Abstract

Although locals regard all lakes in the Himalayan mountains as sacred, Khecheopalri Lake in the Sikkim Himalaya of India is considered the most sacred. There are many folklores associated with it—it is famous as a "wish fulfilling lake." The pristine setting of the lake combined with its huge biodiversity attracts a large number of tourists, and it is also a pilgrimage site. However, the lake's sacredness is limited to the water only and it faces immense anthropogenic and other biotic pressures in the watershed, such as those relating to the collection of firewood, the felling of trees for timber, fodder collection, free livestock grazing, and various agricultural practices. The impact of tourism, with consequent garbage management issues and impact on wildlife, adds another dimension to the lake's fragile ecosystem. This has led to environmental and cultural changes of the area that all pose a threat to the ecosystem and its surrounding resources, thus raising questions over the lake's longevity and economic viability.

Keywords: Khecheopalri Lake—biofolklore—Sikkim Himalaya—conservation
The natural beauty of the Himalayas, including snow-capped mountains, huge biodiversity, crystal clear high altitude lakes, a clean soothing environment, and pilgrimage sites frequently draws the interest of both local and international trekkers and tourists.* The mountain people have very rich folklores associated with their life and the surrounding resources, and have consequently maintained the pristine setting of the sites and developed taboos concerning human interference. These areas have a great advantage over the other tourist sites because visitors can see and appreciate the connections between religious beliefs and practices on the one hand, and environmental restoration and conservation on the other.

Khecheopalri Lake in the Sikkim Himalayas of India is a unique area that is gaining popularity within the tourism sector due to its landscape and rich biodiversity, in addition to the various ethnic religio-cultural aspects and sacred beliefs associated with it. Of the one hundred and fifty lakes in Sikkim, Khecheopalri Lake is the most sacred and is revered by the local people (FIGURE 1). A large number of national and international tourists visit the site throughout the year. One of the authors, Alka Jain, conducted an intensive research study of the lake and its surroundings. In the study the watershed was considered as a support system for the lake and various parameters, such as forest ecology, precipitation partitioning pathways, and sediment and nutrient deposition into the lake from the surrounding watershed were taken into account. Also considered were physico-chemical parameters, such as pH, alkalinity, dissolved oxygen, phosphate-phosphorus, total nitrogen, and so on, in addition to biological parameters, such as lake water plankton and the transition zone between the lake and the surrounding watershed (that is, peat land). These studies showed that the lake is facing immense pressure from the surrounding catchments and its longevity is under threat mainly because of anthropogenic pressure. By promoting traditional sacred beliefs and its folklores and linking ecotourism with social and economic development of the local populace, it may be possible to conserve the natural and cultural heritage of the lake and the Himalayan region as a whole.
The present study summarizes basic information on biofolklores of Khecheopalri Lake in order to revive and reinforce its sacredness and encourage conservation for the sake of future generations.

Lake Khecheopalri (27°22' 24" N and 88°12' 30" E) is situated 147 kilometers west of Gangtok, the state capital of the Sikkim Himalaya, in the West District (see MAP 1) at an altitude of 1700 meters amsl (above mean sea level). The lake represents the original névé (that is, compact granular snow that eventually forms a glacier) region of an ancient hanging glacier, and the depression is formed by the scooping action of the glacier. A moraine ridge forms the southern bank of the Lethang valley (RAINA 1966). The lake has been estimated to be more than 3500 years old (JAIN et al. 2000).

Khecheopalri Lake is surrounded by the forested Ramam watershed (named after Ramam Mountain) and covers an area of 12 square kilometers. It falls on the southern boundary of the Khangchendzonga Biosphere Reserve (Buffer Zone IV), limiting on the reserved forest boundaries of Khecheopalri Village. It has an open water surface area of 3.79 hectares with a mean water depth of 7.2 meters. The lake is well drained from the watershed with internal seepage flows from 2 perennial and 5 seasonal inlets and is drained out...
through a major perennial outlet. The lake drainage area constitutes of 91 hectares from the total area of the Ramam watershed. The morphometric data of the lake, bog, and its watershed are presented in TABLE 1. The lake is a halting place for Trans-Himalayan migratory birds. In addition to being a pilgrimage site, the lake provides recreational tourism opportunities. A large number of religious festivals are performed every year and these attract pilgrims (7,800 in 1998) from within the state as well as the nearby countries of Nepal and Bhutan. About 8,000 national and 2,000 international tourists visit the lake annually. The uniqueness of the destination can also be attributed to its rich biodiversity.
LEGENDS ASSOCIATED WITH THE SACREDNESS OF KHECHEOPALRI LAKE

