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----- ORIGINAL RESEARCH ARTICLE -----

The Status and Threats of Birds: A Case Study of Birds in Nayapul to Ghandruk Area, Kaski, Nepal

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ABSTRACT

The purpose of this study is to quantify species diversity of birds in the study area and to explore the biotic and abiotic factors affecting the bird population. This study was carried out by using the fixed point counting method. The study area was situated in Annapurna Rural Municipality of Kaski district. A total of 147 bird species belonging to 46 families and 14 orders were identified in the study area. It was found that Muscicapidae was the largest family and Passeriformes the largest order. Among the reported species, 50% were residents, 31% were full-migrants, 18% were altitudinal migrants and the remaining were 1% nomadic. Habitats of birds included the forest 68%, the scrubland 17%, the grassland 7% and the wetland 6% of the study area. Similarly, the rocky area and artificial area covered 1% of the total species. The results showed that most of the bird species i.e. 136 were least concerned, 4 of them were nearly threatened, 3 of them were endangered, 3 were critically endangered and only one species was vulnerable. The most important threats included hunting and trapping, killing for fun, shift in crop production, use of insecticides and pesticides, improved storage devices, habitat destruction, developmental activities, tourism, buried carcasses and predatory.

KEYWORDS: Habitat, endanger species, muscicapidae, passeriformes, pollution, pesticides

INTRODUCTION

Birds are ecologically one of the most essential creatures. Nepal is rich in bird diversity. The importance of bird in the ecosystem can be demonstrated by the act of seed dispersal, scavenging, preying of pests and insects and as an indicator for pollution. It has diverse topography and climate that support different types of forests, vegetation,

grasslands, landscape and ecosystems that harbor the 887 species of birds ((DNPWC & BCN, 2018). Out of the 887 recorded bird species, 19% have been determined as nationally threatened. Among them, 67 species are critically endangered, 38 endangered, 62 vulnerable and 22 are data deficient (Inskipp et al., 2016). 37 species of birds found in Nepal are globally threatened; out of which two species are vagrants and three are regionally extinct species (Inskipp et al., 2016). The forest indicates the major habitat of different types of birds' species. The wetland and grassland are also the habitats for them. Out of nationally threatened birds, 53% are forest dwellers, 27% are wetland dwellers and only 15% are grassland dwellers (BCN & DNPWC, 2011). The forest and bush habitats nearly cover 77% of Nepali breeding birds (Grimmet et al., 2000). Birds and their diversity provide a bio-indication of that ecosystem or landscape and also indicate the health and quality of ecosystem (Bregman et al., 2014). The anthropogenic drivers such as habitat destruction, fragmentation and degradation are responsible for the change in the birds' community and diversity. These factors are directly affect their breeding, feeding and nesting grounds that lead to local threats for the birds and their conservation (Bregman et al., 2014). In total, more than 193 bird species are dependent on wetlands and among them 187 species of birds are dependent on the wetland of Terai area of Nepal (Bhandari, 1998). Within riverine/riparian ecosystems, many different bird species occupy diverse niches and thus are considered sensitive indicators of environmental conditions (Temple & Wiens 1989 & Bryce et al., 2002). The objective of this study was to quantify species diversity of birds in the study area and to explore the biotic and abiotic factors affecting the bird population.

MATERIAL AND METHODS

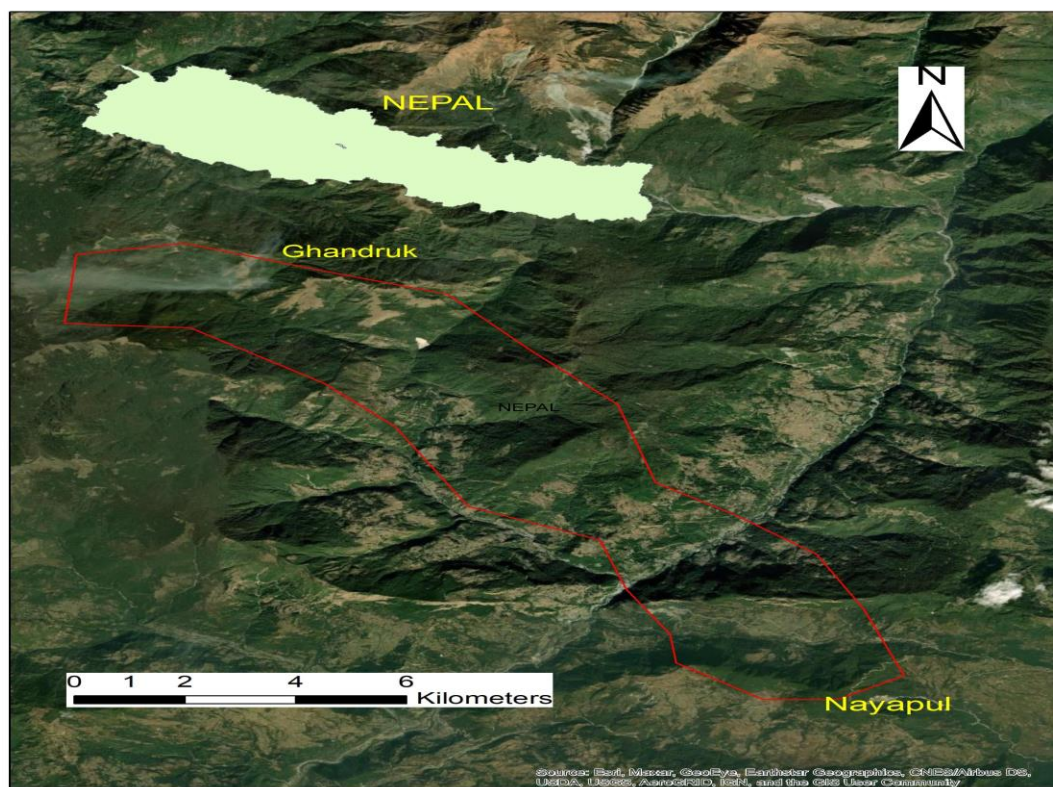
Study Area

The distance from Nayapul to Ghandruk is about nine kilometers. The villages like Chimrung, Syauli bazar, Kimche and Chane along with terrace rice fields are found on the route. The study area is situated at an altitude of 1030 meters to 1940 meters in Kaski District. It is surrounded by the Modi gorge to the east, Ghorepani to the west, Annapurna mountain ranges to the north and Mohoriya village to the south. The land features like high mountains, hills, farmland terraces, forest, cliffs, huge pastures and lowland river valley have made it a popular tourist destination in Nepal. The study site has a humid subtropical climate. The average temperature in this region ranges between 25 and 35 °C during the summer and around -2 to 15 °C during the winter (DHM, 2019). This moderate temperature is maintained by the elevation of this area. The Pokhara valley and nearby hills receive the highest temperature within the country averaging 4851mm of rainfall annually (DHM, 2019).

