

# Rufford Project Title: Assessment of Benefits and Evaluation of Ecosystem Services in Langtang National Park, Nepal

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## Presentation Title: Measuring and Valuing Recreational Ecosystem Services in Langtang National Park, Nepal

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# Introduction

- Protected Area is defined as the, “ *clearly defined geographically space recognized, dedicated and managed through the legal or effective means to achieve the long term conservation of nature with associated ecosystem services and cultural values.* ” (Dudley 2008: 8)
- Protected Areas (PAs) covers 23.23% of Nepal’s territory (DNPWC, 2012)
- PAs as a destination of nature based tourism in Nepal
- ES: Aspect of ecosystem producing human welfare/well-being (Peh et.al., 2013)





# Objectives

- To identify and assess various ecosystem services (provisioning, regulating, supporting, and cultural services) offered by LNP.
- To carry out total economic valuation of LNP and its associated ecosystem services.
  - To determine the maximum WTP for park entry fee in LNP.
  - To analyze recreational economic value of ecotourism in LNP.
  - To explore potential of entry fee in financing management cost of LNP

# Materials and Methods

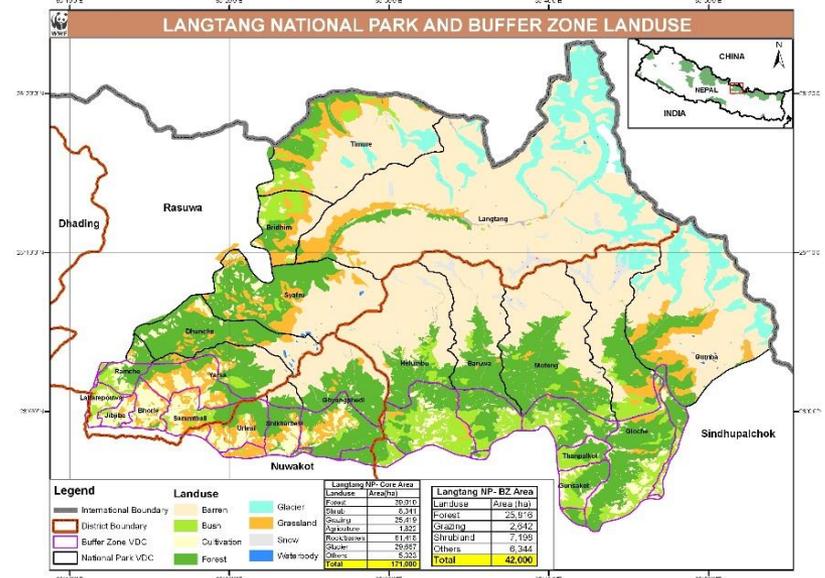
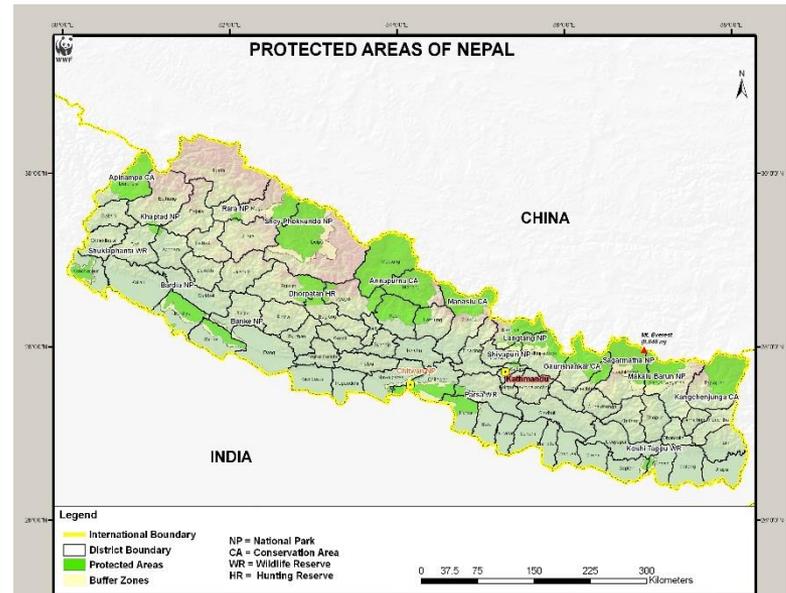
- **Study Area:** Langtang National Park, (part of Sacred Himalayan Landscape).
- 3rd most visited mountain park (5th in total) (DNPWC, 2010)

