

**ORCHIDS IN THE CHURIYA HILLS AND  
THEIR SURVIVAL IN  
NEPAL**



Wildlife Conservation Nepal

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## **Orchids in the Churiya Hills and Their Survival in Nepal**

### **1. Introduction:**

Nepal, a small Kingdom, located between latitudes 26 22' and 30 27' N and longitudes 80 40' and 88 12' E has more than 83 % of mountainous terrain and 17 % flatland. It is roughly rectangular in shape with an area of 147,181 sq. km. Nepal is sandwiched between China and India, altitude varies from 60m in the Terai to 8848m in the north.

Nepal, metaphorically has been divided into several categories of landscape by many, of which, the most supported is by Stainton, 1972. They are:

- a. Terai and Bhabar (60 – 300m)
- b. Foothills (Churiya hills or Siwalik) (700 – 1500m)
- c. Mahabharat range (1500 – 2700m)
- d. Midlands (600 – 3500m)
- e. Himalayas
- f. Inner Himalayas
- g. Arid zones

### **1.1 Churiya**

Of the most interesting geographical landscape in terms of vitality and production, Churiya stands out as it is fragile and has dynamic characteristic landscape. It is identified as a potential area in terms of natural and forest resources. The forest of Churiya still contains dense forest, with few settlements and is less disturbed than others. Hence, it is rich in wildlife. The Churiya belt extends from east (Mechi) to west (Mahakali) with little or no disturbances.

### **1.2 Landscape Connectivity and Churiya**

As protected areas have become island of resources, conservation at landscape level is a priority to maintain gene pool and particularly to communities who as '*bhoomi putra*' have maintained forest resources. They are acknowledged and allowed to participate as

stakeholders in ICDP (Integrated conservation development program) to alleviate themselves away from the common ailment of poverty (Upadhaya, S.K., and Yonzon, P.B.2001). This combination of agro-forestry, land connectivity and habitat extension is innovative because the rural population benefits from ecotourism and its associate, while the forest could be stepping stones and facilitate as corridors for exchange of genes from one protected area to the other (TAL, 2002). The concept is superb; but implementing it with 6.5 million people living in the region requires time and many scale of exercise, because Churiya, which is fragile, have also been included in the landscape connectivity project.

Natural resources have been used and sometimes abused in a scale that is inversely proportionate to its growth. Today, it is necessary to identify effective resource use, which may perhaps benefit future generations to see the value of such species. This study is a report of over harvesting of orchid species, without knowing the real economic value in the central development region of Nepal from the Churiya forest.

## **2. International Convention**

Nepal has been a collector of international convention. It is one of those nations in the world to support international treaty, regardless of the commitment it has to undertake in the future. There has been a dearth of commitment towards international convention.

Convention on International Treaty of Endangered Species of flora and fauna (CITES) was established in 1973 and Nepal joined as a state party in 1975. CITES has three different categories of ranking species, critical endangered, endangered and threatened. It has incorporated Orchid family as endangered species.

## **3. Orchids in Nepal**

The Orchidaceae family in Nepal ranks third in size in the angiosperm group. This family constitute of 97 genera and 363 species making one of the largest group of endemic plant species. The Orchids have been the subject of great fascination to

gardeners, botanists and nature lovers particularly due to their unique and attractive flowers. They are mostly used for ornamental, medicinal and cosmetic purposes.

#### **4. Objectives**

The objectives of the study were:

- a. Prepare a vegetation inventory (between Bagmati river to Tinau river) of Central Churiya.
- b. Document indigenous knowledge on herbs usage.
- c. Identify existing herbs & shrubs of the Churiya Hills and collect information on illegal trade of wild flora.

#### **5. Summation of field visit**

We inventoried more than 211 different plant species in Central Churiya forest of which 35 were endemic and the rest were common (Press *et. al*, 2000 and Shrestha *et. al*, 1996). The rare and endangered species that were inventoried were ten i.e. *Acacia catechu*, *Pterocarpus marsupium*, *Aegle marmelos*, *Alistonia scholaris*, *Asparagus racemosus*, *Azadirachta indica*, *Butea monosperma*, *Dioscorea deltoides*, *Viscum album* and *Rauvolfia serpentine*. *Acacia catechu* and *Shorea robusta* are protected under the Forest Act 1993, HMG.