The major vegetation found in the study area are *Schima wallichii* [*Chilaune*], *Alnus nepalensis* [*Uttis*], *Castanopsis indica* [*Katus*], *Ficus bengalensis* [*Bar*], *Bombax ceiba* [*Simal*], *Ficus religiosa* [*Peepal*], *Emblica officinalis* [*mala*], *Fraxinus floribunda* wall [*Lakuri*], *Bambusoideae* [*Bamboo*] *Rhododendrons* [*Laliguras*], etc. Similarly, the fruiting plants such as *Rubus idaeus* [*Ainselu*], *Choerospondias axillaris* [*Lapsi*], *Berberis* sp. [*Chutro*], *Myrica esculenta* [*Kafal*], *Ziziphus mauritiana* [*Bayar*], *Psidium guajava* [*Amba*], *Prunus cerasoides* [*Paiyun*], *Citrus jambhiri* [*Jyamir*], *Diospyros kaki* [*Tiju*], *Phyllanthus emblica* [*Amala*], *Morus* sp. [*Mulberry*], *Citrus limon* [*Nibuuaa*], *Musa acuminata* [*Kera*], *Prunus persica* [*Aru*], *Limonia acidissima* [*Bel*], *Ficus religiosa* [*Peepal*] and *Mangifera indica* [*Aanp*] scattered in the open area (settlements) and forest area where the frugivorous, herbivore and insectivore birds are available.

Figure 1

Map of Study Site – Showing the Study Locations from Nayapul to Ghandruk



Source: Basemap-2021

Methods

The survey was carried out by the point count methods. The sampling was done every altitudinal gradient of 100 m. fixed circle of radius 50m was laid at each altitude. The location of these circles was fixed with the help of an altimeter, garmin GPS and a topographic map. During the data collection, 3-5 minutes were spent for adjustment to the location. It took 20 minutes to count birds at each circle at a particular altitude, using the fixed point counting method. Direct observations were made by walking along the periphery of the road area. The identification of unfamiliar bird species was done with the help of bird experts. The scientific names, family, order, migratory status, population trend were identified with the help of IUCN red list, Helm field Guides Birds of Nepal and other secondary sources such as the group discussion and interviews.

RESULTS AND DISCUSSION

A total of 147 species belonging to 46 families and 14 orders were recorded in the study area. The family Muscicapidae is the largest (n=19 species), followed by Leiotrichidae and Accipitridae (n=10 species) and Corvidae (n=8 family). Among the reported species, 50% (n=74) were not migrants, 31% (n=45) were full migrants, 18% (n=27) were altitudinal migrants and the remaining 1% (n=1) salty-headed parakeet species nomadic (n=1). The result showed that 136 species were least concern, 4 species were nearly threatened (Himalayan griffon, Malay whistling thrush, Yellow romped honey guide and Cinereous vulture), 3 species were endangered (Steppe eagle, Grey

headed warbler and Egyptian vulture), 3 species were critically endangered (Slender billed vulture, Red headed vulture and white rumped vulture) and only one was vulnerable species (Cheer pheasant). The only one endemic bird species of Nepal, the spiny babbler (*Acanthoptila nipalensis*), has been reported from the study area.

Table 1

Status of Birds as IUCN Category Reported from Nayapul to Ghandruk Area

SN	IUCN category	Number of species
1.	CR	3
2.	EN	3
3.	VU	1
4.	NT	4
5.	LC	136

Source: <https://www.iucnredlist.org>

Here, CR= Critically Endangered, EN= Endangered, VU= Vulnerable, NT= Near Threatened and LC= Least Concerned.

Figure 2

Current Population Trend According to IUCN Category (Globally)

