



# PROTECTED AREAS AND PEOPLE RELATIONSHIP: IMPLICATIONS FOR ENVIRONMENT AND SUSTAINABILITY

(A Case Study of Parsa Wildlife Reserve, Nepal)

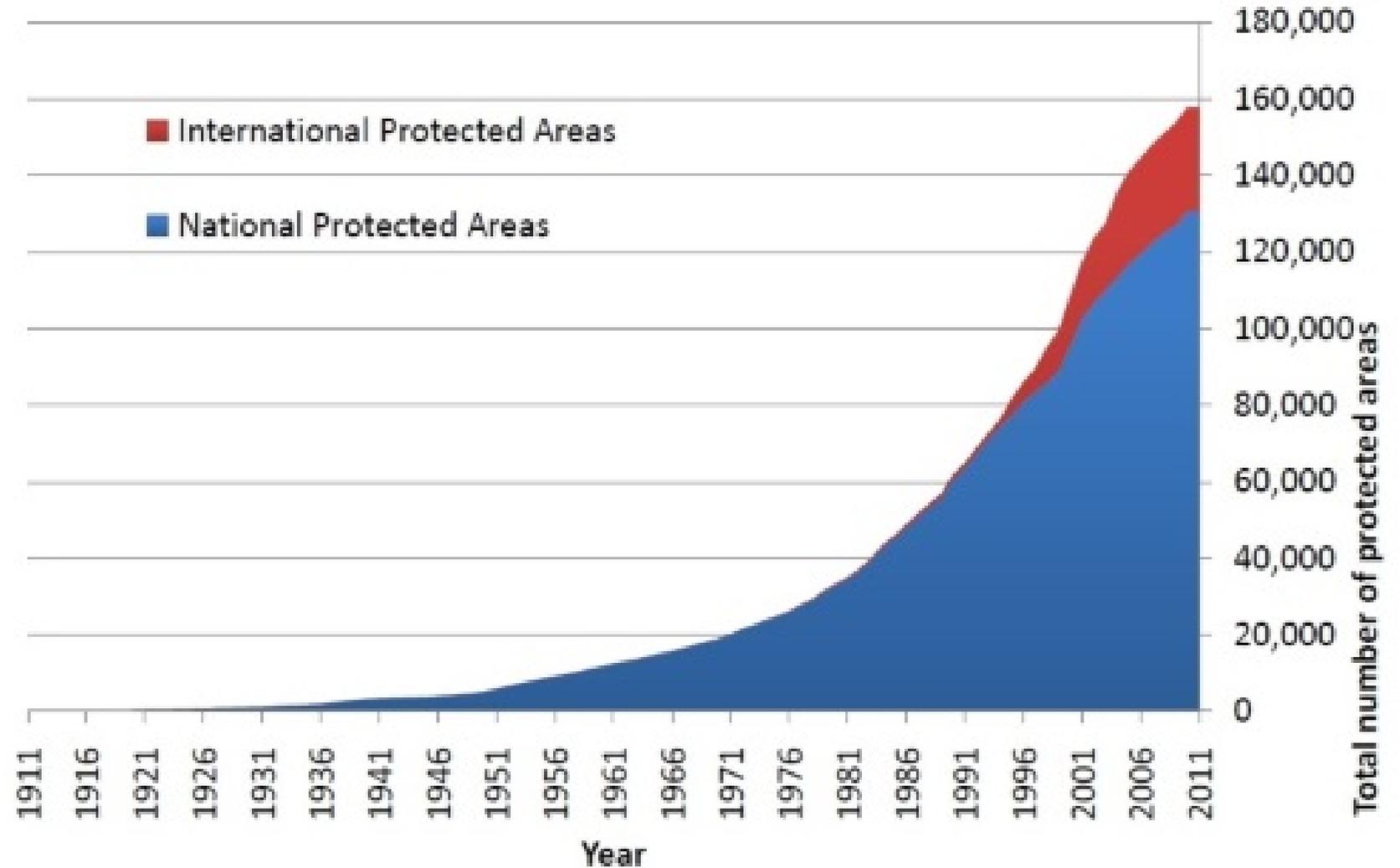
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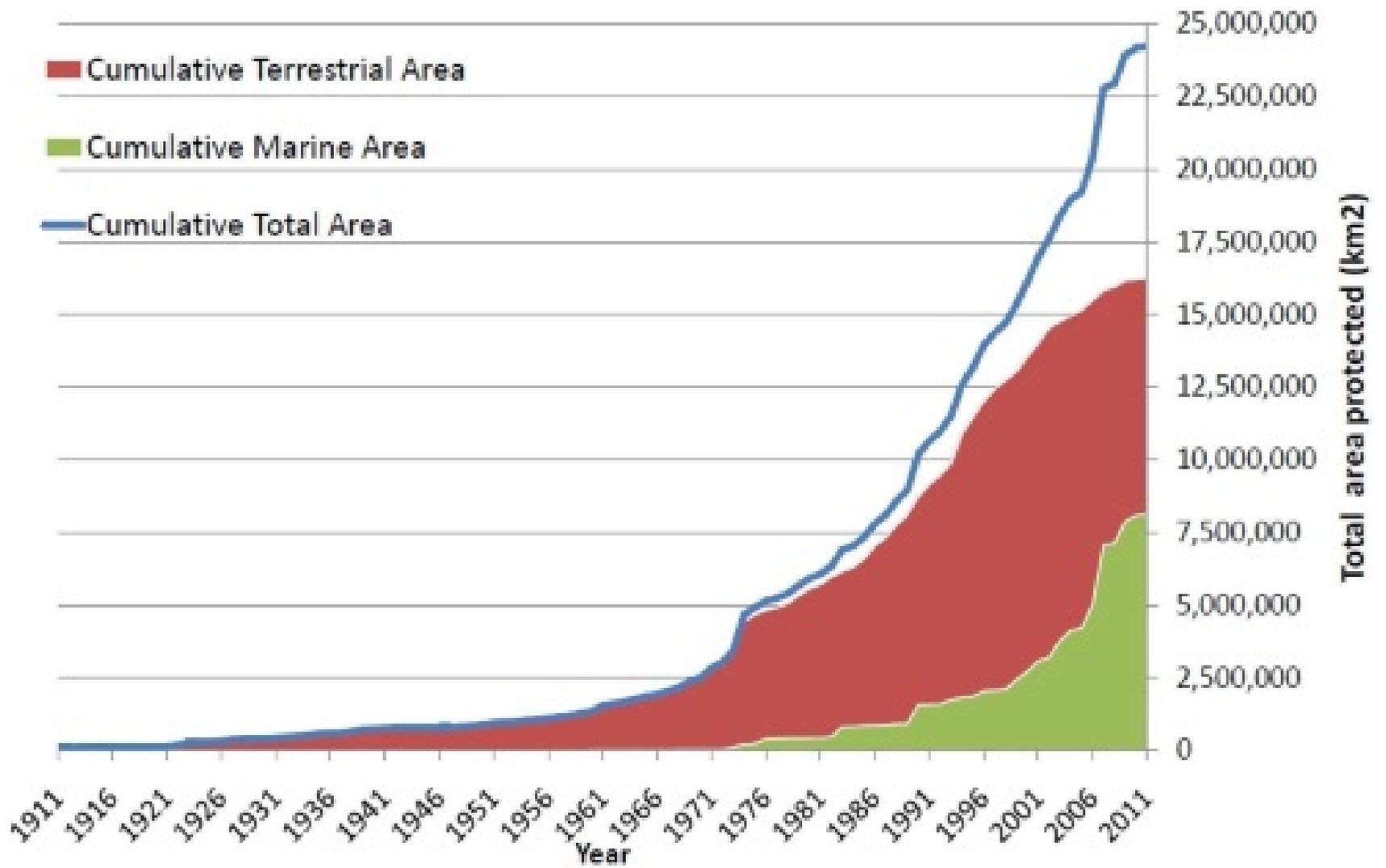
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# Introduction

