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## Preserving the naturalness of Swayambhu<sup>1</sup>

The Kathmandu Valley (899 km<sup>2</sup>) had been urbanized by mid 18th century because of its strategic location on the major route of long distance trade between Tibet and India, which was reinforced by the agricultural richness of the valley. Historically, the Valley had the highest rice yield per acre in the world.

The urbanisation of last five decades has disrupted Kathmandu landuse because of the combined effect of sectoral policies over the policies pursued in the urban sector (Sharma, 1990). As a result, the Valley suffers from growing conflicts between urban and rural functions within the Valley's finite resources; unplanned, inefficient urban expansion; air and water pollution and a total failure of attempts to implement plans and development regulations. At present, Kathmandu Valley with over a million people, is expected to grow at about 4% per year in the next 20 years.

Amidst these, early this year, the Kathmandu City has joined the World heritage charter, where there are seven World Heritage sites. Of these, one is Swayambhu. The Mahachaitya of Swayambhu is the foremost monument which was built during the days of the early Licchavi period most probably about 3rd century AD. It is one of the oldest, richest and most magnificent Buddhist stupas in the world. The monument complex has twelve important individual structures. With the rash urbanisation in the recent years, Swayambhu has undergone many structural changes but have also lost irreclaimable ecological integrity.

Many religious forest in densely populated middle hills are small and scattered. In urban areas like Kathmandu, these small patches of religious forests are much degraded. The Swayambhu hill have suffered even worse because the forests in the past, have fulfilled the rural and urban demand for fire-wood and fodder. Cattle grazing is still predominant.

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In Swayambhu, the biological, geographical, historical, religious, social and culture within this boundary of the religious forests is such that one aspect cannot be understood without reference to the others. The Swayambhu forest holds a ecological testimony where a total of 27 plant species new to the scientific world which was described in 1802 (Hamilton, 1971). Thus, Swayambhu has not only been a religious and cultural sanctuary but also had a role of the biological refugia. Unfortunately, none of those 27 plant species occur now. There are some 300 rhesus monkey in 5 different populations who depend upon 67 edible plant species. Lying just 3 Km west from the Kathmandu City, Swayambhu forest is in a critical position as a mixture of other species which are not indigenous have taken roots.

Present systematic botanical studies enumerate about 6500 species of flowering plants in Nepal, out of which flora of Kathmandu valley alone includes 1312 plant species belonging to 162 vascular families (HMG 1986). Most of the plants were either collected from the religious forest of Kathmandu. The flora of Swayambhu consists of 154 species of plants in 125 genera and 52 families. Out of the 28 species of trees that are found in Swayambhu, 8 species are aliens which were planted about 30 years ago. This includes temperate and tropical flora, however with urban development the herbs and shrubs have been uprooted for cattle grazing and building of gompas (monasteries).

There is a need to know household activities related to economic growth and the usages of daily fuel-wood and the fodder used for cattles from this religious forest is equally vital. Boundaries of this forests are being encroached by cattle and people as well as being polluted unnecessarily by monastic buildings.

As it also serves as one of the tour points of the tourists visiting Kathmandu as well as a recreation spot for the local populace, the bio-diversity of this hillock provides ample opportunities for school and university students, researchers, conservationists, NGOs and policy makers to comprehend conservation related issues with religious forests and its preservation for cultural and biological diversity.

Swayambhu has an ever increasing number of visitors both for recreation or for religious purposes. In addition, some 330,000 non- Nepali tourists visit Swayambhu every year. This has caused littering and pollution affecting the natural ecosystem. The problems of shops and itinerant vendors (and majority of them are of Indian origin) are mercilessly encroaching the site by opening new shops and stalls wherever they like. At present, not only at Swayambhu but also in other heritage sites such situations have emerged creating new problems to the local administration. At Patan, the condition is much worse, the so-called curio shops selling replicas of Indian make have covered all the plinths and foot-paths around the palace complex. They have not even spared the sidewalks of the temples and this is pollution.

Use of fuel wood and fodder for cattles may have also led to disruption of species that were once found to be in abundance. Interactions and effects between human settlements and natural resources of the religious forest is also one of the factors to be taken into consideration. This requires immediate management attention.

