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THE INSEPARABLE TIBETAN LANDSCAPE OF NEPAL

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BACKGROUND

There are many ways to protect and conserve unique global resources. The United Nations Educational Scientific and Cultural Organization (UNESCO) together with several host countries, have substantially broadened the conventional methods of protection to conserve natural and cultural heritage. In the last 30 years, the World Heritage Convention (WHC) has conserved 690 World Heritage Sites (WHS) in 122 countries. Of these, 529 are cultural, 138 natural and 23 are mixed sites containing both cultural and natural landscape (Beltran, J. 2001 Ensuring a balance list. The IUCN Bulletin – World Conservation. No.2:11). According to the WHC, it is not easy and simple to inscribe a site. All potential world heritage sites must embody: 1) outstanding example representing major stages of Earth's history; 2) outstanding example representing significant on-going ecological and biological processes in their evolution; 3) areas of superlative natural phenomena; or significant natural habitats for in-situ conservation of biodiversity.

Nepal contains four WHS. Two cultural and two natural. Of these, the Kathmandu Valley and Lumbini, the birthplace of Buddha, are the two cultural sites. The Kathmandu Valley as the WHS, contains three durbar squares (traditional palaces) of Kathmandu, Patan, and Bhaktapur, two Hindu temples that include Pashupatinath and Changu Narayan, and two Buddhist shrines — Swayambhu and Boudha. Of two natural sites, Sagarmatha National Park (area: 1,148 km²) was declared a world heritage site in 1979 in recognition of the significance of the world's highest peak Mt. Everest (Sagarmatha), its associated flora and fauna, and the unique Sherpa culture. The Royal Chitwan National Park (area: 932 km²), enlisted in 1984 in the WHS, has outstanding universal value as it harbors endangered rhinos and tigers.

GROWING PAINS AND TRANSIENT SUCCESS

Despite the large number of WHS worldwide, site inclusion still has a great media appeal and tourist attraction (Batisse, M. 2001. World heritage and biosphere reserves: complementary instruments. Parks. Vol.11 No.1: 38-43). As significant economic benefits incur from these sites because of volume tourism, many

countries press for more. With these benefits, there is also a profound responsibility to protect and manage the site, which is held in trust for the entire world community (Hogan, R. 2001. Making the grade. The IUCN Bulletin - World Conservation. No.2: 8-9). For example, the Kathmandu Valley faces continually a complex set of development problems to preserve culturally and architecturally important houses within the heritage area. As a part of monitoring cultural sites in Nepal, UNESCO had earlier expressed putting the Kathmandu Valley in the list of in-danger sites as a part of a proactive process to attract the attention of the international community and to ameliorate the present approaches to preservation. Such concern has improved the performance of the management in Bhaktapur, Changu Narayan and Swayambhu. Therefore, it may strengthen the capacity of authorities. However, the local misperception is that once the Kathmandu Valley is in the in-danger sites, such status may never be removed.

The WHC is a visionary legal instrument but its implementation guidelines do not spell out the principles and management procedures, other than the host country's obligations to protect and maintain site characteristics (Batisse, 2001). Therefore, knowing changes in all WHS, is valuable. It is even more critical for protected areas in developing countries as they suffer from a lack of up-dated information and contemporary knowledge. For example, time-series analysis suggests that Sagarmatha National Park had 21.5 km² forest area in 1978 (Land Resource Mapping Project/HMG, 1978) and 14 years later, it had dwindled to 5.2 km² (Department of Survey, HMG/Finnish International Development Agency, 1992). Likewise, shrubland increased from 9.8 to 27.9 km². Contrary to this, a few in-depth studies suggest that forest extent has remained unchanged since 1950s (Byers, A. C. 1997. Landscape change in Sagarmatha (Mount Everest) National Park, Khumbu, Nepal. Himalayan Research Bulletin. Vol. 17 No.2: 31-41). Also, the Royal Chitwan National Park shows that some critical habitats such as grassland have decreased significantly. All these suggest ambiguity in the absence of quantifiable monitoring system. It is clear that complacency will not help. Armed with accurate information on the dynamics of biological resources, independent evaluation with

prescriptions will enable the management to perform better and conserve biodiversity.