- PAs are, *“clearly defined geographical space that is recognized, dedicated and managed through the legal and other effective means to achieve the long term conservation of nature with associated ecosystem services and cultural values”* (Dudley,2008).
- PAs means a *“geographically defined area which is designated or regulated and managed to achieve specific conservation objectives”* (CBD).
- PAs are the store house of bio-diversity worldwide and also the key elements in climate change mitigation strategies and shelter the threatened human communities and/or sites of cultural and spiritual values (Dudley, 2008; Getzneret *al.*, 2012).



Growth in number of nationally and internationally designated Protected Areas (IUCN and UNEP-WCMC, 2012)



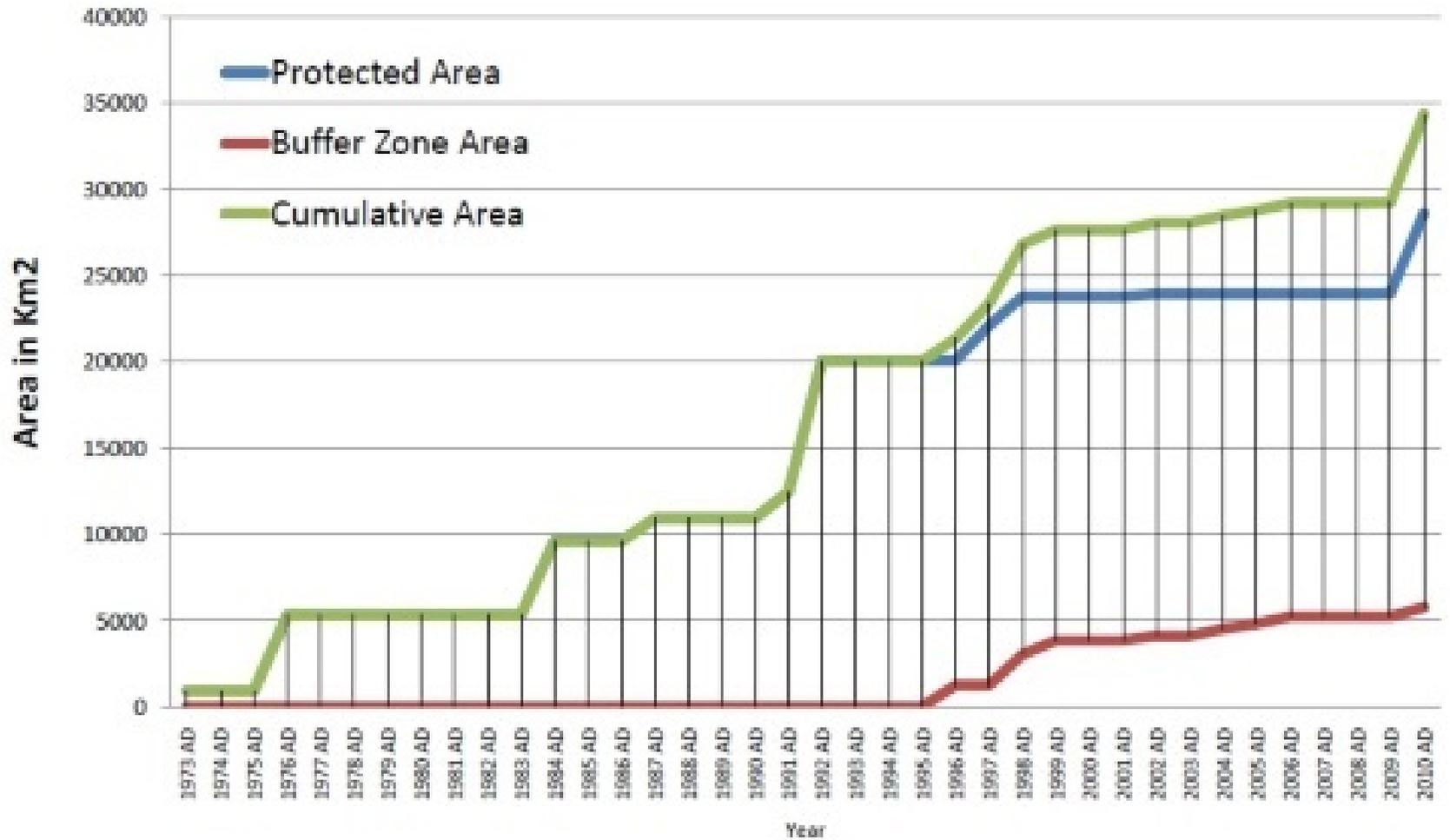
Growth in nationally designated Protected Areas by area (IUCN and UNEP-WCMC, 2012)