Many legends and beliefs are associated with the formation, existence, and sacredness of Khecheopalri Lake. The lake is part of the sacred landscape of “Demazong,” a valley of rice that is often referred to as a land of hidden treasures (the local communities believe that the rice produced from this area can fulfill the food requirements of the people). During PRA (Participatory Rural Appraisal—a participatory program conducted in the village whereby information is collected from knowledgeable people within the community) exercises with the local communities at Khecheopalri and Yuksam held in February 1997, senior citizens narrated to the authors Jain and Singh the following story of Guru Padmasambhava. Padmasambhava, who is known as the savior of Buddhism in Tibet, came to Sikkim and subdued many evil spirits, blessed the land, and sanctified it. He is highly revered and worshipped by Sikkimese Buddhists. He concealed innumerable scriptures (chos), wealth

TABLE 1. Morphometry of Khecheopalri lake.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude (N)</td>
<td>27°22' 24&quot;</td>
</tr>
<tr>
<td>Longitude (E)</td>
<td>88°12' 30&quot;</td>
</tr>
<tr>
<td>Lake elevation (m)</td>
<td>1700</td>
</tr>
<tr>
<td>Lake watershed elevation range (m)</td>
<td>1700–2375</td>
</tr>
<tr>
<td>Open water area of the lake (m²)</td>
<td>37900</td>
</tr>
<tr>
<td>Maximum depth (m)</td>
<td>11.2</td>
</tr>
<tr>
<td>Minimum depth (m)</td>
<td>3.2</td>
</tr>
<tr>
<td>Mean depth (m)</td>
<td>7.2</td>
</tr>
<tr>
<td>Water volume (m³)</td>
<td>272880</td>
</tr>
<tr>
<td>Boggy area (m²)</td>
<td>70100</td>
</tr>
<tr>
<td>Total boggy and lake water area (m²)</td>
<td>108000</td>
</tr>
<tr>
<td>Lake watershed area (km²)</td>
<td>12</td>
</tr>
</tbody>
</table>
(nor), and sacred objects (wangten) in the holy land of Beyul Demajong (Hidden Valley of Rice). At one time, Padmasambhava was seen in a place called “Hungri” on the tenth day of the full moon of a lunar eclipse. It is believed that he blessed the entire area.

The sacred landscape Demazong has four religious sites, which are considered to be the four plexuses of the human body. They are Khecheopalri (lake and religious site), Yuksam (lake and religious site), Tashiding (religious site), and Pemangstey (religious site). Khecheopalri symbolizes the thorax of the body (Khecheo=flying yoginis or Taras [female manifestations in Tibet of Avalokiteshvara, the Bodhisattva of Compassion]; palri=palace). Of the other three places, Tashiding symbolizes the head plexus (tashi=holy sky; ding=island); Yuksam symbolizes the third eye (meeting place of three lamas) and a place of meditation, and Pemangstey the heart plexus (pema=lotus; ngstey=center) of the body.

As the lake water is considered sacred, it is only used for rites and rituals. The locals strictly prohibit fishing and boating in the lake. The indigenous Lepcha communities dominate the area. One story holds that the Lepchas and the Limboos are descendants of two brothers: the Limboos settled in Nepal and established a Limboo Kingdom while the Lepchas settled in Sikkim. Another story is that the Lepchas originated from Mayel Lyang, a mythical land at the foothills of Mount Khangchendzonga in Sikkim itself. They followed “Bon” or “Mune” religion and performed animal sacrifices (animism) to placate the various deities of forests, rivers, and winds (GOWLOOG 1998). Presently they follow Buddhism and animal sacrifices are not common. However, their belief in the sacredness of Khecheopalri Lake shows that they maintain a strong relationship with the natural surroundings.

