



Government of Nepal
Ministry of Forests and Environment

PHEASANT

CONSERVATION ACTION PLAN FOR NEPAL 2019-2023



Department of Forests and Soil
Conservation

Department of National Parks and
Wildlife Conservation





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2019

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Front Cover Photos

Himalayan Monal (Ramesh Chaudhary), Blood Pheasant (Rajendra Gurung)

Back Cover Photo

Common Peafowl (Hathan Chaudhary)



Government of Nepal
Ministry of Forests and Environment
Department of National Parks and Wildlife Conservation



Foreword

Pheasants are large ground dwelling birds which are distributed from lowland to high mountain area of Nepal. Eight species of pheasants are recorded in Nepal which also includes the charismatic national bird of the country "Danphe". Cheer Pheasant (Cheer), Himalayan Monal (Danphe) and Satyr Tragopan (Munal) are three protected species listed under National Parks and Wildlife Conservation Act, 1973.

The pheasant species are under threats mainly due to hunting and trapping for local consumption. In addition, intensified anthropogenic activities such as Non-Timber forest products harvesting, livestock grazing, forest fire, impacts of stray dogs and habitat loss and degradation are inducing threats for their long term survival.

Pheasants Conservation Action Plan for Nepal (2019-2023) has been prepared with an aim to protect and manage pheasant habitats and increase their population in Nepal which will be achieved by holistic approach of conservation including research, implementation of conservation initiatives, awareness building, habitat improvement and threat management. Exploring the possibility of local communities livelihood enhancement options have been well prioritized in this action plan which I suppose to be helpful in achieving the targeted objectives of this five year action plan.

I sincerely thank the technical team of the Department of National Parks and Wildlife Conservation for preparing this Action Plan, Bird Conservation Nepal and ZSL Nepal for providing financial and technical support to produce this document. I greatly acknowledge reviewers for their contribution to bring this document in such a robust form. The government of Nepal greatly acknowledges the contribution of wildlife conservation partners and requests for their continuous support and commitment for the successful implementation of this plan.

I kindly appeal all concerned government agencies, development and conservation partners and local communities for effective and successful implementation of this plan. I am hopeful that implementation of this plan will be supportive in pheasant species conservation in Nepal.

Man Bahadur Khadka
Director General



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FOREWORD

Nepal is known as the 'Paradise of the Bird' due to a very high diversity of the species found in the country. A total of 886 bird species have already been recorded in Nepal including eight Pheasant species; Himalayan Monal, Cheer Pheasant, Satyr Tragopan, Common Peafowl, Red Jungle fowl, Blood Pheasant, Koklass Pheasant and Kalij Pheasant. The Himalyan Monal (*Lophophorus impejanus*) has been declared as the National Bird of Nepal. Due to the larger categories and wider ecological behavior of the Pheasants, it is widely distributed from lowland to high mountains of Nepal.

These species are under various categories of the conservation in Nepal and abroad. Cheer Pheasant and Satyr Tragopan are evaluated as Vulnerable and Near Threatened respectively in IUCN Red List of Threatened Species. Likewise, the Himalayan Monal, Cheer Pheasant and Satyr Tragopan, are included in schedule I (endangered species) of National Park and Wildlife Conservation Act 1973. All these pheasant species are enlisted in CITES appendixes except 'Red Junglefowl'.

Most of the habitats of pheasants outside the protected areas have been managed as the Community Forests, Collaborative Forests and Government Managed Forests in Nepal. Survival of these species has been threatened from growing poaching, illegal trade, habitat loss, frequent forest fire, unplanned infrastructure development and degradation and fragmentation of forests. In order to address these issues, Government of Nepal has put consistent efforts for combating the illegal trade and focuses on practicing integrated conservation approach.

The "Pheasant Conservation Action Plan for Nepal 2019-2023", aims to increase the population of all species of pheasant while protecting their habitat. This action plan focuses on improving habitat, curbing poaching, controlling illegal trade and strengthening local stewardship for pheasant conservation. It also highlighted the needs of conducting extensive research using rigorous scientific tools and techniques to understand their ecological and habitat dynamics. I hope, it will also synergize the combined efforts of Department of Forests and Soil Conservation, provincial and local governments, conservation partners and local communities to achieve this goal.

Finally, I would like to appreciate the efforts made by Dr. Rajendra K.C., Deputy Director General of the Department and other technical team members to prepare this action plan. Conservation partners deserve sincere thanks for providing the technical and financial assistance to produce this action plan. I ensure the continuous support and is commitment for the effective implementation of the plan. I believe that this action plan will be a guiding document to all the concerned stakeholders for conservation of Pheasant and biodiversity of Nepal.

Ram Prasad Lamsal, Ph.D.
Director General

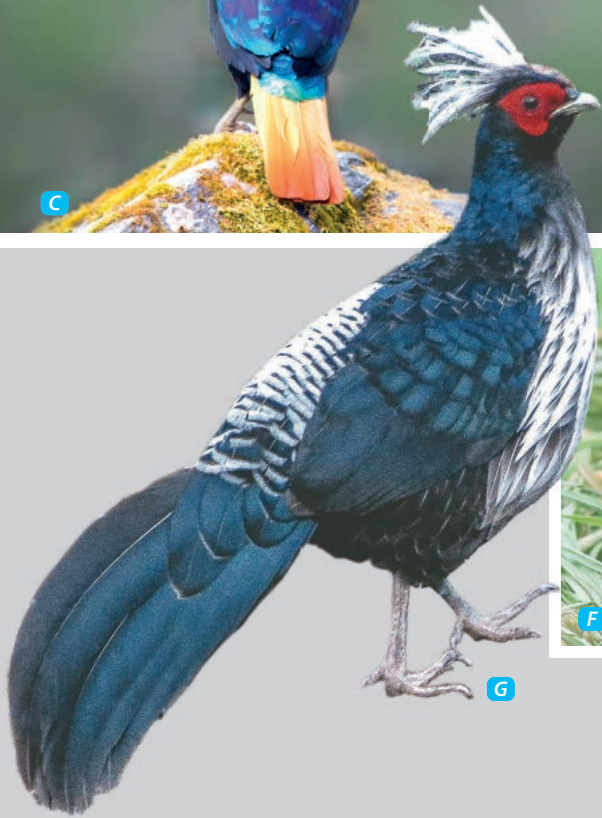
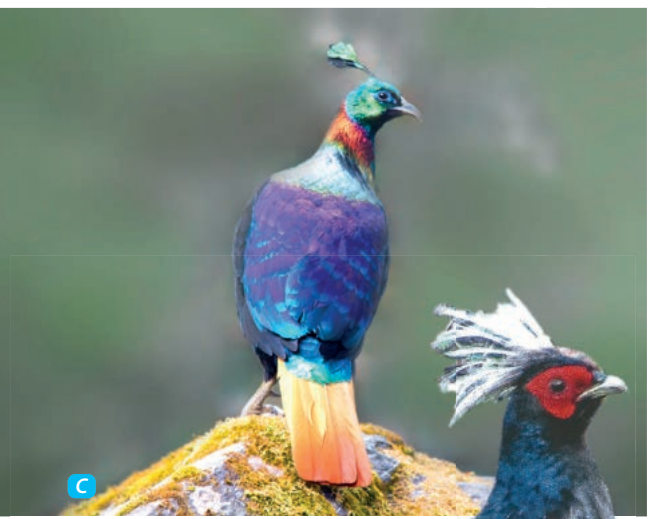
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Abbreviations and Acronyms

ACA	Annapurna Conservation Area
ANCA	Api-Nampa Conservation Area
BaNP	Banke National Park
BCN	Bird Conservation Nepal
BNP	Bardia National Park
CBO	Community Based Organization
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNP	Chitwan National Park
DFO	Division Forest Office/ Divisional Forest Officer
DHR	Dhorpatan Hunting Reserve
DNPWC	Department of National Parks and Wildlife Conservation
DFSC	Department of Forest and Soil Conservation
GCA	Gaurishankar Conservation Area
HN	Himalayan Nature
IUCN	International Union for Conservation of Nature and Natural Resources
KCA	Kanchanjunga Conservation Area
KNP	Khaptad National Park
KTWR	Koshi Tappu Wildlife Reserve
LNP	Langtang National Park
MBNP	Makalu-Barun National Park
MCA	Manaslu Conservation Area
NOU	Nepalese Ornithological Union
NTNC	National Trust for Nature Conservation
PCAP	Pheasant Conservation Action Plan
PNP	Parsa National Park
RNP	Rara National Park
ShNP	Shuklaphanta National Park
SNNP	Shivapuri Nagarjuna National Park
SNP	Sagarmatha National Park
SPNP	Shey-Phoksundo National Park
WPA	World Pheasant Association
WWF	World Wildlife Fund Inc.
ZSL	Zoological Society of London



A. Common Peafowl (Utsab Jung Thapa), B. Koklass Pheasant (Nilay Desai), C. Himalayan Monal (Gunjan Arora), D. Blood Pheasant (Rajendra Gurung), E. Cheer Pheasant (Gunjan Arora), F. Red Jungle Fowl (Sagar Giri), G. Kalij Pheasant (Hathan Chaudhary), H. Satyr Tragopan (Aseem Kumar Kothiala)

Executive Summary

Eight species of pheasants are recorded in Nepal: Common Peafowl *Pavo cristatus*, Red Junglefowl *Gallus gallus*, Himalayan Monal *Lophophorus impejanus*, Satyr Tragopan *Tragopan satyra*, Blood Pheasant *Ithaginis cruentus*, Cheer Pheasant *Catreus wallichii*, Koklass Pheasant *Pucrasia macrolopha*, and Kalij Pheasant *Lophura leucomelanos*. The Constitution of Nepal has declared the Himalayan Monal (*Lophophorus impejanus*) as a national bird, while NPWC (National Park and Wildlife Conservation) Act 1973 has included Cheer Pheasant, Himalayan Monal, and Satyr Tragopan under schedule I: list of protected birds of Nepal.

Pheasants are commonly known birds in Nepal. However, very little information is available on their ecology and population status among the scientific and the conservation fraternity. Despite few sporadic studies, many potential areas are still unexplored. Thus, there is a need to undertake a detail study on population and ecology of pheasant communities suggesting a need for long term studies.

Pheasants are some of the most hunted bird species in Nepal. Conservation threats to this group of species overlap in most cases and includes illegal hunting, trapping for meat, use of body parts for age old traditional healing practices, and pet keeping. Deforestation and forest fire are also known to be direct threat affecting Pheasant. Specific threat include: killing of Common Peafowl, Himalayan Monal, and Satyr Tragopan for their body parts (mainly feathers). Due to the largescale distribution of few pheasant species, many of them are categorized as Least Concern as per the IUCN Red List. However, two species namely Cheer Pheasant and Satyr Tragopan are categorized as Vulnerable and Near Threatened respectively. Nationally, three species of pheasants have been categorized as Threatened (Cheer Pheasant, Satyr Tragopan and Koklass Pheasant), two as Near Threatened (Himalayan Monal and Common Peafowl) and

three as Least Concern (Red Junglefowl, Blood pheasant and Kalij Pheasant).

Due to their conservation status, many of pheasant species does not have a desirable conservation focus targeted towards them. Limited resources are available for their research and conservation initiatives and thus leading to low level of conservation awareness among the broad range of stakeholders.

In this context, the pheasant conservation action plan (2019-2023) has been prepared with the goal to “increase the population of the species and their habitats protected”. The plan identifies four objectives towards achieving this goal.

- ▶ Enhance knowledge on the ecology and threats to pheasant species
- ▶ Implement conservation initiatives to reduce threats to species and their habitat
- ▶ Explore the possibility of local livelihood enhancement.
- ▶ Enhance partnership and capacity.

Department of National Parks and Wildlife Conservation and Department of Forests and Soil Conservation will take leadership in overall implementation of this action plan. Departments will coordinate with Ministry of Industry, Tourism, Forest and Environment at the state level and their corresponding field offices, partnership with other line agencies and conservation organisation to secure the fund and aid in fostering cooperation. Annual plans will be developed with specified role of each stakeholders. Regular monitoring and evaluation has been scheduled to measure the progress of this action plan. A midterm and final review of the action plan implementation progress will be conducted by involving the team of independent experts. The total budget for the five-year plan is estimated at NPR 7,38,50,000.



Koklas Pheasant (Nilay Desai)

Introduction

1

1.1 Relevance of the Action Plan

The Government of Nepal is committed for conservation of flora and fauna. Action plan has been prepared and implemented for many wildlife species in order to co-ordinate and concentrate the conservation efforts. Furthermore, developing species action plans have also been recommended by the Nepal Biodiversity Strategy and Action Plan (MoFSC 2014). Pheasants are one of the most hunted groups of birds. This warrant for conservation interventions for their perpetuity in the wild. Hence, developing a Pheasant Conservation Action Plan (PCAP) is an important step taken in singling out necessary actions for the long-term conservation of pheasants in the country.

1.2 Action Plan Development Process

Nepal has been successful in implementing conservation initiatives for many flagship species which include Greater One-horned Rhinoceros and Tiger. Most of these conservation efforts were successful as a result of proper planning, budgeting, and effective implementations in the field. Altogether, action plan for nine faunal species have been developed up to now which includes: Greater One-horned Rhinoceros, Tiger, Vulture, Bengal Florican, Pangolin, Snow Leopard, Gharial, Elephant, and Red Panda. This action plan is an effort to conserve pheasant species of Nepal.

Department of National Parks and Wildlife Conservation (DNPWC) has formed a task force to develop species conservation action plan. The taskforce committee prepared the draft of the action plan which was shared with experts for review and wider consultation. All the relevant feedback and comments from the reviewers were incorporated in the final action plan.

1.3 Scope of the Action Plan

The action plan is guided by the National Biodiversity Strategy and Action Plan (NBSAP) 2014-2020. It has also adopted priorities provisioned by the Forest Policy, 2015; National Parks and Wildlife Conservation Act, 1973; Forest Act; 1993 and respective Protected Areas (PAs) management plans. The action plan will be implemented for addressing the needs for long-term research and effective conservation of pheasant species in Nepal. Conservation action plan calls for a collaborative efforts from wide range of stakeholders including policy and decision makers, wildlife law enforcement agencies, conservation partners, academic institutions, and local communities for its successful implementation.



Satyr Tragopan (Manshant Ghimire)



Common Peafowl (Sagar Giri)

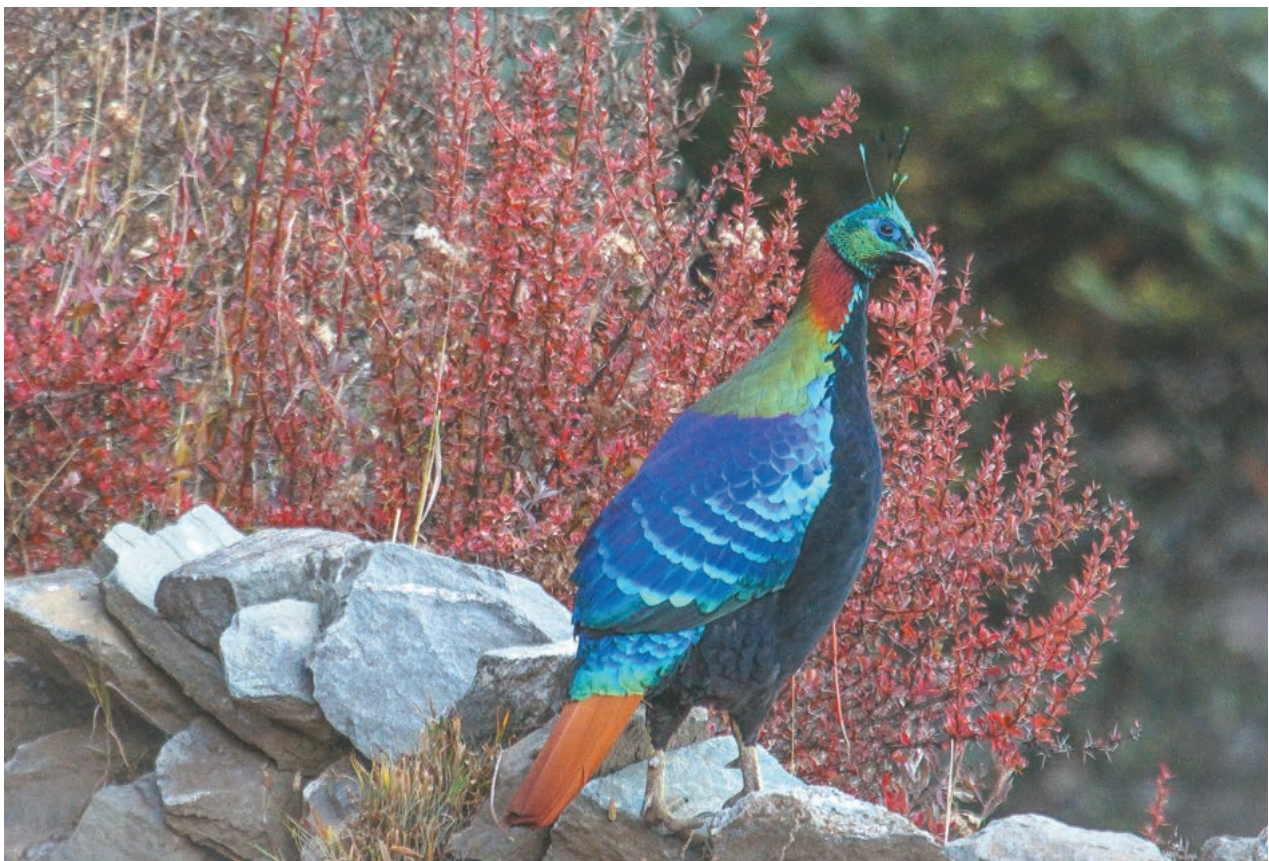
Background

2.1 General Introduction of Pheasants

Pheasants are large in body size and ground dwelling bird species. The males are often with brightly colored plumage and inhabit in diverse habitats in the tropical and temperate forests of Asia and Africa. Taxonomically, they represent to the family Phasianidae of the order Galliformes.

