

The Meaning and Management of Natural World Heritage Sites in South East Asia

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Abstract

It is often assumed that national parks and other protected areas are places where natural processes occur without human involvement, and that they are an accurate representation of untainted ecosystems. However, there are in fact extremely few landscapes or ecological systems which have not been shaped to some degree by anthropogenic intervention and continue to be managed. This is recognised by the IUCN (World Conservation Union), which sets guidelines for national parks and other protected areas. Its definition of a protected area, unaltered since 1994, is: *"An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means"* (IUCN website, 2010). Some countries (especially in Western Europe) veer towards the heavily managed end of the spectrum by creating national parks based on landscapes with a very obvious anthropogenic input, including farms, villages and even light industrial sites.

Whatever the level of physical intervention, it is indisputable that protected areas are as much a social construct as an ecological one, with their existence guaranteed (or otherwise) because of the value placed on them by society. This value is a factor of the importance ascribed to protected areas for recreation, environmental services, maintenance of biodiversity, or simply their existence. The relative importance of the elements evolves through time and varies between and within nations.

This paper will explore these issues in the context of natural World Heritage Sites (WHS) in South East Asia. The current and historical meaning of seven national parks in four countries will be discussed, with implications drawn for a wider cohort of protected areas. All seven protected areas have been visited in the last year under a research project into cultural perspectives on WHS management in South East Asia. The examples used are: the Indonesian parks of Ujung Kulon in Java, Komodo in Nusatenggara, and the Tropical Rainforest Heritage of Sumatra; the Malaysian parks of Gunung Mulu in Sarawak and Kinabalu in Sabah; Khao Yai in Thailand; and Ha Long Bay in Vietnam.

Particular aspects investigated include the historical and present-day use of the protected areas, the reasons for inscription on the World Heritage List, and management challenges. In some cases, land hunger is putting pressure on the resources of the WHS. In several places, tourism is proving a double-edged sword in that, on the one hand, it provides economic justification for setting terrestrial or marine areas aside from other forms of exploitation and provides channels for peoples living traditional lifestyles to engage with the international market economy but, on the other hand, it can cause marginalisation of local communities and resource pressure through infrastructure development, the 'magnet effect', land speculation, and environmental management weaknesses.

The author will draw conclusions as to how these protected landscapes are at the same time shaped by and shape the uses and expectations of societies involved in their utilisation and management. It will be shown that in most cases these protected areas are recognised by the national and global communities charged with their management as sufficiently important to devote national and international resources to them which should guarantee their continued protection.

Reference

IUCN (The World Conservation Union) (1994) Definition of Protected Areas, available at: http://www.unep-wcmc.org/protected_areas/categories/index.html

Permeating the peat: an investigation into the resilience of tropical peat-swamp forests

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Abstract The coastal peat-swamp forests of Sarawak are rapidly undergoing logging and conversion into oil palm plantations, in line with State Government development goals. With rising emissions from deforestation and peatland exploitation becoming a global environmental issue, it is important to find ways of managing these historically novel agricultural landscapes in a more sustainable way. Peatland ecosystems are assumed to have experienced little significant natural or anthropogenic disturbance in the past, persisting under a single ecologically stable regime. However, the long-term disturbance history of peat-swamp forests has been poorly assessed, and little is known of their resilience to internal and external stresses. Have peat-swamp forests been disturbed in the past? What were the drivers? How did the vegetation respond? Are there alternative stable states? In order to answer these questions, two peat cores were extracted from peat-swamp habitats in north-western Sarawak. Fossil pollen grains and charcoal particles were identified and counted at regular depths in both cores, and inferred past vegetation change plotted. Results suggest that the peat-swamp vegetation has varied through time, moving between 'disturbance' and old-growth communities, demonstrating a response to disturbance. Understanding the resilience of peat-swamp forests to different past disturbances, and associated thresholds of ecological change, is vital in order to predict how they might respond to current and future impacts. Such palaeoecological information may also provide insights into how the novel disturbances created by contemporary peatland development can be better managed to allow for forest to persist in these human-dominated agricultural landscapes.

From sago pounder to thunder stone : unravelling the past and present roles of *batu pera'it*

Using anthropological and archaeological methods and as part of the interdisciplinary *Cultured Rainforest* project which has been working in and around the Kelabit Highlands in Sarawak since 2007, we have explored the past and present roles of the cylindrical stones which are locally called *batu pera'it* or 'thunderstones', which reveals a most interesting artefact biography. Tom Harrison collected many examples for the Sarawak Museum during the 1950s nearly all sourced from the Kelabit region and was surprised to find them in such high numbers; they outnumbered ground stone adzes by a ratio of 30:1 (Harrison 1951). At this time, these artefacts were kept as heirlooms and charms, used in local rituals associated with *padi*, and were no longer associated with the human realm. People believed they were created by natural or supernatural forces. While their original function has been debated, including their use as sago pounders (Collings 1949), nut crackers (Sellato 1996), or copies of similarly shaped items in Australia called *cylcons* (Harrison 1951: though he mistakenly refers to them as *cyclons*) a functional analysis reveals that they were originally intended for use as stone pounders to produce sago flour (Barton, in prep.). In this paper we will present our findings and discuss the biography of these items that have passed initially from human hands into the past, to return to people as items of a spiritual or non-earthly realm.

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A Palynological approach to understanding the impacts of environmental change
and anthropogenic activity on tropical rainforest environments in the Kelabit
Highlands

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Palynology offers a way of understanding past environmental change and human activity in the absence of written and verbal histories. The island of Borneo is one of the most biologically diverse, but least known areas in the world. However limited Palynological work has been undertaken on the island of Borneo and no work has ever been carried out in the mountainous interior. As part of the AHRC Cultured Rainforest Project a number of cores were taken in the Kelabit Highlands around the vicinity of Pa'Dalih, Pa 'Buda and Bario during 2007 & 2008. This was primarily to understand the interactions between people and the rainforest over time, but also to build an environmental reconstruction of the region. This paper suggests evidence for climatic and environmental variability, over a period of 50,000 years, human related disturbance within the last 2,800 years and direct evidence of rice cultivation within the last 460-300 years.

Ethnographic and ethnobotanical approaches to the understanding of landscape change in island southeast Asia

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This paper will attempt to review the impact of studies (both predominant models and empirical findings) of environmental anthropology, historical ecology and ethnobotany on our current understanding of the dynamics of human-environment change in island southeast Asia. It will review the literature and evaluate findings for a period of 50 years, and illustrate the general features with reference to work undertaken by the author and others in the central Moluccan islands of eastern Indonesia since 1970. The data and interpretation is organized around four themes: swidden landscapes, swamp landscapes, landscapes of exchange, and coastscapes of the littoral.