THE NEPAL ORIGAMI

There are only eight natural world heritage sites in the Himalayas, which are also protected areas (India 4, China 2, and Nepal 2). These sites are rare as they make about 5% of 152 protected areas in the Himalayas. Why? All protected areas do not necessarily carry unique global status. However, there are a few outstanding landscapes left in the Himalayas which may need WHS inscription, particularly in Bhutan, Myanmar and Pakistan. Inscription of natural site requires at least six major steps including reviews, experts visit and several technical evaluations. Of these, the most important step is when a state party to the WHC submits a nomination. In 1999, the Ministry of Forest and Soil Conservation of Nepal proposed Shey Phoksundo National Park (SPNP, area: 3,555 km²) (Fig. 1) to WHC for inscription. The report entitled 'Nomination of Shey Phoksundo National Park for Inclusion on the World Heritage List' produced six criteria for its inscription: three natural and three cultural. Under the natural criteria, SPNP is considered to have biological uniqueness because of climatic differences, altitudinal variation, trans-Himalayan conditions, and different zoo-geographical regions. In addition, SPNP is contested to contain important and significant habitats for in-situ conservation of biological diversity along with Lake Phoksundo and Crystal Mountain. For cultural justification, followings were considered: 1) Bonpo religion is culturally intact and their religious practices are best living examples of Tibetan culture; 2) *Chorten*, *Gompa*, and the vernacular house are three forms of unique architecture; and 3) Transhumance is a traditional system and a way of life.

The 1999 Ministry Report states that Annapurna Conservation Area (7,629 km²) (Fig. 1), has not been imputed by His Majesty's Government with the same value for conservation as a national park (Ministry of Forests and Soil Conservation, 1999). Further, it reads that the Government ascribes more vested interest in the conservation of an area like SPNP than ACA as its integrity is susceptible to many threats. This is erroneous. The truth is Nepal has emerged with two approaches in conservation of biodiversity. While the government assumes full responsibility for all national parks and wildlife reserves including buffer zone management, it relies on non-governmental organizations in managing conservation areas like ACA to link conservation with local economy (Yonzon, P. 1997. Ground-truthing in protected areas of Nepal. In: Ecotourism for forest conservation and community development. eds. Bornemeier et al. RECOFTC/FAO).

DETAILS, DETAILS

The southern margin of the Tibetan Plateau, constitute Mustang of ACA and Dolpo of SPNP, collectively called Nepal's Tibetan marginal land. Key areas of SPNP are

Crystal Mountain, Lake Phoksundo, and Shey Gompa, which are referred as Dolpo (also, inner Dolpo) and SPNPis in Dolpa District. Mustang is epitomized by Lo Manthang — one of the last remaining walled cities in Asia and a frontier for mountain tourism in the Himalayas (Gurung, C. and DeCoursey, M.A. 2000. Too much too fast: Lessons from Nepal's lost Kingdom of Mustang. In: Tourism and development in mountain regions. eds. Godde et al. CAB International). Established in the 15th century, the walled city (35 ha) has some 200 households and two 15th century *gompas* (Rai, N. K. 1989. World of the Loba: A study of the people of Mustang. Tribhuvan University, Kathmandu; Thapa, M. 1992. Mustang Bhot in fragments. Himal Books, Kathmandu). Local history suggests that the Lo Kingdom entered into cultural and political relations with Bhutan and Ladhak in the 16th century (Rai, 1989). The Dholwa (residents) of Dolpo, show close similarities to the Lobas (residents) of Mustang as Dolpo was once under the dominion of Lo (Rai, 1989). Lo had intensive socio-political engagement with Tibet before it came under the sovereignty of Nepal at the end of the 18th century. Later, Mustang became one of the 15 vassal states (*Rajya*) of Nepal, where the chief (Raja) was required to pay an annual tribute (Sirto) to the government and appropriate the remaining land revenue for himself (Regmi, M.C. 1978. Land tenure and taxation in Nepal. Ratna Pustak Bhandar. Kathmandu).

