

JSPS Fellow Experience

Assessing the impact of active satoyama management on biodiversity and cultural ecosystem services in Japan

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Research

I was fortunate to receive a short-term award from JSPS to allow me to work with Professor Kitayama and the Laboratory of Forest Ecology for two months at the University of Kyoto to learn about a cultural landscape known as ‘satoyama’. ‘Satoyama’ (meaning “sato” =home village, “yama” = wooded hills and mountains) landscapes consist of mosaics of secondary broad-leaved forests (regenerated after clear-cutting), plantations, paddy fields, streams, grasslands and residential areas. Satoyama once covered approximately 20% of land area in Japan, and were dominated by deciduous broadleaved forests. Satoyama forests were clear-cut as coppices to provide a source of raw materials over cycles of 15 to 30 years during Japan’s predevelopment era. Management also included clearance of the undergrowth for fuel and compost, in addition to the collection of edible wild plants and mushrooms: ‘sansei’.

Large-scale urban development and the ‘fuel revolution’ of the 1950s-60s, in which rapid economic development in Japan led to the replacement of fuelwood and green fertiliser in Japanese farms and markets with imported fossil fuels and chemical fertilisers, resulted in the abandonment of many satoyama forests and their incorporation into suburban fringes. The collapse of satoyama management in Japan has triggered a reassessment of its value. Since the 1980s, both national and international initiatives have been launched to restore satoyama landscapes through active management, not only in Japan, but throughout Asia, due to perceived benefits for biodiversity conservation and ecosystem service delivery.



Figure 1. Satoyama landscape of the Moriyama district, Otsu, Shiga prefecture

We are assessing the impact of active satoyama forest management on i) biodiversity and ii) cultural ecosystem services (the non-material benefits that people obtain from nature, including recreational and spiritual benefits). We are doing this by performing a quantitative

synthesis of existing research in Japan, and through the use of a questionnaire survey delivered to residents within a typical satoyama landscape in Japan (Figure 1.)

Life and research in Japan

I was made to feel extremely welcome by my host, collaborators and members of my research laboratory. I feel so lucky to have met and worked with such kind and interesting people. Everybody in the lab works extremely hard and my time here has been so productive. There is a sense of comradery that is felt when everybody is working late into the night together! Although many members of my research lab speak superb English, it was both really useful and enjoyable learning Japanese during the months before I arrived. I wholeheartedly recommend it!

I love how varied this country is. Even in the bustling cities, you are never more than a short walk away from nature (Figure 2).



Figure 2. Left: Japanese macaques in Kyoto. Right: Sika deer at Nara Park.