

## Population Status Studies and Anthropogenic Impact on Birds of Biratnagar Sub-Metropolis

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### Abstract

Birds have always fascinated man by their exquisite coloration. They have their functional role in the ecosystem as potential pollinators and scavengers, indeed rightly called bioindicators. Nepal being a mega diversity centre harbors more than 873 species of birds which amounts to 10% of the world. Recently with increase consciousness for biodiversity census and monitoring, many new species have been added to the list. The subtropical climate and greenery of Biratnagar sub-metropolis provide good habitat for several bird species but in the past three decades drastic changes have taken place in the environment of this place because of anthropogenic activities and climate change. Several commonly visible birds' species have left to turn out. Habitats of birds have shrunk here in such a way that very limited species of birds have become successful to show their representatives in this situation. Considering gradual loss of habitats because of increasing anthropogenic impacts and climate change, an attempt was made to study the present bird status of Biratnagar- sub metropolis. In twelve months of regular observation, eighty-one species of birds belonging to thirty-three families were recorded. Frequency of bird was counted by line transect method. The main five sites Tintolia- Balwahi (Latitude 26°26'32.4"N and Longitude 087°18'09.4"E), Baijnathpur, Ginaghat (Latitude 26°29'59.8"N and Longitude 087°17'53.2"E)", Keshaliyakhola (Latitude 26°27'00"N and Longitude 087°14.4'48.5"E), Dudhfarm (Latitude 26°29'57.6"N and Longitude 087°16'44.5"E) and Old airport (Latitude 26°25'40.8"N Longitude 087°16'34.3"E) were selected for study. On the basis of feeding habit birds recorded were carnivore 28.38%, omnivore 14.80%, insectivore 40.72%, fructivore 3.70%, grainivore 11.70% and nectivore 1.23%. The Shannon Wiener diversity index in summer and winter were found to be 3.68361 and 4.1328 respectively. The recorded birds were common 59.23%, fairly common 28.38% and 12.34% uncommon. The main causes of declining bird population in Biratnagar were found to have been anthropogenic impacts such as encroachment of habitats and feeding and breeding areas, use of insecticides, change in land use pattern, urbanization, poaching and effect of climate change.

**Key words:** Population status, anthropogenic impact, birds, Biratnagar

### Introduction

Nepal is rich in bird diversity and considered as the paradise for birds. Nepal one of the most beautiful countries of the world. With the varied climatic zones, vegetation and landscapes, Nepal proves habitats to several species of birds. Though more works have been accomplished in birds but still there are many unexplored

places in the country for the study of birds. Once Charkoshe Jhadi also was really rich in peafowl population. Those big *Bombax ceiba* nested by vulture and many big birds never failed to attract passersby. Those by gone days never come back but safe places for birds can be created. The present study is focused on the present

status and anthropogenic impacts on bird of Biratnagar. Several ornithologists have contributed to the bird of Nepal. The contribution of Flemming *et al.*(1984), Friensen *et al.*(1995), Subba (1995,1997,2001 and 2004), Fernandez *et al.*(2000),Stevenson *et al.*(2000), Marzluff *et al.*(2001), Shrestha (2001), Baral and Inskipp (2001), Sparks *et al.*(2002), Baral and Inskipp (2004), Surana *et al.*(2007), Jha and Subba(2011 and 2012) bear special mention.

### Materials and methods

The present research is the outcome of twelve months (Oct 2010-oct 2011) regular observations. First of all potential sites Tintolia- Balwahi (Latitude 26°26'32.4"N and Longitude 087°18'09.4"E), Baijnathpur, Ginaghat (Latitude 26°29'59.8"N and Longitude 087°17'53.2"E)", Keshaliyakhola (Latitude 26°27'00"N and Longitude 087°14.4'48.5"E), Dudhfarm (Latitude 26°29'57.6"N and Longitude 087°16'44.5"E) and Old airport (Latitude 26°25'40.8"N Longitude 087°16'34.3"E) were surveyed and identified, then absolute counting was carried out at 8AM to 10 AM in the same time in all sites. Birds were counted using point surveys within radius of 50m. Five point counts were done along transect at 0m, 100m 200m, 300m, 400m and 500m. This was repeated for each site. Anthropogenic impacts were studied by means of direct observation. The effect of human activities on birds was noted visiting study sites. Birds were counted in the study sites seasonally following the point count method designed by Bibby *et al.* (1992)

Ten years weather report of mainly of Biratnagar was taken from the Department of Hydrology and Meteorology, Dharan and comparative study was done. Climate change

has been most pronounced global problem which is prevalent in Nepal too. Birds are most responsive to the climate change.

