

Assessing the Status, Distribution, and Conservation Threat of Dhole (*Cuon alpinus*) through Community Participation Program in Chitwan National Park, Nepal



Progress Report

July 2022- December 2022

Submitted by:

Smritee Lama

Rufford grant #: 34457-1

January 2023

Table of Contents

A. Questionnaire Interviews at Chitwan National Park and its buffer zone areas	4
1. Findings from Key Informant Survey	4
1.1 Key Informant Survey respondents' detail:	4
1.1.1 Gender of Key Informants	4
1.1.2 Ethnicity of Key Informants	4
1.1.3 Occupation of Respondent	5
1.1.4 A working period in the Organization	5
1.2 Dhole Known by Key Informant	6
1.3 Number of Dhole Seen by Key Informant	6
1.4 Habitat Preference of Dhole reported by Key informants.....	6
1.5 Dhole Population trends reported by Key informants.....	7
1.6 Season of Dhole seen reported by Key informants	7
1.7 Human Dhole Conflict reported by Key informants.....	8
2. Findings for Household Survey	8
2.2 Household survey respondents detail:.....	8
2.2.1 Gender of respondents	8
2.2.2 Age classification of respondents.....	8
2.2.3 Ethnicity of Respondents	9
2.2.4 Education of Respondents.....	9
2.2.5 Occupation of Respondents	9
2.2.6 Respondent's Duration of Stay in the Village.....	10
2.3 Dhole Known by respondents	10
2.4 Means of confirmed for dhole presence by respondents.....	11
2.5 Habitat Preference of Dhole.....	11
2.6 Dhole Population trends.....	11
2.7 Behavioral of Dhole	12
2.8 Time of Dhole Sightings	12
2.9 Season of Dhole sightings.....	12
2.10 Duration (in years) of last dhole sightings	13
2.11 Pack size of Dhole during the sighting	13
2.12 Threats to Dhole.....	13
2.13 Issue with Dhole Conservation	14
2.14 Human Dhole Conflict.....	14
2.14.1 Time of Dhole sightings in human settlement areas	14

2.14.2	Human Dhole Conflict Location.....	14
2.14.3	Dhole death around.....	15
2.14.4	Respondent’s perception on benefits of Dhole conservation.....	15
2.14.5	People’s Perception of Dhole Conservation	15
B.	Conservation Outreach Program.....	16
1.	Dhole Conservation Workshop:.....	16
2.	Orientation Program for Community Conservation Professionals:	18
3.	Orientation Program for Frontline Staff.....	19
4.	School Teaching Program (Eco-club awareness program).....	21

A. Questionnaire Interviews at Chitwan National Park and its buffer zone areas

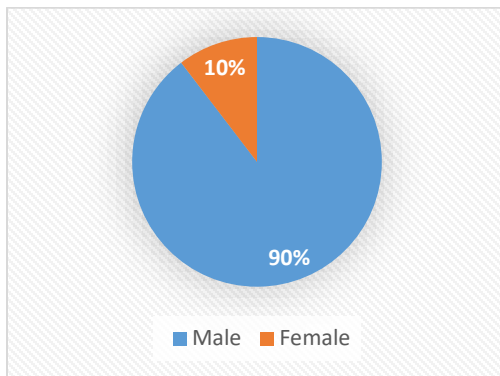
1. Findings from Key Informant Survey

1.1 Key Informant Survey respondents' detail:

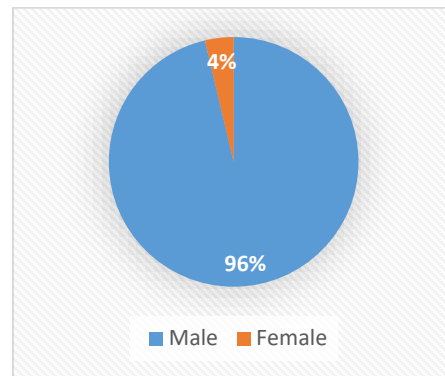
1.1.1 Gender of Key Informants

A total of 77 individuals were interviewed through semi-structured interviews. Of the total key informant, 90% were male and 10% were female respondents. Of the interviewed 77 key informants, only 27 individuals (35%) knew about dhole presence around CNP. There were 26 male and 1 female key informant who reported direct sighting of a Dhole

Gender of Total Key Informant



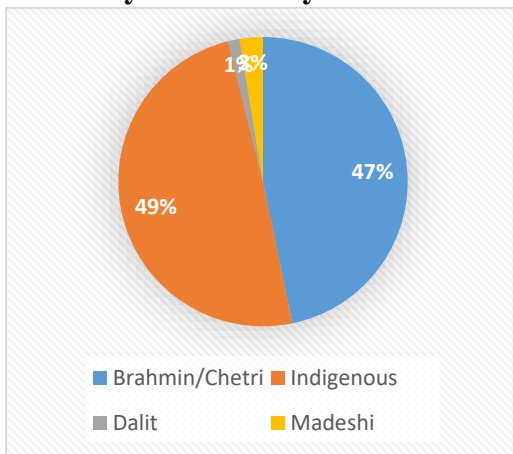
Gender of Dhole sighted Key Informant



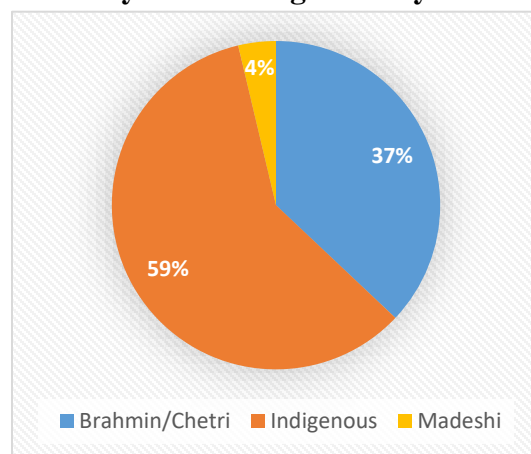
1.1.2 Ethnicity of Key Informants

The key informants mostly belonged to an Indigenous or Brahmin/Chhetri ethnic group, 49% and 47% respectively. Only few belonged to other groups such as Madhesi (3%), and Dalit (1%). When only considering key informants who had informed about Dhole, the Indigenous, Brahmin/Chetri and Madeshi communities were 59%, 37%, and 4% respectively.

