



VALUE CHAIN DESIGNING OF

# Orchids

OF PANCHASE PROTECTED FOREST AREA



Implementing Agency

**Ministry of Forest and Soil  
Conservation, Department  
of Forests**



Implementing Partners



Supported by

Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety

Copyright © 2013

Government of Nepal

Ministry of Forest and Soil Conservation

Department of Forestry

All rights reserved. Information given in this publication may be reproduced, stored in retrieval system or transmitted in any form or by any means-electronic, mechanical, photocopying, recording or otherwise- by duly acknowledging the source.

***Technical Support & Study by:***

Biodiversity Associates for Research, Development & Action Nepal (BARDAN)

***Published by:***

This report has been published under 'Ecosystem based Adaptation (EbA) in mountain Ecosystem in Nepal Project, jointly implemented by Department of Forest under Ministry of Forests and Soil Conservation (MFSC) as a lead agency for implementation at the national level in partnership with IUCN, UNEP and UNDP. Ministry of Science Technology and Environment, (MoSTE) plays an overall coordination role. The EbA programme is funded by the Germany's Federal Ministry for the Environment, Nature conservation and Nuclear Safety (BMU)

***Available:***

**Ecosystem based Adaptation (EbA) in Mountain in Nepal**

Project Management Unit

Forestry Complex. P.O. Box. 24417

Tel: 01-4218458 Fax. 01-4225553

Email: info@eba.org.np

Web: www.dof.gov.np/eba



# Orchids

## Introduction

Orchids (Common name: Sunakhari, Sungava, Chandigava, Jivanti) belonging to Orchidaceae family, are diversified in the moist tropics of both hemispheres in which majority are epiphytes in forests. It is one of the largest families of flowering plants comprising of 397 species organized into 102 genera in Nepal (Shrestha *et al.* 2010). Most of the temperate and almost all of the alpine genera are terrestrial, while some are lithophytes (Rajbhandari and Bhattarai, 2001). Orchids fall under CITES-II category. Orchids are mostly perennial (or rarely annual), epiphytic, terrestrial or lithophytic herbs with root having multi-layered spongy tissue. They are capable of absorbing and storing considerable quantity of moisture. In terrestrial species, the roots are often swollen into tubers or stems from corms or rhizomes. Stems of epiphytic species are often thickened to form a pseudo-bulb with adventitious roots.

Habitat loss, forest destruction and degradation and over exploitation has posed threats to the conservation of orchids in Nepal. Detailed studies to understand the conservation status of orchids of Nepal are still lacking. It is considered that many orchid species of Nepal are at the threatened stage now.

## Habitat and Distribution in Panchase Area

Various studies conducted in the past have clearly indicated that Pokhara valley host the highest species richness in orchid diversity in the country and Panchase region is very rich in orchid diversity including the enormous habitat for many wild orchids. There are 113 species of orchids in Panchase, out of which 2 species are endemic to Panchase namely *Panisea panchasensis* and *Eria pokharensis* (DFO Kaski 2009). Panchase area is distributed within the altitude of 784m to 2507 meters but most of the orchids are distributed above 1600m in Panchase area.

The rich diversity of Orchids of the Panchase areas threatened mainly due to the habitat destruction degradation, resulted from different activities of local people of the adjoining community. The local communities used to select mature tree trunks of *Schima wallichii*, *Castanopsis indica* and *Rhododendron arboreum* for timber and fuel wood purposes. The habitat analysis has shown that above 70% orchids are found on the trunks and branches of above trees. Thus leading to many species into the threatened condition and some are in the verge of extinction.



Pictures: *Pleione praecox* (left); *D. amoenum* (middle); and *D. denudans* (right). *D. denudans* is currently in trade, along with *D. transparens*, *D. eriiflorum*, *D. bicameratum*, *Brachycorythis obcordata*, *Dactylorhiza hatagirea* etc. All pictures by Dipesh Pyakurel

## Uses of Orchids

Local people of Panchase area have been using the young shoots, pseudo bulbs and leaves of orchids as fodder for their cattle. Orchids are known to have the medicinal properties. Few orchids are used as tonic and aphrodisiac. In the recent years, orchids are praised for its commercial value.