Interviews, with local people were taken about the impact of climate change on birds. Data analysis was done using Ms excel software to calculate Shannon Wiener diversity index, to draw bar diagram, pie chart and temperature graph. Secondary data was collected through the review of published and unpublished documents, reports etc. important and pertinent facts and figures were also retrieved from the internet.

### Results

#### Population Status

Altogether eighty one species of birds belonging to thirty three families were recorded. Among them Muscicapidae, showed the highest number of species representatives (eight) followed by Cuculidae, Corvidae, and Passeridae with five representatives each. Similarly Colubridae, Ardeidae, Scolopidae, Sturnidae stood in the third position each represented by four species. Alcedinidae, and Accipitridae were represented by three species. Hirunidae, Phalacrocoracidae, Laniidae, Psittacidae, Emberizidae, Ciconidae and Charadriidae were represented by two species. Rhalidae, Strigidae, Centropodidae, Magalaimidae, Picidae, Alaudidae, Oriolidae, Apopidae, Coraciidae, Upupidae, Nectarinidae, Threskornithidae and Anatidae were represented by least number of representatives (Table 1).

One year regular observation of birds of Biratnagar showed their highest number in winter season and lowest in Monsoon (fig.1) and status 59.23%, fairly common, 28.38% common and 12.34% uncommon

**Table 1.** Checklist of Birds

SN	FAMILY	SCIENTIFIC NAME	COMMON NAME	NEPALI NAME	STATUS	REMARK
1	Rhalidae	<i>Amauornis phoenicurus</i>	White- breasted Waterhen	सिमकुखुरा	R	C
2	Corvidae					
		<i>Corvus splendens</i>	House Crow	घर काग	R	FC
		<i>Dendrocitta vagabunda</i>	Rufous Treepie	कोकले	R	C
		<i>Corvus macrorhynchos</i>	Jungle Crow	झलो काग	R	FC
		<i>Dicrurus macrocerus</i>	Black Drongo	झला चिबे	R	FC
		<i>Aegithina tiphia</i>	Common Iora	ससेली चरी	R	C
3	Columbidae					
		<i>Streptopelia chinensis</i>	Spotted Dove	कल्ले दुकुर	R	FC
		<i>Columba livia</i>	Pigeon	मलेवा	R	FC
		<i>Streptopelia decaoto</i>	Indian Ring Dove	कण्ठे दुकुर	R	FC
		<i>Streptopelia tranquebarica</i>	Red-Collared Dove	सानोतामे दुकुर	R	C
4	Pycnonotidae					
		<i>Pycnonotus cafer</i>	Red -vented Bulbul	जुरेली	R	FC
		<i>Pycnonotus jacosus</i>	Red- whiskered Bulbul	जुरेली ह/हल	R	FC
5	Laniidae					
		<i>Lanius cristatus</i>	Brown Shrike	ब्राउन श्रिक	W V	C
		<i>Lanius schach</i>	Long- tailed Shrike	लानिय श्रिक	W V	C
6	Sturnidae					
		<i>Acridotheres tristis</i>	Common Myna	कमल मना	R	FC
		<i>Sturnus contra</i>	Pied Myna	कमल मना ; फ/फ+	R	FC
		<i>Acridotheres ginginianus</i>	Bank Myna	कमल मना ?kl	R	FC
		<i>Sturnus malabaricus</i>	Grey- headed Myna	कमल मना ?kl	R	C
7	Ardeidae					
		<i>Bubulcus ibis</i>	Cattle Egret	जुरेली	R	FC
		<i>Ardeola grayii</i>	Indian Pond Heron	कमल मना ; फ/फ	R	FC
		<i>Mesophoyx intermedia</i>	Intermediate Egret	कमल मना ; फ/फ	R	C
		<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	कमल मना	R	C
8	Muscicapidae					
		<i>Rhipidura albicollis</i>	White- throated fantail Flycatcher	कमल मना ?kl	R	C
		<i>Culicicapa ceylonensis</i>	Grey- headed Flycatcher	कमल मना ; फ/फ	W V	C
		<i>Ficedula parva</i>	Red- throated Flycatcher	कमल मना ?kl	W V	C
		<i>Phoenicurus ochuros</i>	Black Redstart	कमल मना c-h/l	R	C
		<i>Luscinia pectoralis</i>	White-tailed Rubythroat	कमल मना /ftf?07	R	C
		<i>Saxicola torquata</i>	Collard Bushchat	कमल मना ; फ/फ ; ल	WM	C
		<i>Turdus ruficollis</i>	Dark-throated Thrush	कमल मना ?kl ; फ/फ	WV	UC
		<i>Saxicoloides fulicata</i>	Indian Robin	कमल मना ; फ/फ	R	FC
9	Cuculidae					
		<i>Eudynamys scolopacea</i>		कमल मना	R	FC