Ethnicity of Total Key informant



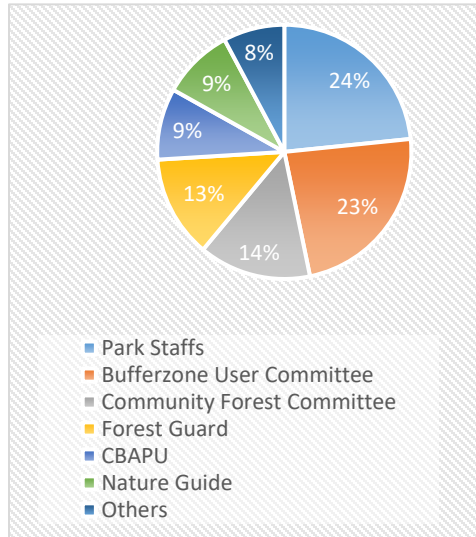
Ethnicity of Dhole sighted Key Informant



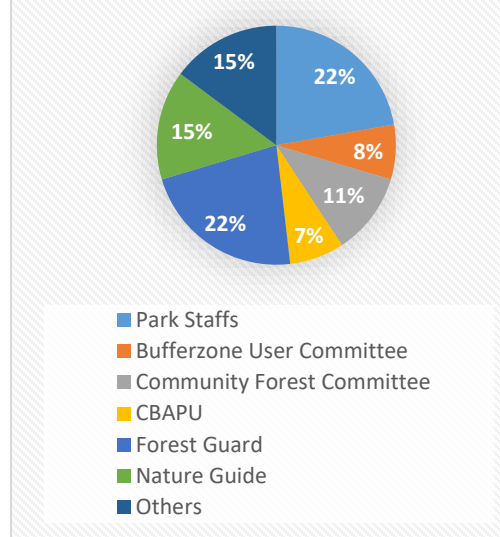
1.1.3 Occupation of Key Informant

Most of the key informants were engaged Park Staff (23%) and Buffer zone User Committee Members (23%) followed by others such as Community Forest Committee Members (20%), Community-Based Anti-poaching Unit (9%), Forest Guard (8%), Nature Guide (9%) and Other (8%). But the proportion of key informant who had sighted dhole were high for park staffs (22%) and forest guard (22%) followed by nature guard (15%) and others.

Occupation of Total Key Informant



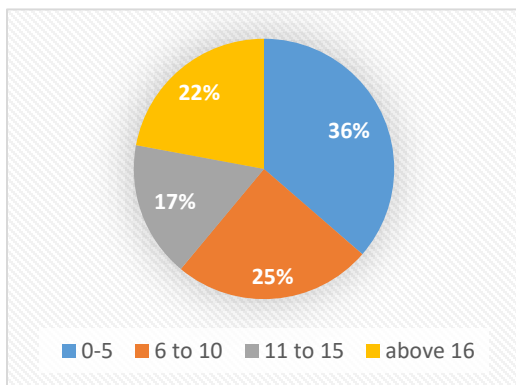
Occupation of Dhole sighted Key Informant



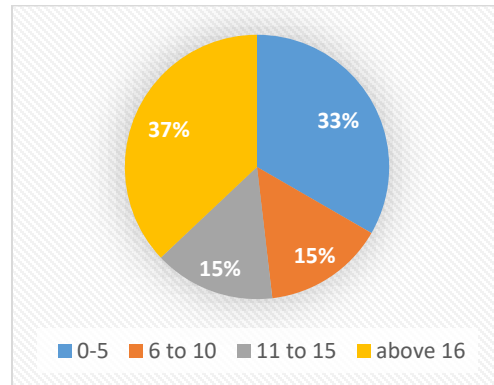
1.1.4 Key informant Working period in the Organization

The duration of key informants working in their current organization were highest for the time period of less than 5 years (36%), followed by 6 to 10 years of period (25%), above 16 years (22%) and lowest for time duration of 11 to 15 years (17%). Interestingly, when we compared only those key informants who had reported about dhole sightings, the highest fraction of informants (37%) belonged to those who had been working in the organization around CNP for more than 16 years, then followed by informants working for less than 5 years (33%), 6 to 10 years and 11 to 15 years (15% each).

Working Period of Key Informant

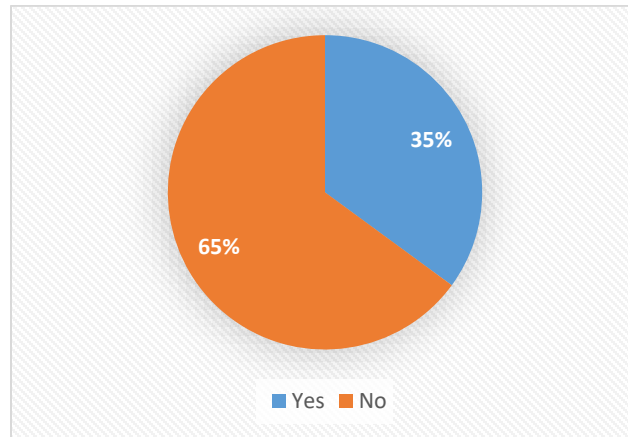


Working Period of Dhole seen Key Informant



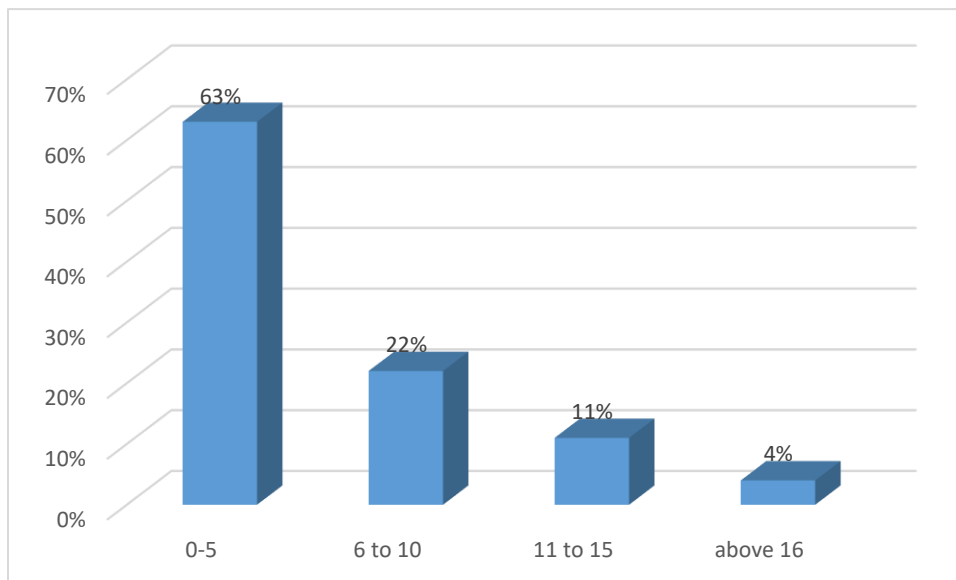
1.2 Dhole Known by Key Informant

A total of 35% of key informants reported about Dhole presence in CNP. Park Staff, and Forest Guards who regularly visited CNP mostly reported about Dhole.



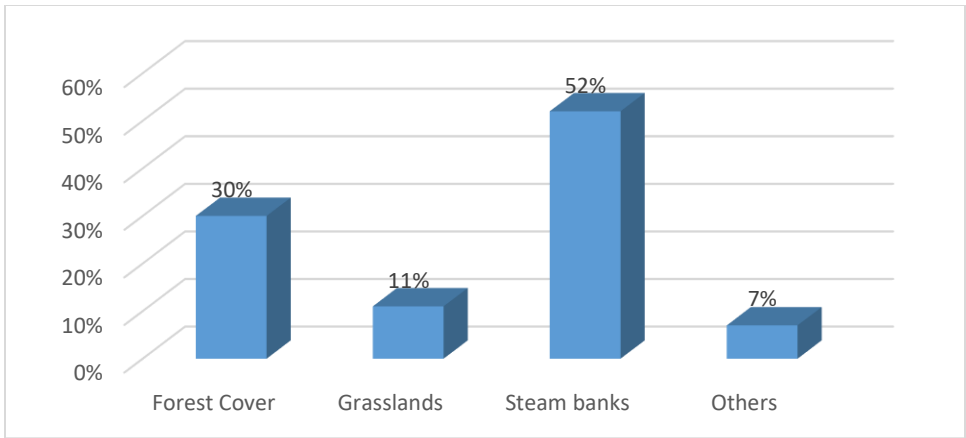
1.3 Number of Dhole Sighted by Key Informant

The pack size of a dhole during sightings was mostly less than 5 as per 63% of the key informants, while the pack size of 6 to 10 was reported by 22% of the key informants, similarly, 11% had seen a pack size of 11 to 15 and 4% had seen pack size more than 16 in numbers.