## Research Methods:

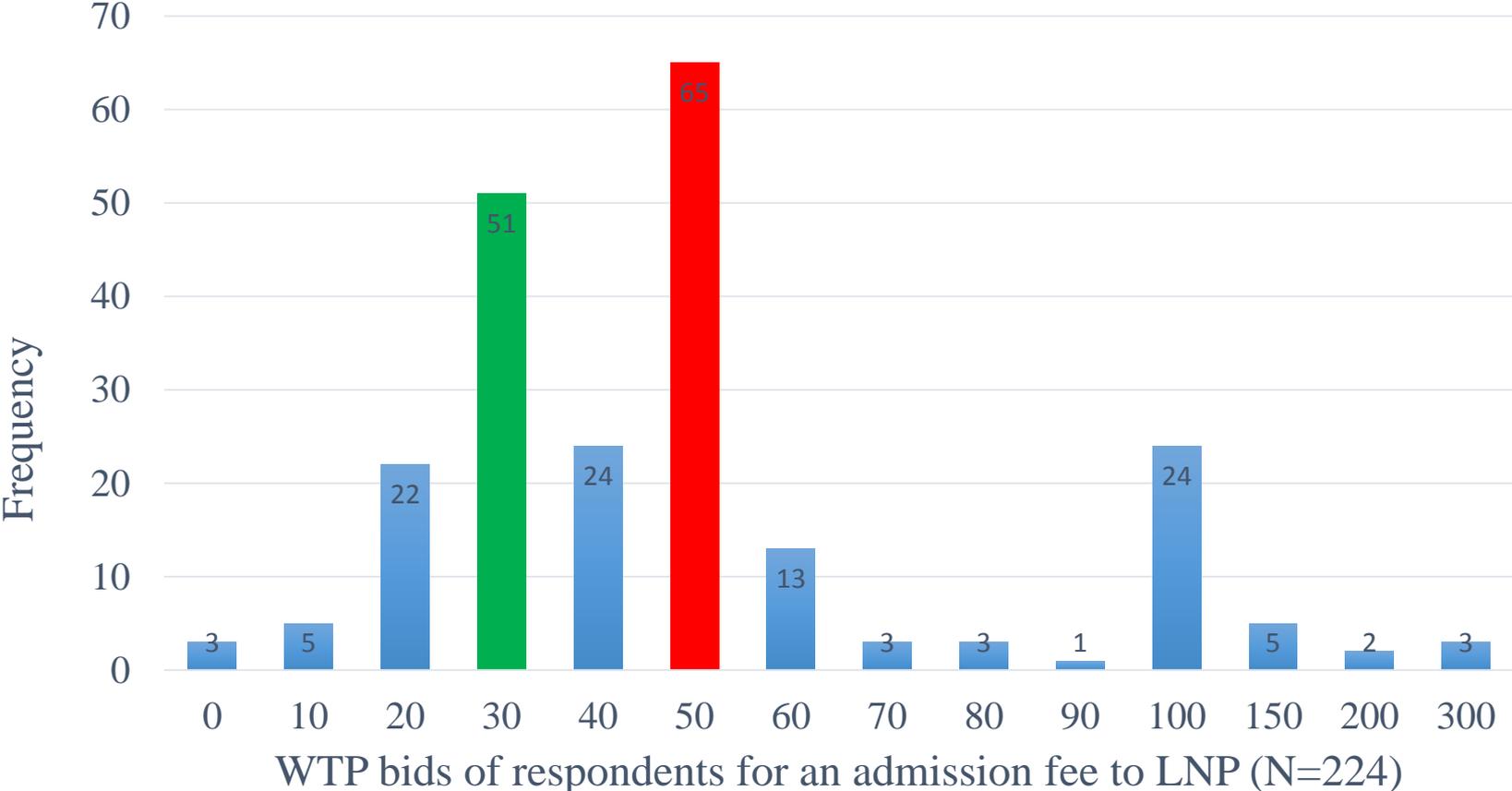
- **TESSA Toolkit** (Peh, et. al., 2013)
- **WTP - Contingent valuation**
- **Payment Vehicle: Payment card**
- **Market expenditure**