The pheasants are Asian in their native distributions, with the single exception of Congo Peafowl *Afropavo congensis*, which is endemic to the Democratic

Republic of Congo in Central Africa (Fuller and Garson 2000). Among 51 species of pheasants belonging to 16 genera that are surviving in the world, eight species occur in Nepal (McGowan and Garson 1995, Fuller and Garson 2004, Poudyal 2008). The pheasants of Nepal are Himalayan Monal *Lophophorus impejanus*, Blood Pheasant *Ithaginis cruentus*, Satyr Tragopan *Tragopan satyra*, Koklass Pheasant *Pucrasia macrolopha*, Cheer Pheasant *Catreus wallichii*, Kalij Pheasant *Lophura leucomelanos*, Red Junglefowl *Gallus gallus*, and Indian Peafowl *Pavo cristatus*. In general, the first six are known as Himalayan pheasants and the latter two are lowland pheasants.



Himalayan Monal (Rajendra Gurung)



Blood Pheasant (Hathan Chaudhary)

Table: Pheasants of Nepal

Nepali Name	English Name	Scientific Name	NPWC Act	CITES Appendices	IUCN Red List Category	
					National	Global
डाँफे	Impeyan Pheasant	<i>Lophophorus impejanus</i>	p	I	NT	LC
मुनाल	Satyr Tragopan	<i>Tragopan satyra</i>	p	III	VU	NT
चीर	Cheer Pheasant	<i>Catreus wallichii</i>	p	I	EN	VU
चिलिमे	Blood Pheasant	<i>Ithaginis cruentus</i>		II	LC	LC
फोकराँस	Koklass Pheasant	<i>Pucrasia macrolopha</i>		III	VU	LC
कालिज	Kalij Pheasant	<i>Lophura leucomelanos</i>		III	LC	LC
चुइँचे	Red Junglefowl	<i>Gallus gallus</i>			LC	LC
मुजूर	Indian Peafowl	<i>Pavo cristatus</i>		III	NT	LC

Note: P-Protected, EN-Endangered, VU-Vulnerable, NT-Near Threatened, LC- Least Concern

2.1.1 Danphe or Himalayan Monal or Impeyan Pheasant

Danphe or Himalayan Monal is the national bird of Nepal. The male bird is around 70 cm in length and has a crest on its large head. It is iridescent green, copper and purple, with white patch on back and cinnamon-brown tail. Female has white throat, short crest, boldly streaked under parts, white crescent on upper tail coverts, and narrow white tip to tail (Grimmett *et al.* 2016). The bare skin of both sexes around the eye is blue (Fleming *et al.* 1984).

Himalayan Monal is native to Nepal, Afghanistan, Bhutan, China (mainland), India, Myanmar, and Pakistan. However, the origin of Afghanistan's population is uncertain (BirdLife International 2016). In Nepal it is fairly common and widespread resident subject to lateral movements between

3300-4750m in summer and down to 2500m in winter. This bird has been recorded in all mountain protected areas, i.e. Makalu-Barun, Sagarmtha, Langtang, Shey-Phoksundo, Khaptad and Rara National Parks; Dhorpatan Hunting Reserve; and Kanchanjungha, Gaurishankar, Manaslu, Annapurna and Api-Nampa Conservations Areas; and has also, been recorded from Jumla, Humla, Myagdi and Taplejung (Inskipp *et al.* 2016) and Bajura, Jajarkot and Dhading districts (Hari Basnet Pers Communication).

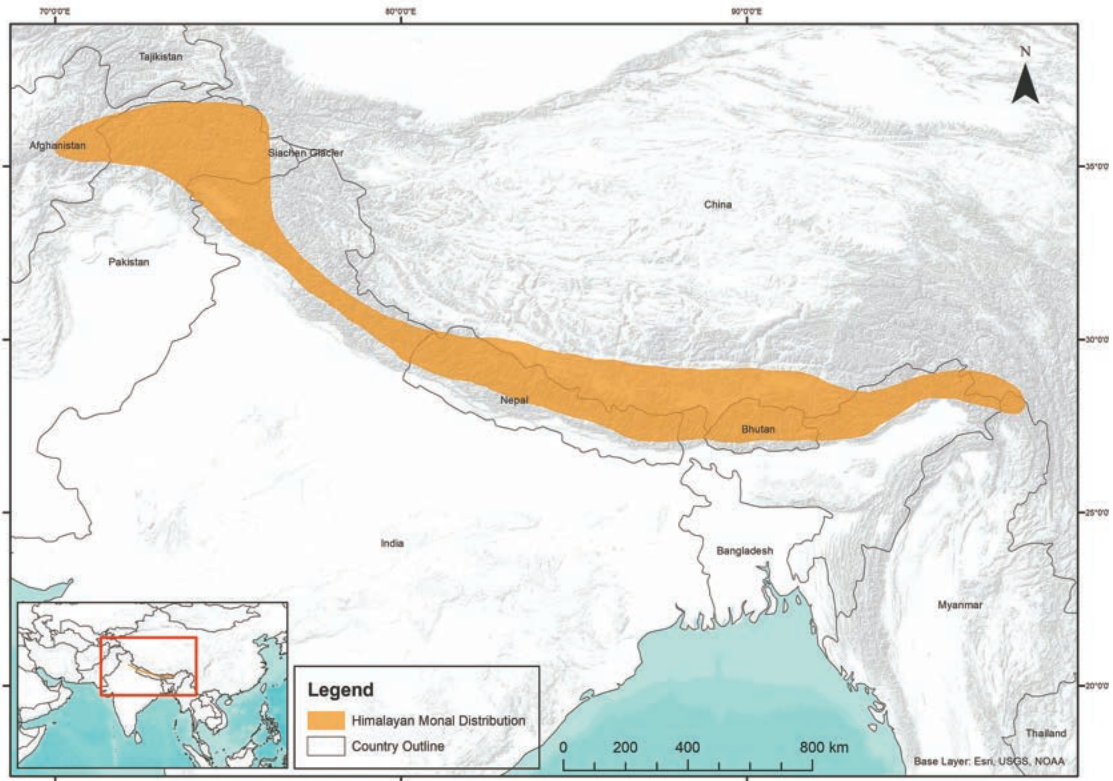
The bird is usually quite shy and flushes at a considerable distance. The species prefers alpine and sub-alpine areas in steep grassy and open rocky slopes, cliffs and alpine meadows and the adjacent forest during summer and descends to

lower altitudes in rhododendron forest during winter, especially in times of heavy snow fall (Inskipp and Inskipp 1991, Lelliott and Yonzon 1980a). The species primarily feeds on grass and flower seeds, roots, tubers, shoots, berries and occasionally eating insects and their larvae (Ali and Ripley 1980). It digs for tubers with powerful bill, often remaining in one spot for half an hour or more. A dozen of cocks can be seen digging under the trees and open lands in the early morning (Fleming *et al.* 1984). The bird is usually seen digging for tubers and roots, which seem to form their main diet in addition to grass roots and seeds, berries, mosses, insects and grubs (Yonzon and Lelliott 1981). Terrestrial insects and tubers forms are the chief food (Johnsgard 1986).

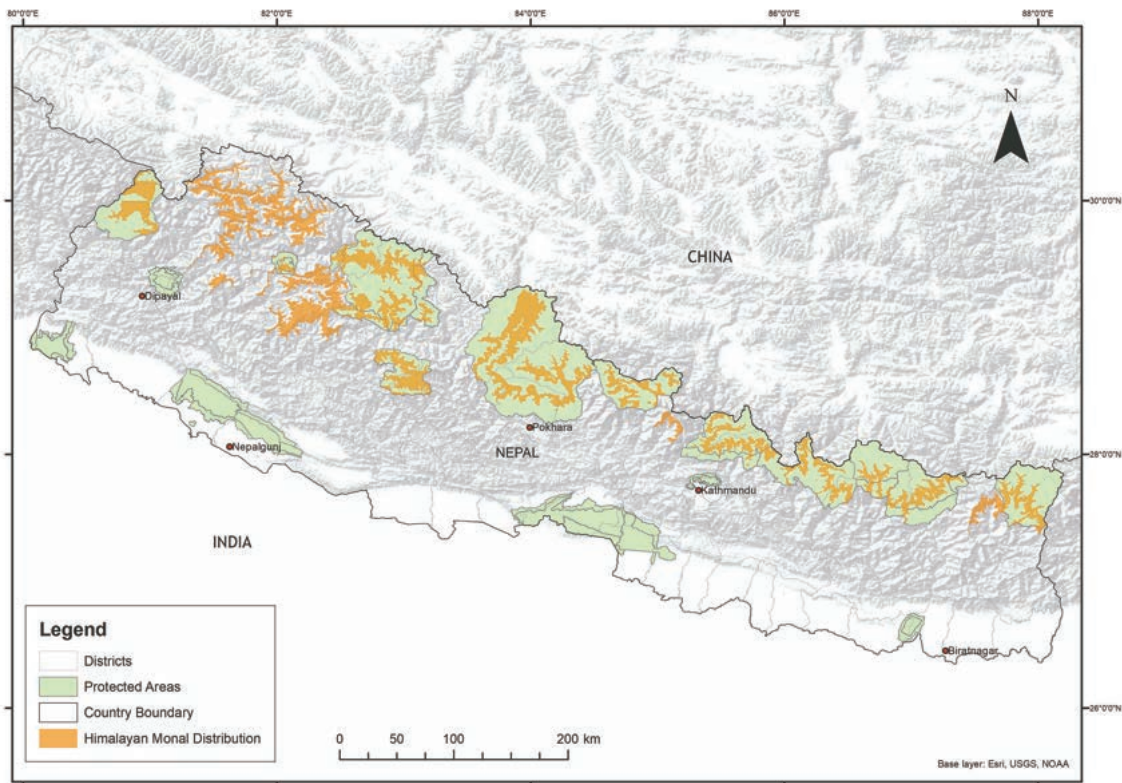


Himalayan Monal (Rajendra Gurung)

Himalayan Monal Global Distribution



Himalayan Monal National Distribution



The species is reported to be polygamous; males can be seen with more than one female. Eggs are laid in rudimentary nests on the ground during May-June, generally under boulders and are 3-6 in number (Madge and McGowan 2002). The nest is a simple scrape, often under the shelter of a bush, a rock, or in the hole of some large tree (Johnsgard 1986). Incubation period is 26-29 days, usually 28 days (*ibid*).

The main threats to the Himalayan Monal arise from hunting and trapping for local consumption especially during winter, when the bird descends to lower altitudes, closer to human habitations. Hunting and trapping by shepherds and poachers during and after monsoon cannot be ignored (Yonzon and Lelliott 1980). It is also killed for its plumes. One of the uses of the feathers is to make crowns for shamans. Live trapping of this species, to keep the birds in aviaries, is also widespread (Inskipp et al. 2016). Forest fire and destruction of nests and eggs are also perceived as threat to the species. The tail is used to make arrows for archery in some localities.



Himalyan Monal-Female (Chungba Sherpa)

Nepali Name		डाँफे (Danphe)
English Name		Impeyan pheasant, Himalayan Monal, Danphe, Himalayan pheasant
Scientific Name		<i>Lophophorus impejanus</i>
Altitude		Upper limit: 4570 m; lower limit: 3300 (-2500) m
Distribution in Nepal	Districts	Achham, Bajhang, Baglung, Darchula, Dolakha, Dolpa, Doti, Gorkha, Humla, Jajarkot, Jumla, Kaski, Lamjung, Mugu, Mustang, Myagdi, Rasuwa, Kathmandu, Sankhuwasabha, Sindhupalchowk, Solukhumbu, Taplejung
	Protected Areas	ACA, ANCA, DHR, GCA, KCA, KNP, LNP, MBNP, MCA, RNP, SNP, SPNP
Global Distribution		Bhutan, China, India, Myanmar, Nepal and Pakistan
National Red List Status		Near Threatened (Inskipp et al. 2016)
Global Red List Status		Least Concern (BirdLife International 2016)
National Population		3500-5000 Individuals (Estimated)
Global Population		Not Available
Legal status		NPWC Act 1973 Schedule I
Breeding		Season: April-July, Clutch Size: 4-5, Incubation Period: 26-29 Days
Threats		Hunting and snaring for meat and feathers, live trapping to keep the bird in aviaries, destruction of nests and eggs due to forest fire and other human induced activities

2.1.2 Satyr Tragopan

The male bird is about 67-72cm in length and brightly colored. Plumage on the neck and under part is bright red. The back and sides are mottled black and brown with round white spots. Head and tail are black. The male has two fleshy horns of sky-blue color which along with the blue bib, get engorged during courtship displays. The female is smaller than the male and is rufous-brown with white streaking and spotting (Grimmett *et al.* 2016).

Satyr Tragopan is native to Nepal, Bhutan, China, and India. It occurs in the Himalayas of Nepal (uncommon), India (uncommon), Bhutan (fairly common) and China (local, with a limited range in south and south-east Tibet) (BirdLife International, 2016). In Nepal it is an uncommon resident and reported from 2500-3800 m in summer and down to 2100 m in winter. This bird has been recorded in Makalu-Barun, Sagarmatha, Langtang, Shey Phoksundo and Khaptad National Parks; Dhorpatan Hunting Reserve; and Kanchanjungha, Gaurishankar, Manaslu, Annapurna and Api-

Nampa Conservations Areas (Inskipp *et al.* 2016, Kusi *et al.* 2018). The species is also recorded from Humla (Yalbang area), Jumla, Dolakha, Sindhupalchok (Kutumsang, Tarkeghyang, Helambu,) Terhathum (Tinjure area), Taplejung (Gufa Pokhari and Yamphudin area) and Illam (Mai Pokhari area) districts (Inskipp *et al.* 2016). The records from Phulchoki in April 2018 (Personal Communication from Hari Basnet and Uvin Shrestha) and Shivapuri around Kathmandu valley are quite interesting.

It is resident in moist oak and rhododendron forest with dense undergrowth and bamboo clumps, mixed forest, scrub and densely vegetated ravines in gentle and steep slopes (Inskipp and Inskipp 1991, Lelliott and Yonzon 1980a). During the breeding season males give a distinctive call to attract females which provides a basis for surveying the species. This species is shy but less difficult to observe than the Koklass. It is solitary or keeps in pairs. The mating call is a long drawn out much like the crying of an infant

voiced 12-14 times mainly at dawn, the series rising in volume and becoming more protracted (Grimmett *et al.* 2016). It feeds on young leaves, petals, berries, buds, leaves and invertebrates (Madge and McGowan 2002), in addition to these; mosses, grasses and insects, lichens and quartz fragments (Yonzon and Lelliott 1981). Individuals feed actively in the morning and late afternoon.

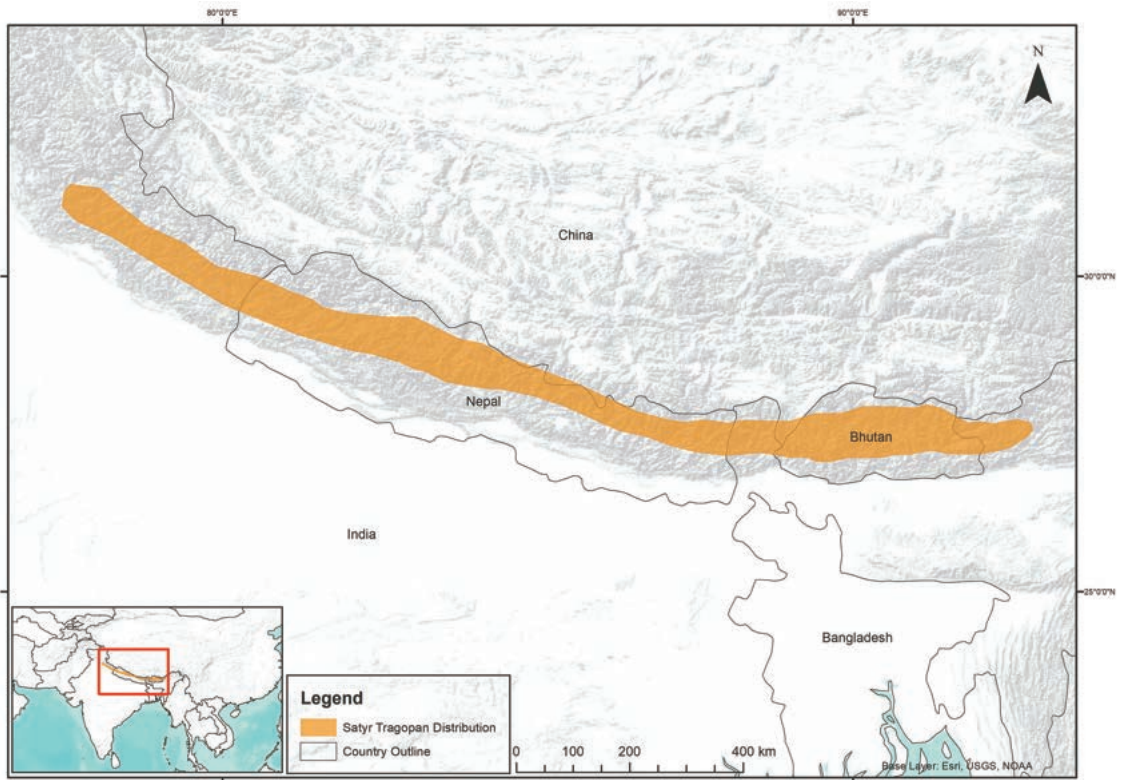
There is very little known of its breeding but the season is believed to be in May-June and occasionally into July (Madge and McGowan 2002). Satyr Tragopan is partly arboreal; nests have been found in trees and also on the ground. Clutch size is 2-3 eggs in the wild and 4-6 in captivity (Johnsgard 1986).