*Dendrobium eriiflorum*, *D. denudans*, *D. transparens*, *D. bicameratum* are few amongst the orchids of Panchase area which are in trade in the national market. Generally *Dendrobium* species are traded at the rate of Rs 500 per kg (fresh weight) to the collectors.

## Selecting Orchids

Panchase region is regarded as reservoir of Orchids with 113 species. It is rational to identify the traded orchids of Panchase area and make them marketable so that the rural communities get optimum benefit from the sale of the available resources. Likewise, the area should identify itself as the protected area that can sustainably manage the forest resources for the benefit of the communities.



However, there should be explicit harvesting and sustainable management modality/ strategy before carrying out such operations.

## Objectives

The major objective of this study is to prepare comprehensive value chain analysis report of Orchids. Specific objectives are:

- Identify the main actors for Orchids in the commercialization chain
- Identify their specific activities and their role in each stage/ step of value chain and explore existing and potential marketing chain and market linkages
- Identify demand side stakeholders and carry out demand analysis of identified products at local, regional and national level
- Identify potential private sector and financial institutions for forestry sector job creation and investment respectively

## Value Chain and Supply chain of Orchids

It has been reported that several orchid species was collected from Makawanpur district. Collectors collect the fresh orchids and sold to local village traders. The traders visit the village and purchase from the village level traders. These traders sell the orchid to traders of Kathmandu who collects orchids from all over the country and sold to Tibet. Most of the trade was undocumented. Therefore the legal trade of Orchids is still not a regular practice of Nepal.

Orchids falls in the CITES II category therefore traders do have to demonstrate the CITES permit for export. Very few traders and exporters are involved in the trade of Orchids. Recently, a Chinese businessman has started cultivation of *Dendrobium eriiflorum* and *D. transparens* in Dang district. Apart from this, the trade of Orchids has not been institutionalized in Nepal, and so is the case of Panchase area. The trade of orchids except Gamdol (*Brachycorythis obcordata*) is till date undocumented in most of the cases therefore it is difficult to prepare the value chain map of orchids. However, based on the 'undocumented' trade in past years, an effort has been paid to prepare the 'anticipated' supply chain of orchids which should be applicable to orchids of Panchase area also.

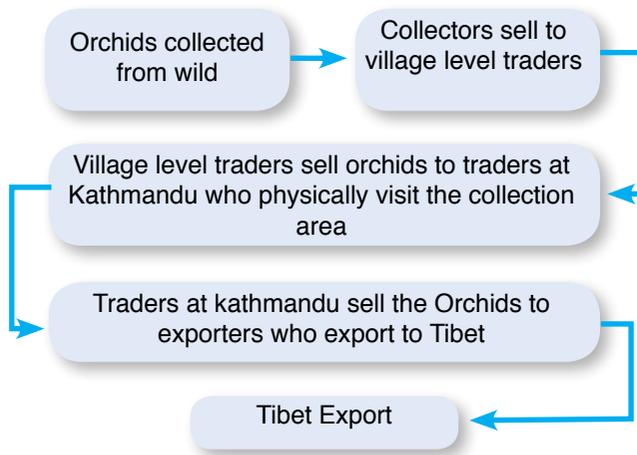


Figure: Supply Chain of Orchids as visualized from other areas

## Role and Function of Actors and their relationship

Actors that should be involved in Orchids value chain can be categorized into different types according to their functions along the chain. They are collectors, district level traders, traders at Kathmandu, and exporters.

**Collectors:** Collectors collect the traded orchids from forests and sell the fresh orchids to village level traders.

**Village level traders:** Village level traders purchase orchids from collectors and sell them to Kathmandu based traders who physically visit the collection site and purchase from the traders. However in few cases (Jajarkot in 2009), traders of regional market (Nepalgunj) also shows their interest and trade purchase orchids from village level traders.

**Kathmandu Traders:** They purchase traded orchids from village level traders and sold to exporter who are often situated in Kathmandu and have strong links with policy makers and implementers.

