

**STATUS OF ASSAMESE MACAQUE (*Macaca assamensis* McClelland, 1840) IN  
LANGTANG NATIONAL PARK, NEPAL**



**A Dissertation**

**Submitted for the Partial Fulfillment of the Requirements for the  
Master's Degree of Science in  
Zoology (Ecology)**

**By**

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**To**

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**2008**

## RECOMMENDATION

It is my pleasure to mention that **Mr. Ganga Ram Regmi** has carried out the Dissertation entitled "**Status of Assamese Macaque (*Macaca assamensis* McClelland, 1840) in Langtang National Park, Central Nepal**" under my supervision and guidance. This is the candidate's original work, which brings out important findings essential for biodiversity conservation in remote mountain region. To the best of my knowledge, this dissertation has not been submitted for any other degree in any institution. I recommend that the dissertation be accepted for the partial fulfillment of the requirement for the **Master's Degree of Science in Zoology** Specializing in **Ecology**.

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## ACCEPTENCE

This dissertation submitted by **Mr. Ganga Ram Regmi** entitled "**Status of Assamese Macaque (*Macaca assamensis* McClelland, 1840) in Langtang National Park, Central Nepal**" has been accepted as a partial fulfillment of **Master's Degree in Zoology** specializing in **Ecology**.

## EXPERT COMMITTEE

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## APPROVAL

On the recommendation of supervisor **Dr. Mukesh Kumar Chalise**, this dissertation submitted by **Mr. Ganga Ram Regmi** entitled "**Status of Assamese Macaque (*Macaca assamensis* McClelland, 1840) in Langtang National Park, Central Nepal**" is approved for examination.

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## DECLARATION

This study entitled “**Status of Assamese Macaque (*Macaca assamensis* McClelland, 1840) in Langtang National Park, Central Nepal**” is original of its kind and has not been submitted anywhere. The findings and statements stated in this dissertation are based on my own field works.

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## ACKNOWLEDGEMENTS

My hearty gratitude is to my supervisor Dr. Mukesh Kumar Chalise, Associate Professor, Central Department of Zoology, Tribhuvan University, Kirtipur for his noble guidance, keen supervision throughout my thesis work and inspiration towards the field of primate research and conservation. I am also deeply indebted to Dr. Randall C. Kyes, Professor and International Program Head, University of Washington, Seattle, USA, for his research training and valuable suggestions during the field work.

I express my gratitude to Professor Dr. Vasanta Kumar Thapa, Head, Central Department of Zoology for his continuous help throughout the study by providing administrative facilities and valuable suggestions. I am very much indebted to Nepal Biodiversity Research Society (NEBORS) for providing me every facilities and support required for the research work. My sincere thank goes to the Department of National Parks and Wildlife Conservation (DNPWC) for granting study permission in the Langtang National Park. I am indebted to warden, Mr. Jagannath Singh, Rangers and other staffs of park for their encouragement to facilitate this work. I am grateful to Central Bureau of Statistic and Department of Hydrology and Meteorology for providing related literature and data. My sincere thank also goes to Mr. Janak Raj Khatiwada for his learned guidance to me in all phase of field work.

I would like to thank Kamal Kandel, Narendra Kumar Upadhyay, Hem Raj Khanal, Bikas Giri, Purna Bahadur Ale and Pragya Chalise for continuous help and support. I am also very much indebted to my family members for their inspiration and continuous encouragement.

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## ABSTRACT

The study was carried out in the month of May June, July and August of 2007. A total of 213 Assamese macaques (*Macaca assamensis*) were encountered in 9 groups within the total area surveyed of 113 km<sup>2</sup> at Langtang National Park. The group density was found to be 0.0790 groups / km<sup>2</sup> with a population density of 1.8691 individuals/ km<sup>2</sup> and a mean group size of 23.66 individuals. Age-sex composition of macaque comprised 31% adult females, 16% adult males, 18% youngs, 16% Juveniles and 19% were infants in the study area. The adult sex ratio and the recruitment rate were found to be 1:1.92 and 0.61 (61 infants per 100 females) respectively. Four major behaviors were recorded from the selected Assamese macaque group at Ronga Pool as foraging 49%, moving 26%, resting 16%, and grooming 9%. The estimated crop damage from 75 households was about Rs. 150,000 per annum with the average of Rs. 2,000 per household. Presence or absence of macaque damage is significantly related to the distance of the farm from the forest ( $t^2 = 30.9$ ,  $df = 2$ ,  $P << 0.05$ ). The costs of crop protection per household ranged between Rs.500-1500 per household per year, which comes to Rs. 37,500-112,500 for 75 households. It was found that Assamese macaques spoiled more crops than they actually eat; juveniles and infants in particular brought about damage during play on the ground. Among the crops raided by Assamese macaques, maize cobs were found to be highly preferred (62%) followed by potato tubers (23%), millet (7%), buck wheat (6%) and others 2%. The most commonly used crop protection strategy was constant vigilance during crop seasons and used by 60% of the farmers in the study area. Despite the measures of crop protection, macaques did manage to invade the crops in the area. Agricultural crop and livestock depredation by wildlife results in disputes between the park authorities and the local people. Potential solutions recommended here emphasize the need for the Park administration to accept responsibility for the protection of crops and livestock from park wildlife and measures taken immediately to minimize them up to the level of tolerance for sustainable conservation.