		<i>Clamator jacobinus</i>	Asian Koel Pied- crested Cuckoo	km/\$f0nl	SV	C
		<i>Cuculus canorus</i>	Eurasian Cuckoo	sSssf0nl	SV	C
		<i>Cuculus micropterus</i>	Indian Cuckoo	sfkm kfSof]	SV	C
		<i>Hierococyx varius</i>	Common Hawk Cuckoo	alp slxof	SV	C
10	Centropodidae	<i>Centropus sinensis</i>	Great Coucal	9f8]uf\$ n	R	FC
11	Alcedinidae					
		<i>Halcyon smyrnensis</i>	White- throated Kingfisher	sy\$]	R	C
		<i>Ceryle rudis</i>	Pied kingfisher	sfm9f8]nfxfr]	R	UC
		<i>Halcyon capensis</i>	Stork- billed King fisher	7nf]df6lsf]	SV	UC
12	Megalaimidae					
		<i>Megalaima asiatica</i>	Blue- throated Barbet	sys]	R	C
13	Picidae					
		<i>Dinopium benghalense</i>	Lesser golden -backed Woodpecker	sfm9f8]nfxfr]	R	C
14	Accipitridae					
		<i>Accipiter niscus</i>	Eurasian Sparrow hawk	j gafh	W V	C
		<i>Haliaeetus leucoryphus</i>	Pallas's Fish Eagle	Mf\$; l lrn	WV	UC
		<i>Milvus migrans</i>	Black Kite	sfm]lrn	WV	UC
15	Alaudidae					
		<i>Mirafra assamica</i>	Rufous-winged Bushlark	ff/4j fh	WV	C
16	Oriolidae					
		<i>Oriolus xanthornus</i>	Black- hooded Oriole	sfm]6fps]; gr/l	R	C
17	Passeridae					
		<i>Anthus rufulus</i>	Paddyfield Pipit	cfnl r0of+	R	C
		<i>Motacilla alba ducunensis</i>	Grey- headed Wagtail(black backed form)	; ]f]l6sl6s]	R	C
		<i>Motacilla cinerea</i>	Pied Wagtail (Grey backed form)	km f]l6sl6s]	R	C
		<i>Passer domesticus</i>	House Sparrow	3/ eu]f	R	FC
		<i>Motacilla maderaspatensis</i>	White- browed Wagtail	Vf]n]6sl6s	R	C
		<i>Lonchura punctulata</i>	Scaly-breasted Munia	sf0]f]dlgo+	R	C
18	Phalacrocoracidae					
		<i>Phalacrocorax niger</i>	Little Cormorant	; fgf]hn]f	R	UC
		<i>Phalacrocorax carbo</i>	Great Cormorant	hn]f	R	UC
19	Apodidae					
		<i>Cypriurus balasiensis</i>	Asian Palm Swift	yfsn ufynl	R	C
20	Charadriidae					
		<i>Vanellus indicus</i>	Red-wattled Lapwing	xl666fp	R	C
		<i>Rostratula benghalensis</i>	Greater Painted-snipe	fflg rxf	R	C