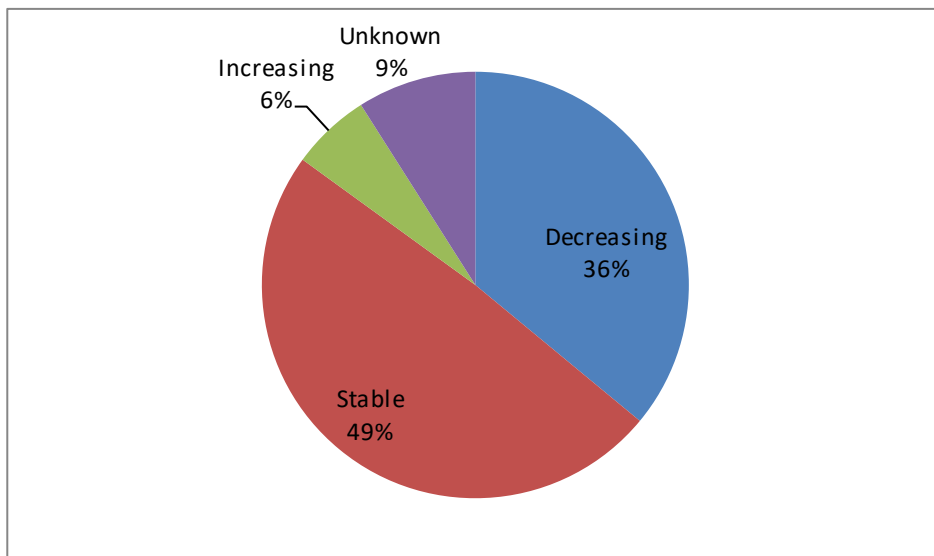


Figure 3
Order-wise Composition of Birds of Study Area

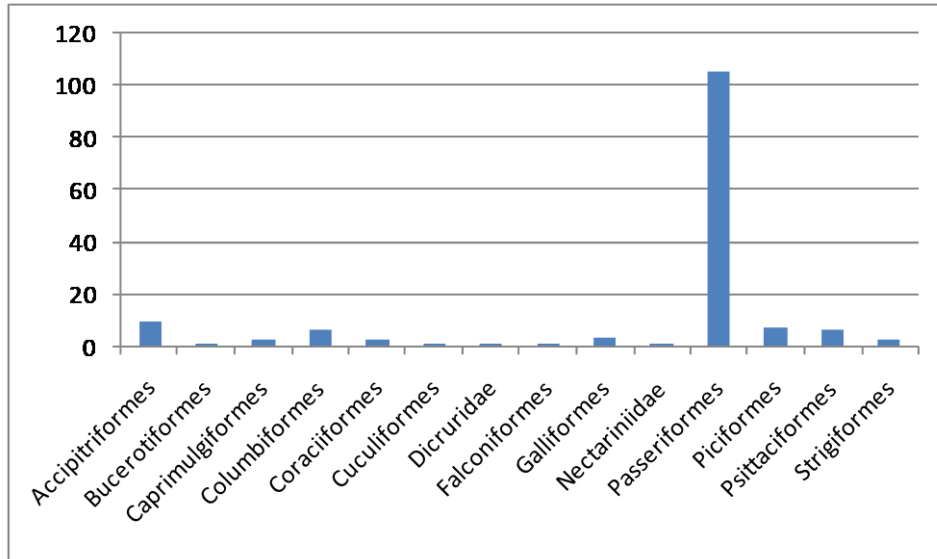
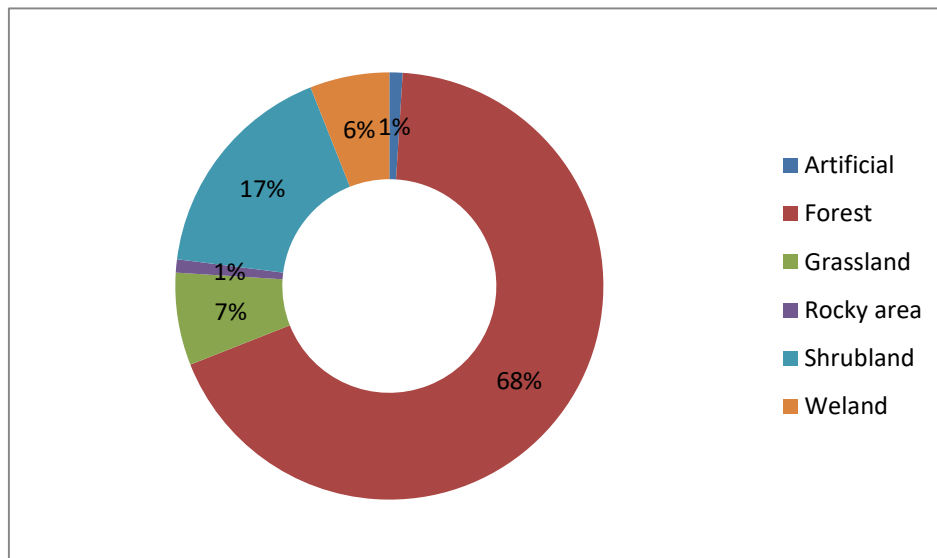


Figure 4
Habitat Found in the Study Area Represented by %



The population trend, according to IUCN category, is 36% (n=53 species) g, 6% (n=9 species) increasing, 49% (n=72 species) stable and 9% (n=13 species) unknown were recorded during this study period. The IUCN red list category has been the base on the current rate of decline, population size, area of geographic distribution and habitat fragmentation. The high species richness might be attributed to diverse habitat conditions and seasonality in environmental factors like light, temperature, humidity, precipitation, food availability, vegetation, flowering of plants, etc. Habitat heterogeneity has supported a large number of bird species in the study area. The forest is the largest habitat of the study area 68% (n=100 species). The average of other habitats is scrubland 17% (n=25 species), grassland 7% (n=10 species), wetland 6% (n=9 species), rocky area and artificial area 1% (only one species).

Figure 5
Migratory Status of Birds

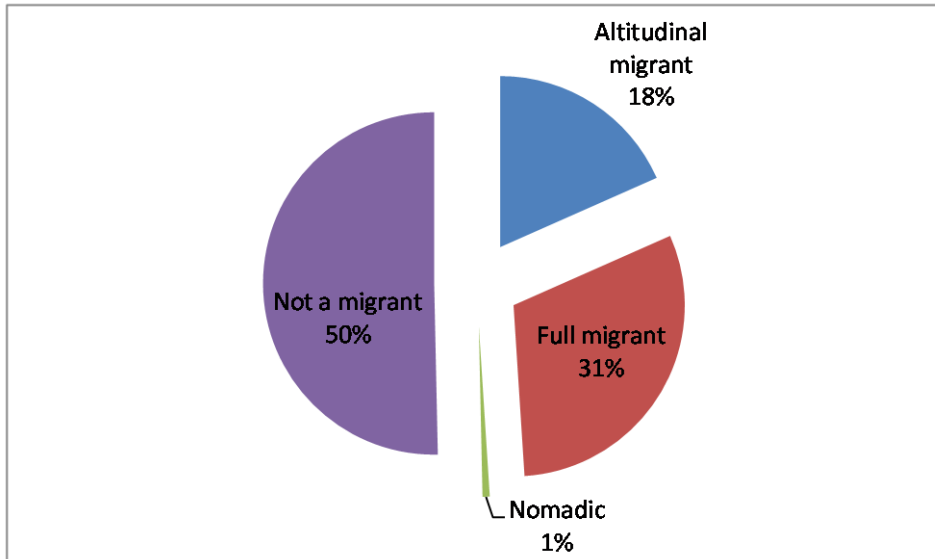
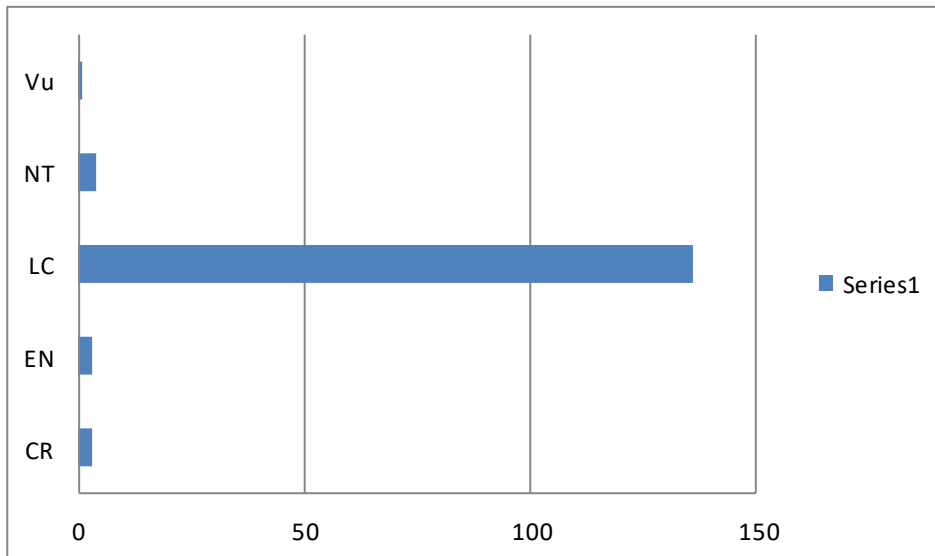