## Sampling:

- Non-probability, Convenience sampling
- Sample size: 289 (only international visitors)



# Results: Willingness to Pay Entry Fees

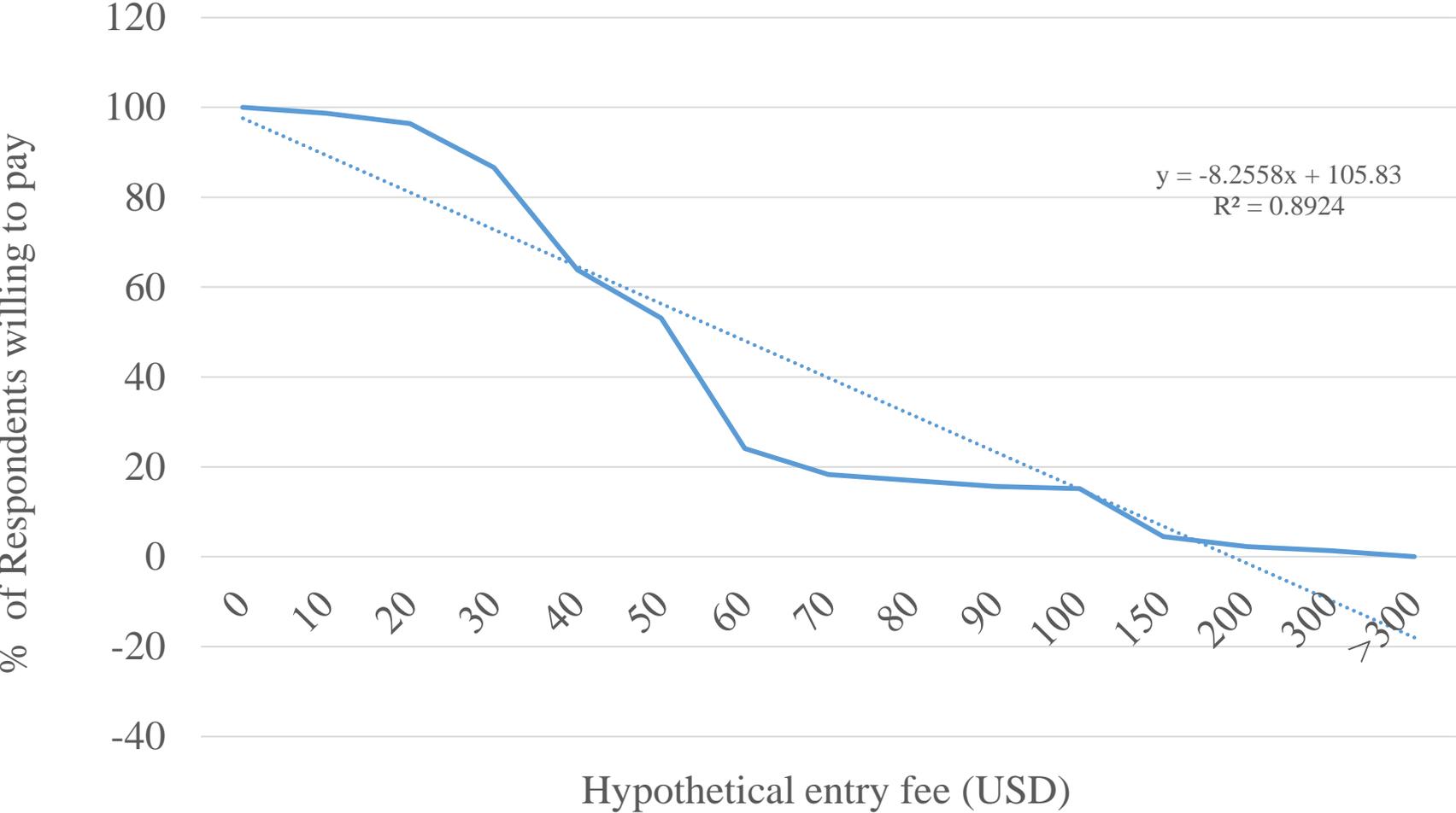