21	Meropidae					
		<i>Merops orientalis</i>	Green Bee-eater	d/nlr/f	W V	C
		<i>Merops philippinus</i>	Blue-tailed Bee- eater	glnkR5 d/nlr}f	WV	C
22	Hirundinidae					
		<i>Riparia riparia</i>	Sand Martin	Ufrnx/l leQufyntl	R	C
		<i>Delichon nipalensis</i>	Nepal House Martin	Qkfn el/ufyntl	R	C
23	Scolopacidae					
		<i>Calidris minuta</i>	Little Stint	sfnlv\$}hn/l	WV	C
		<i>Calidris temminckii</i>	Temminck's Stint	Hfn/l	WV	C
		<i>Tringa terek</i>	Terreck Sandpiper	Dfl; g]9f8 1; dl; df	WV	C
		<i>Actitis hypoleucos</i>	Common Sandpiper	Rf-rn]; 8\l8of	WV	C
24	Coraciidae					
		<i>Coracias benghalensis</i>	Indian Roller	7p]f	R	UC
25	Upupidae					
		<i>Upupa epops</i>	Hoopoe	kfk}f	R	C
26	Psittacidae					
		<i>Psittacula himalayana</i>	Slaty-headed Parakeet	Dfbgf ; uf	R	UC
		<i>Psittacula krameri</i>	Rose-ringed Parakeet	s07]; uf	R	UC
27	Nectariniidae					
		<i>Nectarinia asiatica</i>	Purple Sunbird	sfnj]E}r/f	R	FC
28	Sylviidae					
		<i>Phylloscopus fuscatus</i>	Dusky Warbler	Df]wnl lkm6f]	W V	C
		<i>Turdoides striatus</i>	Jungle Babbler	Afufn]Eofs/	R	FC
		<i>Orthotomus sutorius</i>	Common Tailor bird	Kfft1; pg]lkm6f]	R	FC
		<i>Phylloscopus trochiloides</i>	Greenish Warbler	lhj nlkm6f]	W V	C
29	Therskiornithidae					
		<i>Pseudibis papillosa</i>	Black Ibis	s/f{; fj/l+	R	C
30	Ciconiidae					
		<i>Anastomus oscitans</i>	Asian Openbill	3ulkm] u?8	R	FC
		<i>Leptoptilos javanicus</i>	Lesser Adjutant	Ef8lkm] u?8	R	FC
31	Anatidae					
		<i>Dendrocygna javanica</i>	Lesser Wistling- teal	l; nl; n]	R	FC
32	Strigidae					
		<i>Bubo coromandus</i>	Dusky-horned Owl	Eff; fh]s	R	C
33	Emberizidae					
		<i>Emberiza aureola</i>	Yellow-breasted Bunting	aufn]au}l	WV	
		<i>Emberiza melanocephala</i>	Grey-headed Bunting	Sf]gs}h]au}l	WV	C

R=Resident, WV=Winter Visitor, SV=Summer Visitor, C=Common, FC= Fairly Common, UC=Uncommon

(fig2). Thus uncommon species are very few in number. Among 81 species of birds recorded are 69.10% resident, 25.91% winter visitor and 4.93% summer visitor (fig.3).

The habitats of birds are different according to their feeding, roosting and nesting habits. Bird habitat depends on

where they feed or roost or make their nest. Most of the birds are selective in their choice of breeding sites and may even be restricted to a shortage of nest sites. Because of rapid replacement of paddy field and marshy lands for human settlement and industries establishment within nearly one and half decade nearly seventy percent of

bird habitat in Biratnagar has been exploited.

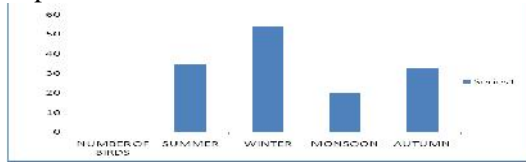


Figure 1. Bar diagram showing species of bird in different season

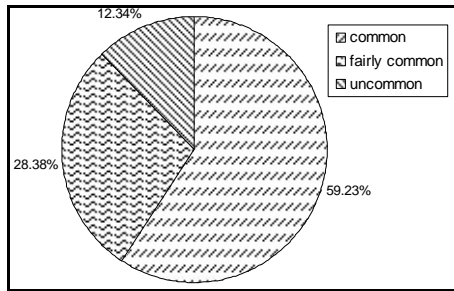


Figure 2. Population status of bird

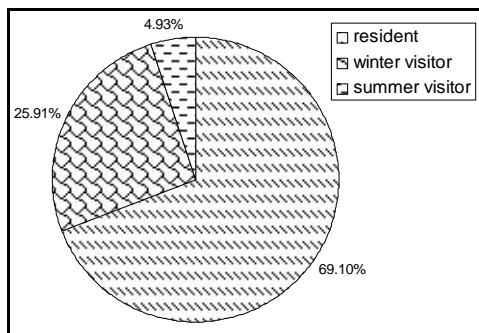


Figure 3. Behaviors of bird.