Figure 6
Threatened and Least Concern Birds Recorded in Study Area



Here, LC: Least Concern, VU: Vulnerable, NT: Near- threatened, EN: Endangered, CR: critically endangered.

The highest diversity in bird species shown by the forest is due to availability of food, water, breeding sites, breeding material and cover from predators (Hobson et al., 2003; Waterhouse et al., 2002). A similar type of results was recorded in this study area and described in the farmland in Central Uganda where richness of forest-dependent bird species showed a positive relationship with the number of native tree species (Douglas et al., 2014).

During the study period, it was observed from the direct interaction from the respondents of the study area from various locations that there were some potential threats to the avian fauna. The most important threats observed include the following:

1) Hunting and Trapping

Children and teenagers use catapults for hunting and different trap methods for catching the birds. Generally, pigeon, *kalij* pheasant, red jungle fowl and dove were being hunted for consumption of their flesh. In some places, catapult and stone were also used to scare away monkeys and some pest bird species feeding on crops. Some incidences of poaching have come to the notice of Annapurna Conservation Area officials resulting in convictions of some individuals (Suwal, 2000).

2) Killing for Fun

It was observed during the study period that children harm the birds, especially breeding birds, destroy their eggs, nest and kill their chicks out for curiosity and fun. Mostly, children can be seen carrying catapult for hunting down birds during their free time.

3) Shift in Crop Production

An interaction with senior citizens in the study areas gave an indication that they were experiencing a decline or absence of some species from the particular place; for example, a disappearing trend of the commonly seen house sparrows in the study area over the years. This investigator realized that one of the important reasons was the selection of crops by the farmers. It was observed during the study period that the farmers give much emphasis on growing cash crops like coffee, ginger, herbs, peanut, soybean, vegetables in lieu of the traditional cereal crops. This shift in crop production by farmers intensified competition among granivorous species for the scarce resources of food. Thus, a decline in their number was obvious.

4) Use of Insecticides and Pesticides

These days, the trend of domesticated animal farming is declining, but the use of inorganic fertilizers, insecticides and pesticides is increasing to boost agricultural and horticultural yield by the farmers. Therefore, the use of chemical has affected many bird species, which utilizes insects as their chief source of food. The use of pesticides in large scale and their consequences on wildlife in the study area and in Nepal in general has not been yet assessed scientifically.

5) Improved Storage Devices

The use of improved storage devices for storing food grains such as iron trunks and plastic buckets, bamboo buckets and rodenticides have affected the predatory birds like hawks, falcons, eagles, osprey and owls because they feed on other small animals.

6) Habitat Destruction

Birds use a variety of habitats such as settlement area, different types of forest, grassland, rocky area, shrub land, wetland, etc. They eat different types of fruits, grains, seeds, and nectars from a variety of plants. They also eat small animals and insects that thrive in a healthy ecosystem. A suitable habitat provides all the environmental conditions as an organism needs to survive. It has been observed that the construction of roads, bridge, hotel, lodge, restaurant, farmland, and new settlement areas have caused

the fragmentation and destruction of birds' habitats. Deforestation on a large scale also has the major role in the habitat fragmentation and destruction.

7) Developmental Activities

Nowadays, the developmental activities such as the construction of roads, bridge, hotel, lodge, restaurant, farmland and new settlement areas have caused the fragmentation and destruction of birds' habitats. The creation of infrastructure in the vicinity of the breeding and staging grounds of birds has caused the extermination of the avifauna from their natural habitats. Such types of development activities are increasing day by day in this study area. The impacts of roads on wildlife populations are extensive, adversely affecting the wildlife around the globe (Fahrig & Rytwinski, 2009).

8) Tourism

Tourists change a peaceful environment into the crowded and noisy place, causing environmental pollution. In the winter season, greater quantities of firewood are used as fuel to fulfill the needs of a large number of tourists. Deforestation is increasing day by day as the demands for fuel has been ever increasing in the study area. Similarly, the influx of more and more tourists in this area has created disturbance and unwanted interference to birds and other wildlife. Besides this, huge dumps of non-biodegradable wastes were being generated into the fragile ecosystems, especially the study area, leading to a slow destruction of bird's habitats.

