

The 14th Leading Overseas Activities Report

Collaborative Research in Nepal

(27 June 2016 - 3 January 2017)



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Purpose of collaborative research

- Non invasive sample collection for genetic and ecology study of Asiatic black bears.
- DNA extraction using tool kit
- Diet analysis from bear feces



Fig: Bear captured in camera (source: Wild Tiger)



Fig: Bear feces from mountain forest

Reason for the selection of institute

Why National Trust For Nature Conservation?

Managing the research site since Last 25 years

Why GENETUP Nepal?

Lab facility for DNA extraction

Why Institute of Forestry?

Under graduate students and Zoology lab



Preparation process

2016

**Regular contact with
NTNC senior officers
GENETUP lab incharge
IOF Professors**

April 22 Applied in LP office

Replied comments

May 23 Accepted from LP office

Document preparation
Preparation for field lab

June 27 Departure to Nepal

Issued permission
Meeting with collaborator/local community
Equipment/Logistic arrangements
Organized training for field assistants
Field work/Diet analysis/DNA extraction

**Regular contact with
LP staffs
Professor**

Jan 3 Arrival in Japan

2017 ⁴

Research methodology



1. Sample collection

Fecal and hair samples were collected from bear habitats



2. Diet analysis

Food items were counted
Percent frequency of occurrence (FO)

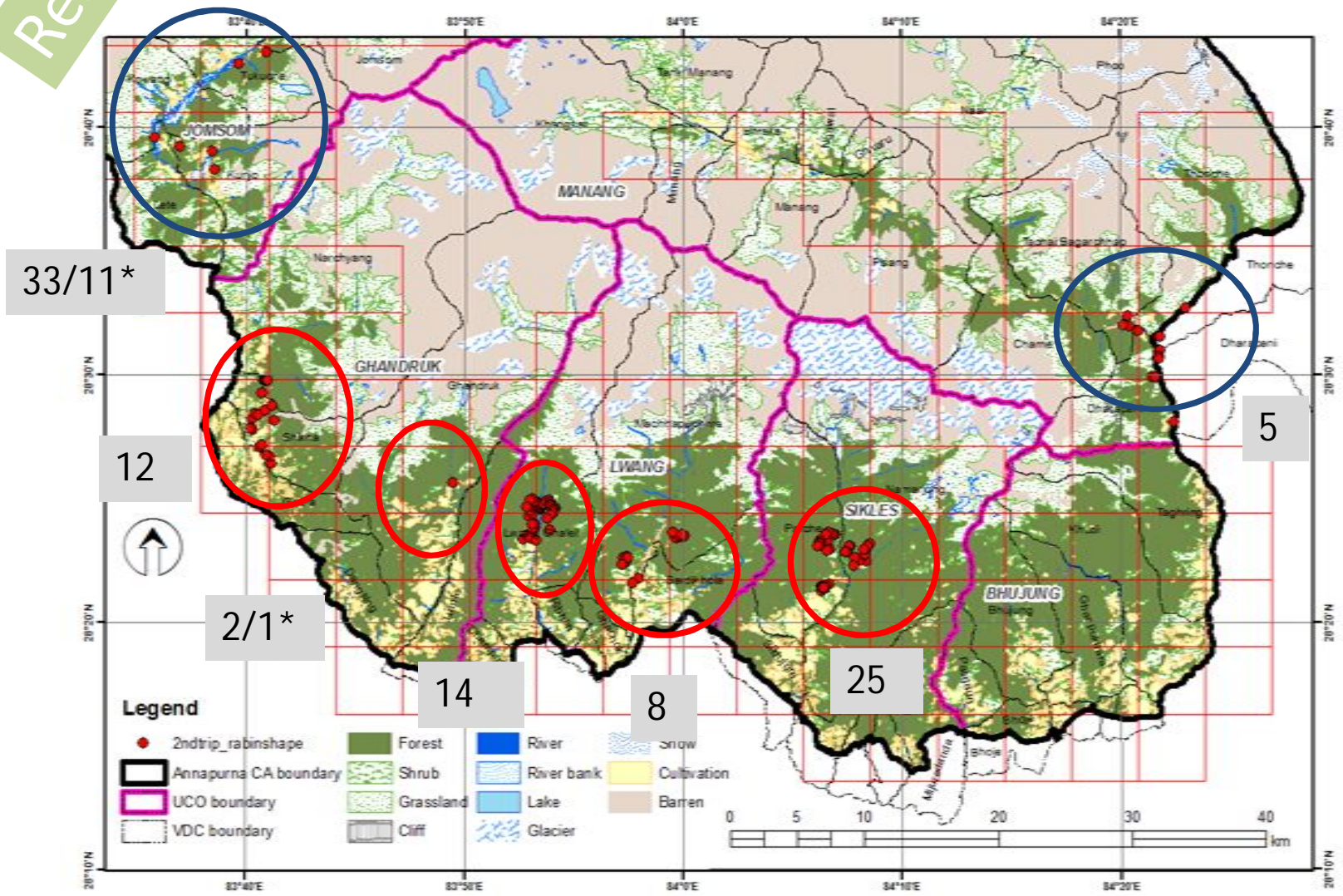


3. DNA extraction

QIA amp mini-stool kit
DNA extractor FM kit (Wako)