In the present study birds living at different habitats such as tree, shrub, wetland and meadow were found. Number of species of bird living on tree was higher than that of shrub, followed by wetland habitat, tree and bush and least number of species were found living in both tree and land given by 27.14%, 20.97%, 28.38%, 9.87% and 13.57% respectively (Fig.4). The Shannon Wiener diversity index in summer and winter were found to be 3.68361 and 4.1328 respectively

### Anthropogenic Impacts

Bird's population was found severely affected by anthropogenic impact in Biratnagar. This decline of species is cause of natural and anthropogenic factor. Natural factor include climate change, drought, flood, global warming and anthropogenic factor include habitat loss, wetland loss, poaching, loss of feeding ground, excessive use of insecticide, agriculture pattern, land use pattern, lack of awareness about its importance.

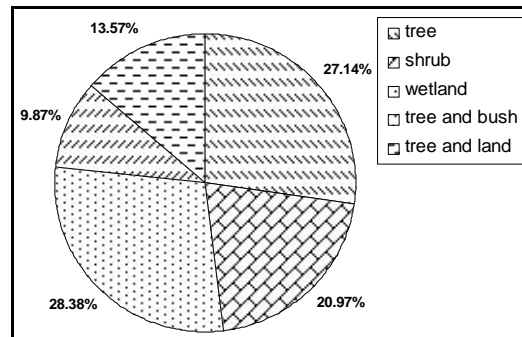


Figure 4. Showing different habitat of bird

### Habitat loss

The bulging population size in the cities has been replacing birds in varied ways. Most of the wetland has been encroached by human for different purposes such as agriculture, human settlement, by establishing industries etc. Wetland loss has greatly affected to wetland birds. To feed growing population and give them shelter nothing could be done besides making encroachment of bird's habitats.

### Urbanization

In Biratnagar immigration is increasing day by day. People especially from Siraha, Saptari, and Dhanusha are migrating here either for better job or quality education or better facilities or for security purpose. This has increased land plotting business where

landowner sells lands at high prices. We can see no single place left untouched, on both sides of highway or sub-road. Farmers sell their cultivable land for housing purpose. Trees are fallen down so that more land can be made to sell. Even banks of river like Keshalia khola and Singhia khola have almost been occupied by houses and mills.

### ***Poaching***

Biratnagar sub- metropolis is still behind to increase literacy rate and provide knowledge about conservation of wildlife. Poaching is the main problem for birds in this Sub-Metropolis city. Selling of buntings, whistling teal for meat in early winter morning and birds like sparrow and parakeet for ornamental purpose in the market areas can be witnessed Chidimars and Batars hunting White -breasted Waterhen, Sparrow, and Cattle Egret are also killed for meat.

### ***Use of insecticide***

Nepal is an agricultural country. Still more than 90% people are dependent on agriculture. The use of pesticides in agriculture, garden, orchard has been common in Biratnagar. This sort of practice is detrimental not only to insects and other pests but it is harmful to birds as well. Use of pain killer drug dichlofenac had been most dangerous means to wipe out population once until the causative agent had not been identified.

### ***Land use system***

Most of the cultivable fields are being plotted for housing purpose. Farmers sell their agricultural field in high price. Land is left unfarmed. Riverside of Keshalia khola and Singhia khola are even covered by houses. Small patches of greeneries are also

decreasing day by day. The species of bird which prefer to remain in cultivated lands are facing the habitat problem. They barren or uncultivated lands are used for cattle grazing purpose so that sorts of land are unsafe for foresaid birds. In the same time grain eating birds also suffer from shortage of food, if agricultural lands are not cultivated. Cultivated land provides birds both shelter and food.