The lake was originally named Kha-Chot-Palri, meaning the heaven of Padmasambhava. He is said to have preached to sixty-four yoginis there. According to Buddhists, the lake is a dwelling place for the Goddess Tara Jestum Dolma, who is the mother of Lord Buddha. Lake Khecheopalri is considered to be her footprints, as the shape of lake indicates. The people also worshipped the lake as the Goddess Chho Pema. It has a number of religious sites located all around the lake, including holy caves named Dupukney, Yukumney, and Chubukney, where lamas incarnated and rimpoches (an honorific reserved for recognized reincarnated Mahayana Buddhist high lamas) meditated. The footprints of Macha Zemu Rimpoche can also be seen on a stone near the chorten (stupa). There are two monasteries in the Khecheopalri area where pilgrims and the local communities offer prayers. Hindus believe that Lord Shiva meditated in Dupukney Cave, which located just above Khecheopalri Lake. Lord Shiva is worshipped during “Nag Panchmi,” which generally falls between July
and September (nag = snake; Panchmi = fifth day of Bhadua month, a special month in the Hindu calendar; the snake symbolizes Lord Shiva).

According to popular legend, there were two sister lakes in the northwestern part of the Himalayas. The elder lake is still there but the younger lake, which is called Labding Pokhari, moved to the western part of Sikkim to a place called Yuksam. The people in Yuksam (the first capital of Sikkim) did not respect Labding Pokhari and deposited waste into her waters. The goddess got dismayed and flew the lake first to a place called Chhojo. It could not fit into the area so the goddess then shifted the lake to Khecheopalri. Apart from the marshy land with terrestrial vegetation, the dead Chhojo Lake, located at the bottom of the hill, has no open water surface (FIGURE 2).

The other legend holds that the lake is called “Chho,” and that many years ago some Bhutia communities had settled around Khecheopalri Lake. They had herds of cattle that grazed in the dense forests around the lake. The lake was called Chholang (chho = lake, lang = ox) and was sent by the

![FIGURE 2: The dead Chhojo Lake. Photo by Alka Jain, 1998.](image-url)
lac goddess (Figure 3). One day a white holy ox emerged from the lake and started to graze around the lake. It finally mingled with the herd of cattle that belonged to the Bhutias. When the Bhutia owner noticed the foreign animal in his herd, he tried unsuccessfully to locate its owner. He then slaughtered the animal for its meat and was surprised to notice that a milky discharge oozed out instead of blood. He washed the discharge, cooked the meat, and had a great feast with his friends. After that he began to notice that all his cattle and those belonging to the Bhutia community in the locality started to vanish one by one due to strange ailments. It is believed that in this way the entire Bhutia community vanished from Khecheopalri Village. These days, mostly Lepcha settlements are found around Khecheopalri Lake and only a few Bhutias who married Lepchas are believed to have survived the dreadful curse.

The other story holds that the Lepcha girl Nenjo Asha Lham was blessed by the lake goddess and was given a precious gem, which was unfortunately lost by her mother. Even today local people believe that the gem is stored inside the lake and that the lake water can cure many human diseases. This is why the local people keep the lake sacred and do not allow the water to be used for any purpose other than rites and rituals. Strong belief persists with the local and pilgrims visiting the lake. Khecheopalri Lake is therefore
famous as a “wish fulfilling lake” or its shorter name “wishing lake.” The local people believe that the lake water has healing properties as well.

**RELIGIO-CULTURAL FEATURES**

Beside folklores, there are a number of religious festivals associated with the lake. The rites and rituals of individuals are performed according to their own wishes but community rituals are performed on days of the full moon and the new moon. The two main festivals associated with the lake are Chho-Tšho, which generally falls in the month of October, and Bhumchu, which occurs around February/March (this falls on the fourteenth day of Losar, the New Year’s month in the Tibetan calendar). The rites and rituals are performed by communities and pilgrims aided by Buddhist monks or a Hindu priest (FIGURE 4).

Chho-Tšho, which occurs after the cardamom harvest, is a festival offering thanks for providing the people with food. The villagers gather together and collect money from each household, perform rituals on the
lake, and enjoy the feast together. In the Bhumchu Festival the lake goddess is worshipped in order to maintain peace and harmony in the village for the forthcoming year. Colorful idols of gods made up of flour and butter are seen arranged beautifully with lit lamps and offerings (Figure 5). The monks and the local communities perform rites and rituals for three days. Pilgrims generally place prayer flags, which are attached to bamboo poles or small trees (Symlocos thaeefolia and Eurya acuminata), around the lake. The inscriptions are prayers for the sake of dead relatives, sick people, for the fulfillment of wishes, or for maintaining peace in the family. There are between 11 to 108 flags. These numbers are considered holy in Buddhism and Hinduism: in Buddhist temples there are between 11 to 108 praying wheels and in Hindu rituals the goddess is symbolized by 108 lotus-flower petals. According to the senior citizens of the area, rituals around the lake have been performed traditionally since time immemorial. This festival is a major attraction for the pilgrims of Sikkim and Darjeeling and also from adjoining countries like Bhutan and Nepal. The local community also organizes fêtes where games are played and various stalls selling food, clothing, and other items are opened. Large numbers of holy books, prayer flags, rosaries, and photographs of various gods and goddesses are also sold to generate income.