**Mean WTP (USD) = 53.57**

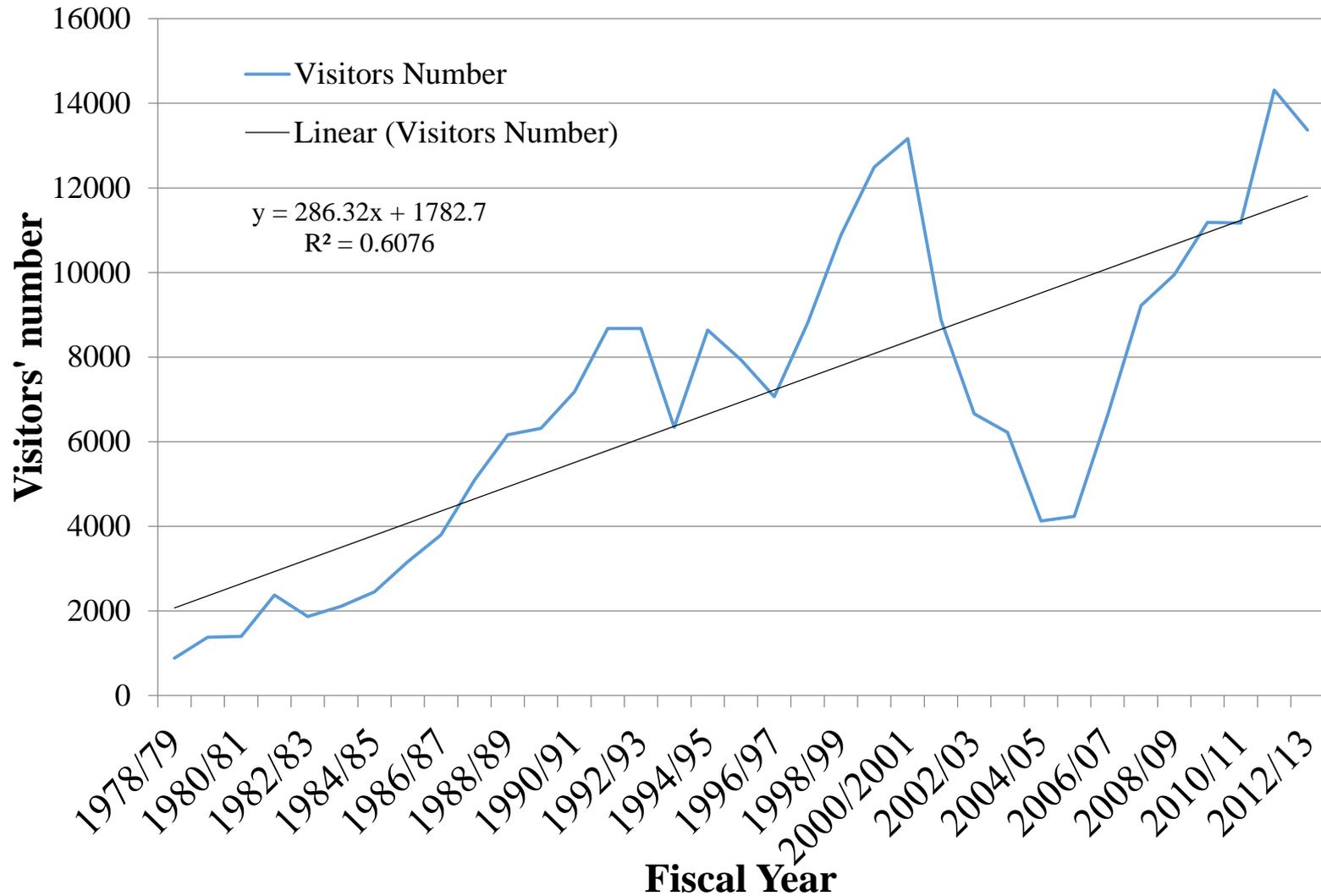
**Median (USD) = 50**

**WTP, YES = 63.83%**

# Results: Visit demand at various entry fees