### ***Impact of Climate Change***

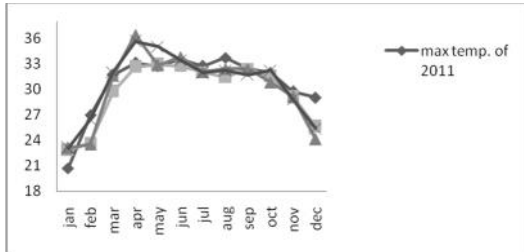
The metrological data of 1970, 2004, 2007 and 2011 of Biratnagar have depicted that climate has been changing. There have occurred some notable changes in the pattern of temperature, humidity, and rainfall. The alternation in humidity, temperature and rainfall has been shown (Fig5, 6, 7). Birds are most sensitive to climate change. Among bird species which can cope with gradual change in temperature are still showing normal behavior but sensitive ones have already left their original habitat.

### ***Feeding Behavior***

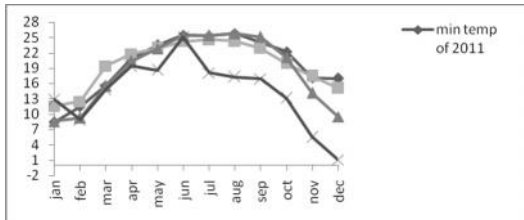
Feeding behavior of birds depend on various environmental factors such as geographical location habitats, season, water quality, competition (intraspecific and interspecific) and scarcity of food etc. Due to scarcity of food and drastic alteration in environment, many birds have been found adopting alternate food like Cattle Egret, Green Bee-eater, Common Myna, Bank Myna, Indian Treepie, Red- vented Bulbul, Magpie Robin, Drongo, Jungle Babbler, Pied- crested Cuckoo, Kingfisher, Flycatcher, Owl, Jungle Crow etc.

The feeding habit of birds recorded during study time in Biratnagar are carnivore 28.38%, omnivore 14.80% insect-

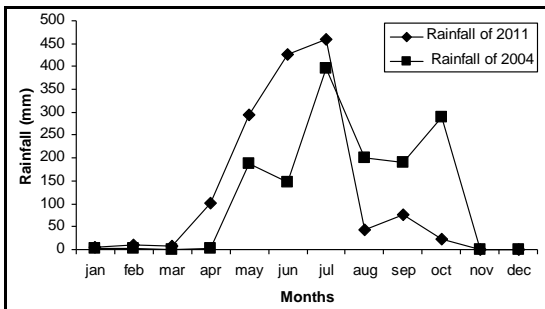
tivore 40.72%, fructivore 3.70%, grainivore 11.70% and nectivore 1.23(fig. 8)



**Figure 5.** Graphical representation of maximum Temperature of Biratnagar of year (2011, 2007, 2004 and 1970) (Source: Dept. of Hydrology and Meteorology 2011).



**Figure 6.** Graphical representation of minimum Temperature of Biratnagar of year (2011, 2007, 2004 and 1970) (Source: Dept. of Hydrology and Meteorology 2011).



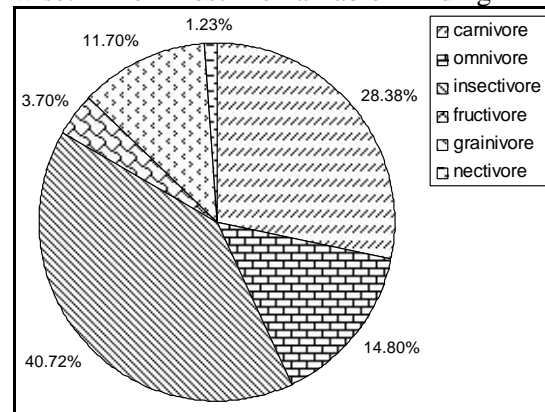
Checklist of birds of Biratnagar Subba(1994) depicts 93 species belonging to 39 families. It is clear that bird species

**Figure 7.** Graphical representation of rainfall of Biratnagar of year (2011 and 2004) (Source: Dept. of hydrology and Meteorology 2011)

**Discussion**

belonging to 6 families ie, 15.38% did not turnout during survey.