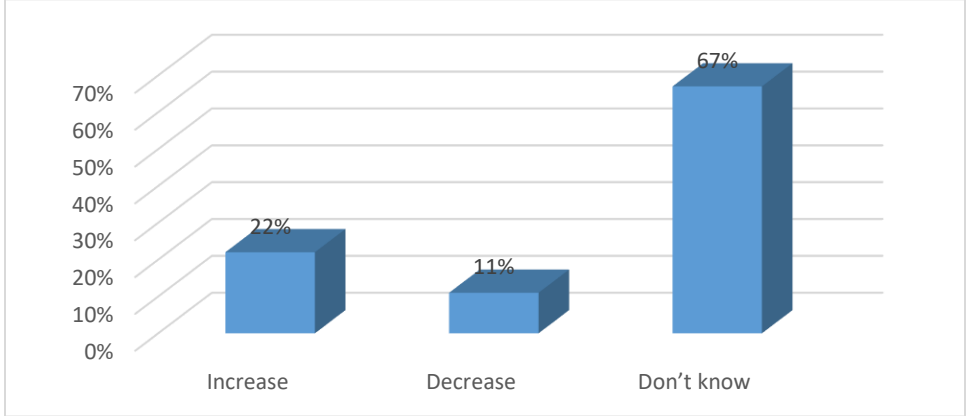
1.4 Habitat Preference of Dhole reported by Key informants

As per our key informants, 52% reported around stream banks, while 30% had seen Dhole inside forest covers and 11% had seen it in the grasslands inside forest areas. Interestingly, 7% have sighting around human settlement areas.



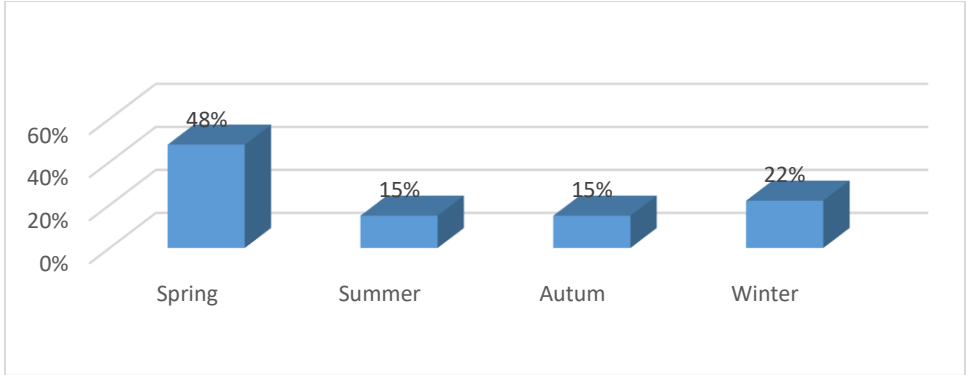
1.5 Dhole Population trends reported by Key informants

While inquiring the key informants about the trends in dhole sightings and presence around CNP, most of them were unaware as they had very limited times of sightings thus 67% of key informants did not know about the population trend of dhole. While 22% of key informants that the population has been increasing and 11% informed that the population is decreasing.



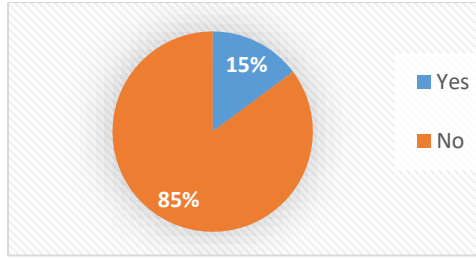
1.6 Season of Dhole seen reported by Key informants

As per our key informants, the highest possibility of sighting a dhole was during spring (48%) than winter (22%), autumn (15%), and summer (15%).



1.7 Human Dhole Conflict reported by Key informants

Most of the key informants (85%) said there was no conflict between dhole and the local community. But 15% of key informants reported potential conflict with dhole.



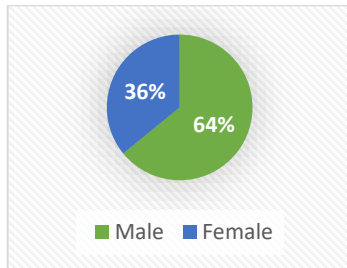
2. Findings for Household Survey

2.2 Household survey respondents' detail:

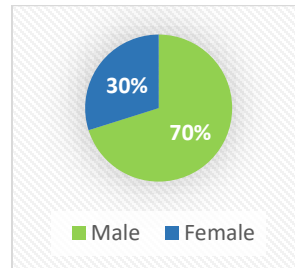
2.2.1 Gender of respondents

A total of 220 individuals residing around buffer zone of Chitwan National Park were sampled for a semi-structured interview. The snowball sampling method was applied for identifying individuals for this household survey. Of the total respondents, 64% were male and 36% were female respondents. Of the interviewed 220 respondents, only 91 respondents were aware of Dhole presence around CNP, and of that 77 individuals confirmed the presence through direct sightings. There were 54 male and 23 female respondents who reported direct sightings of a Dhole.

Gender of Total Respondent



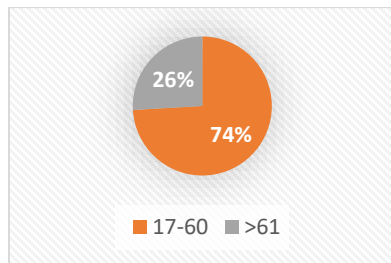
Gender of Dhole sighted Respondent



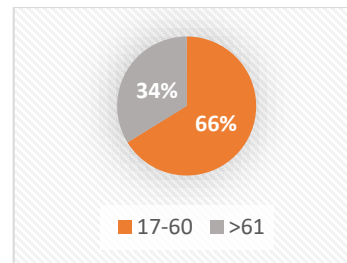
2.2.2 Age classification of respondents

Of the total 220 household respondents, 74% belonged to the working age group (i.e., 16-60 years old). And of those respondents who reported dhole presence through direct sightings, most of the respondents were also of working age around 66% and the remaining 36% were above 60 years of age.

