

VEGETATION COMPOSITION AND REGENERATION OF SHOREA  
ROBUSTA GAERTN. IN COMMUNITY MANAGED AND PROTECTED  
FORESTS  
OF SURKHET DISTRICT

**A Dissertation Submitted  
For the Partial Fulfillment of the  
Requirements of the Master of Science in Botany  
(Ecology)**

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# TRIBHUVAN UNIVERSITY

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Kathmandu

Kirtipur,  
Nepal

## CERTIFICATE

This is to certify that the dissertation work entitled “Vegetation Composition and Regeneration of *Shorea robusta* Gaertn. in Community managed and Protected Forests of Surkhet District” submitted by Tulsi Shrestha has been carried out under my supervision. The entire work is based on the results of research work and has not been submitted for any other academic degrees. Therefore, I recommend this dissertation work to be accepted for partial fulfillment of Masters of Science in Botany from Tribhuvan University, Kirtipur, Kathmandu, Nepal.

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## LETTER OF APPROVAL

The Dissertation paper entitled “Vegetation Composition and Regeneration of *Shorea robusta* Gaetrn. in Community managed and Protected Forests of Surkhet District”, submitted by Ms. Tulsi Shrestha, has been accepted as a partial fulfillment of Master of Science in Botany.

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## ACKNOWLEDGEMENTS

I am deeply indebted to my supervisor Mrs. Anjana Devkota for her constant guidance and encouragement in the completion of this dissertation work. I express my gratitude to Prof. Dr. Krishna Kumar Shrestha, Head, Central Department of Botany for providing me necessary laboratory facilities and administrative support. My sincere gratitude goes to Prof. Dr. Pramod Kumar Jha, former Head, Central Department of Botany for valuable suggestions and support. I am grateful to Mr. Bharat Babu Shrestha, Lecturer, Central Department of Botany, for valuable suggestions during field visits and other necessary support. My sincere gratitude goes to Prof. Dr. Mohan Siwakoti for helping in plant identification and encouragement. I am thankful to Prof. Dr. Rajeshwar Shrestha, Central Department of Environmental Science, for valuable information and suggestions. I am thankful to all the other teaching staffs of Central Department of Botany who helped me in completion of my dissertation work.

I record my sincere thank to Cornell Nepal Study Program (CNSP) for providing financial support to conduct my dissertation work. My thanks goes to my friends Bikash, Bimla, Devendra Karki, Ekananda, Govinda, Kusum, Madhav, Madhu, Nar Bahadur, Niranjana, Puspa, Raju, Toya and all other friends who helped me directly or indirectly at different field to complete this study.

Thanks are due to Community forest user groups of the community forest, staffs of District forest office, Surkhet and local people of the study area for valuable information. I would like to thank non teaching staffs of central Department of Botany for their kind support. I would like to thank Mr. Bholu Maharjan (Cyber Palace, Nayabazar, Kirtipur) for excellent and timely typing.

Deep appreciation goes to my parents who supported me in each step of the work. I am thankful to my relatives especially brothers and sisters for their support and inspiration during the entire work.

Date: August 2009

Tulsi Shrestha

## ABSTRACT

Vegetation composition and regeneration of *Shorea robusta* (sal) was studied in community managed forest (Neware Community Forest) and protected forest (Kankrebihar Protected Forest) in Surkhet district. Systematic random sampling was used for vegetation sampling. Fifty quadrats of 10m×10m were sampled in each forest for vegetation study. Soil was collected from each quadrat and it was analyzed for pH, Nitrogen and Carbon. For regeneration study, seedling and saplings were counted and size class diagram was analyzed. There were 68 and 80 vascular plant species in the Neware community forest and Kankrebihar protected forest respectively. There was significant ( $p < 0.01$ ) difference in tree species richness, total species richness and total tree basal area between the studied forests. Soil pH was significantly higher ( $p < 0.05$ ) in the community forest than in protected forest. Tree species diversity was higher in Neware Community Forest than in Kankrebihar Protected Forest. Regeneration of Sal was high in both forests. In community forest priority has been given for the conservation of Sal in expense of low quality and non-timber plants during thinning process. Both the forests were found to be monodominant Sal forest since the IVI of Sal constituted more than 70%.

**Key Words:** Important value index, Species richness, Species diversity, Soil characters, Management, Regeneration.

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Photo 1: Neware community forest

Photo 2: Kankrebihar protected forest

## **ABBREVIATIONS AND ACRONYMS**

asl	-	Above Sea Level
ANOVA	-	Analysis of Variance
C	-	Soil Carbon
CF	-	Community Forest
CFUGs	-	Community Forest User Groups
DFRS	-	Department of Forest Research and Survey
FRISP	-	Forest Resource Information System Project
FUG	-	Forest User Group
GoN	-	Government of Nepal
ha	-	Hectare
KCF	-	Kankrebihar Protected Forest
MFCS	-	Ministry of Forest and Soil Conservation
N	-	Soil Nitrogen
NCF	-	Neware Community Forest
PF	-	Protected Forest
Pl/ha	-	Plant per hectare
SPSS	-	Statistical Package for Social Science
VDC	-	Village Development Committee