# IUCN Categories of PAs

- Category 1 a –Strict Nature Reserve
- Category 1 b –Wilderness Area
- Category 2 –National Park
- Category 3 –Natural Monument
- Category 4 –Habitat/Species management area
- Category 5 –Protected Landscapes/Seascapes
- Category 6 –Managed Resource Protected Area

CBD targets 2020: at least 17 % of terrestrial and inland water & 10 % of coastal and marine areas are conserved and integrated into the wider landscapes and seascapes.

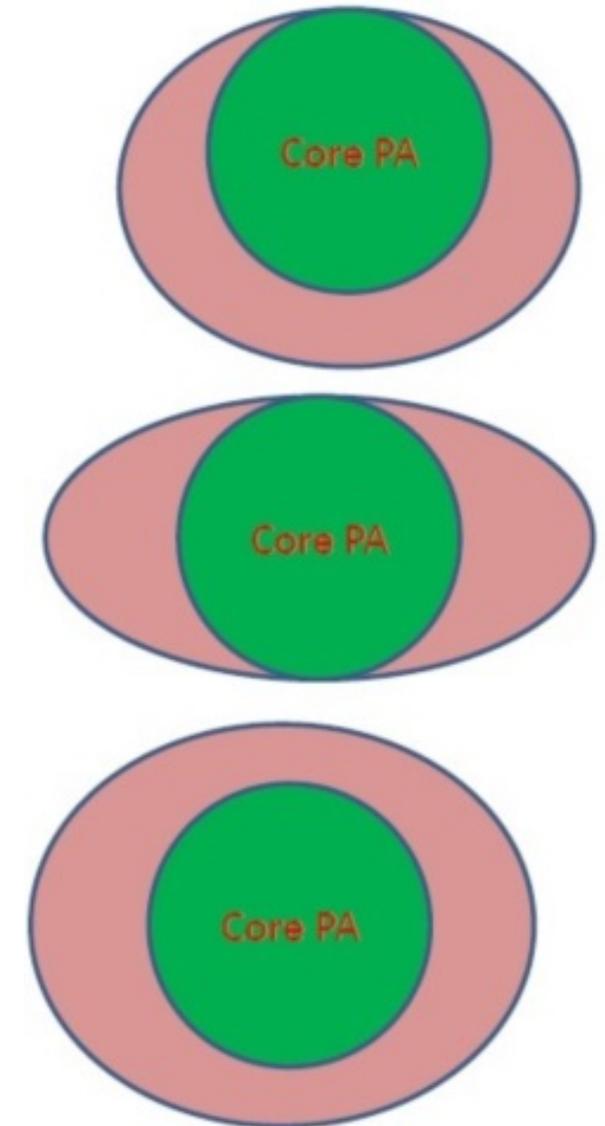




Growth in Protected Area coverage in Nepal by area (includes both PA and BZ) (DNPWC, 2010)

# Nepalese Categories of PAs

| PAs Type          | Numbers   | % of Nepal's Area | % of PAs Area |
|-------------------|-----------|-------------------|---------------|
| National Park     | 10        | 7.37%             | 31.58%        |
| Wildlife Reserve  | 3         | 0.66%             | 2.84%         |
| Hunting Reserve   | 1         | 0.90%             | 3.85%         |
| Conservation Area | 6         | 10.48%            | 44.88%        |
| Buffer Zone       | 12        | 3.92%             | 16.82%        |
| <b>Total</b>      | <b>32</b> | <b>23.3%</b>      | <b>99.97%</b> |