Age Classification of Respondents



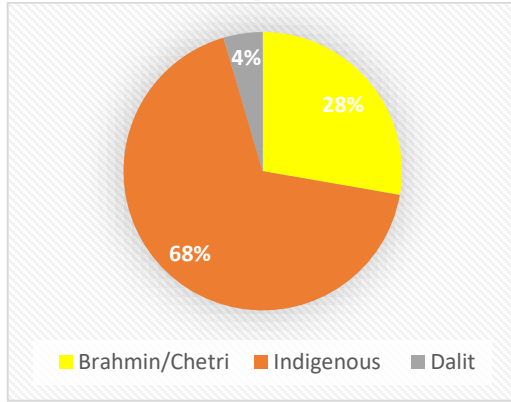
Age Classification of Dhole seen Respondent



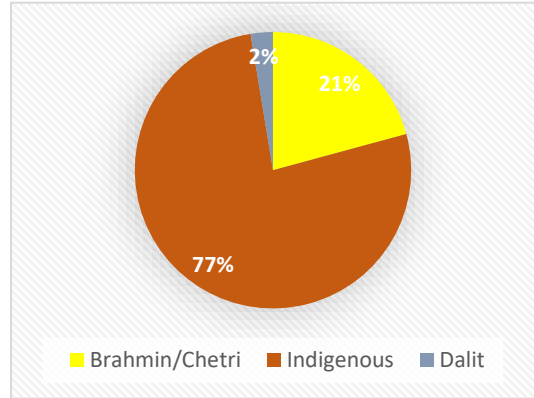
2.2.3 Ethnicity of Respondents

68% of the individual respondents we approached represented an Indigenous community, 28% of respondents were from Brahmin Chhetri, and the rest were from the Dalit Community. When compared with only the respondents who had direct sightings of Dhole, the indigenous respondent’s percentage increased to 77%.

Ethnicity of Respondents



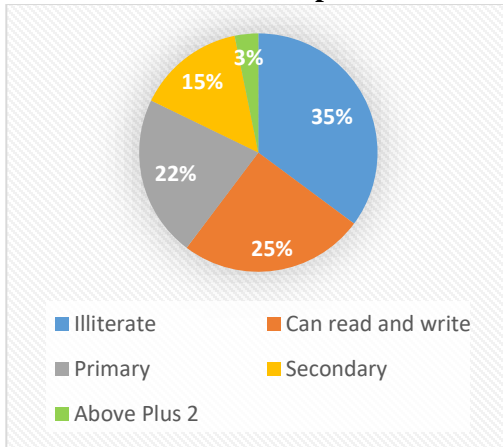
Ethnicity of Dhole seen Respondents



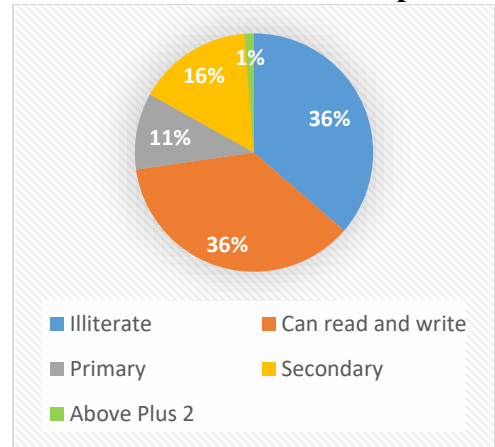
2.2.4 Education of Respondents

35% of the total respondents were reportedly illiterate and 25% had only basic reading-writing skills. The rest 22% of the respondent had primary education, 15% had secondary education, and only 3% had higher education. Similarly, the 77 respondents who had seen Dhole either belonged to the illiterate (36%) or only the basic reading-writing group (36%).

Education status of Respondents



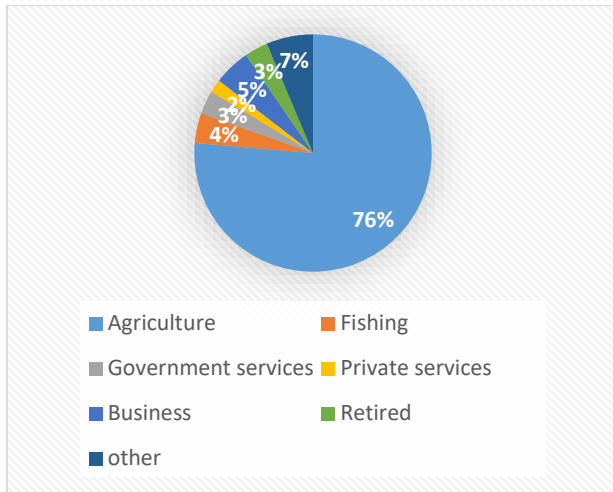
Education status of Dhole seen Respondent



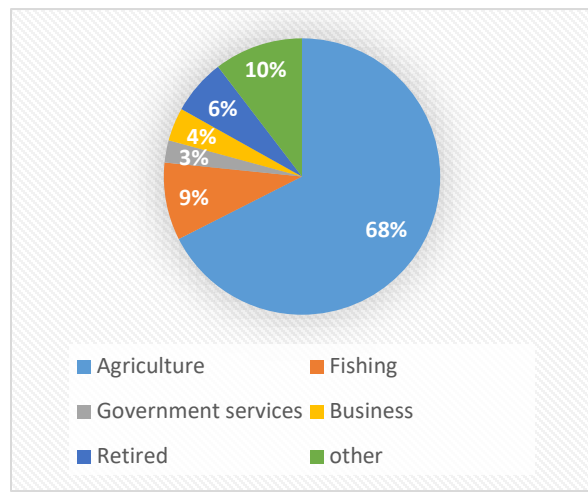
2.2.5 Occupation of Respondents

Most of the respondents we approached were engaged in agriculture works (76%), followed by other wide range of occupations such as fishing (4%), government services (3%), private services (2%), business (5%), retired (3%) and others (7%). Similarly, respondents with Dhole sightings were highest for agriculture (68%), followed by fishing occupation (9%), government services (3%), business (4%), retired (6%), and others (10%).

Occupation of Respondent



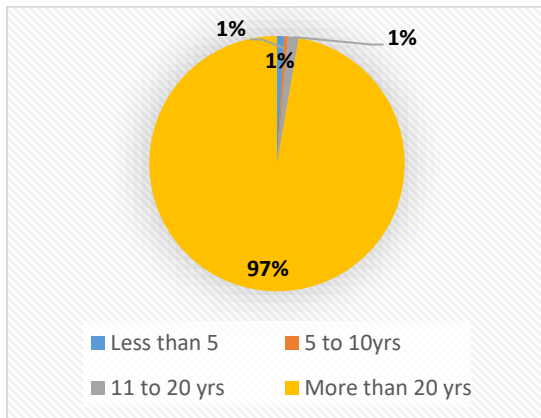
Occupation of Dhole seen Respondent



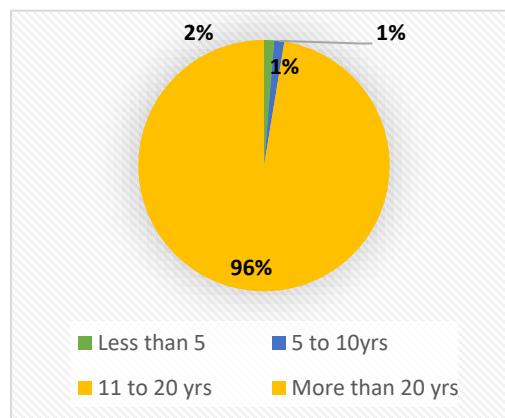
2.2.6 Respondent's Duration of Stay in the buffer zone

Most of the respondents (97%) had lived more than 20 years around buffer zone of CNP. The rest of the respondents had migrated later.