Hunting and snaring are serious threats to Satyr Tragopan throughout most of its Nepal range. It is easily located by hunters by its distinctive call. The bird is also significantly threatened by loss and degradation of its forest habitats throughout all its range in the country.

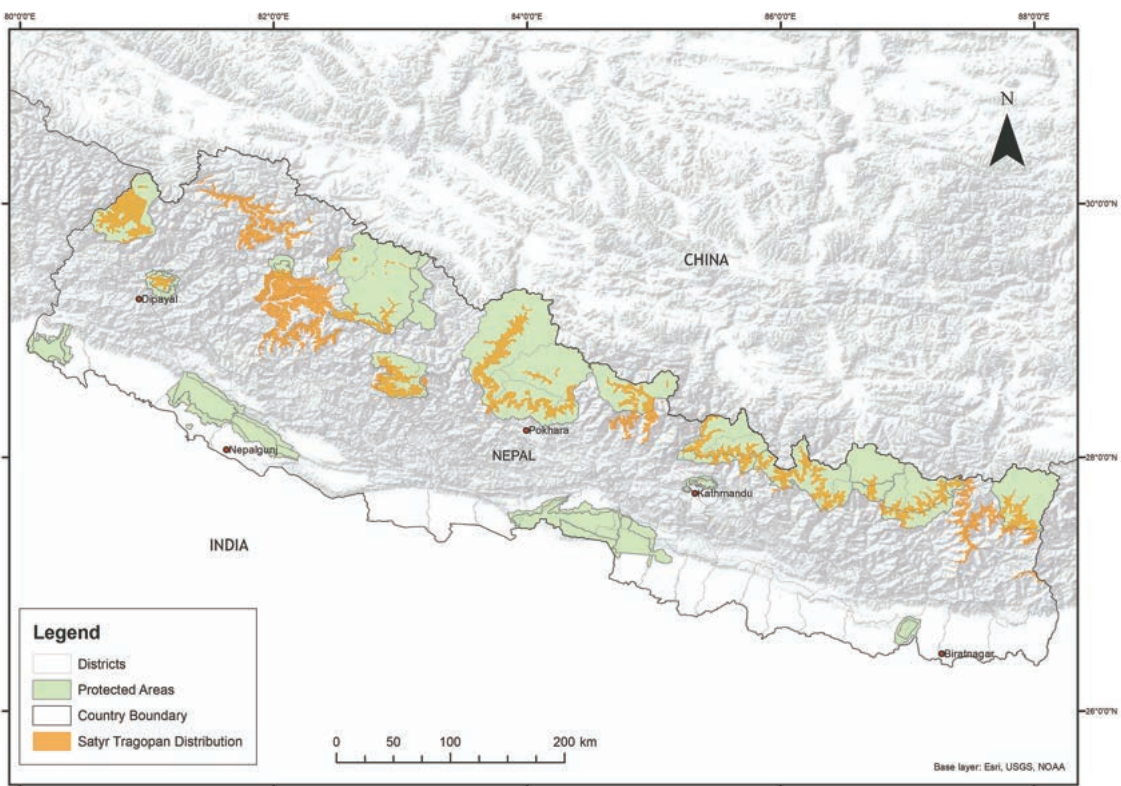


Satyr Tragopan (Gunjan Arora)

Satyr Tragopan Global Distribution



Satyr Tragopan National Distribution





Satyr Tragopan-Female (Gunjan Arora)

Extraction of bamboo also poses problems for habitat of the species, given its association with bamboo undergrowth. Local people reported a decrease in their number in Ghopte area of Langtang National Park (Inskipp et al. 2016) however, a long running population survey of pheasants in Pipar area of ACA show that the population of this species is stable (Subedi 2010; Poudyal et al. 2009, Poudyal et al. 2011).

Nepali Name		मुनाल (Munal)
English Name		Satyr Tragopan, Crimson-horned Pheasant, Crimson Tragopan
Scientific Name		<i>Tragopan satyra</i>
Altitude		Upper limit: 3800 m; lower limit: 2590 m (occasionally to 2100 m)
Distribution in Nepal	Districts	Achham, Baglung, Bajhang, Bajura, Darchula, Dolakha, Dolpa, Doti, Gorkha, Humla, Ilam, Jajarkot, Jumla, Kaski, Lamjung, Mugu, Mustang, Myagdi, Rasuwa, Rukum, Sankhuwasabha, Sindhupalchowk, Solukhumbu, Taplejung, Terhathum, Lalitpur
	Protected Areas	ACA, ANCA, DHR, GCA, KCA, KNP, LNP, MBNP, MCA, SNP, SPNP
Global Distribution		Bhutan, China, India, Nepal
National Red List Status		Vulnerable (Inskipp et al. 2016)
Global Red List Status		Near Threatened (BirdLife International 2016)
National Population		600-1000 Individuals (Estimated)
Global Population		6,000-15,000 Mature Individuals
Legal status		NPWC Act 1973 Schedule I
Breeding		Season: May-June, Clutch Size: 2-3, Incubation 28 Days
Threats		Hunting and snaring, overgrazing, deforestation, forest fire, destruction of nests and eggs due to forest fire and other human induced activities

2.1.3 Cheer Pheasant

The male bird is about 90-118 cm in length and female bird is smaller in size (61-76 cm). The bird possesses a long broadly barred tail, a noticeable blackish brown crest and red facial skin (Grimmett *et al.* 2016). The body is buffy white and pale rusty, closely barred with black. Male is more cleanly and strongly marked than female (*ibid.*).

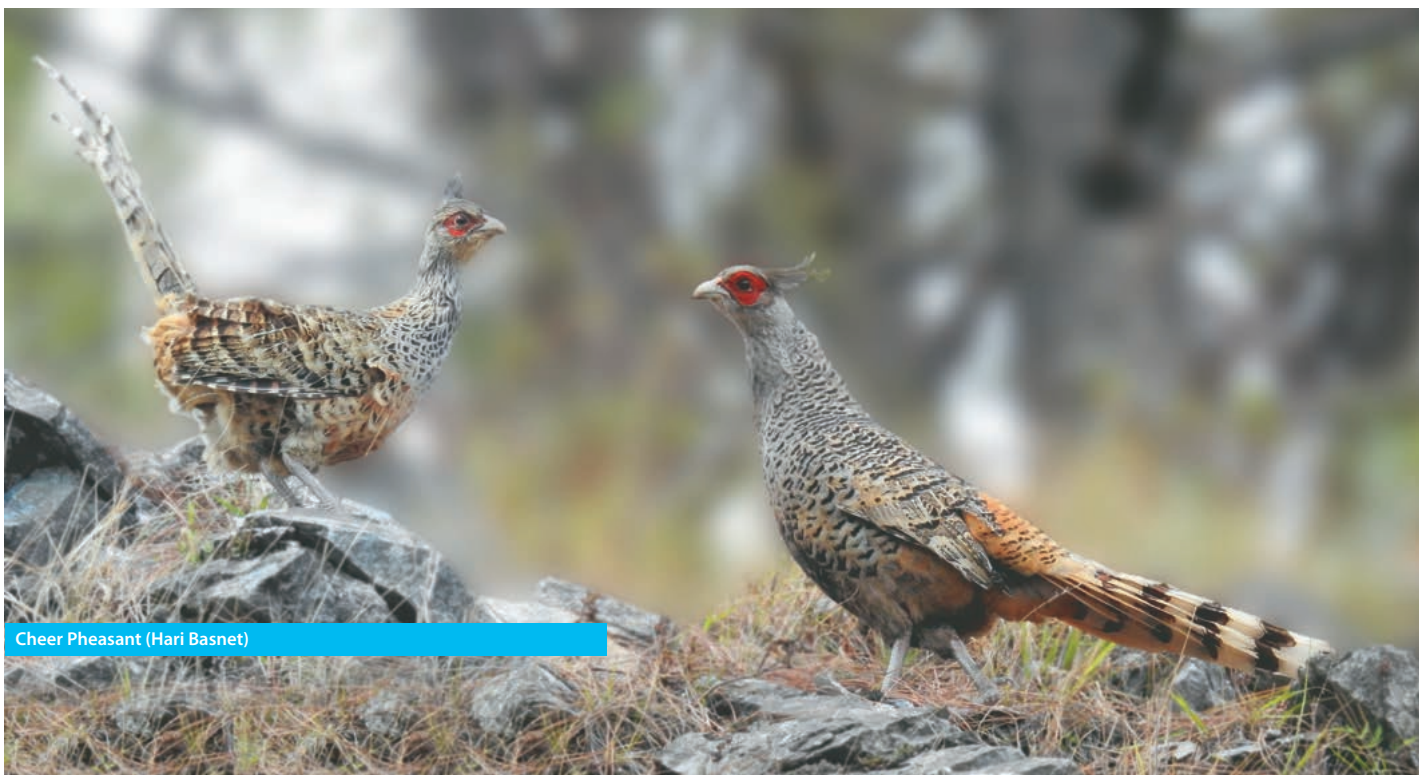
Cheer Pheasant is native to Nepal, India, and Pakistan. It occurs in the western Himalayas from north Pakistan, through Kashmir into Himachal Pradesh and Uttarakhand in India, and east to central Nepal (BirdLife International. 2017). In Nepal it is a local resident in the far west; locally frequent in and around Dhorpatan Hunting Reserve and scarce elsewhere with its eastern range to the Kaligandaki valley in Annapurna Conservation Area (Inskipp *et al.* 2016). The bird is also recorded from Rara National Park (Singh 2009) and Api Nampa Conservation Area (Chaudhary and Poudyal 2017). Garson and Baral (2007) single out the area around Dhorpatan Hunting Reserve as the most important area for the species however recent surveys in

various far-western districts have led to the discovery of many new important sites for the species. The presence of bird is confirmed from Basti and Kuntibandali areas of Acham district; Aatichaur, Martadi, Jugada and Budhiganga areas of Bajura district and Kulau area of Baitadi district in far west Nepal (Basnet and Poudyal 2017). Local people have reported the presence of the species from Dogati, Barbish, Manakot, Jukot, Dahakot, Pandusain, Bichchya and Kolti of Bajura district; Khaptad, Marku, Bhairabsthan, Devisthan, Batala, Siudi and Sera of Achham district; Timalisain and Kanachaur of Doti district; Belpur of Dadeldhura district; Mahakali, Maharudra, Durgasthan, Shivanath and Aamchaur of Baitadi district; Simikot of Humla district; Jumla Bazar and Dhapa of Jumla district; and different places of Jajarkot and Dolpa districts (Basnet and Poudyal 2017). Considering the global estimated population i. e. 2000-2700, Nepal holds significant population of Cheer Pheasant (BirdLife International 2018 and Inskipp *et al.* 2016).

The bird prefers a mosaic of scrub,

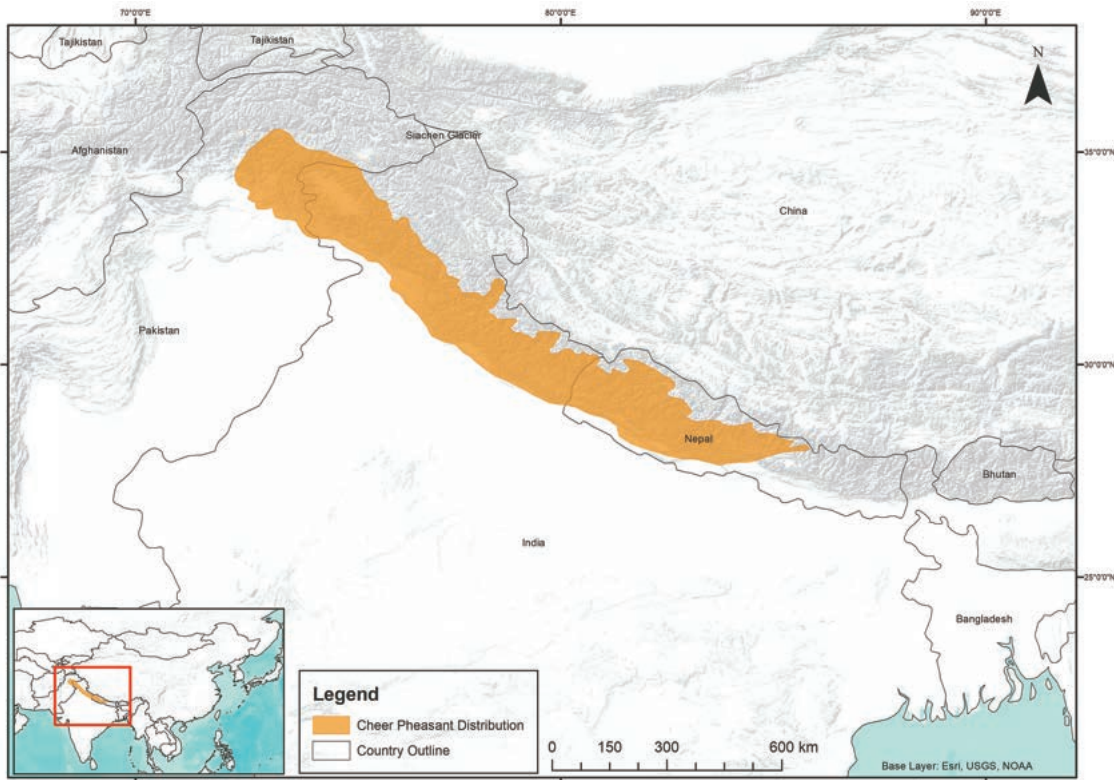
tall grasses and scattered clumps of broadleaved and pine trees on the rocky crags and steep hillsides (Singh *et al.* 2011). It is also known to prefer areas having dense ground cover but a relatively open canopy. The species uses early successional habitats, often created by traditional grass cutting and burning regimes, which has led to an association with human settlements (and therefore a high susceptibility to hunting). The Cheer Pheasant altitudinal range in Nepal is 1445 m to 3050 m. It digs for roots and tubers, and also eats seeds, berries, insects and grubs (Ali and Ripley 1980). It keeps in groups of 5-6 while feeding on open hillsides and well hidden under dens undergrowth. It is a very shy bird and when disturbed, prefers to run off rapidly or skulk in thick undergrowth.

The bird is monogamous and breeds in April to June (Madge and McGowan 2002). Nests have been found roughly lined with a few leaves and grass in the foot of boulder on rugged hillside in open oak or pine forests usually well concealed by overhanging grasses. Clutch Size is 9-14 in the wild (*ibid.*).