#### **6. Over -harvesting and trade**

Huge amount of orchids are collected illegally and in unscientific way. Orchid species are exploited for medicinal purpose from tropical and sub-tropical region (Bailes, 1985). Threats to conservation of orchids in Nepal are associated with habitat loss, forest destruction, and degradation and over exploitation (Rajbhandari *et al.*, 2001).

Unimaginable scale of orchids along with its plant (fig 1) is harvested from Basamadi VDC, Sannanitar, Makawanpur district everyday. Similarly Manahari VDC -

Makawanpur, Lothar – Chitwan, also bear similar brunt. At the rate of which it is harvested, extinction of these species from the Churiya range is not too far. All these orchids, which are over harvested, are also included in Nepal's schedule list as protected and endangered species.

The information was collected by carefully adapting participatory approach. The results were alarming. A small ration shop in the east-west highway acts as a broker for all collectors. Average collection reaches 35 - 50 quintals (1 quintal equals 100 kilogram) a day. This illicit scheme continues from December to April but during January, February and March – it is over-harvested because they flower during that period. Deducting and multiplying the number of harvesting days, we assume five thousands quintals of orchids are harvested from the Churiya forest, which is not a good omen for Nepal's orchids.

Orchids are used as weeds, compost, scattered, bedding and cattle feed. The poor collect it and are meagerly compensated with little money. It has been a losing battle and these days, the collectors have to venture deeper into the forest for orchids collection. And they are worried, because their livelihood depends on orchids.

It was noticed that the orchids are bundled into waiting trucks, which then goes to India. It is unusual to note that the shopkeeper who acts as a broker is ignorant about the values of orchid.

All harvested endangered species of orchids are taken to India for medicinal purposes. Besides orchids, they collect *Michelia sp.*, *Phyllanthus emblica*, *Didymocarpus sp.*, *Asparagus recemosus*, *Rauwolfia serpentine*, *Swertia chirayita*, etc. Although the transaction is done on highway (collection, loading & payment), the highway patrol, line agencies and local community based organization do not voice their concern, probably because it does not fall within their legal parameters of conservation and protection issues.



Figure 1. *Dendrobium* sp. in bloom

Within two hours the following plants were weighed and dumped in front of the ration shop.

Table no. 1

	Scientific name	Local name	Quantity	Used part
a.	<i>Viscum album</i>	Hadchur	9 bhari*	Bark
b.	<i>Michilus</i> sp.	Kaulo	3 bhari	Bark
c.	<i>Dendrobium</i> sp.	Orchid	22 bhari	Bulb

\* A bhari equals 40-kilogram load

## 7. Customs and District Forest Office

It is customary between line agencies to check and monitor illegal activities and share notes within inter-department. This is hardly done, because the priorities of the legal systems of different government bodies are totally different. And with such gaps in working module, illegal sale of orchids and other endangered plants will occur again and again. The Department of Plant Resources send a circular (printed in the Nepal gazette) to all government departments regarding certain plants, which are banned from export. However, the customs at small checkpoints may never get a copy of that article

from its department and will allow the orchid through Nepal's border by making the vendor pay a royalty fee of insignificant value, which the clerk feels that he/she has contributed to Nepal's coffer by being a vigilant.

The district forest office, meanwhile, is overburdened with forest encroachment, political issues and production forest. It has little or no consideration for non-timber forest product. The district forest feels that these issues are minor and can be dealt by forest user group. But forest user groups have limitations and most of their community forests are in close proximity of villages, which the orchid collectors never enter – as it does not serve their purpose.

## **8. Conclusion**

As a State Party to CITES, Nepal should check the export of orchids or create awareness on sustainable harvesting of the orchid species. As orchids are epiphytic plants and takes many years to grow and flower, there is a high possibility that they may never come back from the brink of extinction. To counter such flaw within the department, frequency of orientation program on banned flora and fauna must be conducted by concerned line agencies. The customs must be given posters of species that are banned and manuals to be effective.

There must be an understanding amongst line agencies to be effective in implementing international conventions and a way sought to counter such activities.

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Figure 2. Orchid sp. being weighed



Figure 3. Orchids to be used as compost or bedding.