# Visitors trend in LNP

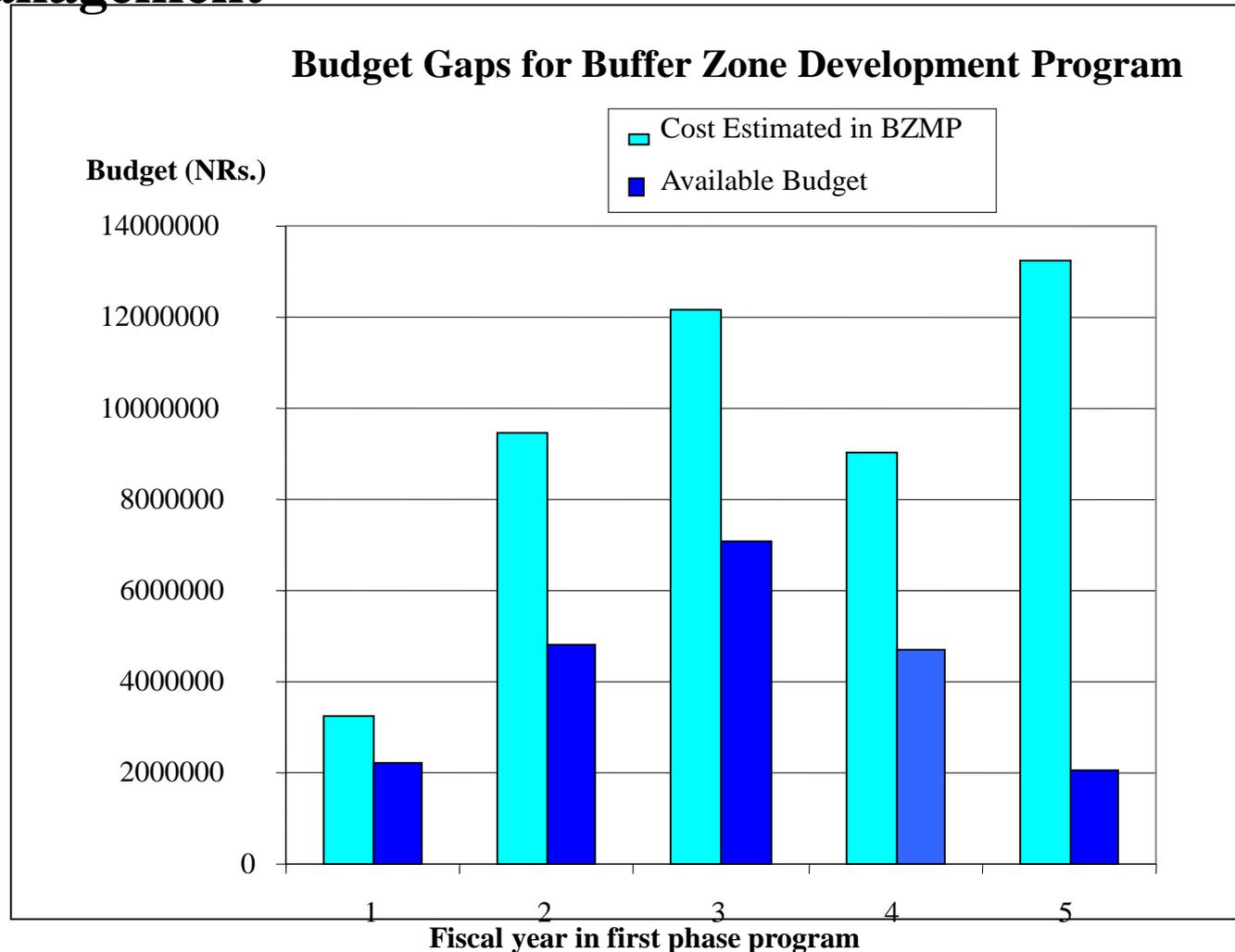


## WTP, respondents' percentage, possible visitors' number and revenue

(baseline scenario of 14,134 visitors)