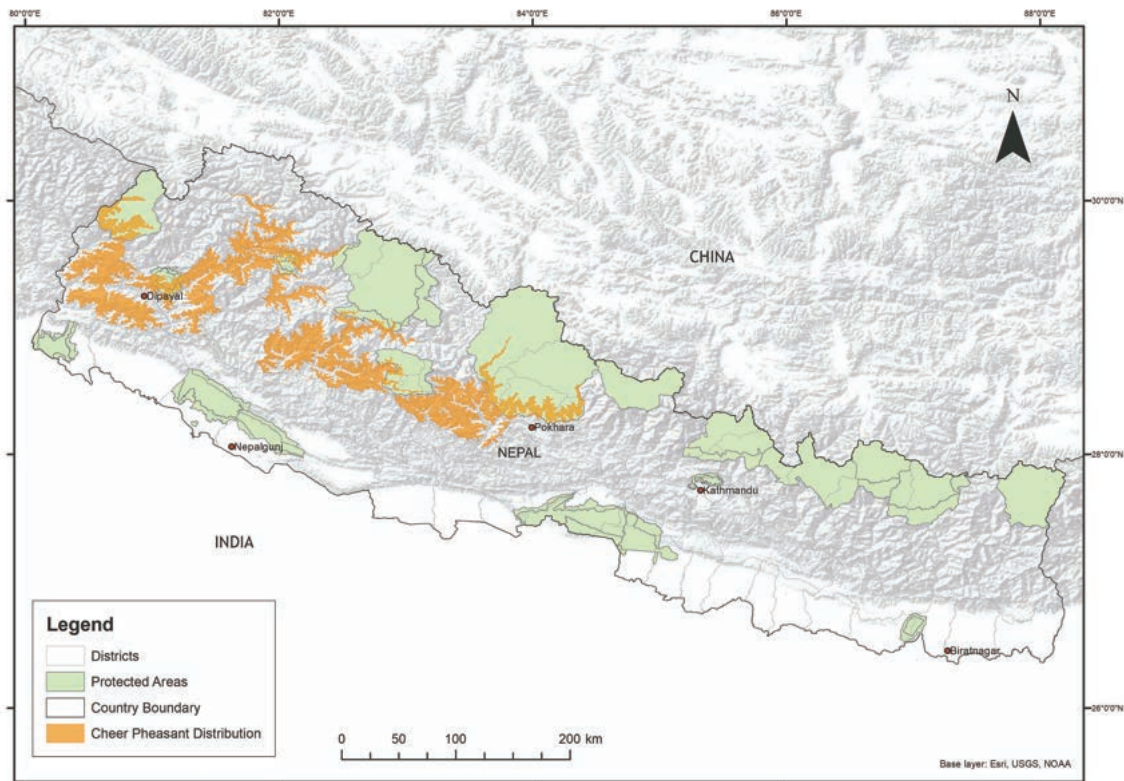


Cheer Pheasant (Hari Basnet)

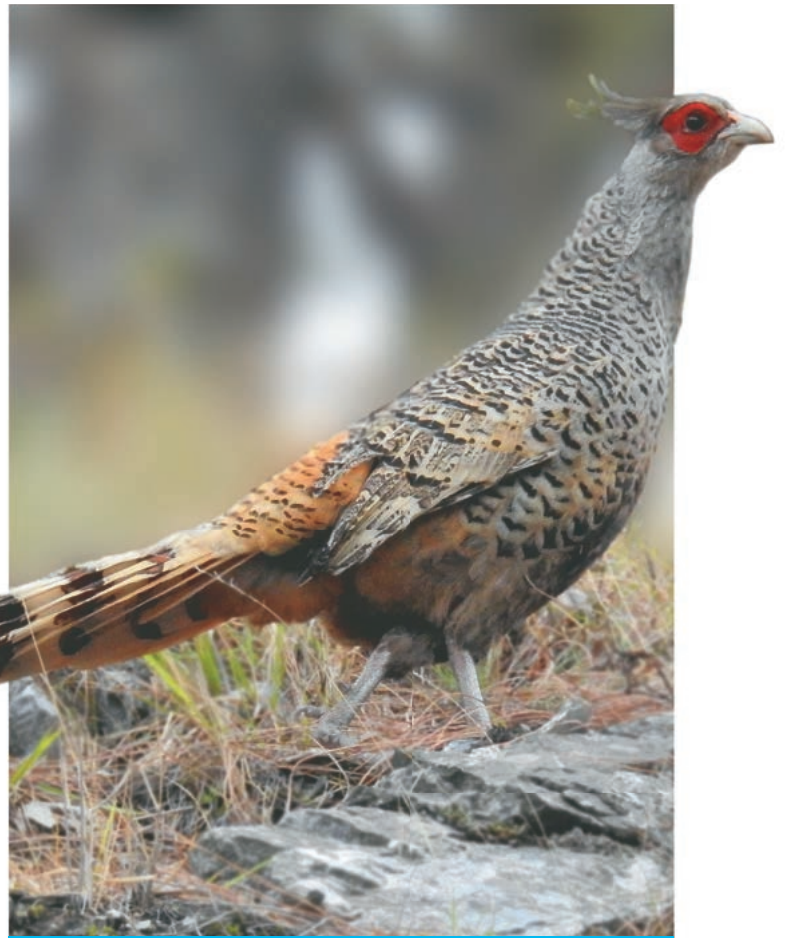
Cheer Pheasant Global Distribution



Cheer Pheasant National Distribution



Cheer Pheasant is still hunted for food, and its eggs are collected for local consumption (Birdlife International 2017). The superstition of its use in traditional treatment of asthma, body pain and fever the species is illegally hunted and traded locally (ibid.). Cheer are reported to rear illegally in western Nepal, which are used as used for bait hunting by local hunters (Basnet 2016, Thakuri 2013, Yadav 2011). Lure/ bait hunting, wild forest fire, illegal hunting and poaching, trapping, collection of eggs for local consumption as well as keeping captive Cheer for the egg production are the major anthropogenic threats. It is claimed that hunters in Nepal can trap up to 50 birds in one session through the use of snares and bait cheer (Singh 2009). Nest disturbance by dogs has also been identified as a threat. The species is threatened due to indiscriminate hunting and snaring, forest fire and deforestation (Acharya et al. 2006; Subedi 2010).



Cheer Pheasant (Hari Basnet)

Nepali Name		चीर (Cheer)
English Name		Cheer Pheasant
Scientific Name		<i>Catreus wallichii</i>
Altitude		Upper limit: 3050 m; lower limit: 1,445 m
Distribution in Nepal	Districts	Achham, Baglung, Baitadi, Bajura, Dadeldhura, Darchula, Doti, Humla, Jajarkot, Jumla, Mugu, Mustang, Myagdi, Rukum
	Protected Areas	ACA, ANCA, DHR, RNP
Global Distribution		India, Nepal and Pakistan
National Red List Status		Endangered (Inskipp et al. 2016)
Global IUCN Status		Vulnerable (BirdLife International 2017)
National Population		No more than 1000 Individuals (Estimated)
Global Population		2,000-2,700 Mature Individuals
Legal Status		NPWC Act 1973 Schedule I
Breeding		Season: April-June, Clutch Size: 9-14, Incubation 26 Days in Captivity
Threats		Hunting and snaring; live trapping, captive and luring; eggs collection for local consumption; nest destruction by dogs; overgrazing, deforestation and forest fire

2.1.4 Blood Pheasant

Blood Pheasant Looks somewhat like a large partridge, with a dumpy appearance. The male and female are the same size about 38 cm in length. Both sexes have crested head, and red orbital skin and legs/feet. Male has grey upper parts streaked with white, and greenish under parts and plumage is splashed with red. Female has grey crest and, rufous orange face, dark brown upperparts, and rufous brown underparts (Grimmett *et al.* 2016).

Blood Pheasant is native to Nepal, Bhutan, China, India, and Myanmar. (BirdLife International 2016).

Sub species *cruentus* is found in Nepal. It is a locally fairly common resident species; mainly in the centre and east found between 3200m-4400m altitude (Grimmett *et al.* 2016) and occurs eastwards from the Kali Gandaki valley (Roberts

1980) but they have also been reported from west to Rara and Jumla areas (Inskipp and Inskipp 1991). It is frequently seen in Gosainkunda, Khumbu, Pipar, and the upper valley Arun. This bird has been recorded in Makalu-Barun, Sagarmatha, Langtang and Rara National Parks; Dhorpatan Hunting Reserve; and Kanchanjunga, Gaurishankar, Manaslu and Annapurna Conservations Areas (Inskipp *et al.* 2016). The species is also recorded from upper Myagdi Khola valley of Myagdi District and Ganesh Himal area of Rasuwa district (*ibid.*).

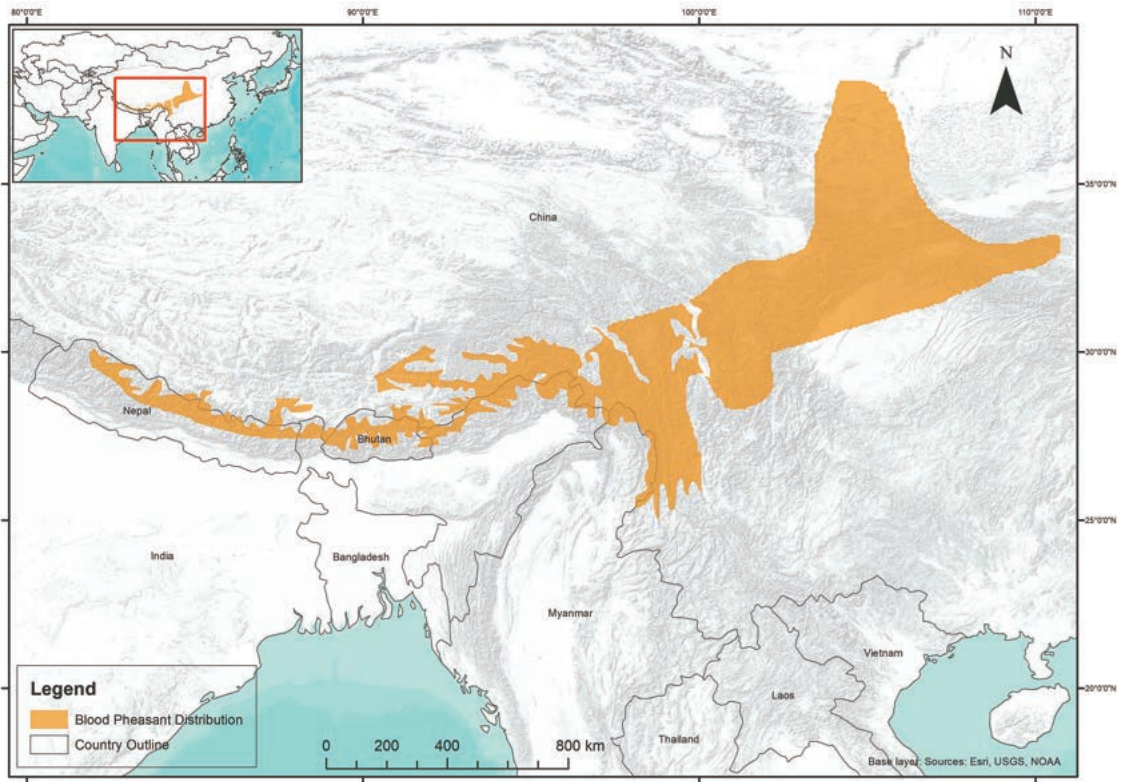
Blood Pheasant inhabits high altitude shrublands, dense bamboo patches, open forests or scrub of rhododendron, birch and juniper, often near water (Inskipp and Inskipp 1991, Fleming *et al.* 1984). It also occurs in open areas of

Berberis scrub and hill side (Lelliott and Yonzon 1980a). It is usually tame and gregarious in habit and often found in coveys of about 10 birds (Inskipp and Inskipp 1991). Outside the breeding season the Blood Pheasant travels in small flocks through open scrub or thin forest (Roberts 1980) and can be observed as many as six or seven flocks of birds, each one composed of eight to ten members (Shakya 1980). The bird feeds on berries and other vegetable matter (Fleming *et al.* 1984) which consists mainly of moss, leaf litter, grass shoots, lichens, fern and pine shoots (Ali and Ripley 1980). Sometimes, it flies to catch flying insects. They do not have special feeding period and feed entire day including arboreal feeding on moss covered branches, although main in the morning (Lelliott and Yonzon 1980a).

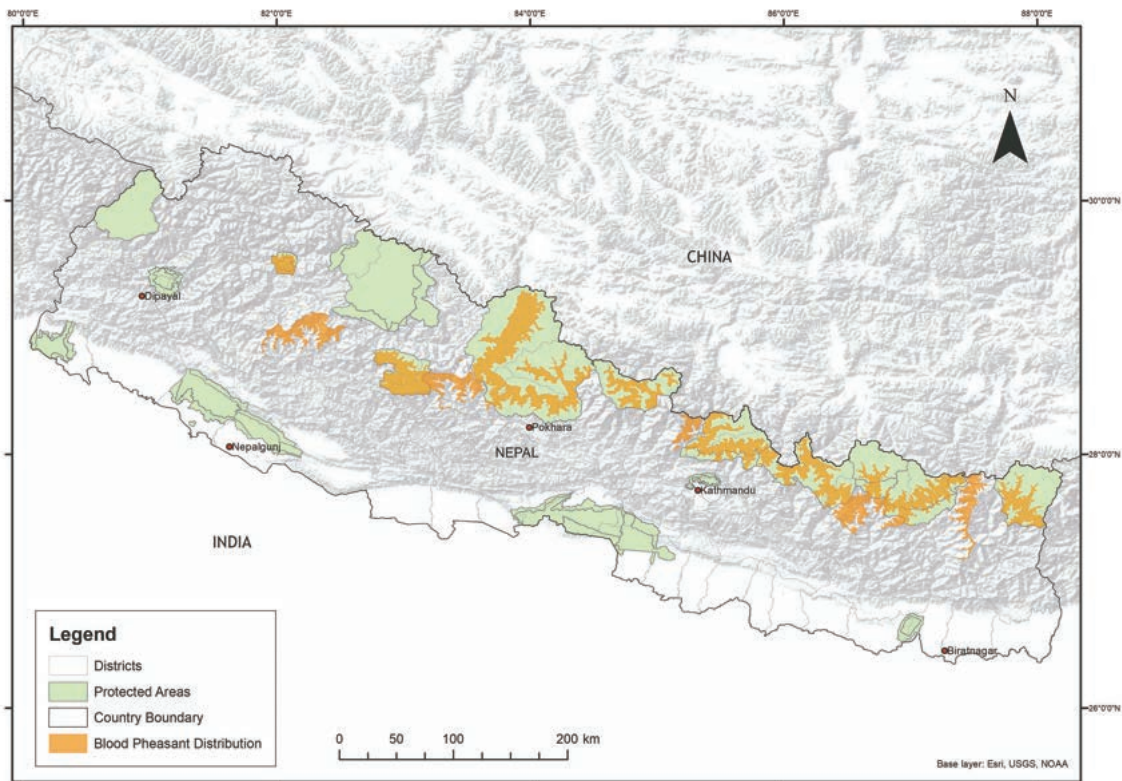


Blood Pheasant (Jyotendra Jyu Thakuri)

Blood Pheasant Global Distribution



Blood Pheasant National Distribution





Blood Pheasant (Hem Bdr Katuwal)

The Blood Pheasant is believed to be monogamous, but polygamy and polyandry are also reported. Breeding occurs in April-June. A clutch of 2-7 eggs is known to be laid from mid-April to late June; most nests found in May (Madge and McGowan 2002). Chicks were found at 3200m in June 1981 at Pipar (Inskipp and Inskipp 1991). The nest is a depression in the ground lined with dead grass stems. Incubation in captive birds is 26-29 days (Madge and McGowan 2002). Breeding of the species has been observed at ACA and LNP (Lelliott and Yonzon 1980b).

As this is a bird of the high-altitude region, it is not really under human pressure like the other forest dwelling pheasants. However, hunting for local consumption by shepherds and poachers during and after monsoon cannot be ignored (Yonzon and Lelliott 1980). The other threats include habitat loss, especially outside protected areas. Disturbance during breeding season in protected areas is also a threat to the species (Inskipp et al. 2016)

Nepali Name		चिलिमे (Chilime)
English Name		Blood Pheasant
Scientific Name		<i>Ithaginis cruentus</i>
Subspecies in Nepal		<i>Ithaginis cruentus cruentus</i>
Altitude		Upper limit: 4400 m; lower limit: 3200 m
Distribution in Nepal	Districts	Baglung, Dhading, Dolakha, Gorkha, Ilam, Jumla, Kaski, Mugu, Mustang, Myagdi, Rasuwa, Sankhuwasabha, Sindhupalchowk, Solukhumbu, Taplejung
	Protected Areas	ACA, DHR, GCA, KCA, LNP, MBNP, MCA, SNP, RNP
Global Distribution		Bhutan, China, India, Myanmar and Nepal
National Status		Least Concern (Inskipp et al. 2016)
Global Status		Least Concern (BirdLife International 2016)
National Population		Unknown
Global Population		Unknown
Breeding		Season: April-June, Clutch Size: 2-7, Incubation Period: 26-29 Days in Captivity
Threats		hunting for local consumption by shepherd, habitat loss especially outside protected areas, Disturbance during breeding season

2.1.5 Koklass Pheasant

The male is about 58-64 cm long and has a bottle green head and ear tufts, white patch on neck, chestnut on under parts, and a streaked appearance to the upperparts. The female is smaller than the male (52-56 cm long) and has a white throat, short buff ear tufts, and heavily streaked body. Both sexes have a wedge-shaped tail (Grimmett *et al.* 2016).

Koklass is native to Nepal, Afghanistan, China, India, and Pakistan (BirdLife International. 2016). It occurs in the Himalayas of Afghanistan to Pakistan in the west, continuously through northern India, Nepal, north east Tibet and China (*ibid*). In Nepal it is locally resident and reported from 2680 m to 3200 (-3500) m in summer and down to 2135 m in winter (Grimmett *et al.* 2016). The race in Nepal is mainly *nipalensis* and extends as far east as the Madi khola and possibly to the

Marsyandi khola (Roberts 1980). Birds in the far west may be subspecies *macrolopha* (Inskipp and Inskipp 1991). Subspecies *nipalensis* is endemic to Nepal. It is regularly recorded at Pipar, Ghasa, Ghorepani and the Dhorpatan valley. This bird is recorded from Khaptad, Rara and Shey Phoksundo National Parks; Dhorpatan Hunting Reserve; and Api Nampa and Annapurna Conservation Areas (Inskipp *et al.* 2016). The species is also recorded from Dadeldhura district (Baral *et al.* 2010); Jumla districts (Cox 1985); and Taksera and Maikot of Rukum district (Inskipp *et al.* 2016).