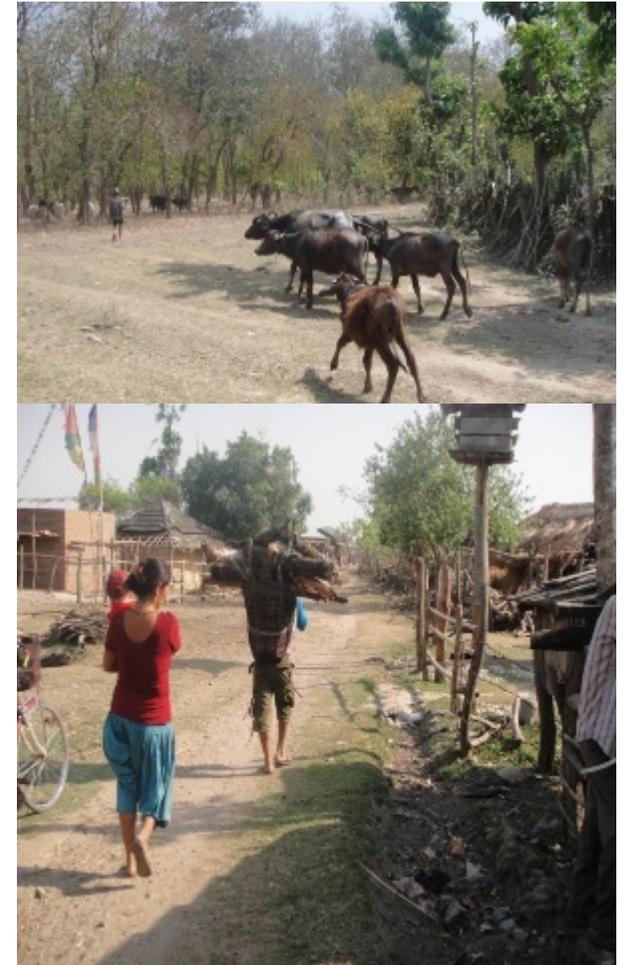


# CASE STUDY: Parsa Wildlife Reserve, Nepal

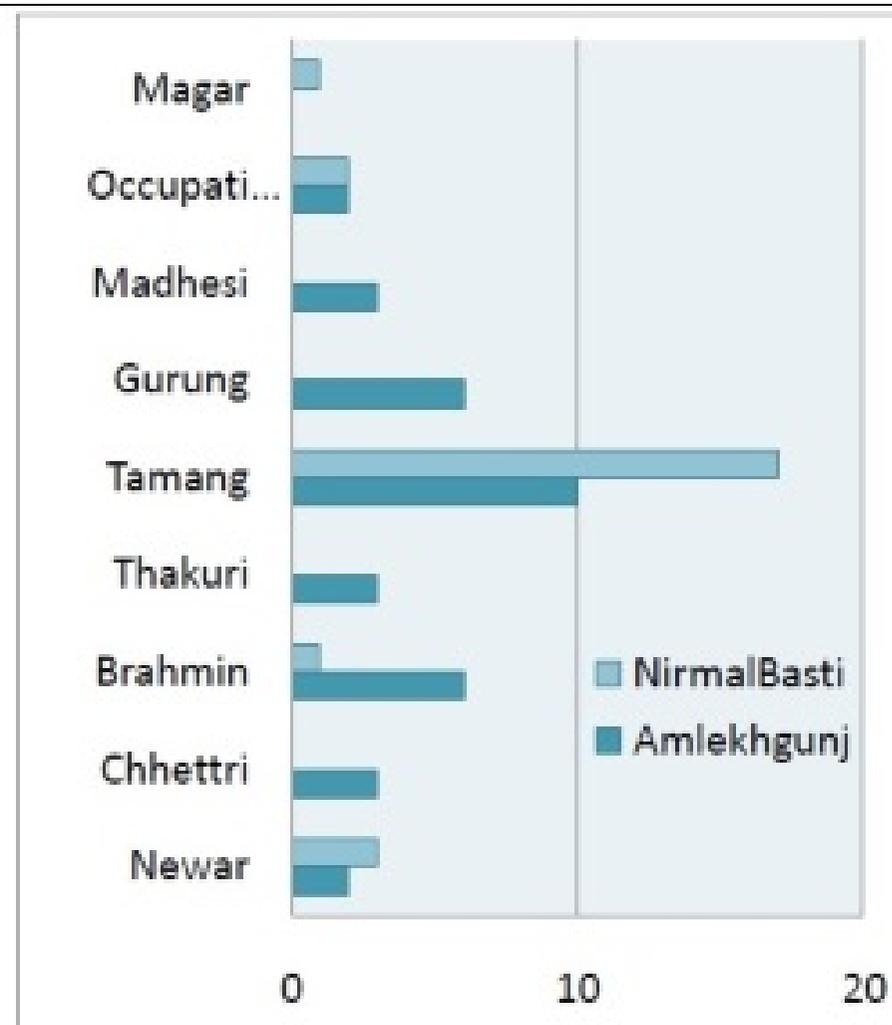
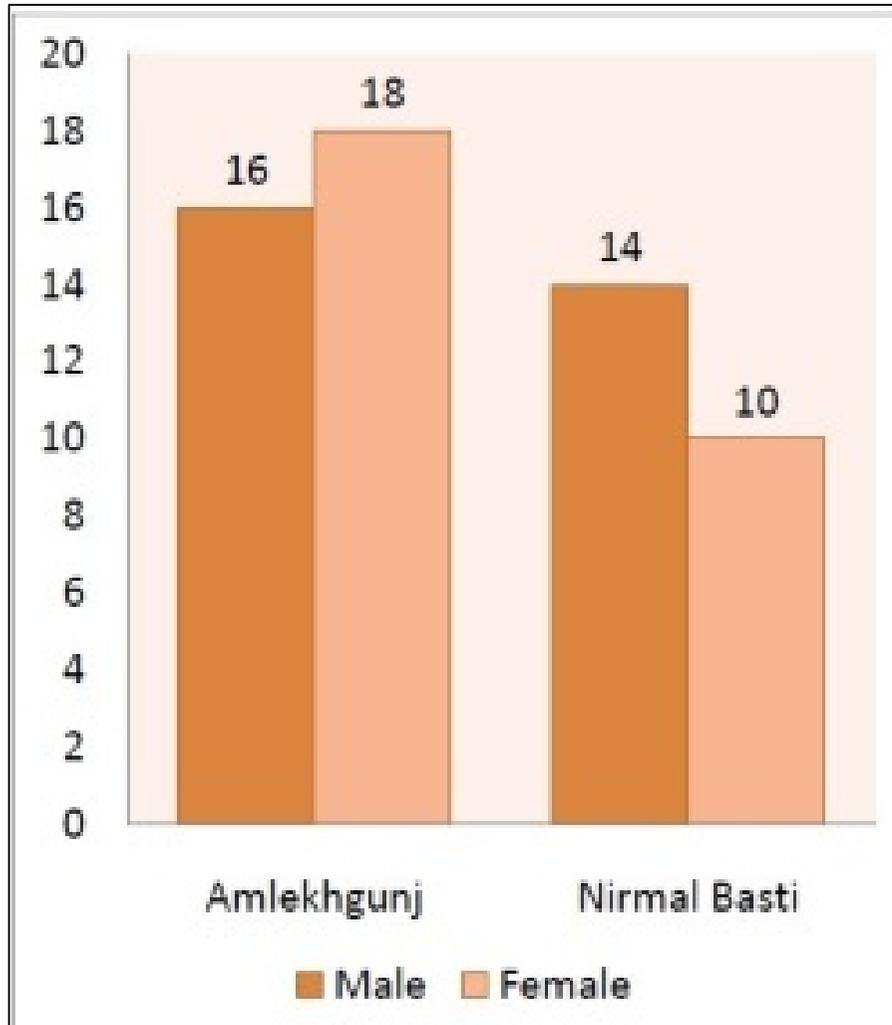
- PAs has played significant role in the conservation of biodiversity but restrictions in using park resources.
- Human harassment or killings, crop damage and livestock depredation has brought negative sentiments towards PAs (Shrestha, 1996; Allendorf *et al.*, 2007).
- Approaches of biodiversity conservation: fortress and fine conservation, participatory conservation, and landscape conservation (Baral, 2005).
- Local people were *de facto* free to collect natural resources before the establishment of PAs.