Figure 5: Idols of gods and lit lamps during “Bumchu” Festival. Photo by Alka Jain, 1998.
for the local community. Thus the festival serves both religious and recreational purposes.

**DISCUSSION**

The folklores of the lake are deeply rooted within the surrounding communities. It is still acknowledged as a “wish fulfilling lake” and is considered sacred. Despite the fact that its unrivalled scenic beauty, rich biodiversity, and pristine surroundings make it a major tourist destination, there are no modern tourist amenities for activities such as fishing, boating, and swimming. Although the local communities and pilgrims have maintained strong beliefs about the lake’s efficacious properties, its sacredness is limited only to the water. The agricultural practices and the exploitation in the watershed, including the extraction of trees for firewood and timber, the use of non-timber forest products, fodder collection, and free livestock grazing, have led to changes in the forest structure and composition, which has resulted in the exposition of soils. During the rainy season a huge quantity of soil and nutrients is washed away from the surrounding watershed and deposited into the lake thus affecting its longevity (Jain et al. 2000). Furthermore, the offerings made by pilgrims and tourists in the lake also have some negative impact on the water quality in that they affect the aquatic biodiversity (Jain et al. 1999).

The major findings of intensive research conducted by Alka Jain between 1997 to 2000 regarding factors that pose a threat to Khecheopalri Lake are as follows:

1. A land-use/cover change study revealed that the once dense forest has decreased tremendously with increase of degraded forests, settlements, and cropped areas. The open water surface area, which was 7.4 ha in 1963, had decreased to 3.8 ha by 1997, and peatland increased from 3.4 ha to 7 ha over a period of four-and-a-half decades.

2. The local people extract 28 percent of the woody biomass productivity (the wood mass of trees increased per annum) of the surrounding watershed forest while livestock grazing removed 47 percent of the herbaceous annual primary productivity (ground vegetation biomass increased per annum).

3. Annual deposition from the surrounding watershed to the lake accounts to 141 Mg of sediment, 1.42 Mg of total nitrogen, 0.31 Mg of total phosphorus, and 6.88 Mg of organic carbon.
4. Radiocarbon dating of the samples revealed that the lake is about 3500 years old.

5. Around 3000 kg of solid waste, which is categorized as 81 percent biodegradable and 19 percent non-biodegradable waste, is deposited annually in the watershed area through tourism.

The accelerated growth of human population, recent environmental and cultural changes, and the environment development in the area all pose a threat to natural resources in the Sikkim (SINGH et al. 2002, 309). Economic development associated with forest and biodiversity conservation in the form of ecotourism is perhaps the best option that will both promote sustainability and satisfy the needs of nature lovers.

ACKNOWLEDGEMENTS AND NOTES

*The authors are grateful to the Director, G. B. Pant Institute of Himalayan Environment and Development, and The Mountain Institute, USA for providing facilities. The authors are associated with the Sikkim Biodiversity and Ecotourism Project that received support from the Biodiversity Conservation Network funded by USAID. IDRC-Canada also provided financial support to Alka Jain.

Alka Jain and H. Birkumar Singh are currently at the Regional Research Laboratory, Substation (CSIR), Lamphelpat, Imphal, Manipur, India.

S. C. Rai is based at the G. B. Pant Institute of Himalayan Environment & Development, Northeast Unit, Itanagat, India.

E. Sharma is currently at the International Centre for Mountain Development, Kathmandu, Nepal.

REFERENCES CITED

GOWLOOG, R. R.

JAIN, A., RAI, S. C., PAL, J., and SHARMA, E.

JAIN, A, RAI, S. C., and SHARMA, E.

RAINA, K. V.

SINGH, H. B., PRASAD, P., and RAI, L. K.