Mustang and Dolpo are characterized by similar geology, soil, climate and vegetation (Fig. 1). For example, the rain shadow of the Nepal-Himalaya is an area with under 400 mm of annual rainfall, which lies north of Kanjiroba, Dhaulagiri and the Annapurna massifs. This is where both Mustang and Dolpo form one contiguous area (8,793 km²) (Fig. 2). It is important to note that the Crystal Mountain, Lake Phoksundo, and Shey Gompa of SPNP and most of Mustang including Lo Manthang and Damodar Kunda, lie in the rain shadow. The middle portion between Dolpo and Mustang is Tscharka Bhot. Similarly, of six geological zones in Nepal (Siwalik, Lesser Himalayan Crystalline, Lesser Himalayan Sediments, Central Crystalline, Major Tertiary Granites and Tertiary Sediments), Mustang and Dolpo form a single block of Tertiary Sedimentary zone (Land Resource Mapping Project. 1986. Geology Report. Kenting Earth Sciences Limited, Canada) with an area of 11,843 km² formed between the Cambrian to Cretaceous period containing limestone, shale and quartzite.

The Report recognizes that Mustang of ACA, is probably similar to SPNP. Nonetheless, its subject matter hinges on Dolpo's lower human population density, higher mean altitude and remoteness to suggest that isolation maintains ecology and culture intactness. These are difficult to prove where a long history of human-related disturbance prevails (Yonzon, P.B. 1990. The 1990 wildlife survey in Shey-phoksumdo National Park, Dolpo, west Nepal. NCRTC/KMTNC. Kathmandu). For that reason, remoteness and human-disturbance are not mutually exclusive. Regarding mean altitude area, Resources



Figure 1. Location of Shey Phuksundo National Park and Annapurna Conservation Area

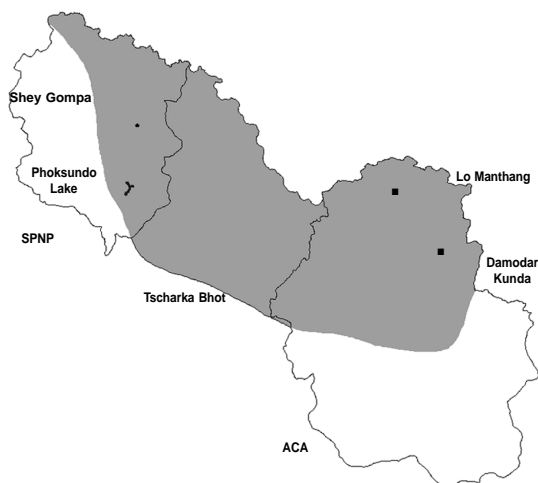


Figure 2. Rain Shadow Area in SPNP - ACA
Source: Resources Himalaya Database, 2001

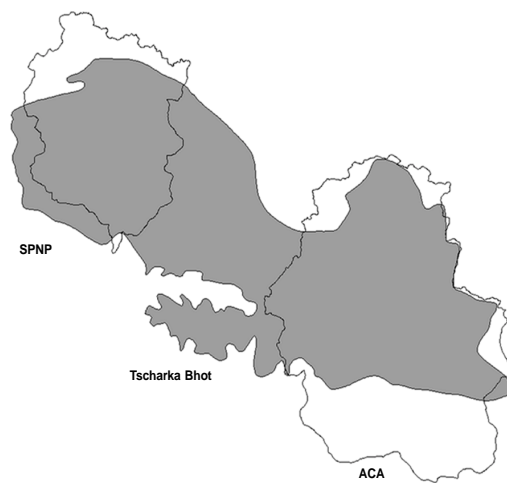


Figure 3. Tertiary Sedimentary Zone in SPNP - ACA

Table 1. High altitude areas with scant rainfall (Resources Himalaya Database, 2001).

Elevation Gradient (m)	Rain Shadow Area with < 400 mm of Annual Precipitation (sq. km)		
	Mustang (ACA)	Tscharka Bhot	Dolpo (SPNP)
2,000-3,000	65.7		
3,000-4,000	753.2	89.3	165.2
4,000-5,000	1,198.4	1,390.9	961.7
> 5,000	1,723.8	1,730.6	714.2

Table 2. Nepal's endemic plants in the Tibetan marginal land (Shrestha & Joshi, 1996).