**Exporters:** Exporters mainly export the orchids in Tibet where the demand is very high for several orchid species.

## Enablers

Enablers of "Orchid value chain" in the present context are those who are likely to work for the value chain actors and provide facilitating and regulatory supports in Panchase area. The anticipated role of facilitating and regulating organisations for the proper functioning of value chain is given in the following table.

Table: Anticipated role of facilitating and regulating organisations to move orchid in the market chain

Major Activities	Facilitating Organizations (anticipated)	Regulating Organizations
Sustainable collection	MDO, EbA, Hariyo Ban, CFUGs	DFO, PPFMC
Resource Management	MDO, EbA, Hariyo Ban, CFUGs	PPFMC
Collection permit	MDO, EbA, Hariyo Ban	PPFMC
Harvesting	MDO, EbA, Hariyo Ban, CFUGs	DFO, CFUGs, PPFMC
Transport/ Export permit		DFO, PPFMC
Local Taxes		DDC, VDC
CITES Permit		DFO

## Economic Analysis of Orchids

Cultivation of orchid is still in the very initial stage and as mentioned earlier, only one foreigner has commenced its cultivation so it is difficult to predict the cost and benefits of Orchid cultivation.

**Wild collection:** The wild collection quantity of orchids depends on the availability of the resource. Price per kg of fresh Orchids is around Rs 500 per kg. Depending on the availability of the resource, a person can collect 2-3 kg in a day. Further, collection of Orchids is a seasonal business and depending upon the nature, orchids can be collected within one to two months.

## Market Channel

The orchids, if collected from Panchase area will follow the same route as that of other NTFPs that will be traded from Panchase area.



# SWOT Analysis of Orchids

Strength	Weakness
<ul style="list-style-type: none"> <li>– Panchase region is regarded as reservoir of orchids with 113 species</li> <li>– Best practices for orchid commercialization already started in few places of Nepal</li> </ul>	<ul style="list-style-type: none"> <li>– Inadequate market information on orchids</li> <li>– Yet to identify tradable orchids of Panchase Area</li> <li>– Orchids are slow growing plants therefore harvesting may decrease the natural population in the wild, no reach on its cultivation</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>– Department of Forest in 2069 BS selected 21 orchids for cultivation and commercialization</li> <li>– Increasing demand in Chinese/Tibetan Market</li> <li>– Tissue Culture of orchids commenced by DPR and private laboratories</li> </ul>	<ul style="list-style-type: none"> <li>– Possible trade of banned orchids along with tradable orchids after commercialization</li> </ul>

Note: There has been absence of present experiences in Orchids value chain and documentation of same regarding value chain upgrading has not been mentioned.

## ABBREVIATIONS

AEC	Agro Enterprise Centre
ANSAB	Asia Network for Sustainable Bio-resources
CBOs	Community Based Organisations
CFs	Community Forests
CFUGs	Community Forest User Groups
DFO	District Forest Offices
DoF	Department of Forests
EbA	Ecosystem Based Adaptation
GF	Government Forests
LF	Leasehold Forests
MDO	Machhapuchre Development Organization
NGOs	Non Governmental Organisations
NTFPs	Non-Timber Forest Products
PPFMC	Panchase Protected Forest Management Council
SWOT	Strength, Weakness, Opportunities, Threats
VDC	Village Development Committee

## REFERENCE

- DFO Kaski 2009. *Biodiversity and Orchid Conservation Action Plan for Panchase*. District Forest Office, Kaski.
- Rajbhandari K. R. and Bhattarai S. 2001. *Beautiful Orchids of Nepal*. Kathmandu, Nepal.
- Shrestha R., Joshi L., Dhungana S. K. and Kurmi P. P. 2010. *Identification manual of Nepalese Dendrobium Orchids*. Department of Plant Resources, Thapathali, Kathmandu, Nepal.

## For Further Information

**Project Management Unit**  
 Forestry Complex. P.O.Box.24417  
 Babarmahal, Kathmandu, Nepal  
 Tel: 104218458, Fax: 014225553  
 Email: info@eba.org.np  
 Web: www.dof.gov.np/eba

**Field Office**  
 Pame, Pokhara, Kaski, Nepal  
 Tel: 061621553