Duration of respondents stay in buffer zone

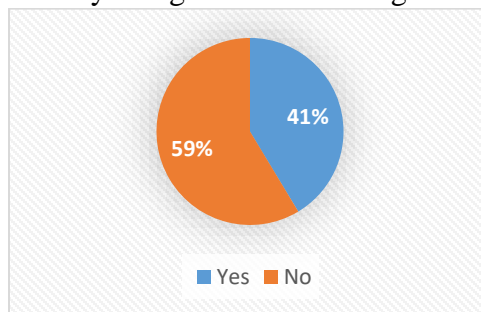


Duration of dhole sighted respondents around buffer zone



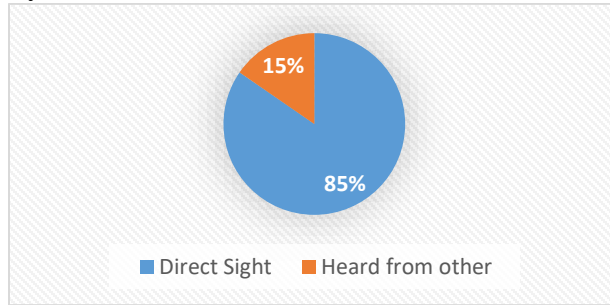
2.3 Dhole Known by respondents

Only 41% of interviewees knew about dhole and 51% were uninformed. People who lived close to the national park and frequently went to the national park had at least once sighted dhole and also were able to easily recognize the wild dogs.



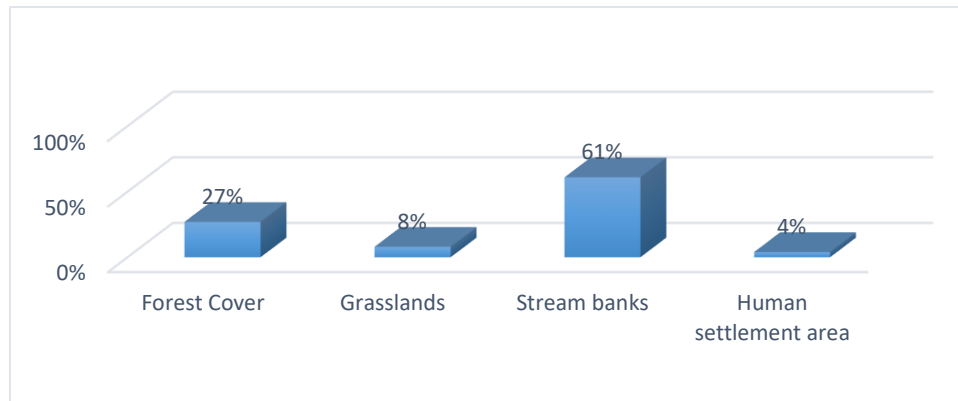
2.4 Means of confirmed for dhole presence by respondents

Of a total of 220 respondents, 91 respondents confirmed about presence of a dhole around CNP. Among 91 respondents, 85% confirmed through direct sightings and the rest 15% had heard from primary sources.



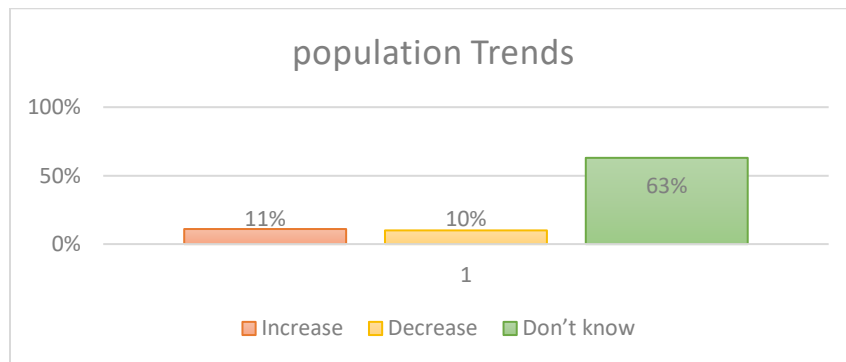
2.5 Habitat Preference of Dhole

As per our respondents who had direct sightings of Dhole, 61% reported their sighting location around stream banks, while 27% had seen Dhole inside forest covers and 8% had seen it in the grasslands inside forest areas. Interestingly, 4% have sighting around human settlement areas.



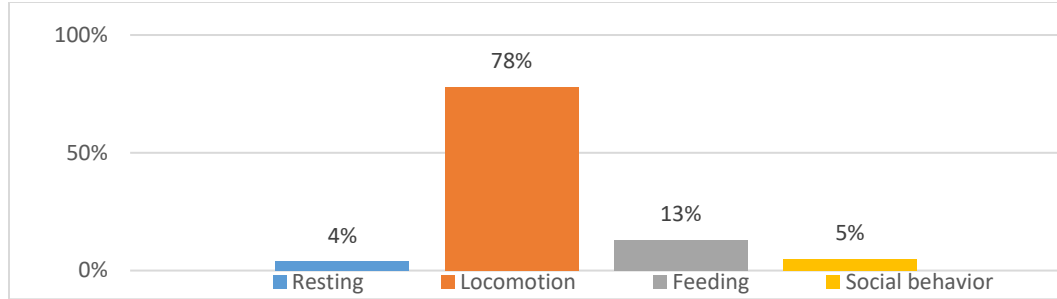
2.6 Dhole Population trends

While inquiring the respondents about the trends in dhole sightings and presence around CNP, most of them were unaware as they had very limited times of sightings thus 63% responded that they did not know about the population of dhole. While 11% responded that the population has been increasing and 10% informed that the population is decreasing.



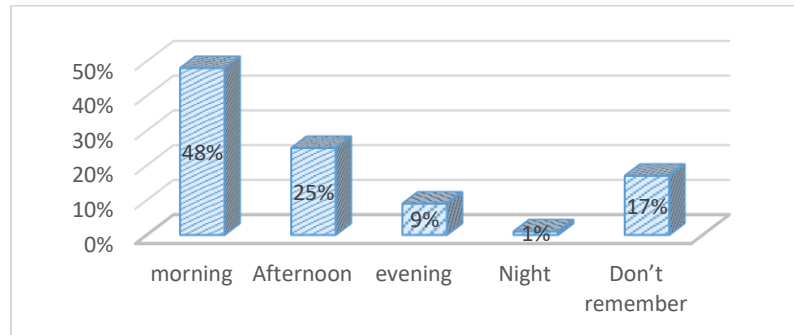
2.7 Behavioral of Dhole

We further inquired about the respondents who had sighted Dhole about what behavior dhole was involved in during the sightings. We divided the activities they had reported into four major categories – resting, locomotion, feeding, and social behavior. The majority of the behavior during sightings were locomotion (78%), feeding (13%), social behaviors (5%) and resting (4%). The social behaviors mentioned were drinking water, crossing the river and hunting.



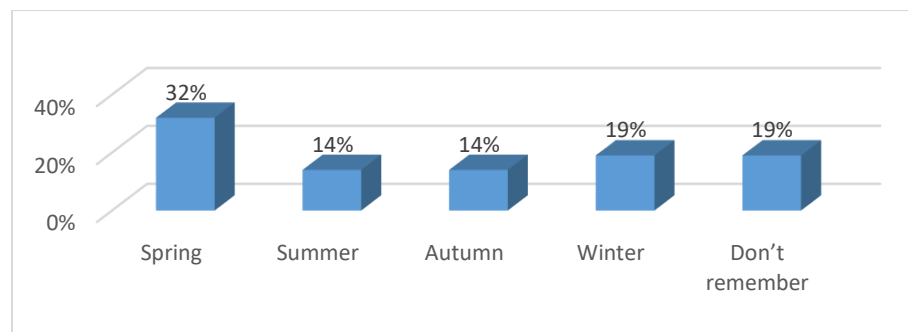
2.8 Time of Dhole Sightings

The respondents had sighted dhole mostly during morning (48%), then afternoon (25%), evening (9%) and night (1%). Unfortunately, 17% could not remember the exact during of the day they had sighted the dhole.