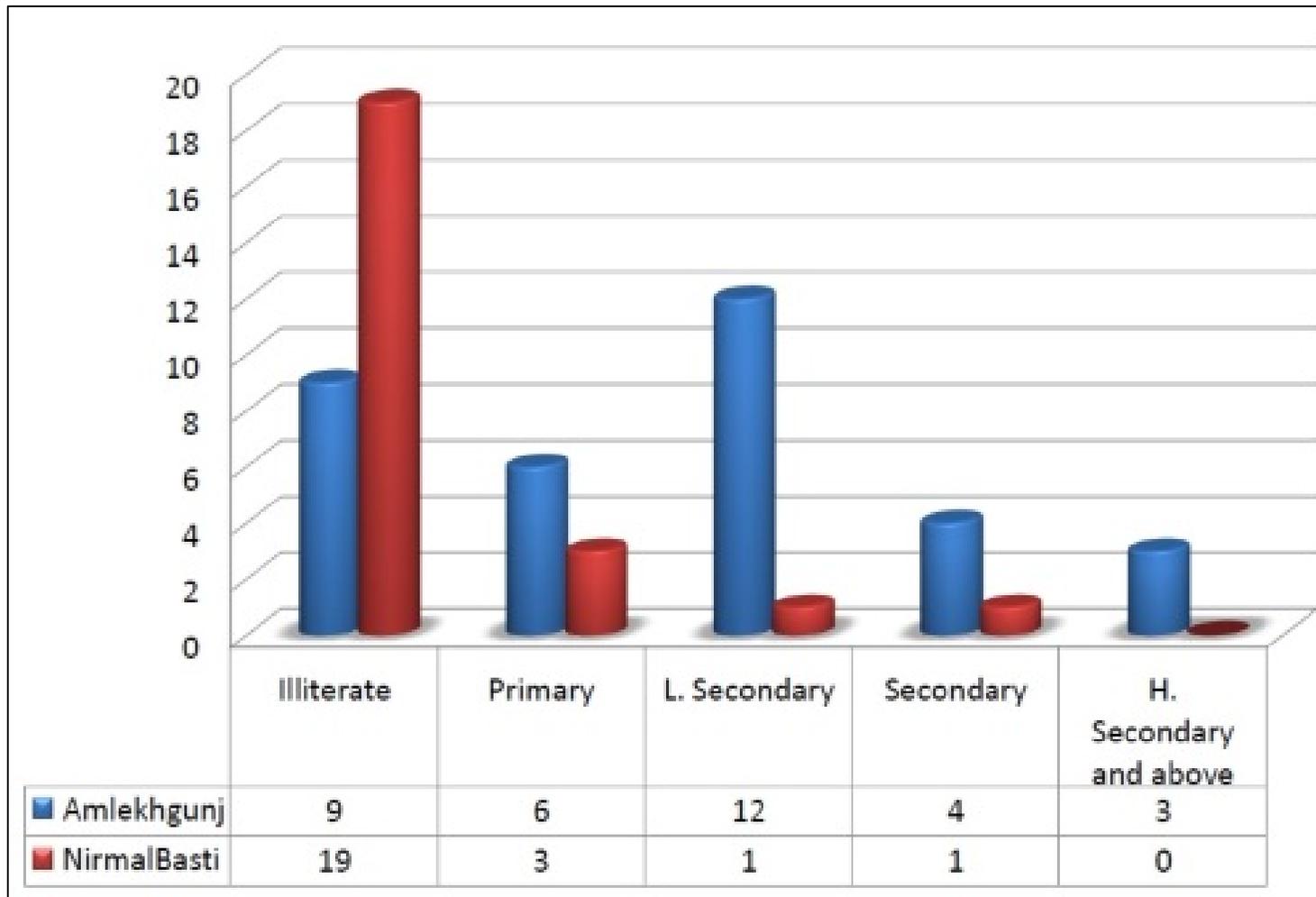
- Local communities have threatened PAs by poaching and causing habitat loss through encroachment into protected areas (Shrestha, 1996; Weldajiang Tchamba, 2003; Gupta 2005).
- The NPWC act (1973), CAMR (1996) and BZMR (1996)