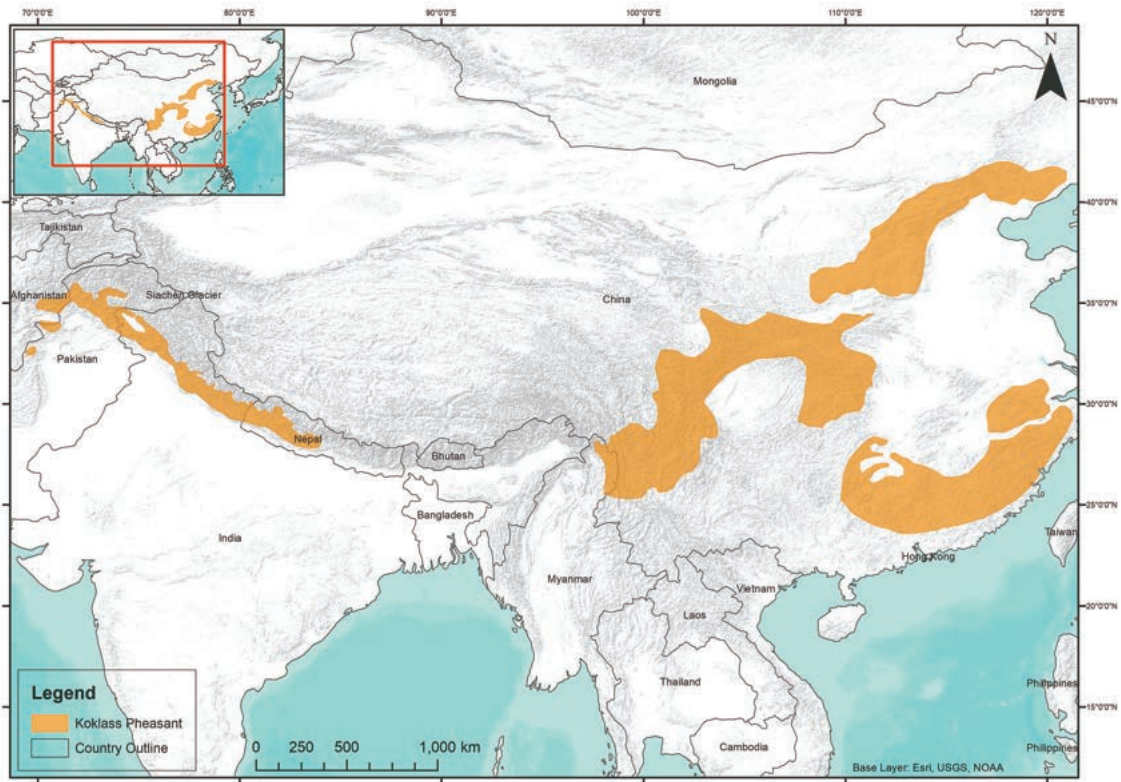
The species prefers temperate forests dominated by conifer, oak and rhododendron (Inskipp and Inskipp 1991) having bushes and dwarf bamboos in the undergrowth (Grimmett *et al.* 2016). It occurs mainly in mature Oak and mixed Spruce Juniper,

Cedar and Rhododendron forests and occasionally in adjacent Berberis scrubland and grasslands (Lelliott and Yonzon 1980a). It is the shyest and most secretive species among the Himalayan pheasants of Nepal, though it is the most vocal. It can be met with singly or in pairs of coveys of 1-3 pairs (Lelliott and Yonzon 1980b). The call of the male is a far carrying, rough kuk -kuk- kuk- kokas- kokas (in Setikhola valley local people say *parkhes kaakkaa*) in the early morning and evening but also at other times of the day in cloudy weather. The species derives its name to its crowing. The birds feed on young leaves grass, moss, seeds and quartz fragments (Yonzon and Lelliott 1981) during early morning and late afternoon, in grassy areas, and also dug over patches found in a variety of places, presumably searching for roots and tubers (Madge and McGowan 2002).

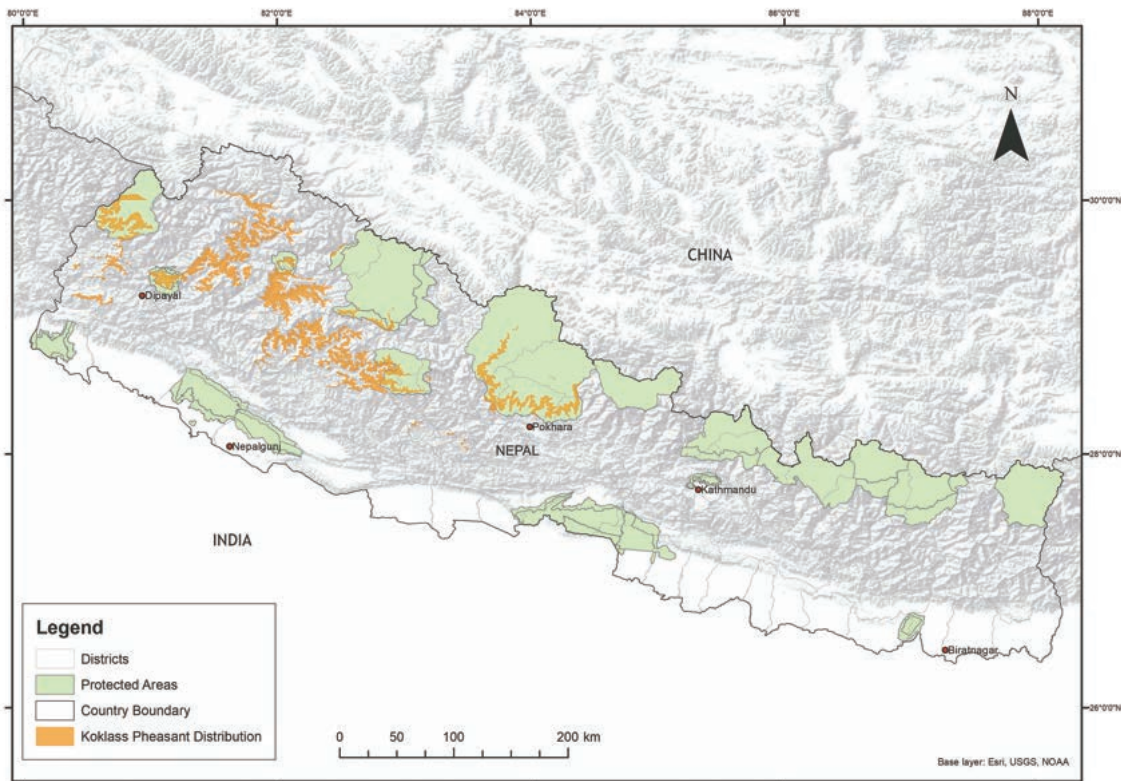


Koklass Pheasant (Gunjan Arora)

Koklass Pheasant Global Distribution



Koklass Pheasant National Distribution



Koklass Pheasant is considered to be monogamous, as males and females are often found in close proximity (Madge and McGowan 2002). In courtship display, the cock puffs out his body feathers, erects the long black ear tufts with the brown crest between them and struts about in the proximity of the hen. The breeding season is April through June (Ali and Ripley 1980). The nest is a scrape in the ground roughly lined with sticks leaves and grass concealed under dense bushes or rocks. The clutch size is 5-7 up to 9 eggs with an incubation period of 26-27 days (Johnsgard 1986) although 21-22 days has also been reported (Madge and McGowan 2002). A female with chicks was photographed at Pipar in May 1985 (Picozzi 1985, Warwick 1986). Chicks have also been found in June (Inskipp et al. 2016).

Koklass Pheasant is threatened by hunting, trapping and disturbance, especially outside protected areas (Inskipp et al. 2016). Habitat destruction is one of the primary causes of concern. It appears to prefer a significant understorey and where this is being degraded through grazing or collection of fodder for domestic stock or firewood, the species is probably under pressure (Madge and McGowan 2002).



Koklass Pheasant (Chaiyan Kasoendorkbua)

Nepali Name		फोक्राँस (Phokrash)
English Name		Koklass Pheasant
Scientific Name		<i>Pucrasia macrolopha</i>
Subspecies in Nepal		<i>Pucrasia macrolopha nipalensis</i> ; <i>Pucrasia macrolopha macrolopha</i>
Altitude		Upper limit: 3200 m (- 3500 m) (summer), 3289 m (winter); lower limit: 2135 m (winter), 2680 m (summer)
Distribution in Nepal	Districts	Achham, Baglung, Baitadi, Bajhang, Bajura, Dadeldhura, Darchula, Dolpa, Doti, Jumla, Kaski, Lamjung, Mugu, Mustang, Myagdi, Rukum
	Protected Areas	ACA, ANCA, DHR, KNP, RNP, SPNP
Global Distribution		Afghanistan, China, India, Nepal and Pakistan
National Status		Vulnerable (Inskipp et al. 2016)
Global Status		Least Concern (BirdLife International 2016)
National Population		500-1000 Individuals (Estimated)
Global Population		Not Available
Breeding		Season: April-June, Clutch Size: 5-7, Incubation period 26-27 Days
Threats		Hunting and snaring, disturbance, overgrazing, deforestation, forest fire, fodder collection, firewood collection

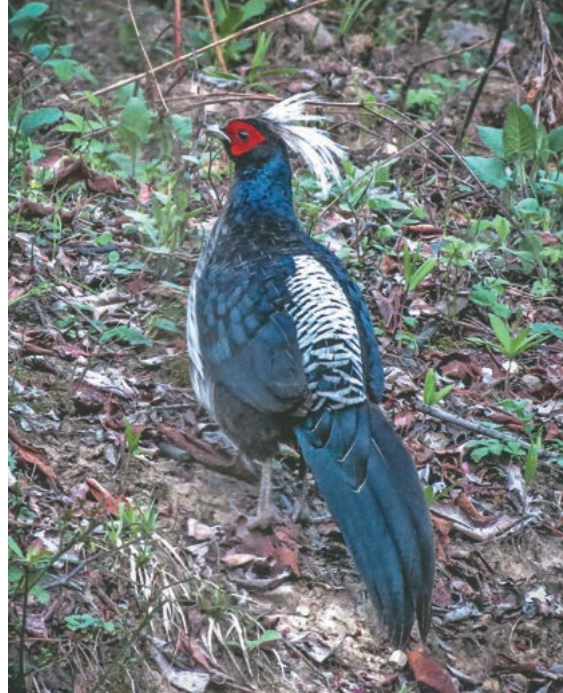
2.1.6 Kalij Pheasant

The male Kalij is about 65-73 cm and female is 50-60 cm in length. Both sexes have red facial skin and down curved tail. Three intergrading races occur in Nepal; White-crested Kalij *Lophura leucomelanos hamiltonii* (male has white or grey brown crest, broad white barring on rump) Black-crested or Nepal Kalij *Lophura leucomelanos leucomelanos* (male has blue black crest and white barring on rump, and heavily scaled upper parts) and Black-backed Kalij *Lophura leucomelanos melanota* (male has blue back crest, and blue-black rump that lacks pale scaling) (Grimmett et al. 2016). The female is reddish brown, with grayish-buff fringes producing scaly appearance.

Kalij Pheasant is native to Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand and China; and, has been introduced in to the United States (BirdLife International. 2016). In Nepal, it is a fairly common and widespread resident and reported from 245-3700 m altitude (Inskipp et al. 2016). Sub species *leucomelanos* is endemic to Nepal and is a central Nepal bird. Sub species *hamiltonii* is a west Nepal bird occurring about as far east as Jumla; *leucomelanos* occurs from there to about the Arun valley in east Nepal. Sub species *melanota* continues to the eastern border

(Roberts 1980). Kalij Pheasant is the most widely distributed member of the pheasant family in Nepal. It is recorded from Makalu Barun, Sagarmatha, Langtang, Shivapuri Nagarjun, Rara, Khaptad, Bardia, Chitwan and Parsa National Parks; Dhorpatan Hunting Reserve; and Api Nampa, Annapurna, Manaslu, Gaurishankar and Kanchenjunga Conservation Areas (Inskipp et al. 2016). It is recorded from Shey Phoksundo National Park (Kusi et al. 2018). This pheasant is also recorded from many different places outside the protected areas. The species is recorded from Ilam, Udayapur, Sindhupalchok, Kabhrepalanchowk, Bhaktapur, Kathmandu, Dhading, Chitwan, Kaski, Syangja, Gulmi, Baglung, Pyuthan, and Kanchanpur districts (Inskipp et al. 2016). It is also recorded from Jumla and Jajarkot (Raju Acharya pers comm. 2018) and kailali and Doti (Personal communication with Rajendra KC). This species is also recorded from Taplejung, Arghakhachi, Baitadi, Tanahun, Lalitpur Dolakha, Solukhambhu, Rasuwa, Makwanpur, Dang, Jajarkot, Jumla and Parbat districts and Koshi Tappu Wildlife Reserve (ebird).

This is one of the more adaptable pheasant species found in many habitat types and frequents all types of forests having dense



Kalij Pheasant (Hathan Chaudhary)

undergrowth (including Sal, oak, spruce and rhododendron, and other evergreen and deciduous forests) with dense undergrowth (Inskipp and Inskipp 1991, Madge and McGowan 2002). The birds keep in pairs or small groups and feed in open areas early in the mornings. They are very shy and run quickly for cover at the slightest hint of alarm. Kalij pheasant is omnivorous, eating almost anything from bamboo seeds to small snakes and lizards, and a wide variety of food including berries, grain, seeds, grass, herbs, shrubs, roots, shoots, and diversity of insects, worms, larvae and small reptiles (Johnsgard 1986, Ali and Ripley 1980).

Variation in number of females accompanying males suggests

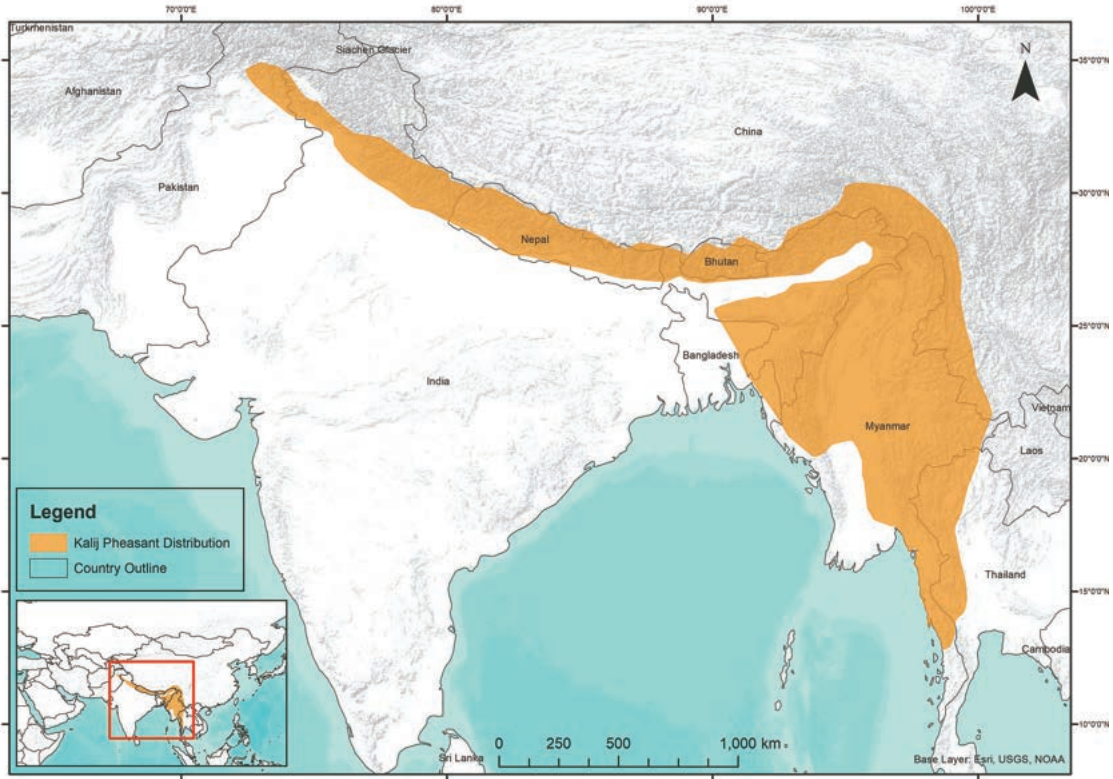


Kalij Pheasant (Jyotendra Jyu Thakuri)

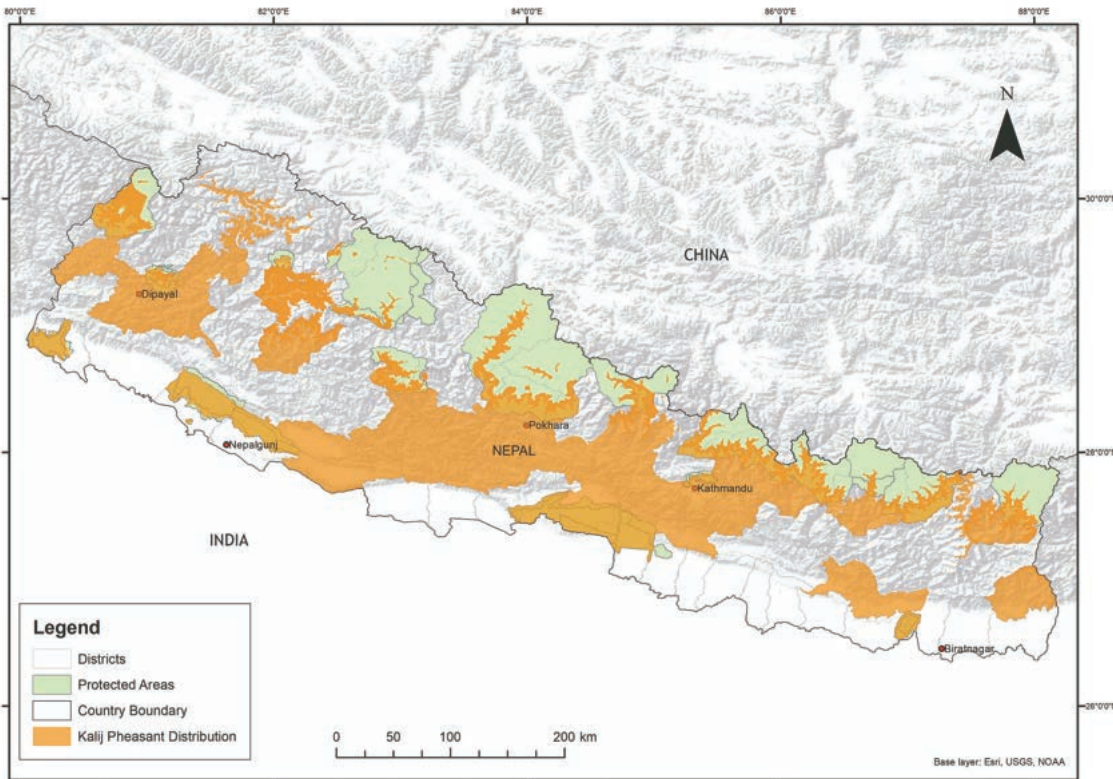


Kalij Pheasant-Female (Utsab Jung Thapa)

Kalij Pheasant Global Distribution



Kalij Pheasant National Distribution





Kalij Pheasant (Utsab Jung Thapa)

that the Kalij Pheasant to be both monogamous and polygamous (Madge and McGowan 2002). The breeding season is from February to October but mainly in April – May. The White-crested Kalij is said to be bred from March to June, the Nepal Kalij from April to June and the Black-backed Kalij from March to May (Johnsgard 1986). The nest is a scrape in the undergrowth proximity to the water sources. The usual clutch size is 6-9 eggs with an incubation period of 20-22 days (Johnsgard 1986).