WTP (USD)	% of Respondents	Possible visitors Nr.	Possible revenue (USD)
0	100	14134	0
10	98.66	13945	139450
20	96.42	13628	272560
30	86.6	12240	367200
40	63.83	9022	360880
<b>50</b>	<b>53.12</b>	<b>7508</b>	<b>375400 (business as usual 424020)</b>
60	24.1	3406	204360
70	18.3	2587	181090
80	16.96	2397	191760
90	15.62	2208	198720
100	15.17	2144	214400
150	4.46	630	94500
200	2.23	315	63000
250	1.33	188	47000
300	1.33	188	56400
>300	0	0	0

# Increment in Entry Fee: Implication for Protected Area Management



# Recreational value of Ecotourism in LNP

(baseline scenario of 14,134 international visitors)

- Independent tourists' expenditure (53%) = 10.43 days X 35.44 USD/day X 7489 = **USD 2,768,967**
- Group traveller/package tourist expenditure (47%) = 10.43 days X 46.4 USD/day X 6645 = **USD 3,215,861**
- Revenue from TIMS card issued to FITs (38% of visitors) = 20 USD X 5371 = **USD 107,420**
- Revenue from TIMS card issue to group traveller (62%) = 10 USD X 8763 = **USD 87,630**
- Entry fee revenue = 14134 X 30 USD = **USD 424,020**
- **Gross regional economic activities = USD 6,603,898**  
(Nepalese per capita income, USD 721) (GoN/MoF 2013)



# Is Investment sufficient to secure the ES in Langtang NP?

- 465110 USD allocated budget(FY 2013/14)



- Gross regional economic impact (only Ecotoursim) = USD 6,603,898

# Challenges/Gaps and Future work

- (some) Tourist reluctant to participate in the survey.
- (some) Local respondents have negative attitudes.
- Local respondents reply(ied) with under/over estimation

## Next Step

- Detail econometric analysis of the WTP value.
- Detail analysis of 5 key Ecosystem Services (global climate regulation, water related services, cultivated goods, harvested wild goods and tourism)
- Valuation of those key ES of LNP.
- Peer reviewed paper submission.



# Conclusion

- Tourists are WTP more than the current fee.
- Economic value of tourism in LNP is not captured fully.
- Substantial contribution in local development via park tourism.
- Revenue generated from tourism must be invested into the local community and park management activities.
- No integration of ES concept in park management/decision making process.

## Acknowledgements



- The Rufford Foundation
- Jigme Dorji and organizing committee/participants of RSG Bhutan conference
- DNPWC and LNP
- Prof. Dr. Michael Getzner
- Respondents and local hoteliers

**THANK YOU !**

**Questions ?**

## **Hypothetical scenario eliciting WTP of visitors' for an increase in entry fees to Langtang National Park**

- The lack of financial resources is a major challenge for protected area management in NEPAL. At present, ecotourism seems to be a viable option to generate revenues through tourist entry fees. Although ecotourism has high prospects in financing of Langtang National Park, it relies on government funding. Increment in the current entry fee means more budget for buffer zone development because 30% to 50% of the park income has to be channelized back to the conservation and development activities of buffer zone areas and local people. This can lead to reduction in poaching and illegal activities in Langtang NP, encourage local participation to achieve better nature conservation, increment in wildlife population so that chances of wildlife viewing also increases. Sufficient budget to government means it can manage Langtang NP in par with international standard to achieve sustainable PA management, helps in improving visitors' infrastructure and more.

If the management authorities increase the current entry fee (NPR 3000 = abt US\$ 30) in order to have more funds to enhance visitors' experience, conserve biodiversity and promote economic development, how much would you be willing to pay (more or less) as a new entry fee for the experience you had?

in US \$ (please circle): Zero, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 250, 300, >300