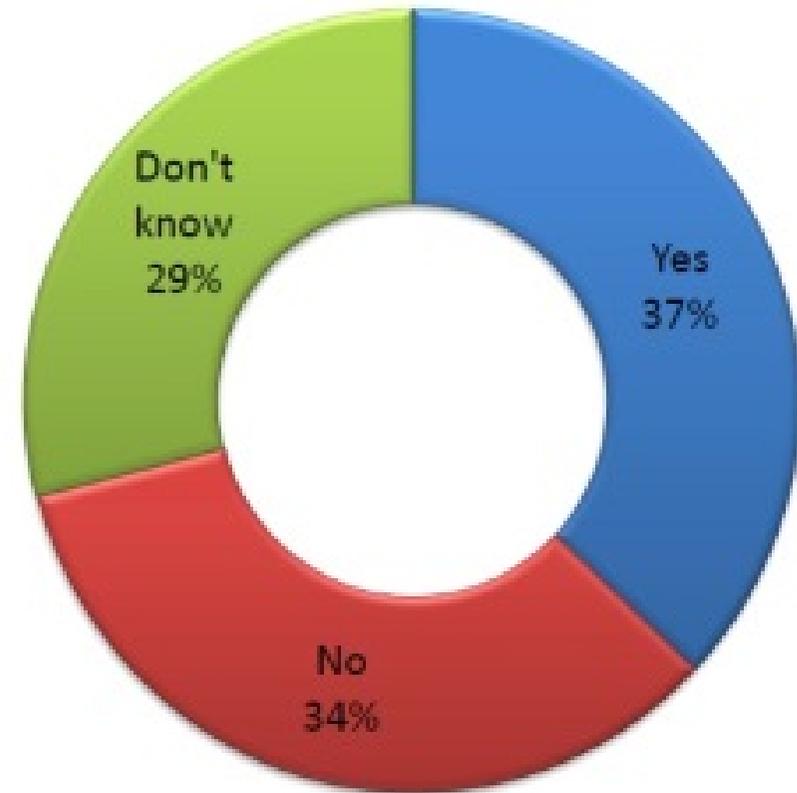
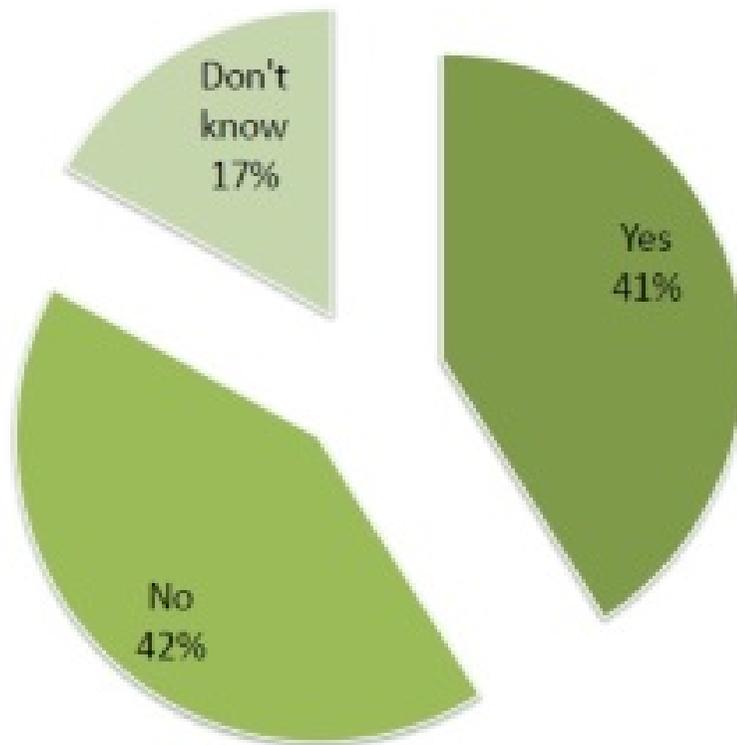
# Research Findings