9) Burial of Carcasses

In recent years, the Nepali culture of burying the carcasses in the trench burial method has changed. The animal carcasses are placed in pits that are then backfilled with excavated soil. They are buried for two reasons: one is to control the pollution caused by carcasses and the other for the belief of providing nutrients for plants coming from decayed substances. The birds feeding on dead bodies such as the vulture's circle around dead animals waiting to be fed. But they cannot obtain dead bodies. Due to this reason, the species of vulture are facing a miserable condition and their number has been declining as reported by the people in the study area. This activity leads to depletion of dead body eaters such as the vultures.

Discussion

The findings of the study demonstrated that the study area supports a considerable bird species (n=147). Overall, the higher bird diversity was found in the forest areas and shrub lands. The forest patches scattered in the study area also support diverse bird species. The similar types of studies in and around the Kaligandaki River basin reported 120 bird species that belong to 33 families and eight orders (Juna et al., 2019). Similarly, Naresh et al. (2020) reported 112 species that belong to 35 families and 13 orders were recorded. A study by Khatri et al. (2019) reported seven globally threatened birds from in and around Phewa Lake. Likewise, Dhakal et al. (2020) reported six globally threatened birds from the Khaste Lake complex, Pokhara. Hence, the conservation priorities should be given such types of fragmented habitat for the conservation of birds. Ingesting pesticides directly or indirectly by eating pesticide-contaminated grains, fruits, worms and insects may adversely affect them. Local ethnic groups below the age of 20 were found engaged in poaching activities. Muscicapidae family and Passeriformes order were dominant in the avian community. The number of fruiting trees has a positive influence on avian species' richness and diversity. In this study, 36% species are decreasing and a certain number of birds are the threatened

species, which indicate that it is essential to apply a protection and conservation effort. A more extensive study is recommended for a comprehensive exploration of avian species within this area. It is also recommended that the avian survey covering all seasons would be required in developing the baseline information and implementing the conservation actions in the study area.

CONCLUSION

The Nayapul to Ghandruk area, an important part of the Annapurna Conservation Area and one of the important bird areas in the central Himalayan ranges, has highly diversified avian fauna dominated by the Muscicapidae family and the Passeriformes order dominant in the avian community. Different types of vegetations found in the study area support a large number of birds' habitat and food. The variety of fruiting trees plays the most important or positive influence on richness and diversity of avian species. This result suggests that the habitats of such human dominated landscape play an important role to the conservation of bird species. Most of the areas of this region are covered by human settlements and public lands along with the forests. The different varieties of fruit trees have a positive role on richness and diversity of birds' species richness. Hence, this study suggests to plant the fruit trees in an open area for the sustainable conservation practices.

Against this backdrop, the following recommendations are made so that they will be useful for the conservation and further study of avian fauna.

- Awareness programs about the importance of birds in ecosystem should be launched in at the community level.
- Steps should be taken to promote ecotourism, which should be dedicated to protect the threatened species such as an establishment of vulture restaurant to supply food materials artificially to vultures.
- There should be a joint effort from the government, NGOs and local people to conduct the programs related to the conservation of birds.
- A regular biological monitoring and bird watching program should be initiated from time to time.
- Strict rules and regulations should be applied to control harmful activities such as hunting, pollution, habitat destruction, use of pesticides, deforestation, environmental destruction, etc.

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Appendix 1

Checklist of the Birds Reported from Study Area

Common name	Scientific name		Family	IUCN Category	MP	CPT	Habitat
Western Yellow-wagtail	<i>Motacilla flava</i>	Passeriformes	Motacillidae	LC	Full migrant	Decreasing	Wetland
Brown shrike	<i>Lanius cristatus</i>	Passeriformes	Laniidae	LC	Full migrant	Decreasing	Forest
Common green magpie	<i>Cissa chinensis</i>	Passeriformes	Corvidae	LC	Not a migrant	Decreasing	Forest
Short billed minivet	<i>Pericrocotus brevirostris</i>	Passeriformes	Campephagidae	LC	Altitudinal migrant	Decreasing	Forest
Black drongo	<i>Dicrurus macrocercus</i>	Passeriformes	Dicruridae	LC	Full migrant	Unknown	shrubland
Ashy drongo	<i>Dicrurus leucophaeus</i>	Passeriformes	Dicruridae	LC	Full migrant	Unknown	Forest
Orange headed thrush	<i>Geokichla citrina</i>	Passeriformes	Turdidae	LC	Full migrant	Decreasing	Wetland
White collared Blackbird	<i>Turdus albocinctus</i>	Passeriformes	Turdidae	LC	Altitudinal migrant	Unknown	Forest
Slaty- backed flycatcher	<i>Ficedula erithacus</i>	Passeriformes	Muscicapidae	LC	Full migrant	Stable	Forest
Little pied flycatcher	<i>Ficedula westermanni</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Decreasing	Forest
Black redstart	<i>Phoenicurus ochruros</i>	Passeriformes	Muscicapidae	LC	Full migrant	Increasing	shrubland
Yellow bellied warbler	<i>Abroscopus superciliosus</i>	Passeriformes	Scotocercidae	LC	Altitudinal migrant	Stable	Forest
Velvet-fronted Nuthatch	<i>Sitta frontalis</i>	Passeriformes	Sittidae	LC	Not a migrant	Decreasing	Forest
Grey headed canary flycatcher	<i>Culicicapa ceylonensis</i>	Passeriformes	Stenostiridae	LC	Not a migrant	Stable	shrubland
Red junglefowl	<i>Gallus gallus</i>	Galliformes	Phasianidae	LC	Not a migrant	Decreasing	Forest
Collared owlet	<i>Glaucidium brodiei</i>	Strigiformes	Strigidae	LC	Altitudinal migrant	Decreasing	shrubland
Slaty- headed parakeet	<i>Psittacula himalayana</i>	Psittaciformes	Psittacidae	LC	Nomadic	Stable	Forest
White throated Needletail	<i>Hirundapus caudacutus</i>	Caprimulgiformes	Apodidae	LC	Full migrant	Stable	shrubland
Oriental turtle dove	<i>Streptopelia orientalis</i>	Columbiformes	Columbidae	LC	Full migrant	Stable	shrubland
western Spotted Dove	<i>Spilopelia suratensis</i>	Columbiformes	Columbidae	LC	Full migrant	Increasing	Forest
Wedge -tailed green pigeon	<i>Treron sphenurus</i>	Columbiformes	Columbidae	LC	Altitudinal migrant	Stable	Forest
Black kite	<i>Milvus migrans</i>	Accipitriformes	Accipitridae	LC	Full migrant	Unknown	Forest
Himalayan griffon	<i>Gyps himalayensis</i>	Accipitriformes	Accipitridae	NT	Full migrant	Stable	Grassland
Large billed crow	<i>Corvus macrorhynchos</i>	Psittaciformes	Corvidae	LC	Not a migrant	Stable	Forest
Eurasian blackbird	<i>Turdus merula</i>	Psittaciformes	Turdidae	LC	Full migrant	Increasing	Forest
Verditer flycatcher	<i>Eumyias thalassinus</i>	Psittaciformes	Muscicapidae	LC	Full migrant	Stable	Forest
Spotted forktail	<i>Enicurus maculatus</i>	Psittaciformes	Muscicapidae	LC	Not a migrant	Stable	Wetland
Common myna	<i>Acridotheres tristis</i>	Psittaciformes	Sturnidae	LC	Not a migrant	Increasing	Grassland
Grey treepie	<i>Dendrocitta formosae</i>	Passeriformes	Corvidae	LC	Not a migrant	Decreasing	Forest
Pied thrush	<i>Geokichla wardii</i>	Passeriformes	Turdidae	LC	Full migrant	Decreasing	shrubland
White capped water redstart	<i>Phoenicurus leucocephalus</i>	Passeriformes	Muscicapidae	LC	Altitudinal migrant	Stable	Wetland
Black myna	<i>Gracula religiosa</i>	Passeriformes	Sturnidae	LC	Not a migrant	Decreasing	Forest
Black throated tit	<i>Aegithalos concinnus</i>	Passeriformes	Aegithalidae	LC	Not a migrant	Stable	Forest
Red vented bulbul	<i>Pycnonotus cafer</i>	Passeriformes	Pycnonotidae	LC	Not a migrant	Increasing	Forest
Himalayan bulbul	<i>Pycnonotus leucogenys</i>	Passeriformes	Pycnonotidae	LC	Full migrant	Increasing	shrubland

