VALUE CHAIN DESIGNING OF

Orchids

OF PANCHASE PROTECTED FOREST AREA

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Orchids

Introduction

Orchids (Common name: Sunakhari, Sungava, Chandigava, Jivanti) belonging to Orchidaceae family, are distributed in the moist tropics of both hemispheres in which majority found in forests are epiphytes. 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 and Distribution in Panchase Area

Various studies conducted in the past have clearly indicated that Panchase region of Pokhara valley host the highest orchid species richness in Nepal and is the prime 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 are threatened mainly due to habitat destruction, forest degradation, resulting from different activities of local people of the adjoining community. The local communities usually 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 harvesting of such trees have threatened habitat of many orchid species and hence, some are on the verge of extinction.

Pictures: *Pleione praecox* (left); *Dendrobium amoenum* (middle); and *D. denumans* (right). *D. denumans* 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 medicinal properties as well, hence, few orchids are used as tonic and aphrodisiac. However, the recent years, orchids have also been acknowledged for these commercial value.

_Dendrobium eritllorum_, _D. denuudans_, _D. transprens_, _D. bicameratum_ are few amongst the orchids of Panchase, which are traded 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 the reservoir of Orchids with 113 species. It is important 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 be identified itself as a 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 a 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 job creation and investment in the forestry sector respectively

Value Chain and Supply chain of Orchids

It has been reported that several orchid species were collected from Makawanpur district. The fresh orchids of collectors are bought by the local village traders which are then sold to the traders of Kathmandu, who collect orchids from all over the country and eventually, all of these species are exported to Tibet. Most of these trades are undocumented since legal trade of Orchids is still not a regular practice in Nepal.

Orchids falls in the CITES II category therefore traders do have to possess the CITES permit for export. So far, very few traders and exporters are involved in the trade of Orchids. Recently, a Chinese businessman started cultivation of _Dendrobium eritllorum_ and _D. transprens_ in Dang district. Apart from this, the trade of Orchids has not been institutionalized in Nepal, and so is the case in Panchase area. The trade of orchids except Gamdol (Brachycorythis obcordata) is undocumented till date 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 made to prepare the ‘anticipated’ supply chain of orchids which should be applicable to orchids of Panchase area also.
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.

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.

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 personally 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 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.
SWOT Analysis of Orchids

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<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
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<tbody>
<tr>
<td>– Panchase region is regarded as reservoir of orchids with 113 species</td>
<td>– Inadequate market information on orchids</td>
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<tr>
<td>– Best practices for orchid commercialization already started in few places of Nepal</td>
<td>– Yet to identify tradable orchids of Panchase Area</td>
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<td>– Orchids are slow growing plants therefore harvesting may decrease the natural population in the wild, no reach on its cultivation</td>
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<th>Opportunities</th>
<th>Threats</th>
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<td>– Department of Forest in 2069 BS selected 21 orchids for cultivation and commercialization</td>
<td>– Possible trade of banned orchids along with tradable orchids after commercialization</td>
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<td>– Increasing demand in Chinese/Tibetan Market</td>
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<td>– Tissue Culture of orchids commenced by DPR and private laboratories</td>
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Note: There has been absence of present experiences in Orchids value chain and documentation of same regarding value chain upgrading has also 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
MoFSC Ministry of Forests and Soil Conservation
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


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