Hunting, trapping and disturbance are the major threats to this species. Kalij meat is considered a delicacy by many Nepalis (Inskipp et al. 2016). It is suspected that the Kalij meat curry is sold along the East West highway and other roadside areas. It is elusive, but dazzled by a flash lamp an entire family may be shot, one by one, as it roosts at night. Roosting sites can be spotted in advance by the droppings at the foot of trees (Roberts 1980). It is the most hunted species of Nepal's pheasant partly due to its common occurrence outside protected areas. Being usually found close to villages, it is a victim of local hunting. The species has also suffered from loss of habitat through forest losses, degradation and fragmentation, notably the removal of dense undergrowth. Forest fire might also affect the breeding of this species however the impact has not been yet assessed (Inskipp et al. 2016).

Nepali Name		कालिज (Kalij)
English Name		Kalij Pheasant
Scientific Name		<i>Lophura leucomelanos</i>
Subspecies in Nepal		<i>Lophura leucomelanos leucomelanos</i> , <i>L. l. hamiltonii</i> , <i>L. l. melanota</i>
Altitude		Upper limit: 3700 m; lower limit: 245 m
Distribution in Nepal	Districts	Achham, Baglung, Bajhang, Bajura, Bhaktapur, Chitwan, Darchula, Dhading, Dolakha, Dolpa, kailali, Doti, Gorkha, Gulmi, Humla, Ilam, Jajarkot, Jumla, Kanchanpur, Kaski, Kathmandu, Kavrepalanchowk, Lamjung, Lalitpur, Manang, Mugu, Mustang, Myagdi, Pyuthan, Rasuwa, Rukum, Sankhuwasabha, Sindhupalchowk, Solukhumbu, Surkhet, Syangja, Taplejung, Udayapur
	Protected Areas	ACA, ANCA, BNP, CNP, DHR, GCA, KCA, KNP, LNP, MBNP, MCA, PNP, RNP, SNP, SPNP, SNNP, ShNP
Global Distribution		Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan and Thailand
National Status		Least Concern (Inskipp et al. 2016)
Global Status		Least Concern (BirdLife International 2016)
National Population		Unknown
Global Population		Unknown
Breeding		Season: March-June, Clutch Size: 6-9, Incubation period 20-22 Days
Threats		Hunting, trapping and Snaring; disturbance, habitat loss, removal of dense undergrowth, overgrazing, deforestation, forest fire

2.1.7 Red Junglefowl

Red Junglefowl is very similar to domestic fowl. Compared to the male (length 65-75 cm) the female (length 42-45 cm) is smaller (Grimmett et al. 2016). The male is chiefly glossy deep orange red with long yellowish neck hackles and similarly elongated lanceolate feathers on the rump. The broad laterally compressed metallic black tail has long arching sickle shaped feathers. The underparts are chiefly blackish brown. The female has a dull rufous crown, forehead and supercilia bright chestnut continued below to meet on a loop on the fore-neck. The rest of the upperparts are reddish-brown, finely vermiculated with buff and black. The underparts are light rufous brown (Ali and Ripley 1980).

Red Junglefowl is native to Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Thailand, East Timor and Viet Nam; and, is introduced in Australia, Dominican Republic, Fiji, Jamaica,

Marshall Islands, Micronesia, Nauru, Northern Mariana Islands, Palau, Puerto Rico and United States (BirdLife International 2016). In Nepal, it is a locally fairly common widespread resident mainly found in protected areas and reported from 75-1270 m (Grimmett et al. 2016). The protected areas include Shuklaphanta, Bardia, Banke, Chitwan and Parsa National Parks, Koshi Tappu Wildlife Reserve and Annapurna Conservation Area (Inskipp et al. 2016). This pheasant is also recorded from many districts outside the protected areas. The districts include Kailali, Dang (Dang Deukhuri IBA), Jajarkot, Kapilvastu, Rupandehi, Nawalparasi, Parbat, Lamjung, Tanahun, Kaski, Makawanpur, Bara, Sindhuli, Sankhuwasabha, Jhapa, Dharan forests IBA of Sunsari and Lower Mai Valley of Illam (*ibid*). It has been recorded abundantly in Chitwan valley (Inskipp and Inskipp 2010). Recent highest elevation records are 2050 m in Tangting village in Kaski district and 2020 m at Puja goth area near Pasgaon in Lamjung

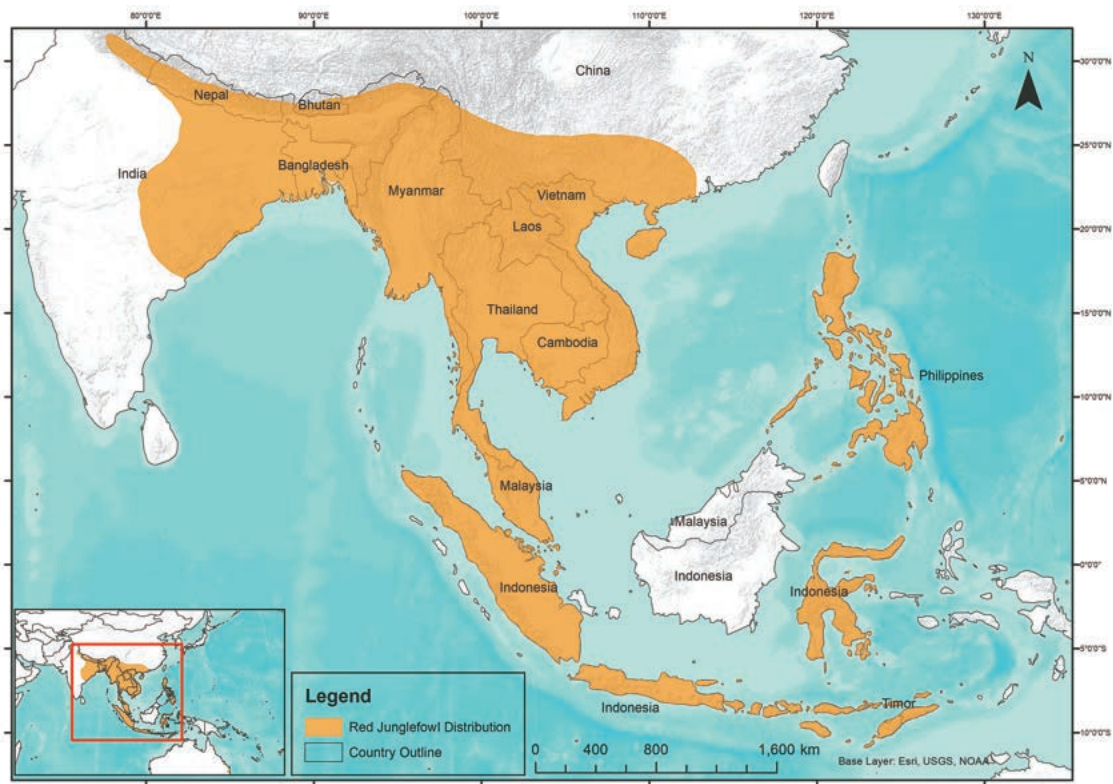
district (Ghimirey 2017). This new altitudinal information provides new insights on the distribution of the species. The species is also recorded from Surkhet, Chitwan and Mahottari districts (ebird).

The Red Junglefowl occupies a wide range of habitats through its broad range and being found in nearly all tropical to sub-tropical habitats. In general, it prefers flat or rolling land to steep terrain and second growth forests or edge habitats to heavily forested habitats (Johnsgard 1986). In Nepal, the birds typically occur in scrub at forest edges, especially among *Zizyphus* bushes and bamboo grooves (*ibid.*) Red Junglefowl roosts in trees and bamboo clumps; and prefers moist mixed forest undergrowth, forest edges and scrub jungle interspersed with patches of grassland or cultivation and well-watered areas (Grimmett et al. 2016, Inskipp and Inskipp 1991).

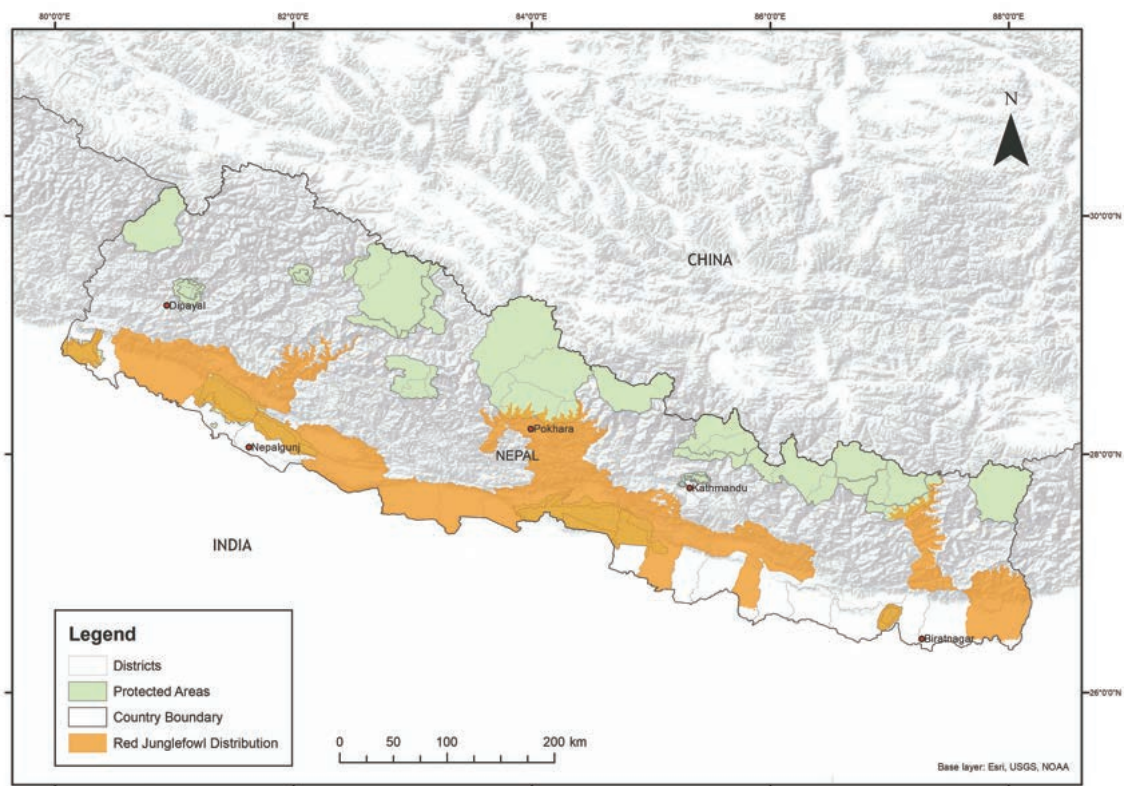


Red Junglefowl (Jyotendra Jyu Thakuri)

Red Junglefowl Global Distribution



Red Junglefowl National Distribution



The birds keep in small parties usually a cock and 4-5 hens and come out in the open in the early morning (dawn to about 0900 hr) and late afternoon (1500 or 1600 hr) until dusk to feed by scratching ground and picking items from the floor on forest tracks, fire lines, and field at forest edges; they spend the heat of the day in the surrounding undergrowth (Ali and Ripley 1980, Johnsgard 1986). The birds are shy and skulk away through the thickets if disturbed (Ali and Ripley 1980). During the dry season the birds also regularly visit waterholes (Johnsgard 1986). The birds are highly opportunistic for food and omnivorous in nature. They feed on grains, grass shoots, bamboo shoots, tubers, fruits and berries, larvae, grasshoppers and termites (Ali and Ripley 1980). Red Junglefowl is polygamous but not of the harem type. Courtship display is commonly seen this species. The male also creates a territory by its crowing call mostly at dawn and dusk. 5-6 eggs are laid during March to May in rudimentary nests which are scrapes on the ground lined with dry grass and tree leaves during. The incubation period is 20-21 days (Ali and Ripley 1980).

The Red Junglefowl is threatened by illegal hunting as other pheasant species. Additionally, egg collection/stealing, chick capturing, disturbance by livestock, habitat loss and degradation, and forest fire also threaten this species (Basnet 2003; Inskipp et al. 2016).



Red Junglefowl-Female (Chungba Sherpa)

Nepali Name		लुईचे, वन कुखुरा (Luiche, Ban Khuhura)
English Name		Red Junglefowl
Scientific Name		<i>Gallus gallus</i>
Subspecies in Nepal		<i>Gallus gallus murgha</i>
Altitude		Upper limit: 2050 m; lower limit: 75 m
Distribution in Nepal	Districts	Kanchanpur, Bardia, Banke, Dang, Kailali, Kapilbastu, Kaski, Nawalparasi, Chitwan, Makwanpur, Bara, Sindhuli, Parsa, Parbat, Jajarkot, Lamjung, Tanahu, Kaski, Sunsari, Sankhuwasabha, Jhapa, Ilam and Rupendehi.
	Protected Areas	ACA, BaNP, BNP, CNP, KTWR, PNP, ShNP
Global Distribution		Native to Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Thailand, East Timor and Viet Nam
National Status		Least Concern (Inskipp et al. 2016)
Global Status		Least Concern (BirdLife International 2016)
National Population		Unknown
Global Population		Unknown
Breeding		Season: March-May, Clutch Size: 5-6, Incubation Period: 20-21 Days
Threats		Illegal hunting, egg picking/stealing, chick capturing, forest fire, habitat loss and forest degradation

2.1.8 Common Peafowl

The Indian Peafowl is the largest of the pheasants (Ramesh and McGowan 2009). The adult male is 180-230 cm in length and 4000-6000 grams in weight; the female is smaller than the male and is 90-100 cm in length and 2750-4000 grams in weight (Grimmett et al. 2016, Johnsgard 1986). Both sexes possess whitish cheeks and a tufted and fan like crest. The male has a silky blue with green and purplish neck and upper breast, the shades of vary with the light. It has a spectacular glossy green train of elongated upper tail coverts (about 100-150 in number) with numerous ocelli. The female

has a whitish face and throat and white belly and lacks elongated upper tail coverts. It has a chestnut brown crest, crown, lores, and upper neck and metallic green lower neck, upper back and upper breast. The rest of the upperparts are earthy brown. The female lacks the long and iridescent train as of the male, but their neck and head patterning are very similar.

Indian Peafowl is native to Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka (BirdLife International 2016). The population is good in India, Nepal and Sri Lanka. But, there are only

two populations in Pakistan; it is rare in Bhutan, and possibly extinct in Bangladesh (Ramesh and McGowan 2009). It has been maintained in captivity for centuries across the world and there are introduced populations in the United States, Hawaii Islands, West Indies, South Africa, New Zealand and Australia (Madge and McGowan 2002). In India, the vast majority of its range lies up to 2000 m altitude. In Nepal, it is locally common and quite widespread resident below 305 m (Grimmett et al. 2016). The bird is reported from all the lowland protected areas of Nepal which



Common Peafowl-Female (Kewal Chaudhary)



Common Peafowl (Rajendra Gurung)

include Shuklaphanta, Bardia, Banke, Chitwan and Parsa National Parks; and KoshiTappu Wildlife Reserve (Inskipp et al. 2016). The number of records outside the protected area system is very low.