The Swayambhu Ghyang Guthi owns almost the whole hill. It can sell, mortgage lease and give tenancy right and permission to build a house or gompa (monastery) in exchange for revenue. The trend in the land ownership pattern suggests that a vast area of the hill has been misused by the Ghyang Guthi, a traditional Trust, for many years. As a result at present many individuals and dubious groups have registered a large portion of the hill and are in the process of constructing houses or gompas (monasteries) ignoring the prescribed regulations and overlooking the fragile ecology. New houses disguised as Gompas even have led to demolition of ancient structures. Constructing new concrete monasteries destroying the facades of old building have become a common feature at Swayambhu. There are at least 10 gompas at the base of Swayambhu and more are in the process of building similar edifices. There are almost a dozen NGO's in and around Swayambhu, which often waste public funds in so-called development activities and programmes. These activities of NGO's are neither beautifying the site nor helping in protecting its environment. One glaring example is the concrete water tank near the car park, which was built by one

NGO few years ago as a replacement of a natural tank called monkey pond. It is now a big concrete waste container. Many NGO's have placed signboards, donation boxes, etc in many such strategic places which are not only an eyesore and photographic obstructions but also degrades the image of NGO movement in Nepal.

For the protection of the Swayambhu hill as a pilgrimage site and to provide a model for how to rescue the historical and natural qualities of the site from adverse effects of ever expanding urban growth, His Majesty's Government of Nepal (HMG) has prepared a Swayambhu Conservation Master Plan in 1989 with the help of German Technical Cooperation. From 1986/87 Swayambhu Conservation Programme was included in priority programme by HMG. Since then HMG is providing every year a paltry sum of money annually not more than US \$ 12,000.00 for the implementation of this Master Plan whose total cost is about US \$ 800,000.00 (eight hundred thousand). Therefore, one can envisage how and when HMG will be able to complete this project.

The present condition of the forest is a very critical one, as it is on the edge of losing its indigenous character altogether. The traditional character of the hill is indeed very much endangered. The northern slope beyond the ridge across Swayambhu-Manjusri has patches of traditional forest which is degraded with *Schima wallichii* (Cilanue), *Stranvaesia nussia* (Juremayal), *Sapindus mukorossi* (Rittha), *Celtis australis* (Khari), *Choerospondias axillaris* (Labsi) and *Zizyphus incurva* (Hadebayar) are in predominance. A mixture of these species provide for large and small trees which blend with the natural environment of the landscape. Afforestation programs have had a negative effect when 30 years ago Pine and Eucalyptus trees were introduced on the hill, the religious forest lost its charm.

The aliens trees were *arcaria* from South America and silver oak from Australia, gained a considerable prominence, pine, eucalyptus, bottle brush *gevia*, acer, juniperus, *alvesia* have been planted in the middle 20th century and *Puvale* (from China) did not fare well. With the introduction of these species the religious character of Swayambhu forest

changed considerably. Only the area on the northern slope could retain the character of an indigenous Nepalese forest. However, that is also in a degraded form.

### Suggestions and Recommendation

There is a need to protect and preserve these religious forests because they are not well represented in the protected area system. In addition, religious forest could also be a model of representation of the midhill ecosystem.

Construction of new gompas or temples must be scrutinised or passed before a committee (it is currently in practice but it is not effective).

Inventory of trees, regeneration growth and ecology of the forest should be studied at a greater length.

Indigenous plants suitable to the midhill ecology should be planted.

### Conclusion

Donors have started three programmes in Swayambhu. Emergency afforestation programme, which is to be terminated by 1997 and have about 3000 more indigenous plants to be planted in the coming years. Water and Sanitation Programme is also being run simultaneously. These projects have been assisted by German Technical Assistance cooperation with the Dept. of Archeology and Urban Development through Local Efforts. A new project is in the pipeline for Qualitative Tourism Programme.

The people of Nepal possess ancient, deeply rooted, traditional beliefs concerning the protection and preservation of religious forests. However these local beliefs have been largely ignored in the efforts by rural development forestry programs and conservation education strategies to address the urgent problems of deforestation. Religious forest

form about 20 % of surface area in Kathmandu valley. It is indeed a questionable question whether Swayambhu could live without the existence of religious forest in the next 50 years?

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