The impact of weather on population biology of birds has been a major field of study for ornithologists over the past half century. Weather not only affect metabolic rate of birds but it also has other indirect and direct affect on birds behavior for example it can influence foraging condition and ability to carry out other essential behavior such as courtship. Weather also impacts on breeding succession through for example chilling or starvation of young. There are many negative impacts on bird due to climate change such as earlier breeding changes at the timing of migration, survey of one year’s duration in eightyone species belonging to thirtythree families. changes in breeding performance, changes years. The recorded bird species in present in population sizes, changes in selection differential between components of population Stevenson *et al.* (2000). Birds are very special targets to climate change wise. The most remarkable finding in



**Figure 8.** Feeding habitat of bird.

The population of birds in Biratnagar has been found due to have decreased species declination of bird species within eighteen impacts for many reasons Sparks *et al.* (2002). They are homoeothermic animals



living actively year round except some birds species which are not available in Biratnagar. They live very exposal lives. Many bird species change their living area twice a year over a several climate and vegetation zones. This large scale connectivity between summer and winter phase is a peculiarity special almost only to birds.

They have several separate phases in their annual cycle, which have to adapt to variable changes of both climatic and living are simultaneously, optimizing the net response breeding, molt, autumn migration, wintering, and spring migration of birds. Also breeding times have responded to climate change. Much less is known about other phases of annual cycle and although there are several care of suggested changes of distribution ranges, rigid analysis that take into account other possible causes and also separate direct and indirect impacts of climate change from each other to be waited. The impact of climate change on Nepalese bird is currently poorly understood, but is likely to be significant (Baral and Inskipp, 2004). Biratnagar is not an exceptional place from the global impact of climate change. The comparative study of meteorological data of (1970, 2004, 2007 and 2011) presented clearly depict that climate has changed and the change climate has changed environment too. In winter it is excessive cold and summer is very hot. It doesn't rain on time and the soil is drying up. So productivity is decreasing. Thrushes which were recorded in 1996 did not turn out in winter.

The feeding habit of bird has been highly affected by the urbanization and industrialization of this sub metropolis city. Effects of residential development on forest-dwelling neotropical migrant songbirds

Friensen *et al.* (1995). The worldwide urbanization has great impact on birds Marzluff *et al.* (2001). The bird feeding ground of grainivores like Indian tree pie, parakeets, dove, buntings has greatly affected because of decrease in agricultural land. They don't find enough grain to feed as transformation of agricultural land into concrete land has taken place. Interest in agriculture is decreasing in urban people. New generation is rarely seen getting involved in this field. This has affected the grainivores, nectivores and fructivores. We can see green areas in few regions of Biratnagar where birds can enjoy their feeding and nestling habitat. Most of flowering plants and fruits bearing plants are chemical sprayed, which affect fructivores, nectivores and insectivores being slow poison, decrease either their fertility rate or get deposited heavy metals in their kidney, liver and muscles and shorten their life span. The chemicals sprayed have greatly affected the breeding habitat of birds of Biratnagar. The polluted water of river affects the organism living in it. The decrease in aquatic organism has direct impact on wetland bird such as Stork-billed Kingfisher, Cormorant, Snipe, Sandpiper; Black Ibis Asian Openbill, Lesser Adjutant, Pallas's Fish Eagle and many more.

Up to three decade back, in Biratnagar, bird's habitats were almost safe. Here one could observe more than fifty species of birds in two hours bird watching in any season. Subba (1994) recorded 93 species of bird in same locality and the time this year only 81 species were recorded on regular observations. Many species like *Leptoptilos dubius*, *Ciconia episcopus*, *Gypus indicus*, *Gyps fulvus*, *Milvus migrans* (only once), *Circus melanoleucos*, *Charadrius dubius*,

*Tringa nebularia*, *Burhinus oedicnemus*, *Capella gallinago*, *Athene brama*, *Apus affinis*(only once in few number). *Alcedo meninting*, *Megalaima haemacephala*, *Dendrocopus nanus*, *Pitta indica* did not turn out this time. This is due to either habitat shrinkage or anthropogenic impacts or may be because of both reasons and climate change. Within one decade urbanization has touched the peak here. Marshy lands have been encroached almost completely. Fernandez *et al.*(2000) has revealed about the local and regional effects of pedestrians on forest birds in fragmental landscape. River waters have become polluted and are not suitable for wetland birds. People are really apathy for the conservation of bird habitat and there nesting and feeding sites. The population of each and every species of bird has been declining remarkably. If birds safeguard activities will not be made popular in time and made people realize why birds have to be protected and conserved, there lies every possibility of declining birds population as well as species in near future. If conservation of birds will remain restricted to slogan only then time may come when it will be too late for safeguard of birds.

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