Locality	No. of Endemic Plant Species			
	Localized	ACA - SPNP only	Also in Other PAs	Total
ACA	28	11	15	54
SPNP	14	11	6	31

Himalaya database on the rain shadow area, demonstrates that Mustang is prominent, not Dolpo (Table 1).

The Ministry Report becomes contentious because Dolpo is championed unduly for its biological riches. For example,

SPNP and ACA contain 74 endemic plants which is 31% of the endemic plants of Nepal (246 species) (Shrestha, T. B. and Joshi, R. M. 1996. Rare, endemic & endangered plants of Nepal. WWF Nepal). As 54 Nepal's endemic species (with 28 localized species) occur in ACA against the 31 species (with 14 localized species) in SPNP, endemism is

decisively high in Annapurna (Table 2). The Report is even more failing in fauna. Butterflies are immensely influenced by high relief, narrow habitats and environmental constraints such as low ambient temperature and trace rainfall. Hence, they are biological indicators of specific environment. Of 18 endemic butterflies of Nepal, half of them, occur in Dolpo – Mustang region (Smith, C. 1994. Butterflies of Nepal. Tecpress Service, Bangkok) suggesting the Tibetan marginal land is extremely important for endemism. Of 9 endemic butterflies, nearly 90% (8 species) of butterflies come mainly from Mustang (Table 3) while Dolpo has only one species that does not occur in Mustang. Similarly, the Kali Gandaki River Valley, world's deepest valley, is an integral part of Mustang, where all six Himalayan pheasant species are found and not in Dolpo. Regarding mammals, rare species like argali (*Ovis ammon hodgsoni*), brown bear (*Ursus arctos*), kiang (*Equus kiang*) and Tibetan gazelle (*Procapra picticaudata*) are not found in Dolpo. But, Mustang has it all (BCD Project. 1993. ACAP/KMTNC. Kathmandu; Koirala, A.R. & Shrestha, R. 1997. Floristic composition of summer habitat and dietary relationship between Tibetan argali and domestic goat in the Damodar Kunda. Agric. Univ. Norway; Shah, K. B. 2001. Press Release. KMTNC. Kathmandu). Also, a new mouse hare (*Ochotona lama*) was discovered in Mustang (Mitchell, R. & Punzo, F. 1976. New mammal records

from Nepal. J. Bombay Nat. Hist. Soc. Vol. 73 No.1: 54-58). In summary, the list overwhelms in favor of Mustang whose importance cannot be denied for its high endemism, species richness and diversity.

IN SEARCH OF A WAY

Historically, the Tibetan marginal land is recognized as one of the key physiographic regions of Nepal (Hagen, T. 1960. Nepal. Kummerly & Frey. Berne; Bista, D.B. 1991. Fatalism and Development. Orient Longman. Calcutta). However, only High Himalaya, High Mountain, Middle Mountain, Siwalik and Terai were recognized as five physiographic zones in mid-seventies. Obviously, Nepal wrote bad geography and such impulsive planning have had isolated the land and its people from many forms of mainstream development.

My comparative analysis suggests that Dolpo is not a bone of contention. Rather it is the scientific brutality that clouds our minds. Dolpo and Mustang together with Tscharka Bhot distinctly emerge as one contiguous area. Having either Dolpo or Mustang inscribed alone in the World Heritage Site is like having a truncated body, which exposes either our ignorance or arrogance at its fullest. If Dolpo and Mustang are recognized inseparable, consider conservation is in place. Can two become one?

Table 3. Nepal's Endemic butterflies in the Tibetan marginal land (Smith, 1994).

Endemic species/subspecies	Globally Known Distribution
<i>Paralas nepalica</i>	Dolpo
<i>Parnassius cephalus horii</i>	Dolpo and Mustang
<i>Polyommatus nepalensis</i>	Mustang
<i>Albulina orbitulus lobbichleri</i>	Mustang
<i>Coenonympha amaryllis forsteri</i>	Mustang
<i>Parnassius epaphus capdevillei</i>	Mustang
<i>Parnassius acdestis laurentii</i>	Mustang
<i>Synchlloe sherpae</i>	Mustang
<i>Crebeta lehmani</i>	Mustang and Manang

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