**Key words:** *Macaca assamensis*, Langtang National Park, population, behavior, crop damage, crop protection strategy, conservation

# CONTENTS

**DECLARATION**

**RECOMMENDATION**

**APPROVAL**

**ACCEPTANCE**

**ACKNOWLEDGEMENT**

**ABBREVIATIONS AND ACRONYMS**

**ABSTRACT**

<b>CHAPTER-1 INTRODUCTION</b>	<b>1</b>
<b>1.1 General Background</b>	<b>1</b>
1.1.1 Primates	1
1.1.1.1 Macaque	2
1.1.1.2 The Assamese Macaque	3
1.1.1.2.1 Taxonomy	4
1.1.1.2.2 Habit and Habitat	4
1.1.1.2.3 Global Distribution	4
1.1.1.2.4 Distribution in Nepal	4
1.1.1.2.5 Assamese Macaque ‘Nepal Population’	5
<b>1.2 Statement of the Problem</b>	<b>6</b>
<b>1.3 Aims of the Study</b>	<b>6</b>
<b>1.4 Research Hypothesis</b>	<b>6</b>
<b>1.5 Importance of the Study</b>	<b>6</b>
<b>1.6 Limitation of the Study</b>	<b>7</b>



<b>CHAPTER-2 REVIEW OF THE LITERATURE</b>	<b>8</b>
<b>CHAPTER-3 RESEARCH MOTHODS</b>	<b>12</b>
<b>3.1 Research Site</b>	12
3.1.1 Physical Description	13
3.1.2 Drainage	13
3.1.3 Climate	13
3.1.4 Soil	15
3.1.5 Flora	15
3.1.6 Fauna	16
3.1.7 Socio-Economy	16
3.1.8 Tourism	17
<b>3.2 Research Procedures</b>	18
3.2.1 Preliminary Field Survey and Block Design	18
3.2.2 Total Count	18
3.2.3 Scan Sampling Method	19
3.2.4 Questionnaire Survey	19
<b>3.3 Data Analysis and Interpretation</b>	19
<b>CHAPTER-4 RESULTS</b>	<b>20</b>
<b>4.1 Population Status and distribution of Assamese macaque in LNP</b>	20
4.1.1 Group and Population density	20
4.1.2 Age-sex composition	20
4.1.3 Adult Sex Ratio	21
4.1.4 Recruitment Rate	22
4.1.5 Group size and distribution	22
<b>4.2 General behavior</b>	23

4.3 Threats to Monkeys	24
4.3.1 Crop-raiding and its Consequences	24
4.3.1.1 Presence and Absence of macaque damage	24
4.3.1.2 Economic Loss	24
4.3.1.3 Crop preference	25
4.3.1.4 Crop protection strategies and management	25
<b>CHAPTER-5 DISCUSSION</b>	<b>27</b>
5.1 Population Status and distribution	27
5.2 General Behavior	30
5.3 Threats to Monkeys (Crop-raiding and its consequences)	31
<b>CHAPTER-6 CONCLUSION</b>	<b>35</b>
<b>CHAPTER-7 RECOMMENDATIONS</b>	<b>36</b>
<b>REFERENCES</b>	<b>37</b>

## **List of Tables**

Table 1: Cross tabulation for presence of macaque damage against distance of farm to forest	24
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## **List of Figures**

Figure 1: Temperature (max. and min.) recorded in the year 2006 at Dhunche station	13
Figure 2: Relative humidity recorded in the year 2006 at Dhunche station	14
Figure 3: Rainfall (mm) recorded in the year 2006 at Dhunche station	14
Figure 4: Age-sex ratio in the study area	20
Figure 5: Age-sex structure in different Blocks	21
Figure 6: Adult-sex ratio and Birth rate in different Blocks	21
Figure 7: The group size of Assamese macaque in different locations of LNP	22
Figure 8: Average group size recorded at different blocks	23
Figure 9: Major behaviors of Assamese macaque in LNP, 2007	23
Figure 10: Percentage crop damage by Assamese macaque in LNP	25
Figure 11: Different crop protection strategies used by farmers	26

## **List of Maps**

Map 1: Langtang National Park showing the Assamese macaque survey trails	12
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## **List of Photo Plates**

### **Photo Plate 1**

- A. Adult male of Assamese macaque
- B. Juveniles of Assamese macaque
- C. Local women with raided maize cobs
- D. Researcher (left) with raided maize cobs
- E. Observation of crop-raiding field
- F. Interviewing local people

### **Photo Plate 2**

- G. Common place: crop field, village and the macaque habitat
- H. Macaque entering the local houses
- I. Children guarding their crop fields
- J. Scarecrows on the fields
- K. Discussion with local people
- L. Conservation education for students

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## **ABBREVIATIONS AND ACRONYMS**

asl	- Altitude from Sea Level
BCN	- Bird Conservation Nepal
CAMP	- Conservation Assessment and Management Plan
CITES	- Convention on International Trade in Endangered Species of Wild Flora and Fauna
DNPWC	- Department of National Parks and Wildlife Conservation
ft	- Feet
GoN	- Government of Nepal
INGO	- International Non-Governmental Organization
IUCN	- International Union for Conservation of Nature and Natural Resources
Kg	- Kilogram
LNP	- Langtang National Park
m	- Meter
MBCA	- Makalu Barun Conservation Area
mm	- Millimeter
NGO	- Non-Governmental Organisation
NPWC	- National Park and Wildlife Conservation
Rh	- Rhesus
km <sup>2</sup>	- Square Kilometer
T/HB	- Tail to Head Body Ratio