and integrate conservation of biological and cultural diversity with traditional local knowledge.

In the trans-Himalayan region, major interventions aim at developing pastoral animal husbandry, which may affect productivity and species diversity. In general, the traditional grazing system makes use of high mobility to adapt to the non-equilibrium dynamics of grasslands. By contrast, the grassland regulation law allocates grasslands to the individual household and promotes sedentary animal husbandry, a form of utilization that is based on the traditional equilibrium grassland paradigm. The predicted results of the interventions vary according to the assumptions of ecosystem fragility or the robustness of the degree to which equilibrium or non-equilibrium conditions prevail.

This multidisciplinary workshop was not able to conclude whether the Himalayan environment is more resilient than fragile. Nevertheless, all disciplines indicated the enormous variety of the different key variables such as forest cover, soil erosion, biodiversity, and glacier retreat. Thus it is a paradox that the inherent human and environmental variability in the Himalayas makes the mountain system resilient at broad spatio-temporal scales, but at a given time and place it appears fragile due to the numerous localized catastrophic events associated with steep mountain environments.

Ole R. Vetaas
Centre for Development Studies, University of Bergen, Nygaardsgaten 5, 5015 Bergen, Norway.
ole.vetaas@sfu.uib.no

Are Knudsen
Chr. Michelsen Institute, PO Box 6033, Postterminalen, 5892 Bergen, Norway.
are.knudsen@cmi.no

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