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Common name	Scientific name		Family	IUCN Category	MP	CPT	Habitat
Black throated sunbird	<i>Aethopyga saturata</i>	Nectariniidae	Nectariniidae	LC	Not a migrant	Stable	shrubland
Russet sparrow	<i>Passer cinnamomeus</i>	Passeriformes	Passeridae	LC	Altitudinal migrant	Stable	shrubland
Crested bunting	<i>Emberiza lathami</i>	Passeriformes	Emberizidae	LC	Altitudinal migrant	Stable	shrubland
Slender billed oriole	<i>Oriolus tenuirostris</i>	Passeriformes	Oriolidae	LC	Full migrant	Decreasing	Forest
Bronzed drongo	<i>Dicrurus aeneus</i>	Dicruridae	Dicruridae	LC	Not a migrant	Unknown	Forest
White rumped munia	<i>Lonchura striata</i>	Passeriformes	Estrildidae	LC	Not a migrant	Stable	Forest
Rufous throated partridge	<i>Arborophila rufogularis</i>	Passeriformes	Estrildidae	LC	Not a migrant	Stable	shrubland
Velvet-fronted nuthatch	<i>Sitta frontalis</i>	Passeriformes	Sittidae	LC	Not a migrant	Decreasing	Forest
Steppe eagle	<i>Aquila nipalensis</i>	Accipitriformes	Accipitridae	EN	Full migrant	Decreasing	Grassland
Great tit	<i>Parus major</i>	Passeriformes	Paridae	LC	Not a migrant	Increasing	shrubland
Paddyfield pipit	<i>Anthus rufulus</i>	Passeriformes	Motacillidae	LC	Not a migrant	Stable	Grassland
Brown Bullfinch	<i>Pyrrhula nipalensis</i>	Passeriformes	Fringillidae	LC	Not a migrant	Stable	shrubland
Slaty backed flycatcher	<i>Ficedula erithacus</i>	Passeriformes	Muscicapidae	LC	Full migrant	Stable	shrubland
Upland pipit	<i>Anthus sylvanus</i>	Passeriformes	Motacillidae	LC	Not a migrant	Stable	shrubland
Bank myna	<i>Acridotheres ginginianus</i>	Passeriformes	Sturnidae	LC	Not a migrant	Increasing	Wetland
Scarlet finch	<i>Carpodacus sipahi</i>	Passeriformes	Fringillidae	LC	Altitudinal migrant	Stable	Forest
Himalayan cutia	<i>Cutia nipalensis</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Stable	Forest
Barred-cuckoo dove	<i>Macropygia unchall</i>	Columbiformes	Columbidae	LC	Full migrant	Stable	Forest
Red headed vulture	<i>Sarcogyps calvus</i>	Accipitriformes	Accipitridae	CR	Not a migrant	Decreasing	Forest
White-capped redstart	<i>Phoenicurus leucocephalus</i>	Passeriformes	Muscicapidae	LC	Altitudinal migrant	Stable	Grassland
Large-billed crow	<i>Corvus macrorhynchos</i>	Passeriformes	Corvidae	LC	Not a migrant	Stable	Forest
Grey headed warbler	<i>Basileuterus griseiceps</i>	Passeriformes	Parulidae	EN	Not a migrant	Decreasing	Forest
Grey wagtail	<i>Motacilla cinerea</i>	Passeriformes	Motacillidae	LC	Full migrant	Stable	Wetland
Scarlet minivet	<i>Pericrocotus flammeus</i>	Passeriformes	Campephagidae	LC	Not a migrant	Decreasing	Forest
Alpine swift	<i>Tachymarptis melba</i>	Caprimulgiformes	Apodidae	LC	Full migrant	Stable	Forest
Golden babbler	<i>Cyanoderma chrysaeum</i>	Passeriformes	Timaliidae	LC	Not a migrant	Decreasing	Forest
Kalij pheasant	<i>Lophura leucomelanos</i>	Galliformes	Phasianidae	LC	Not a migrant	Decreasing	Forest
white-tailed Nuthatch	<i>Sitta himalayensis</i>	Passeriformes	Sittidae	LC	Not a migrant	Decreasing	Forest
Black headed jay	<i>Garrulus lanceolatus</i>	Passeriformes	Corvidae	LC	Not a migrant	Stable	Forest
African Plain martin	<i>Riparia paludicola</i>	Passeriformes	Hirundinidae	LC	Full migrant	Decreasing	shrubland
Grey bushchat	<i>Saxicola ferreus</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	shrubland
Indian white-eye	<i>Zosterops palpebrosus</i>	Passeriformes	Zosteropidae	LC	Not a migrant	Decreasing	Forest
Common Tailorbird	<i>Orthotomus sutorius</i>	Passeriformes	Cisticolidae	LC	Not a migrant	Stable	shrubland
Common Rosefinch	<i>Carpodacus erythrinus</i>	Passeriformes	Fringillidae	LC	Full migrant	Decreasing	Forest
Red headed bullfinch	<i>Pyrrhula erythrocephala</i>	Passeriformes	Fringillidae	LC	Altitudinal migrant	Stable	Forest
Asian Barred Owllet	<i>Glaucidium cuculoides</i>	Strigiformes	Strigidae	LC	Altitudinal migrant	Increasing	Forest
Scaly laughingthrush	<i>Trochalopteron subunicolor</i>	Passeriformes	Leiotrichidae	LC	Altitudinal migrant	Decreasing	Forest