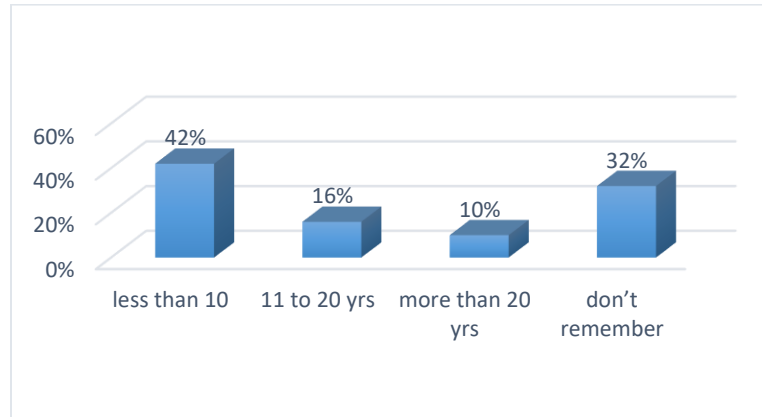
2.9 Season of Dhole sightings

As per our respondents, the highest possibility of sighting dhole was during spring (32%) then winter (19%), autumn (14%) and summer (14%). While 19% of the respondents could not remember the time of the year they had sighted dhole.



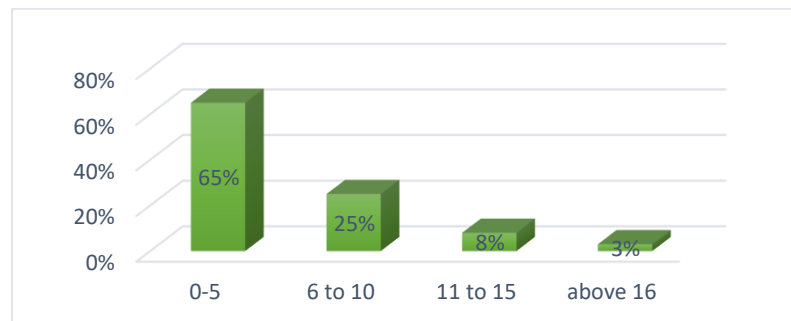
2.10 **Duration (in years) of last dhole sightings**

42% of the respondents had seen dhole recently (less than 10 years ago) while 16% had sighted between 11 to 20 years ago and 10% has seen dhole more than 20 years ago. The 32% respondents could not remember the year they had sighted the dhole.



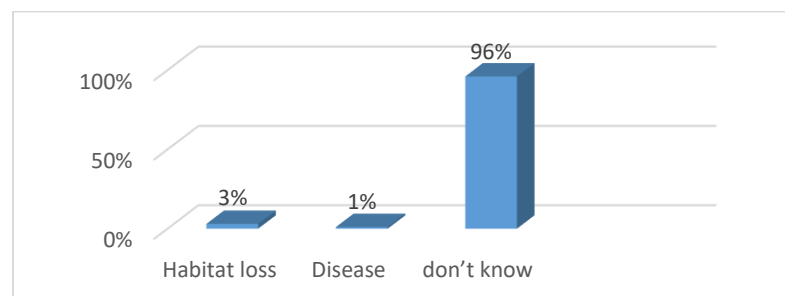
2.11 **Pack size of Dhole during the sighting**

The pack size of dhole during sightings were mostly less than 5 as per 65% of the respondents, while the pack size of 6 to 10 were reported by 25% of the respondents, similarly 8% had seen pack size of 11 to 15 and 3% had seen pack size more than 16 in numbers.



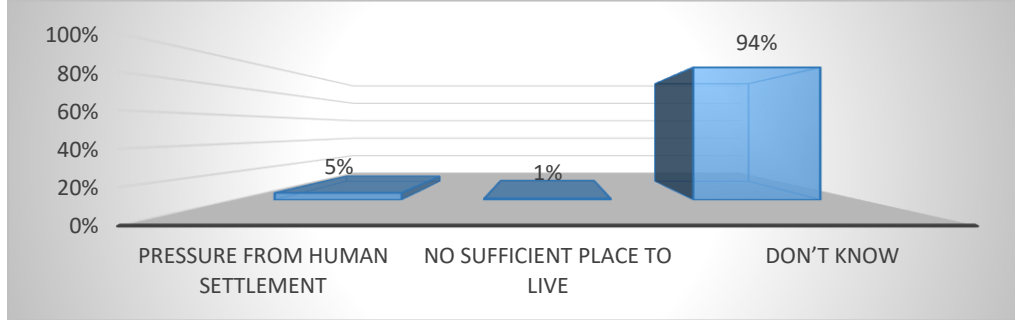
2.12 **Threats to Dhole**

Almost all of the respondents were unaware of the threats to Dhole, while very few responded some threats such as habitat loss (3%) and disease (1%).



2.13 Issue with Dhole Conservation

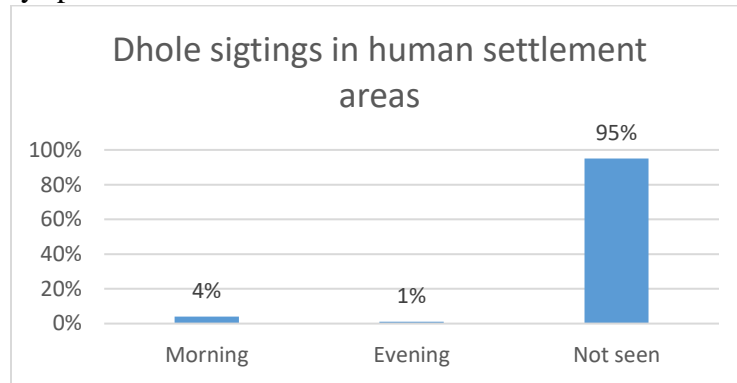
Most of the respondents were unknown of issues with Dhole conservation. Only 5% of respondents reply to pressure from human settlement as an issue for conservation, another 1% replied issue of insufficient habitat space for the species, but 94% were not aware of the issue with dhole conservation.



2.14 Human Dhole Conflict

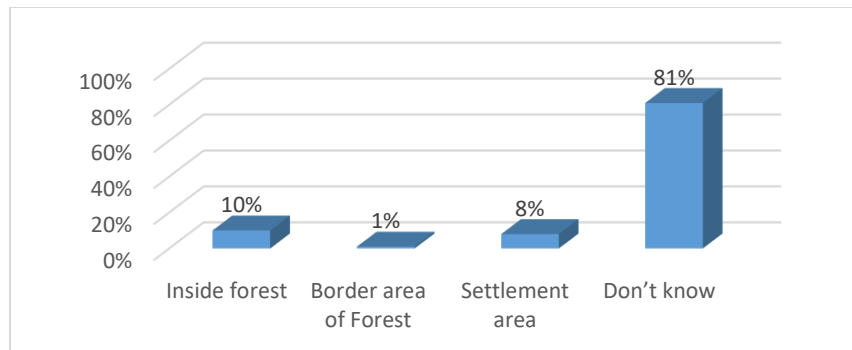
2.14.1 Time of Dhole sightings in human settlement areas

Most of the people did not see Dhole come out into the village. Only 4% and 1% people were seen dhole in morning and evening time. Dhole came to the village near the forest for chasing prey species like deer and wild boar.