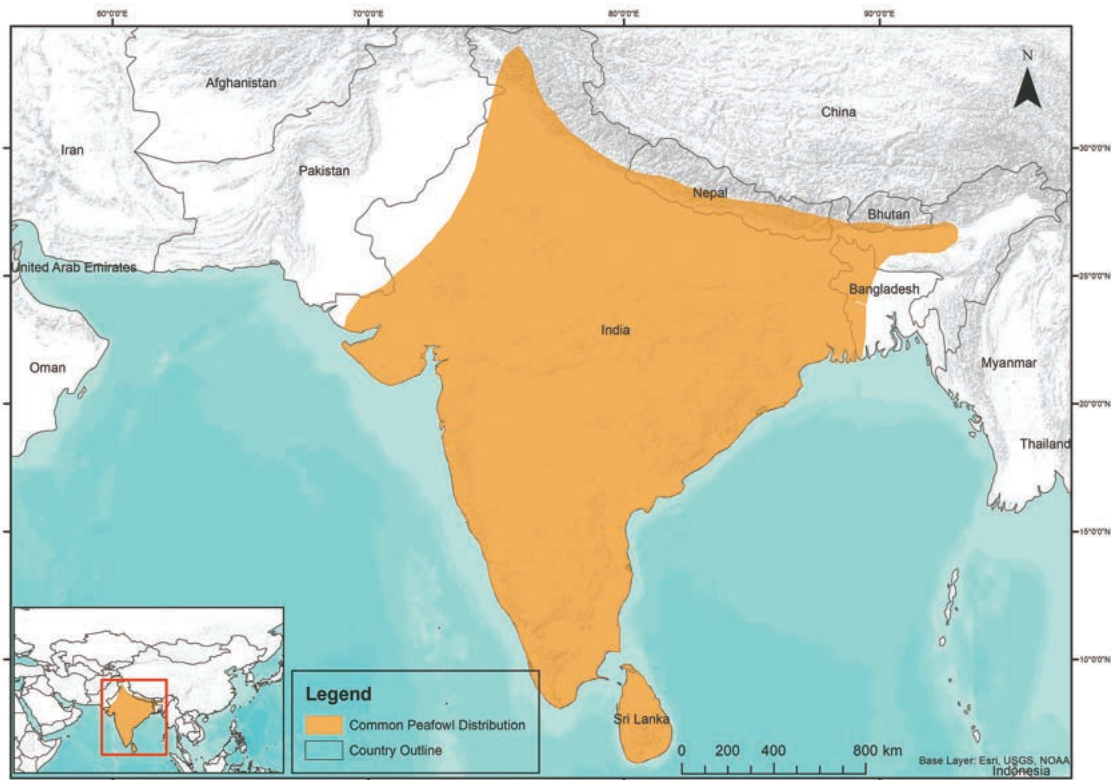
Its preferred habitat is undergrowth in moist or dry deciduous forests near streams. The undergrowth consists of Lantana, Bayer (*Zizyphus*), thorny creepers and bushes which grow some 3-4 meter apart and spread out to form table shaped tops that meet one another to form a continuous mass that allow the peafowl to move easily in the underneath (Johnsgard 1986). In lowland Nepal, it is likely to occur in diverse habitats which include dense riverine vegetation and open Sal forest, often near streams; tall grassland and bushes near villages and cultivated lands (Grimmett et al. 2016). It roosts on trees and also uses tall buildings where trees are scarce (Ramesh and McGowan 2009).

Indian Peafowl is gregarious in habit and often found in small flocks of usually one male and 3-5 female during the breeding. (Ali and Ripley 1980). Generally, the birds use the same trees for roosting and return to these every night. They choose high and fairly open trees from which they can see in all directions. When roosting in forests they select one of the highest trees (Johnsgard 1986). The birds roost in quite large numbers (15-20 birds in a tree). These large number of birds break up into small groups for their diurnal activities. They move into forest edges, forest clearance, cultivated fields and other areas to forage in the morning and in the middle of the day they rest in the shady sites, often very close to waters sources (*ibid*). The bird can produce several calls in different situations such as alarming, parent-young relationship, courtship display etc. The male makes an attractive courtship dance by erecting his tail covert

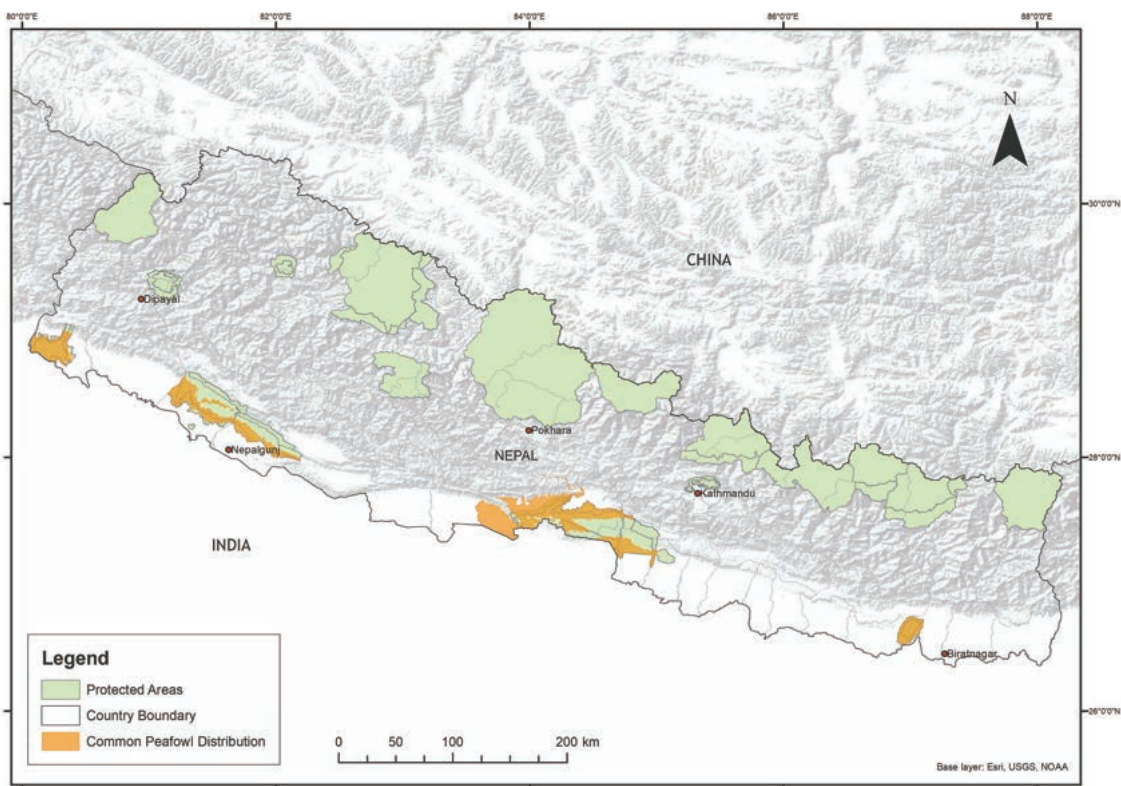
feathers, his whole body inclined forward and the head and neck held erect. The dance is visible at a great distance which would attract any females that might be ready to mate.

The Indian Peafowl is omnivorous and eats everything from vegetative parts to insects and other small animals wherever they available. Vegetation and their parts include green crops, berries, leaves, grass-seeds, flower parts, fruits and seeds, rice and rhizomes. Insects include termites, grasshoppers, ants and beetles. Other animals include small lizards, small mammals and even small snakes (Johnsgard 1986). They forage in groups of one male and his harems in the breeding season and segregated parties of adult males and females with young in the non-breeding season (*ibid*).

Common Peafowl Global Distribution



Common Peafowl National Distribution



The Indian peafowl is a polygamous species. A group of 3-5 females share the same male for reproducing. Throughout its range the nesting season varies locally. Along in lowland Nepal the nesting may occur in March-May but usually begins with the pre-monsoon in mid-June. It varies locally from the eastern to western part of the country which may be affected by local precipitation patterns.

The bird nests in a scraped on the ground, sometimes roughly lined with dry grass under thorny shrubberies and usually among dense undergrowth such as lantana or *Zizyphus* (Ali and Ripley 1980). But in flood problematic areas they may nest in elevated sites such as in the crutches of large trees (Johnsgard 1986). The clutch size is 3-6 up to 8 eggs. The incubation period is 28-30 days. The female alone incubates for almost 24 hours a day and hatching usually occurs on 29th day. The chicks start to fly by 20 days, they can achieve full flight by 2 months and are sexually mature in 3 years (*ibid*).

Hunting, trapping and disturbance are major threats to this species, especially outside protected areas. Possibly, it suffers from pesticides in agricultural lands (Inskipp et al. 2016). Habitat destruction and fragmentation, egg collection for local use, killing birds for meat and their beautiful feathers are the major threats (*ibid*). The feathers are used to make

handicraft fans and other ornamental products which can be sold at the market in a reasonable price. Stray dogs chase and kill the chicks near human habitations.



Common Peafowls-Male/Female (Jyotendra Jyu Thakuri)

Nepali Name		मुजूर, मयूर (Mayur)
English Name		Common Peafowl, Indian Peafowl, Blue Peafowl
Scientific Name		<i>Pavo cristatus</i>
Altitude		below 305 m
Distribution in Nepal	Districts	Chitwan, Bardia, Banke, Dang, Pyuthan, Arghakhanchi, Kanchanpur, Nawalparasi, Jhapa, Morang, Sunsari, Saptari, Dolakha, Sindhuli, Ramechhap, Panchthar, Parsa
	Protected Areas	BaNP, BNP, CNP, KTWR, PNP, ShNP
Global Distribution		Native to Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka
National Status		Near Threatened (Inskipp et al. 2016)
Global Status		Least Concern (BirdLife International 2016)
National Population		3000-5000
Global Population		Not Available
Breeding		Season: March- June, Clutch Size: 3-8, Incubation Period: 28 Days
Threats		Hunting, trapping and disturbance; Habitat destruction and fragmentation, eggs collection; chase and kill by stray dogs; forest fire



Red Jungle Fowl-Female (Chungba Sherpa)

Legal Framework, Major Conservation Efforts and Achievements

3

3.1 Conservation Policy

Himalayan Monal and Cheer Pheasant are listed in CITES Appendix I, Blood Pheasant is listed in CITES Appendix II, and Kalij Pheasant, Koklass Pheasant, Satyr Tragopan and Common Peafowl are listed in CITES Appendix III respectively. Principal guiding policy documents such as NBSAP (2014-2020) have encouraged the preparation and implementation of conservation action plans for nationally and globally important species. Forest Policy (2015) has also cited important remarks that encourage research and conservation of wildlife species. In addition, the National Parks and Wildlife Conservation Act 1973 (2029 BS) has included Cheer Pheasant, Himalayan

Monal and Satyr Tragopan under the protected list. Thus, prohibits the illegal hunting, illegal trade of pheasants and provisions of fine or imprisonment or both against these. Forest Act 1993 also prohibits killing of wildlife, including pheasants.

3.2 Research Initiatives

Because of their size, coloration, meat value and game value most pheasant species are well known to people, unlike many other species of birds. However, only few of them have been studied and most have concentrated around Cheer Pheasant in protected areas. Even so, most of research initiatives have



Pipar valley (Hari Basnet)



Awareness with local hunters (Hari Basnet)

been focused on presence-absence and point-based distribution of pheasant species and some have estimated the population of species based on call counts (Acharya 2004; Subedi 2010; Thakuri 2013). Long-term monitoring of pheasants in Pipar area in the Annapurna Conservation Area has been carried out since 1979 by the World Pheasant Association (WPA) (Roberts 1980). This is the long term research program focusing on bird monitoring programme in Nepal. Pipar is a small area of 43 sq. km. in the Seti River valley providing refuge to five species of Himalayan Pheasants namely Himalayan Monal, Satyr Tragopan, Koklass Pheasant, Kalij Pheasant and Blood Pheasant (Lelliott 1981, Picozzi 1987, Howman & Garson 1993, Kaul & Shakya 1998, Baral et al. 2001, Mahato et al. 2006, Poudyal 2008, Poudyal et al. 2011, Poudyal and Maharjan 2013, Poudyal and Dahal 2014, Poudyal and Chaudhary 2017). Conservation of Pipar as pheasant reserve was the main idea that later was expanded to conceive the formation of the Annapurna Conservation Area.

3.3 Conservation Initiatives

IUCN Pheasant Specialist Group, in coordination with World Pheasant Association, UK and Birdlife

International, UK, came up with 'Pheasants: Status, Survey and Conservation Action Plan 2000-2004' with an aim to underline pressing issues in reference to pheasant conservation globally (Fuller and Garson 2000). This is a global effort to streamline research and conservation for pheasants.

The most important step taken by the Government of Nepal for pheasant conservation is inclusion of three species; Himalayan Monal, Cheer Pheasant and Satyr Tragopan in the protected list under the NPWC Act, 1973 thus providing them protection priority. The network of protected areas declared by the government has hugely benefitted all species of pheasants.

International Galliformes Symposium in 1979 and 2000 were important in raising the issues of pheasant research and conservation in Nepal as well as globally. Other important conservation initiatives for pheasants include issuance of pheasant postal stamps, Nepalese currency, formation of bird and nature clubs in schools across the country, production of conservation materials by government, non-government agencies as well as various individual conservationists.

Conservation Threats

4

4.1 Habitat Loss, Degradation and Fragmentation

A significant portion of human population in the Himalayas live below the poverty line and depend upon natural resources for their subsistence. Over 75% of the original Himalayan habitat has been destroyed or degraded (WWF 2017) which has put high pressure on all wildlife species residing in the Himalayan belt. Habitat loss (through deforestation, forest fires and fires in grassland) is one of the significant threats to all the pheasant species in Nepal. It affects pheasants by excluding them from the best sites required by them for foraging and nesting (Inskipp et al. 2016).

The annual rate of deforestation in Nepal has decreased from 1.9% to 1.35% however majority of

percentage of forest left has also been degraded (DFRS 2015). In recent times, there has been haphazard construction of rural roads and other development infrastructures which has led to the severe fragmentation of wildlife habitat leading to a negative impact on pheasants.

4.2 Illegal Hunting, Trade and Nest Picking

Pheasants are the most hunted bird species in Nepal. Himalayan Monal and Satyr Tragopan are hunted for their crest and wing feathers (Inskipp et al. 2016). The feathers are used to make crowns for people who perform magic arts and shamanism. They are also used to keep at the toe end of arrows as decoration (*ibid.*). Meat of pheasants (especially Kalij Pheasant) is considered a delicacy in Nepal. Locally made traps



Trap set for pheasant (Hari Basnet)



Captive cased Cheer pheasant for hunting (Jyotendra Jyu Thakuri)

are widely used to capture pheasants in Nepal and trapping was considered the greatest threat to the survival of galliforms in Pipar and its adjoining areas (Tamrakar and Waylen 2010; Subedi 2010; Poudyal 2008). One local alone set up 130 traps in the summer of 2008 in Santel area, ACA (Tamrakar and Waylen 2010). Five camping sites and 33 traps used by poachers were located in Pipar in 2008, and the following year as many as 27 traps were found in the same area (Poudyal 2008; Subedi 2010). This provides an overview of the magnitude of pheasant hunting in Nepal, which is widespread and frequent. A retired hunter in Mustang claimed to have killed 180 Koklass Pheasant, 900 Blood Pheasant, 750 Kalij Pheasant, one Satyr Tragopan, 300 Danphe and 10 Cheer Pheasant during a period of 30 years (Acharya 2004). Lure hunting (locally called *Chyad Khelne*) of Cheer Pheasant with a domesticated male Cheer Pheasant is common practice in western Nepal. Since as many as 8-9 male birds can be trapped in single bait thus it is a

serious threat and may cause demographic imbalance too. Due to the high demand for dead and live Cheer Pheasant, professional hunters (often below poverty level) carry out hunting and elites get involved in hunting as their hobby. Illegal hunting is associated with age old superstitions and cultural beliefs in many communities which consider the use of pheasant body parts either as decorative items or for medicinal use. Individual cases of hunting, trapping and nest picking seem low however the cumulative impact of such activities across Nepal seems high and need special attention to control it. This has been aggravated by a weak enforcement mechanism along with a low level of community sensitization for conservation awareness.

Kalij Pheasant, Cheer Pheasant and Himalayan Monal are favorite pet birds among locals as well as the elite in urban areas.

4.3 Anthropogenic Disturbance

4.3.1 Forest Fire

Forest fires during the dry season that coincides with the breeding season of pheasants are detrimental to their populations. Deliberate forest fires threaten the status of pheasants by destroying their habitat, nests and fledglings, ultimately impacting on their populations negatively. However, fire also has a positive impact on bird populations provided they are used at the right time and frequency (Wilson et al. 1995; Pons and Prodon 1996). Repeated and late season fires are serious threats to pheasants.

According to Parajuli (2015) Moderate Resolution Imaging Spectro-radiometer (MODIS) data from 2000-2013 revealed an average of 2,159 fire counts in Nepal per year with highest number of fires between January and June. This period overlaps with the breeding season of the pheasants indicating significant potential impact of forest fire on pheasants of Nepal.

4.3.2 Non-Timber Forest Product Harvesting

Non-Timber Forest Products (NTFP) harvesting is one of the most important mode of income generation for people at a local level as limited options of alternative livelihood exist. As a result, NTFP harvesting in prime pheasant habitat is one of the important threats to the conservation of pheasants. NTFP harvesters hunt and trap pheasants opportunistically during the NTFP harvesting season. Besides this, nest picking, littering, creating noise and deliberately causing damage to the habitat often threaten species survival. This aggravates the problem to large extent.

4.3.3 Livestock Grazing

Livestock rearing is also an important source of income for people living in and around PAs. These livestock owners often take their animals inside PAs or important pheasant habitats for grazing. Overgrazing has been found to degrade the understory and prime habitat of pheasants (Madge and McGowan 2002; Poudyal 2008). This create disturbance for pheasants causing them avoid these areas. Acharya et al (2004) found that livestock grazing in Cheer Pheasant habitat during the nesting season caused a high level of disturbance.