# Respondents by Level of Education

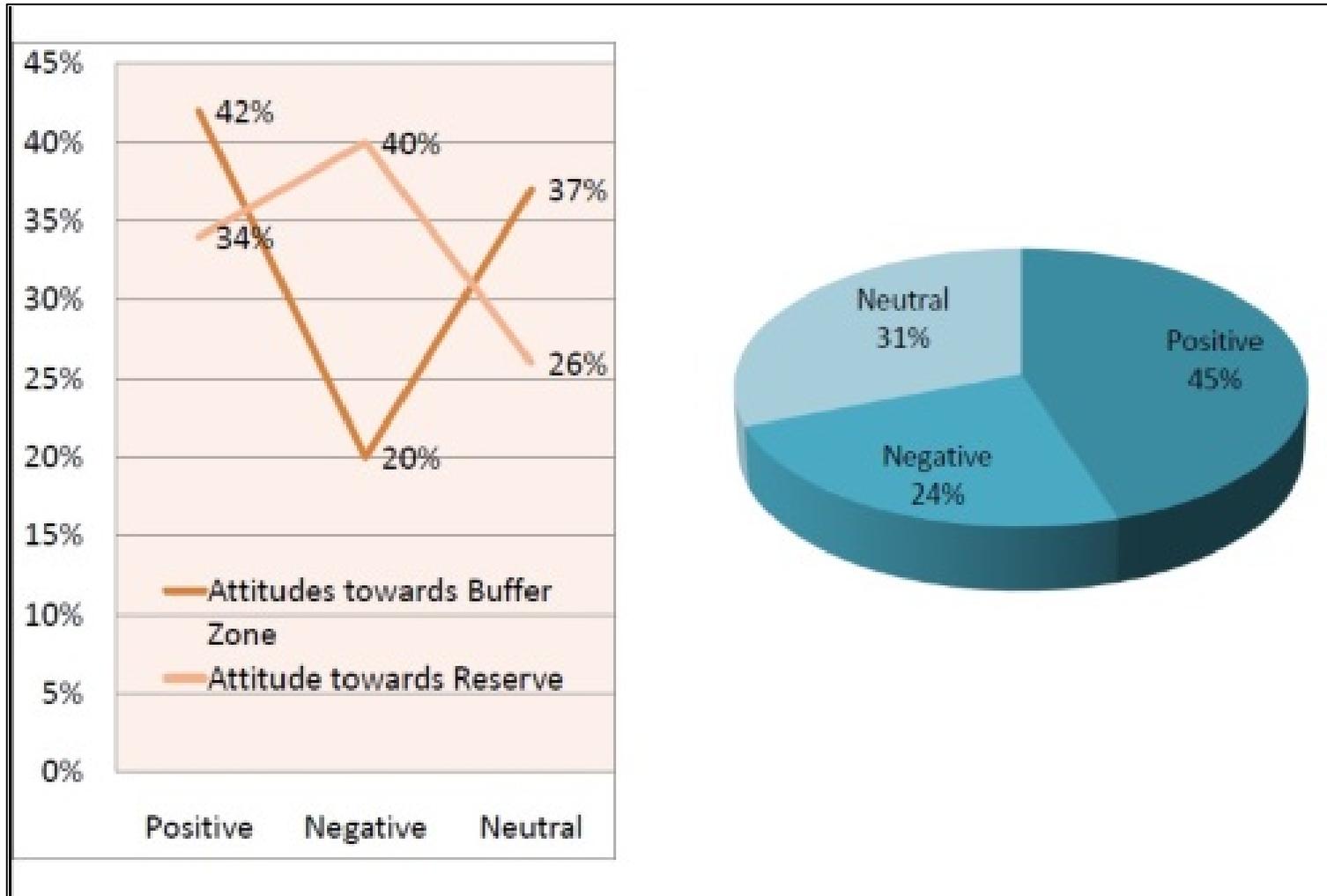


# Attitude towards Buffer Zone



## Attitude towards PWR and buffer zone

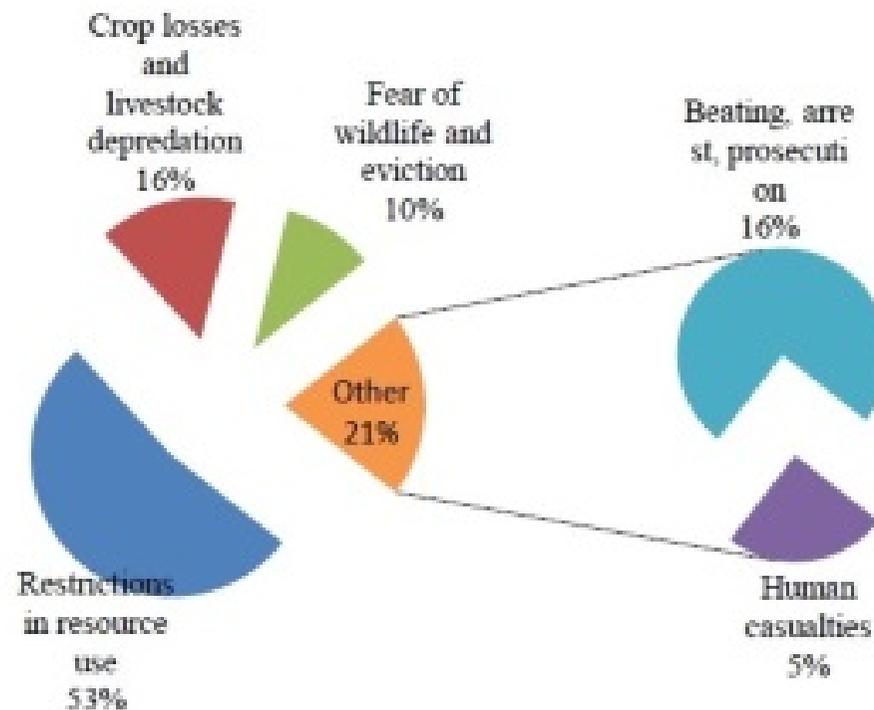
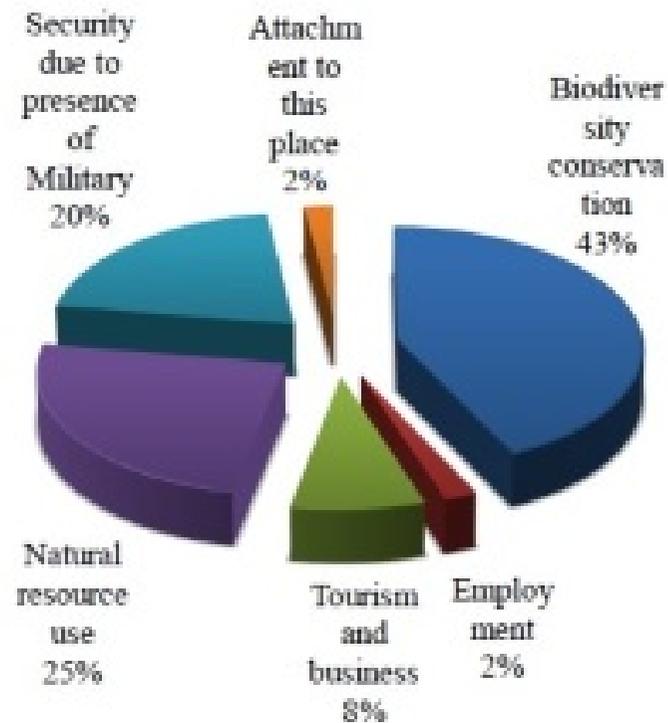
## Response towards buffer zone user group



## Response (%)

| Conservation statement   | SA    | A     | N     | D     | SD    | Mean±S.D. |      |
|--|-------|-------|-------|-------|-------|-----------|------|
| Buffer zone area was created for the betterment of our locality                          | 6.77  | 33.89 | 42.37 | 13.55 | 3.38  | 3.43      | 0.79 |
| Buffer zone programme has helped us to support our livelihoods and community development | 1.69  | 35.59 | 28.81 | 28.81 | 5.08  | 2.77      | 0.87 |
| I am happy to be included in the Buffer Zone area  | 0     | 42.37 | 37.28 | 16.94 | 3.38  | 3.43      | 0.97 |
| I like the presence of Reserve nearby my village   | 3.44  | 31.03 | 25.86 | 32.75 | 6.89  | 3.22      | 1.06 |
| People and livestock/crops are more important than saving forests or wildlife            | 1.72  | 31.03 | 36.20 | 24.13 | 6.89  | 3.51      | 0.70 |
| My living condition improved after the creation of Reserve                               | 3.44  | 43.10 | 20.68 | 25.86 | 6.89  | 2.58      | 0.99 |
| Wildlife damage compensation received from reserve/government is sufficient              | 8.47  | 10.16 | 16.94 | 22.03 | 42.37 | 1.72      | 0.81 |
| It is important to set aside a place for the animals and plants to live in               | 3.44  | 70.68 | 18.96 | 6.89  | 0     | 3.72      | 0.69 |
| I am satisfied with the functioning of BZUG/BZUC   | 3.44  | 41.37 | 31.03 | 22.41 | 1.72  | 3.22      | 0.91 |
| You are willing to contribute for bio-diversity conservation.                            | 46.55 | 46.55 | 5.17  | 1.72  | 0     | 4.37      | 0.67 |