Results

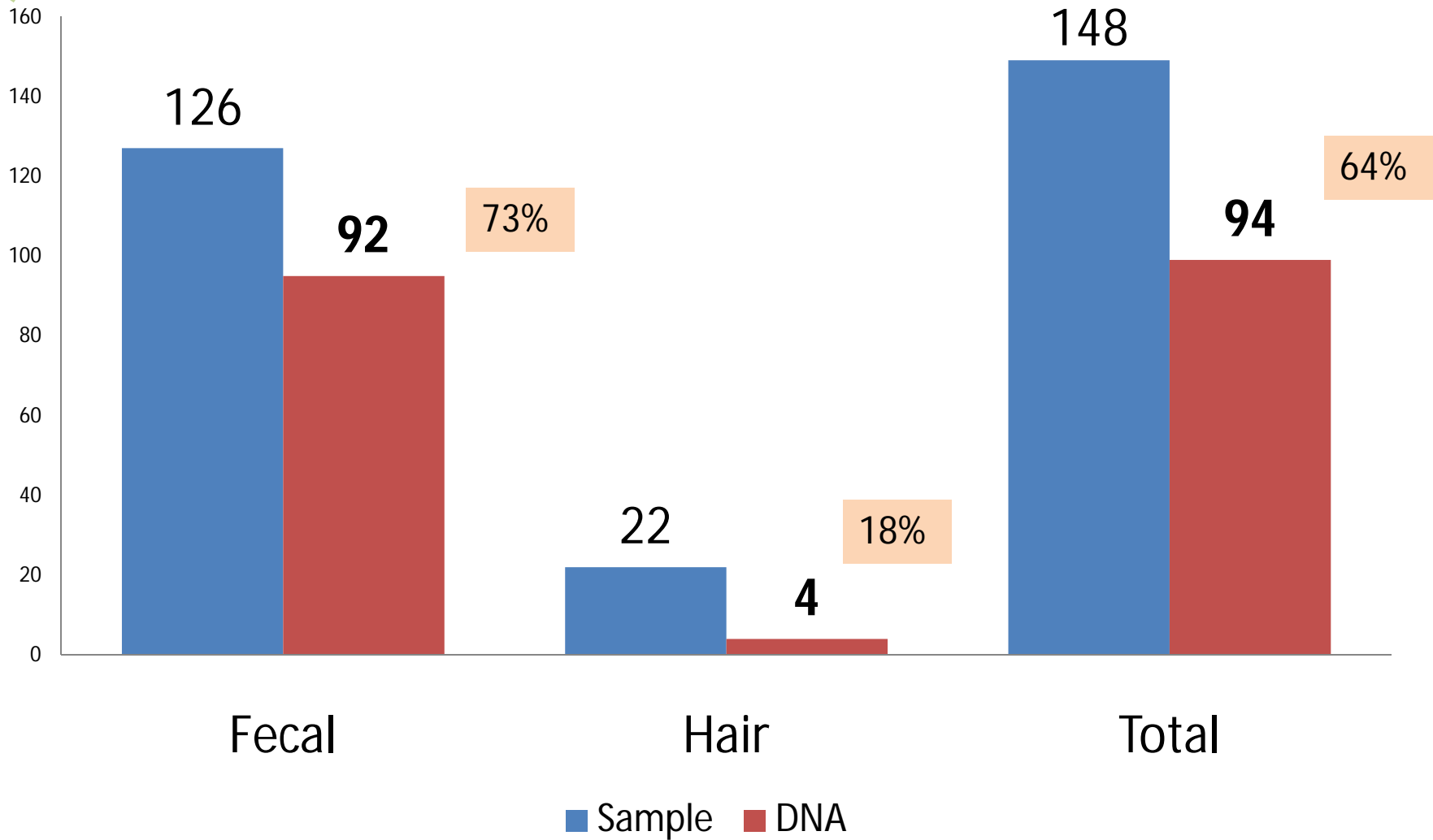
Sample collection



- 99 Fecal samples * 12 hair samples for genetics
- 191 fecal samples for diet analysis