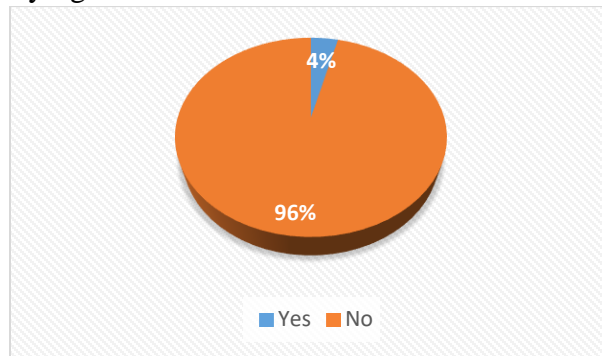
2.14.2 Human Dhole Conflict Location

Only 19% of respondents reported about conflict cases with Dhole. The locations of conflict were inside the forest area (10%), settlement area (8%), and border of the forest (1%). Rest 81% had zero reports of human dhole conflict.



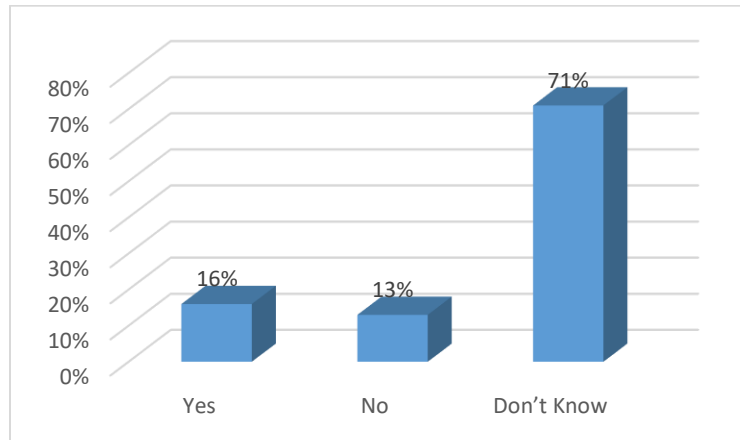
2.14.3 Dhole death around

Only 4% of respondents found the dead body of Dhole. But all of these incidents were reported to be attacked by tiger.



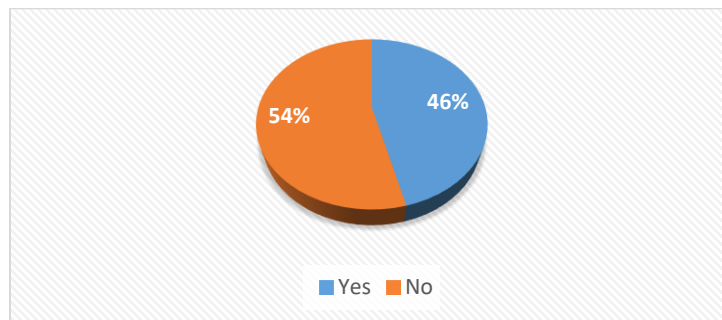
2.14.4 Respondent's perception on benefits of Dhole conservation

Only 16% of respondents opted that Dhole is beneficial in sense of natural balance and potential eco-tourism perspective. While 13% of people had negative response towards Dhole in terms of potential human dhole conflict. The rest 71% of the respondents had neutral perception about dhole.



2.14.5 People's Perception of Dhole Conservation

While 46% of the respondents said Dhole needs to conserve because of nature conservation, animal rights, and eco-tourism perspective. Rest, 54% of respondents said did not need to conserve because of human dhole conflict.



B. Conservation Outreach Program

The community outreach program was implemented with representative participation from conservation stakeholders, frontline staff, and eco-club members. Community outreach programs were designed and implemented through BZUC to ensure representative participation from all conservation stakeholders. A total of 812 individuals people participated in this program. The program was conducted through posters, brochures, photo cards, and visual presentations. Dhole's ecological importance, status, distribution, the threat of dhole conservation, conservation issues, challenges, and conservation efforts were highlighted. This program was more focused on areas where dhole interactions were more frequent around Chitwan National park. The distribution map generated from secondary data from the national tiger survey and primary data from the informants, and household survey were used to identify the potential prime habitat of Dhole close to the settlement area around CNP and was designated as a hotspot where community-focused conservation efforts were organized.

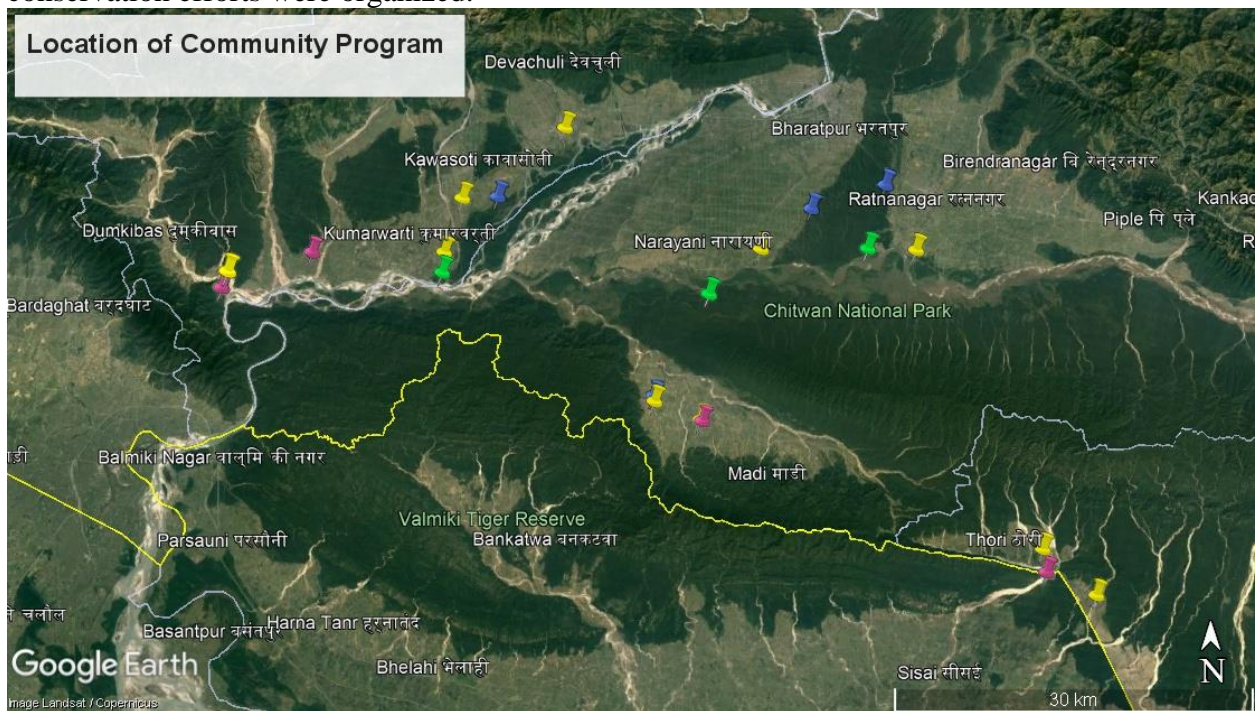


Figure 1: community outreach program locations around CNP

Note:

- Yellow dropped pin:** School Teaching Program (Eco Club Awareness program)
- Blue dropped pin:** Orientation Program for Community Conservationist (CBAPU, nature guide and forest guards)
- Pink dropped pin:** Orientation Program for Frontline staffs
- Green dropped pin:** Dhole Conservation Workshop

1. Dhole Conservation Workshop:

Sector level workshop to discuss on community knowledge on Dhole including identification, sightings, conflicts, and their attitude towards this species. This workshop was held in 4 buffer zone user committee areas of Chitwan National Park. A total of 212 individuals, 143 males, and 69 females participated from the conservation sector and indigenous people from the local

community who were dependent on the forest. Dhole ecological importance, endangered status and potential conservation efforts were discussed in the workshop. While engaging the participants into group work, conservation issues, challenges, threats, and local level conservation action plan were also discussed. The details of the workshops are as follows:

S.N.	Location	Address	Date	Location (GPS Point)		Total Participants	Male	Female
1	Nirmal Thori Bufferzone User Committee Office	Thori-2,Parsa	12-Nov-22	27.338980°	84.611844°	37	29	8
2	Bagauda Bufferzone User Committee Office	Madi-3, Chitwan	30-Nov-22	27.453701°	84.322579°	52	36	16
3	Gosaibaba Bufferzone User Committee Office	Madhyabindu-15,Nawalparasi	10-Dec-22	27.580945°	83.993737°	42	27	15
4	Laxmi Primary School	Binaya Triveni-1, Nawalparasi	15-Dec-22	27.554826°	83.917084°	81	30	51
						212	122	90



Community workshop in Baguwan, Binaya Triveni-1, Nawalparasi



Community workshop in Bagauda Bufferzone User Committee office, Madi-3, Chitwan

2. Orientation Program for Community Conservation Professionals:

This program was conducted across all 4 sectors (Kasara, Madi, Sauraha, and Amaltari) of Chitwan National Park. A total of 87 individuals, male 63 and female 24 participated. Our orientation program was mainly targeted at nature guides, forest guards, and Community Based Anti-Poaching Units as these groups of people were the ones who frequently visited forests around CNP and the best people to communicate for documentation and also orientation on conservation issues of Dhole. We discussed community knowledge of Dhole including identification, sighting, conflicts, and their attitude towards the species. The program details are as follows:

S.N .	Location	Address	Date	Location (GPS Point)		Total Participants	Male	Female
1	Jatayau Restaurant	Kawasoti	17-Oct-22	27.621840°	84.150805°	22	14	8
2	Barandhabhar Bufferzone office	Bharatpur Municipality-6	06-Nov-22	27.611760°	84.415615°	20	16	4
3	Ward office	Madi-2	11-Nov-22	27.472544°	84.281391°	21	13	8
4	Tikauli bufferzone community forest user group office	Ratna Nagar -9	04-Dec-22	27.629228°	84.478470°	24	20	4
						87	63	24



Orientation Program at Tikauli Bufferzone community forest Tikauli, Ratnanagar, Chitwan



Orientation Program for Community in Jatayau Restaurant, Kawasoti, Nawalparasi

3. Orientation Program for Frontline Staff

This program was conducted in three places of the Chitwan National Park office. A total of 87 individuals, 78 male, and 9 female individuals' park staffs were present. We

discussed the habitat of Dhole, habitat mapping inside the national park, major threats of dhole, and conflicts of human dhole. We conducted the program in the following venue;

S. N.	Location	Address	Date	Location (GPS Point)		Total Participants	Male	Female
1	Amaltari Sector	Amaltari, CNP	15-Oct-22	27.565661°	84.103807°	20	17	3
2	Elephant Breeding Centre	Sauraha, CNP	10-Nov-22	27.581964°	84.463409°	27	25	2
3	Chitwan National Park	Kasara, Chitwan	07-Jan-23	27.548754°	84.329016°	40	36	4
Total						87	78	9



Orientation Program for Frontline Staff in Amaltari Sector, Kawasoti, Nawalparasi



Orientation Program for Frontline Staffs in Chitwan National Park, Kasara

4. School Teaching Program (Eco-club awareness program)

A total of 427 students participated in the school teaching program organized at 10 different school around CNP. The main objective of this program was children's awareness through the eco-clubs to encourage students to take leadership in Dhole Conservation. The School Teaching Program was held in the following school:

S. N.	School Name	Address	Date	Location (GPS Point)		Class	Total Student	Male	Female
1	Shree Laxmi Lower Secondary School	Binay Triveni -1	14-Oct-22	27.554826°	83.917084°	7,8	31	17	14
2	Nepal Namuna Higher Secondary School	Devchuli-1	16-Oct-22	27.673478°	84.208154°	8	40	18	22
3	Shree Saraswati Secondary School	Thori-1	13-Nov-22	27.356363°	84.609203°	10	60	35	25
4	Shree Nepal Rastriya Secondary School	Thori-3	13-Nov-22	27.321640°	84.654180°	10	57	37	20
5	Shree Shomeshor Secondary School	Madi-1	14-Nov-22	27.468720°	84.282584°	9	38	19	19
6	Shree Madi Secondary School	Madi-3	14-Nov-22	27.454824°	84.321447°	9	51	29	22
7	Shree Janta Higher Secondary School	Kawasoti-10	15-Nov-22	27.621172°	84.121191°	8	36	18	18
8	Shree Chandeshori Secondary School	Kawasoti-15	15-Nov-22	27.580814°	84.105650°	10	38	22	16
9	Ganganagar Secondary School	Bharatpur-13	30-Nov-22	27.582034°	84.373100°	10	45	23	22

10	Bachhauri Higher Secondary School	Ratnanagar-6	04-Dec-22	27.580602°	84.504226°	9	30	16	14
				Total			426	234	192



Poster and Brochure distribution in Nepal Namuna higher Secondary School, Devchuli, Nawalparasi



Differences between Dhole and Golden Jackal at Nepal Janta Higher Secondary School, Magarkot, Kawasoti Municipality



School Program in Madi Secondary School, Madi Municipality, Chitwan



Orientation program for park frontline staffs and community conservation professionals (nature guides, forest guards, Community Based Anti-Poaching Unit-CBAPU) have supported to enhance their ability in research and conservation, reducing conflicts and increase the harmony among wildlife and communities. This science based and community centered holistic approach including communities, buffer zone committee, park authorities and other conservation stakeholders aimed to contribute to build foundation of an effective conservation initiatives. Our awareness program reached out to all the forest dependent communities (including marginalized and indigenous) to help build positive attitude towards Dhole and reduce all the possible threats of retaliation kill in the hotspot areas of Dhole. Existing understanding of eco-clubs/school students about conservation of Dhole and human role on co-existence with wildlife have been enriched through school program. Personnel who spend dedicated time inside forest (park frontline staffs in core area; nature guide, CBAPU and forest guard in buffer zone) have capitalized the orientation programs by developing capacity on Dhole ecology, field research and potential conflict management adopted for conservation of Dhole.