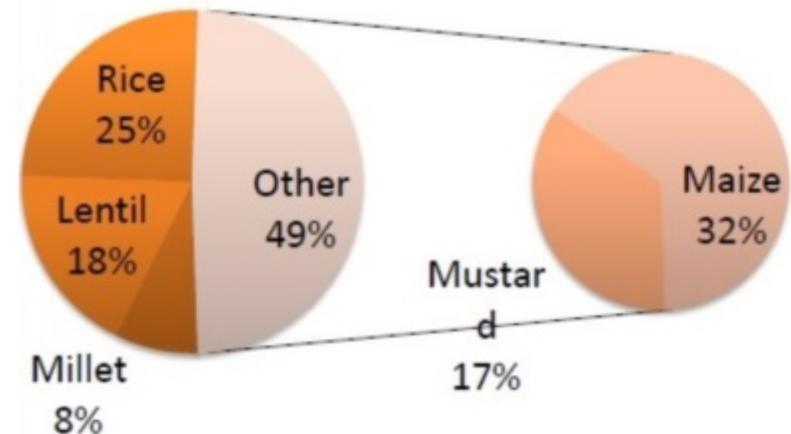
# Factors Affecting Attitudes towards PWR and BZ



# HWC issues and wildlife induced damage

| Animal liable to damage                      | Crop damage                          |
|--|--------------------------------------|
| Elephant ( <i>Elephas maximus</i> )          | Maize, Rice, Wheat                   |
| Cheetal ( <i>Axis axis</i> )                 | Maize, Rice, Millet, Lentil, Mustard |
| Boar ( <i>Sus scrofa</i> )                   | Maize, Rice, Wheat, Mustard          |
| Porcupine ( <i>Hystrix indica</i> )          | Maize, Rice                          |
| Blue Bull ( <i>Boselaphus tragocamelus</i> ) | Lentil, Mustard                      |

# Percentage of loss (by amount) for each crop due to wildlife



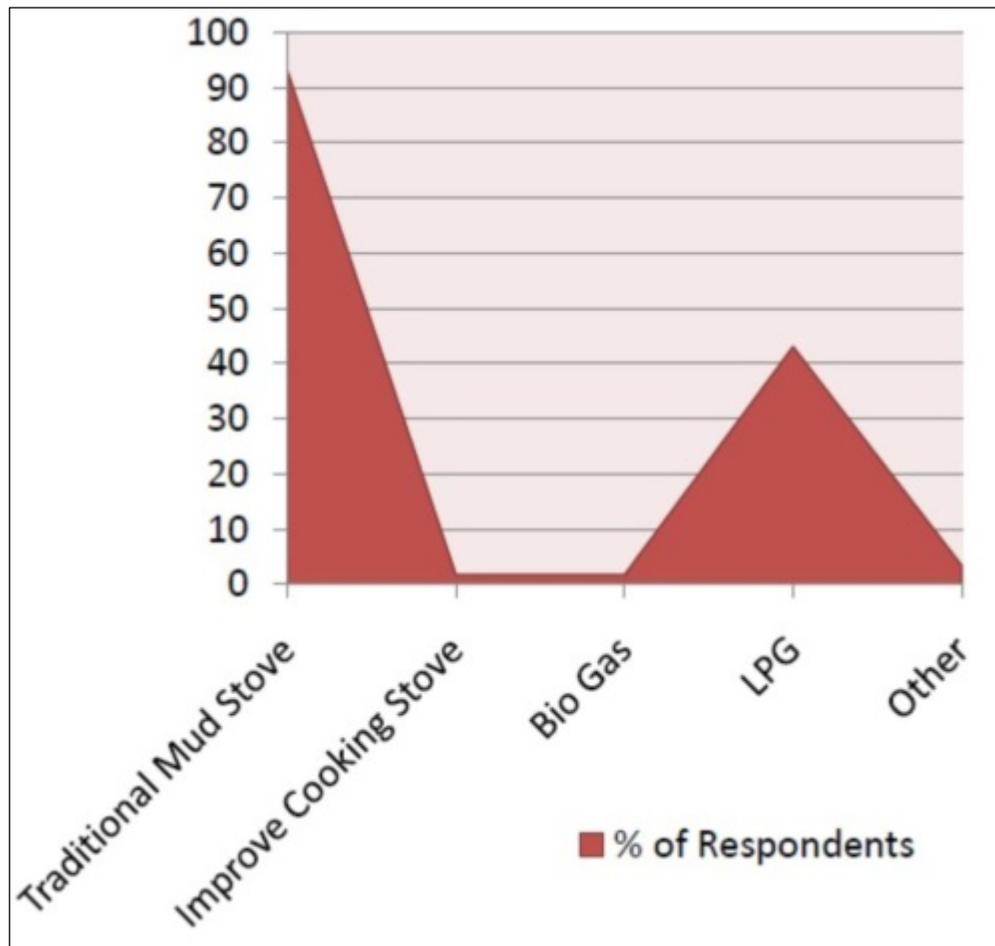
# Natural Resources Used by Respondents

| Natural Resources | Respondents | Percentage |
|-------------------|-------------|------------|
| Fodder            | 21          | 36.25%     |
| Fuel wood         | 49          | 84.48%     |
| Thatch grass      | 6           | 1.03%      |
| Leaf litter       | 16          | 27.58%     |
| Medicinal herbs   | 0           | 0%         |
| Edible plants     | 1           | 1.72%      |
| Timber            | 2           | 3.44%      |
| Others            | 2           | 3.44%      |



# Fuel Wood Use

Average fuel wood use by the local residents is 444.51 kg/capita/year (2969.32 kg/hh/year OR 2.96 ton/hh/year)



# Implications for Environment and Sustainability

- PA and People can not be separated from each other
- Ecosystem services provided by PA has livelihood significance



- Enhanced PA mgmt. can meet both the needs and secure biodiversity conservation
- PAs help in carbon sequestration, climate change adaptation, flood control and so on.
- Poverty as threat to sustainable PA mgmt.



# Conclusion

- Overall, the attitude of local people was found to be negative.
- The absence of conservation intervention programme and community development activities created negative attitude towards BZ & reserve.
- Wildlife induced damage to the local people in the form of crop /livestock depredation and property damage brought park people conflicts.

# Recommendation

- CBC approach and local people participation in decision making process is likely to improve residents' attitudes towards PA.
- Alternative resources should be promoted that helps to address resource deficiency.
- Knowledge and information exchange and extension and communication programme must be the regular part of reserve management.
- Wildlife damage compensation policy must be revised timely to address the level of damage and to compensate accordingly.
- Site specific conservation strategy must be developed and implemented.

# **Thank You!**

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