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Common name	Scientific name		Family	IUCN Category	MP	CPT	Habitat
Rock dove	<i>Columba livia</i>	Passeriformes	Columbidae	LC	Not a migrant	Decreasing	Rocky areas
Spangled drongo	<i>Dicrurus bracteatus</i>	Passeriformes	Dicruridae	LC	Full migrant	Stable	Forest
Rosy pipit	<i>Anthus roseatus</i>	Passeriformes	Motacillidae	LC	Full migrant	Stable	Grassland
Shikra	<i>Accipiter badius</i>	Passeriformes	Accipitridae	LC	Full migrant	Stable	Forest
Nepal Cupwing	<i>Pnoepyga immaculata</i>	Passeriformes	Pnoepygidae	LC	Altitudinal migrant	Stable	Forest
Grey throated babbler	<i>Stachyris nigriceps</i>	Passeriformes	Timaliidae	LC	Not a migrant	Decreasing	Forest
Red- tailed Minla	<i>Minla ignotincta</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Decreasing	Forest
White throated laughingthrush	<i>Garrulax albogularis</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Stable	Forest
Slender billed Scinitar babbler	<i>Pomatorhinus superciliaris</i>	Passeriformes	Timaliidae	LC	Not a migrant	Stable	Forest
Rufous sibia	<i>Heterophasia capistrata</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Unknown	Forest
Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>	Passeriformes	Dicaeidae	LC	Not a migrant	Stable	Forest
Nepal Fulvetta	<i>Alcippe nipalensis</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Decreasing	Forest
Eurasian tree sparrow	<i>Passer montanus</i>	Passeriformes	Passeridae	LC	Not a migrant	Decreasing	Forest
Jungle myna	<i>Acridotheres fuscus</i>	Passeriformes	Sturnidae	LC	Not a migrant	Decreasing	Forest
Red- billed Leiothrix	<i>Leiothrix lutea</i>	Passeriformes	Leiotrichidae	LC	Altitudinal migrant	Decreasing	Forest
Richard's pipit	<i>Anthus richardi</i>	Passeriformes	Motacillidae	LC	Full migrant	Stable	Grassland
White- beilled Erporinis	<i>Erpornis zantholeuca</i>	Passeriformes	Vireonidae	LC	Not a migrant	Unknown	Forest
Grey-capped Emerald Dove	<i>Chalcophaps indica</i>	Columbiformes	Columbidae	LC	Not a migrant	Decreasing	Forest
Lesser whitethroat	<i>Sylvia curruca</i>	Passeriformes	Sylviidae	LC	Full migrant	Stable	Forest
Rufous- backed Sibia	<i>Leioptila annectens</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Decreasing	Forest
Blue whistling thrush	<i>Blue whistling thrush</i>	Passeriformes	Muscicapidae	LC	Altitudinal migrant	Unknown	Forest
Indian Blue Robin	<i>Larvivora brunnea</i>	Passeriformes	Muscicapidae	LC	Full migrant	Decreasing	Forest
White- naped Yuhina	<i>Yuhina bakeri</i>	Passeriformes	Zosteropidae	LC	Altitudinal migrant	Decreasing	Forest
Tibetan Siskin	<i>Spinus thibetanus</i>	Passeriformes	Fringillidae	LC	Altitudinal migrant	Stable	Forest
Cheer pheasant	<i>Catreus wallichii</i>	Galliformes	Phasianidae	VU	Not a migrant	Decreasing	Forest
Crimson-breasted Woodpecker	<i>Dryobates pernyi</i>	Piciformes	Picidae	LC	Not a migrant	Stable	Forest
Grey- breasted Prinia	<i>Prinia hodgsonii</i>	Passeriformes	Cisticolidae	LC	Altitudinal migrant	Stable	Forest
Blue throated barbet	<i>Hierococcyx varius</i>	Piciformes	Megalaimidae	LC	Not a migrant	Stable	Forest
Common Hawk- cuck	<i>Hierococcyx varius</i>	Cuculiformes	Cuculidae	LC	Full migrant	Stable	Forest
Great barbet	<i>Psilopogon virens</i>	Piciformes	Megalaimidae	LC	Altitudinal migrant	Decreasing	Forest
Beautiful Rosefinch	<i>Carpodacus pulcherrimus</i>	Passeriformes	Fringillidae	LC	Altitudinal migrant	Stable	shrubland
Yellow - bellied Flowepecker	<i>Dicaeum melanoanthum</i>	Passeriformes	Dicaeidae	LC	Altitudinal migrant	Stable	Forest
Rusty-Flanked Treecreeper	<i>Certhia nipalensis</i>	Passeriformes	Certhiidae	LC	Altitudinal migrant	Decreasing	Forest
Coal Tit	<i>Periparus ater</i>	Passeriformes	Paridae	LC	Not a migrant	Decreasing	Forest
Brown Dipper	<i>Cinclus pallasi</i>	Passeriformes	Cinclidae	LC	Not a migrant	Stable	Wetland
Malay Whistling-	<i>Myiophonus robinsoni</i>	Passeriformes	Muscicapidae	NT	Not a migrant	Decreasing	Forest

