

**ECOLOGY OF *VALERIANA JATAMANSI* JONES AND ITS
POTENTIAL ROLE IN THE ECONOMY OF DOLPA, NEPAL**

A Dissertation Submitted

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RECOMMENDATION LETTER

This is to certify that the dissertation work entitled "**Ecology of *Valeriana jatamansi* Jones and its Potential Role in the Economy of Dolpa, Nepal**" has been carried out by Mr. Bishnu Prasad Baral under my supervision. The result of this research work has not been submitted for any academic degree to the best of my knowledge. I recommend his thesis for partial fulfillment of his Master's Degree in Botany, Tribhuvan University.

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LETTER OF APPROVAL

This dissertation paper submitted by **Mr. Bishnu Prasad Baral** entitled "**Ecology of *Valeriana jatamansi* Jones and its Potential Role in the Economy of Dolpa, Nepal**" has been accepted as a partial fulfillment of Master of Science in Botany.

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ABSTRACT

Valeriana jatamansi Jones is one of the important medicinal and aromatic plants of Nepal. It is listed under national priority species for cultivation and conservation. The use of this plant is entering in global commerce. The present study aims to analyze ecological and environmental informations regarding this plant to explore its potentiality and sustainability in the economy of Dolpa region. Vegetational informations were taken from natural habitat of the plant by making 18 major plots (of 20m × 20m), 90 subplots (5 within each major plot, 2m×2m each) and 18 micro plot (1 from each major plot). A stratified random sampling technique was used for plotting the sites within 3 VDCs. Rapid Rural Appraisal, Participatory Observation, Focused Group's Discussion and Key Informant Interviews were carried on to collect environmental informations about the plant. The plant was not found community specific in growing in natural habitat. The soil with higher percentage of nitrogen content and organic matter with slight acidity was found better for the growth and abundance of this plant. Pahada and Tripurakot were found suitable as the better resource yield was found there through the resource estimation. Pahada was found most suitable as the estimated oil yield and dried rhizome yield of this VDC was obtained highest followed by Tripurakot. In phoksundo, the plant was not found adequately distributed for the commercial purpose. The market and value adding processes of this resource was found very poor within study area. Majority of the resource income was found contributing outside than local level. Threat to the plant in Pahada and Tripurakot were also found significant. Indigenous system of resource management for its sustainability was found confined to *amchis*, *dhamis* and some other local healers only. Adequate exploration and utilization of the resource within study area is recommended as it is found significant to contribute the economy of the local people.

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LIST OF ACRONYMS

ANOVA	Analysis of Variance
ANSAB	Asian Network for Sustainable Agriculture and Bio-Resources
BZUG	Buffer Zone User's Group
CAMP	Conservation Assessment and Management Planning
CDB	Central Department of Botany
DFO	District Forest Office
DNPWC	Department of National Parks and Wildlife Reserves
DoF	Department of Forests
DPR	Department of Plant Resources
GPS	Global Positioning System
HPPCL	Herbs Production and Processing Company Limited
ICIMOD	International Center for Integrated Mountain Development
IUCN	International Union for Conservation of Nature
MAPDON	The Medicinal and Aromatic Plant Database of Nepal
MAPs	Medicinal and Aromatic Plants
MOEST	Ministry of Environment, Science and Technology
N	Nitrogen
NLA	Nepal Labour Association
NMCP	North Mountain Conservation Program
NTFP	Non- Timber Forest Products
OM	Organic Matter
PPI	People and Plants Initiative
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
RRI	Relative Radiation Index
SPNP	Shey Phoksundo National Park
SSC	Sand+ Silt+ Clay
t	Tons
THCC	Traditional Health Care Centre
TU	Tribhuvan University
TUCH	Tribhuvan University Central Herbarium
VDC	Village Development Committee
WWF	World Wild Fund for Nature