Results

Success of DNA extraction



Note: 27 Fecal samples and 10 hair samples were collected in 2015

Results

Seasonal diet of bears



21 species

1. Fruits/Nuts



2 species

5. Insects



2. Agricultural crops *4 species*



11 fecal samples

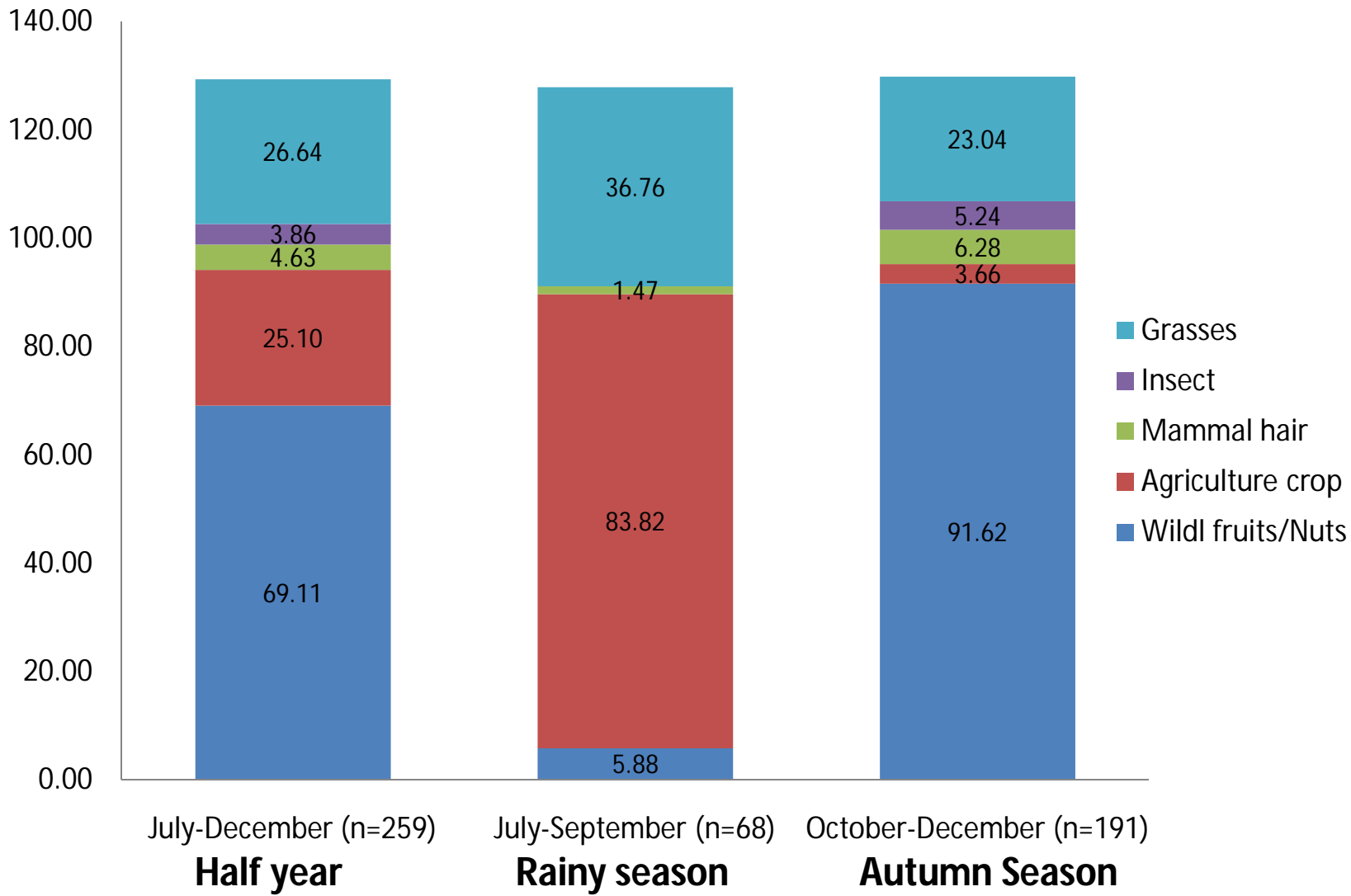
4. Mammals (hairs)



3. Grasses *2 species known*

Results

Percent frequency of occurrence



Note: 68 fecal samples were collected in 2015

Positive impact of the activity on my further research

- Non-invasive samples (feces) are best alternative way for population monitoring of bears.
- Strengthen relationship for future wildlife research and community engagement for wildlife conservation.
- Develop citizen scientist for wildlife research and monitor



Message for junior fellow



Be in contact with probable persons and organizations.

Issue research permission on time.



Well prepare
in advance



Experience
guide



Adjust
with local
situation



Acknowledgements

Financial support



Collaborative organization