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thrush							
White - collared Blackbird	<i>Turdus albocinctus</i>	Passeriformes	Turdidae	LC	Altitudinal migrant	Unknown	Forest
Black - backed Forktail	<i>Enicurus immaculatus</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	Forest
Little Forktail	<i>Enicurus scouleri</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	Forest
Golden Eagle	<i>Aquila chrysaetos</i>	Accipitriformes	Accipitridae	LC	Full migrant	Stable	Forest
Cinereous vulture	<i>Aegypius monachus</i>	Accipitriformes	Accipitridae	NT	Full migrant	Decreasing	Forest
Egyptian vulture	<i>Neophron percnopterus</i>	Accipitriformes	Accipitridae	EN	Full migrant	Decreasing	shrubland
Snow pigeon	<i>Columba leuconota</i>	Columbiformes	Columbidae	LC	Full migrant	Stable	Rocky areas
Lesser Kestrel	<i>Falco naumanni Fleischer</i>	Falconiformes	Falconidae	LC	Full migrant	Stable	Grassland
Long- tailed Minivet	<i>Pericrocotus ethologus</i>	Passeriformes	Campephagidae	LC	Full migrant	Decreasing	Forest
Plumbeous water- redstart	<i>Phoenicurus fuliginosus</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	Wetland
common Hoopoe	<i>Upupa epops</i>	Bucerotiformes	Upupidae	LC	Full migrant	Decreasing	Grassland
lesser yellownape	<i>Picus chlorolophus</i>	Piciformes	Picidae	LC	Not a migrant	Stable	Forest
Grey - headed woodpecker	<i>Dendropicos spodocephalus</i>	Piciformes	Picidae	LC	Not a migrant	Stable	Forest
Fulvous- breasted woodpecker	<i>Dendrocopos macei</i>	Piciformes	Picidae	LC	Not a migrant	Stable	Forest
Long- tailed Shrike	<i>Lanius schach</i>	Passeriformes	Laniidae	LC	Full migrant	Unknown	Forest
Indian Golden Oriole	<i>Oriolus kundoo</i>	Passeriformes	Oriolidae	LC	Full migrant	Unknown	Forest
Rufous Treepie	<i>Dendrocitta vagabunda</i>	Passeriformes	Corvidae	LC	Not a migrant	Decreasing	Forest
Red-billed BlueMagpie	<i>Urocissa erythroryncha</i>	Passeriformes	Corvidae	LC	Altitudinal migrant	Stable	Forest
House Crow	<i>Corvus splendens</i>	Passeriformes	Corvidae	LC	Not a migrant	Stable	Artificial
Green-backed Tit	<i>Parus monticolus</i>	Passeriformes	Paridae	LC	Altitudinal migrant	Stable	Forest
Red-rumped Swallow	<i>Cecropis daurica</i>	Passeriformes	Hirundinidae	LC	Full migrant	Stable	Forest
Striated Prinia	<i>Prinia criniger</i>	Passeriformes	Cisticolidae	LC	Altitudinal migrant	Stable	Forest
Black Bulbul	<i>Hypsipetes leucocephalus</i>	Passeriformes	Pycnonotidae	LC	Full migrant	Stable	Forest
Grey-hooded Warbler	<i>Phylloscopus xanthoschistos</i>	Passeriformes	Phylloscopidae	LC	Not a migrant	Stable	Forest
Oriental Magpie robin	<i>Copsychus saularis</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	Forest
Common Stonechat	<i>Saxicola torquatus</i>	Passeriformes	Muscicapidae	LC	Full migrant	Stable	Forest
Pied Bushchat	<i>Saxicola caprata</i>	Passeriformes	Muscicapidae	LC	Full migrant	Stable	shrubland
House Sparrow	<i>Passer domesticus</i>	Passeriformes	Passeridae	LC	Not a migrant	Decreasing	shrubland
White-throated Kingfisher	<i>Halcyon gularis</i>	Coraciiformes	Alcedinidae	LC	Not a migrant	Unknown	Wetland
Common Kingfisher	<i>Alcedo atthis</i>	Coraciiformes	Alcedinidae	LC	Full migrant	Unknown	Grassland
Spiny Babbler	<i>Acanthoptila nipalensis</i>	Passeriformes	Leiostichidae	LC	Not a migrant	Stable	shrubland
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>	Piciformes	Indicatoridae	NT	Not a migrant	Decreasing	Forest
White-rumped vulture	<i>Gyps bengalensis</i>	Accipitriformes	Accipitridae	CR	Not a migrant	Decreasing	Forest
Slender-billed Vulture	<i>Gyps tenuirostris</i>	Accipitriformes	Accipitridae	CR	Not a migrant	Decreasing	Forest
Pygmy Blue Flycatcher	<i>Ficedula hodgsoni</i>	Passeriformes	Muscicapidae	LC	Not a migrant	Stable	shrubland

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Slender-billed Scimitar Babbler	<i>Pomatorhinus superciliosus</i>	Passeriformes	Timaliidae	LC	Not a migrant	Stable	Forest
Black-headed Shrike Babbler	<i>Pteruthius rufiventer</i>	Passeriformes	Vireonidae	LC	Not a migrant	Decreasing	Forest
Golden-breasted Fulvetta	<i>Lioparus chrysotis</i>	Passeriformes	Sylviidae	LC	Not a migrant	Decreasing	Forest
Rufous-chinned Laughingthrush	<i>Garrulax rufogularis</i>	Passeriformes	Leiotrichidae	LC	Not a migrant	Decreasing	Forest