Livestock grazing (Hari Basnet)

4.3.4 Tourism

Tourism is an important source of income for people in Nepal. However, there could be potential impacts of tourism on pheasant conservation as a result of camping, trekking and noise. Anecdotal records show that porters accompanying tourists are often involved in trapping and killing pheasants. However, further study on impact of tourism on pheasants needs to be carried out.

4.3.5 Stray Dogs

Stray dogs have been observed to visit pheasant habitat. Impacts of these dogs on wildlife have been studied in the Indian trans-Himalayas. The study recorded that stray dogs often attack wildlife species (87 species recorded) including five species of pheasants i.e. Blood Pheasant, Danphe, Kalij Pheasant, Common Peafowl and Red Junglefowl (Home et al. 2017). Reports of stray dogs killing pheasants have been recorded in Annapurna Conservation Area, Dhorpatan Hunting Reserve, Langtang National Park, Manaslu Conservation Area, Sagarmatha National Park, Shuklaphata National Park, and Koshi Tappu Wildlife Reserve. In addition to this, shepherd dogs have also been found to kill wildlife.

4.5 Climate Change and Disaster

Climate change is a global phenomenon and is expected to have possible adverse impacts on pheasants and their habitat. Settele et al. (2014) state that climate change has far reaching impacts on all wildlife species particularly by altering their habitat. Climate change might induce (1) shifts in habitat distribution that are not followed by species, (2) shifts in species distributions that move them outside of their preferred habitats, and (3) changes in habitat quality (Dullinger et al. 2012; Urban et al. 2012).

Climate change impacts on habitats for biodiversity are already occurring (Settele et al. 2014). Most of the possible impact due to drivers of climate change have been projected for biodiversity elements. Impacts on birds have not yet been properly documented but it is believed that this will have both positive and negative impacts depending upon species. Few observations have been made along the altitudinal movement of House Crow *Corvus splendens* in ACA and Ibisbill *Ibidorhyncha struthersii* in LNP (Acharya and Ghimirey 2013; Ghimire et al. 2011). Models of climate change-induced shifts in the distribution of ecosystems suggest that many species could be found outside of

their preferred habitats within the next few decades (Urban et al. 2012) and pheasants in Nepal are no exception to this hypothesis. However, this needs a long-term monitoring to test the hypothesis about the impact of this phenomenon.

4.6 Genetic Depression

Cheer pheasants are resident and distributed locally, in isolated pockets causing meta population of cheer pheasants to be segregated. On the other hand, the population of cheer pheasants are small and declining. Because of fragmented, and isolated small populations, there might be possibility of genetic depression. In small population, most or all mates are closely related and particularly vulnerable to inbreeding depression (Keller and Waller 2002). Obviously, probability of genetic depression increases with decrease in population, which is more severe in small population of endangered species and could accelerate the rate of extinction (Frankham 1995). Genetic depression cause offspring to have reduced fitness and vulnerable to diseases (Charlesworth and Willis 2009). The isolated population of cheer pheasants in Nepal may have affected with inbreeding depression. However, any research on genetic depression has been conducted on cheer pheasants. Understanding the severity of genetic depression is very difficult task in wild populations because it is not easy task to measure individual inbreeding in natural populations. Genetic depression is also affected by the environment where the animals are, it is more in stressful environment (Fox and Reed 2011). In case of cheer pheasants' population in Nepal, the population may have suffered from genetic depression. It would be good initiative to study genetic diversity of wild population and translocate some individuals from one population to other population to increase genetic diversity and reduce genetic depression.

Challenges and Opportunities

5.1 Challenges

5.1.1 Encroachment

Encroachment for the expansion of human habitations and agriculture farming in the forests and grassland habitat is one of the most common and chronic problems in conserving pheasants and other wildlife in Nepal.

5.1.2 Pesticides

Use of pesticides in Nepal amounts to 142 g/ha which is relatively smaller than that of other countries, though concentrations amount is increasing every year (Sharma et al. 2012). The negative impacts of pesticides on biodiversity are well documented. Many species of pheasants visit farmlands where the use of pesticides is very common which impacts on seeds, insects and worms which are in turn eaten up by pheasant. This results in bioaccumulation of pesticides in their bodies impacting them negatively in the long run. In some instances of potent forms of pesticides can have an immediate effect leading to their instant death.

5.1.3 Inadequate Research

Research efforts in Nepal is primarily focused around megafauna like Bengal Tiger, Asian Elephant, and Greater One-horned Rhino. Pheasants, other than Cheer Pheasant, have received little research attention (Baral et al. 2012). While information on their distribution is relatively well known due to sighting reports from birders and bird enthusiast, ecological information is limited. This has created a knowledge vacuum especially on pheasant ecology.

5.1.4 Domestic Tourism:

In 2016, GDP contribution from domestic tourism

was 65.6% compared to 34.4% from international tourist circuit. This figure was expected to grow by 6.1% in 2017 (WTTC 2017). Demand for meat of Kalij Pheasant and Red Junglefowl has upsurge due to rise in domestic tourism in many touristic places leading to hunting of these species.

5.2 Opportunities

5.2.1 Legislation

The key laws and policies of the country provides a unique opportunity to effectively protect wildlife species including pheasants. Following are the key laws and policies for the implementation of this action plan.

- » Constitution of Nepal, 2015
- » National Parks and Wildlife Conservation Act, 1973 (2029 BS)
- » Act on control of International Trade in Endangered Fauna and Flora, 2017
- » Forest Act, 1993
- » Environmental Protection Act, 1995
- » Nepal Environmental Policy and Action Plan, 1993
- » Forest Policy, 2015
- » National Biodiversity Strategy and Action Plan (2014-2020)

5.2.2 Pheasant Farming

Pheasants have been interacting with humans for a very long time. Red Junglefowl was domesticated by humans thousands of years ago (Potts 2012). The trend has not stopped and people continue to try to farm many more species of birds including pheasant species that have not yet been farmed. This tendency provides a good opportunity to introduce favorable legal instruments that would encourage people to

commercially farm species of pheasants that are abundant in nature and relatively less threatened such as Kalij Pheasant and Red Junglefowl. The NPWC Act 1973 (fifth amendment) has laid down provision that encourages farming of wild animals including pheasants.

There is a need for i) aware, conscious and honest law-abiding citizens, and ii) The state must have the capacity and resources to strictly enforce the regulations. Lack or weakness on any of the above may lead to further destruction of the species therefore care should be taken on this matter.

5.2.3 Knowledge Enhancement

Knowledge on pheasants in Nepal is mostly contributed by anecdotal sources, while scientific researches is often lagged. However, there is a need of robust scientific information on pheasants. Researches on the status and threats to pheasant species will bring significant results in this regard. Research on cultural and ethno-biology of pheasants would also be important for understanding human perception regarding pheasants.

5.2.4 Tourism Promotion

Tourism is an important source of income in Nepal. It is believed that a significant number of tourists are visiting Nepal and majority of them indulge in birdwatching. Birds including pheasants are an integral part of tourist attraction. Nepal provides a potential destination of bird watching including species of pheasants and part of the revenue generation could be used in conservation species in the future.

5.2.5 Ex-situ Conservation

After the success of the Gharial and Vulture conservation breeding program in lowland areas, there is enough knowledge gained about captive breeding program. This experience could be highly useful in the conservation breeding programs for pheasants.



Cheer pheasant (Gunjan Arora)

Pheasant Conservation Action Plan (2019-2023)

6.1 Goal

Populations of all the species of pheasant increased and their habitats protected.

6.2 Objectives

6.2.1 Enhance Knowledge on the Ecology and Threats to Pheasant Species.

Rationale

Pheasants remain one of the least studied bird groups in the country despite being one of the most well-known groups of birds to the general public. Limited studies have focused primarily on population figures and assessment of threats to the pheasant species. There is a need to gain information on areas important for the pheasants and their ecology and habitat requirements. This will help in expanding existing scientific knowledge which is important for addressing for long term conservation of these species.

Outputs

1. Adequate scientific information on all pheasant species available.
2. A protocol for monitoring pheasants standardized across Nepal.
3. Scientific research on habitat ecology and distribution of all pheasant species initiated.
4. Status and threats to pheasant species assessed and documented.

Actions

- » Assess distribution, status and threats of all pheasant species.
- » Conduct species distribution modelling of all pheasant species.
- » Identify priority sites for all pheasant species.
- » Develop protocol for monitoring for all pheasant species.
- » Conduct regular monitoring at established monitoring points every three years.
- » Establish new long-term monitoring stations both inside and outside protected areas in three geographical regions (Tarai, mid-hill and high mountain).
- » Study the impact of climate change on various aspects of pheasants such as shift and modification in habitat, food, breeding habits and distribution etc.
- » Document ethno-pheasant relationships across three geographical regions.
- » Conduct genetic assessment of pheasant species including genetic identity of Red Junglefowl separating them from domestic chicken.
- » Establish a pheasant related centralized database management system.

6.2.2 Implement Conservation Initiatives to Reduce Threats to Pheasant and their Habitat.

Rationale

Habitat loss, high hunting pressure and negative social beliefs are primary threats to all the species of pheasants. All these threats have a cumulative impact on the status of pheasant species which have bearings on their conservation.

Outputs

1. Poaching and illegal trade of pheasant species reduced.
2. Science-based participatory conservation initiated.
3. Population and distribution of pheasant species in Nepal improved (increased).
4. Pheasant conservation issues in five years' district forest management plans, BZCF operation plans and CF operation plans mainstreamed.

Actions

- ▶▶ Manage the quality of degraded grassland and forest habitats.
- ▶▶ Control forest fires and overgrazing.
- ▶▶ Monitor the trend of land use change and development practices and advocate sustainable practices.
- ▶▶ Coordinate with law enforcement agencies to discourage poaching and illegal trade.
- ▶▶ Establish/mobilize community-based organizations to control poaching activities
- ▶▶ Form new and strengthen existing eco-clubs, local bodies, CBOs, school children and educate them on pheasant conservation.
- ▶▶ Coordinate with local government for the control of stray dogs.
- ▶▶ Produce and disseminate pheasant conservation awareness materials (print, audio and video).
- ▶▶ Coordinate with local and provincial governments for pheasant conservation.
- ▶▶ Mainstream pheasant conservation actions in CFUGs Action Plans and PAs Management Plans.
- ▶▶ Sensitize and engage non-conventional conservation partners such as media houses, corporate sectors etc. on pheasant conservation.
- ▶▶ Identify Important Bird and Biodiversity Areas for Pheasant Conservation

6.2.3 Explore the Possibility of Local Livelihood Enhancement.

Rationale

Various ethnicities within Nepal hunt pheasants for meat. This hunting is fueled partly by the desire to have meat as well as by poverty. Hence addressing the poverty of local people and devising ways to enhance their livelihood should be an important component of this objective.

Due to prevailing social and cultural beliefs pheasant species will be hunted illegally even when an efficient enforcement mechanism against hunting is in place. The population of many species of pheasants have increased including Kalij Pheasant due to

community forestry program. Community Forest User's Groups (CFUGs) have also raised the issue of revenue generation from the resources they have conserved. Furthermore, the fifth amendment of the NPWC Act 1973 provides a provision to farm wildlife but a favorable wildlife farming policy needs to be introduced in order to take that provision forward to action. In this scenario the possibility of carrying out a sustainable harvesting mechanism of Kalij Pheasant can be implemented.

Outputs

1. Eco-tourism initiatives and facilities at important areas identified for pheasants started.
2. Livelihood enhancement options identified and implemented.
3. Possibility of pheasant farming assessed.

Actions

- ▶▶ Develop and promote eco-tourism in pheasant hot spot areas.
- ▶▶ Develop tourist facilities near the pheasants' hotspots.
- ▶▶ Train local communities on home stay/ community lodge registration and management
- ▶▶ Train local people on various income generation activities like nature guiding, bio-pesticide preparation, organic farming.
- ▶▶ Feasibility study on pheasant farming conducted.

6.2.4 Enhance Partnership and Capacity.

Rationale

Effective collaboration is an important aspect for successful implementation of any desired conservation initiative. Thus, pheasant conservation cannot act in isolation. Partnership building will be important in an effort to conserve the pheasants of Nepal. Partnership at a policy level will be vital in framing pheasant favorable policies and guidelines while fostering effective delivery at local level. For achieving this, stakeholders identification and fostering cooperation and collaboration between them would be an important task. Hence maintaining effective partnership at all levels will be essential.

Outputs

1. Network and coordination with national and international institutions increased.
2. Capacity of local community on pheasant monitoring enhanced and engaged.
3. Stakeholders in pheasant research monitoring and habitat management engaged.

Actions

- ▶ Organize forest fire control training for PA staff, CF, BZCF members.
- ▶ Provide sustainable NTFP harvesting training for PA staff, DFO staff, CF, BZCF members.
- ▶ Conduct regular coordination meetings between stakeholders (Federal, Provincial and Local) on pheasant conservation issues.
- ▶ Strengthen international networks for pheasant research and conservation.
- ▶ Train local birdwatchers on pheasant monitoring
- ▶ Initiate community-based monitoring of pheasants.
- ▶ Train frontline staff (Government/non-government) on pheasant research and conservation.



NTFPs collection from pheasant habitat (Laxman Poudyal)



Kalij Pheasant (Nikhil Devasar)

Plan Implementation and Monitoring

7

7.1 Implementing Agency

DNPWC will take a lead role in the overall implementation of the Pheasant Conservation Action Plan and will undertake the activities inside Protected Areas while the DFSC will be responsible for implementation of the activities outside the PAs. Both departments will coordinate with the state governments (Ministry of Industry, Tourism, Forest and Environment) and Local governments

for implementation of this plan. In addition, the conservation partner organizations will also contribute to implement the action plan.

Researches and studies will be conducted by BCN, IUCN, NOU, NTNC, WWF, ZSL and other national and international research and academic institutions in partnership and coordination with DNPWC and DFSC. Other research organizations will also be encouraged to support and conduct research on pheasant conservation.



Lowland habitat (Jyotendra Jyu Thakuri)

7.2 Financial Plan

Total estimated cost for the implementation of the action plan is NPR 7,38,50,000 (Seventy-three million and eight lakhs and fifty thousand) (Table 9). The fund will be managed through regular budget from central Government and relevant conservation partners such as BCN. Other national and international

partners such as HN, IUCN, NOU, NTNC, WWF and ZSL will be encouraged to seek the fund for the plan implementation. The state and local governments will also table few resources for implementation as well. Detail breakdown of the budget is presented in the annex-1.

Table 9: Summary of the Indicative Budget

Objectives	Budget (NPR)	Percentage
Objective 1: Enhance knowledge on the ecology and threats to pheasant species	31200000	42
Objective 2: Implement conservation initiatives to reduce threats to pheasant species and their habitat.	21000000	25
Objective 3: Explore the possibility of local livelihood enhancement	7100000	10
Objective 4: Enhance Partnership and capacity	14550000	23
Total	73850000	100

7.3 Monitoring of the Plan Implementation

The DNPWC, DFSC, PAs, and concerned DFOs will compile all their progress and present at a central level review annually. This review will be focused on the achievements made on planned activities in that fiscal year, issues while implementing the plan and development of a detailed work plan for the

forthcoming year's activities. Relevant conservation partners will be invited in the review meeting.

A mid-term and final review of the action plan will be conducted by a team of independent subject experts outsourced by the DNPWC. Both the mid-term and final review findings will be shared in national level workshops which will form the basis of future planning.

References

- Acharya (Sharma), R., Thapa, S. and Ghimirey, Y. (2006) Monitoring of the Cheer Pheasant *Catreus wallichii* in lower Kaligandaki valley, Mustang, Nepal. Report to King Mahendra Trust for Nature Conservation, Annapurna Conservation Area Project. Unpublished.
- Acharya, R. and Ghimirey, Y. (2013) House Crow *Corvus Splendens* heading upwards in Nepal: possible climate change impact influencing its movement. *Ibisbill*, 1: 180-183.
- Ali, S. and Ripley, S.D. (1980) Handbook of The Birds of India and Pakistan. Volume 2 Megapodes to crab plover. Oxford University Press, Delhi.
- Baral, H.S., Gurung, P.C., Kaul R. and Ramesh, K. (2001) Santel Galliformes Survey: a possible extension of Pipar Pheasant Reserve, Annapurna Conservation Area, Central Nepal. A report to the World Pheasant Association (UK) and Annapurna Conservation Area Project, Nepal. Unpublished.
- Baral, H.S., Regmi, U.R., Poudyal, L.P. and Acharya, R. (2012) Status and Conservation of Birds in Nepal 61-90 Pp in Acharya, K. P. and Dhakal, M. (Eds) Biodiversity Conservation in Nepal: A Success Story. Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.
- Basnet H. and Poudyal L.P. (2017) Review on Distribution of Cheer Pheasant in Nepal. Danphe. Volume 26(2) June 2017. Bird Conservation Nepal, Kathmandu.
- Basnet, H. (2016) Survey of Cheer Pheasant *Catreus wallichii* in Bajura District, Nepal. Report Submitted to Oriental Bird Club, UK. Small Mammals Conservation and Research Foundation Kathmandu Nepal
- Basnet, Y. R. (2003) Bird diversity of Morang Siwalik Hills. Danphe 12(1/2): 10-11.
- BirdLife International (2017). *Catreus wallichii*. The IUCN Red List of Threatened Species 2017. Downloaded from <http://www.iucnredlist.org/details/full/22679312/0> on 08 September 2018.
- BirdLife International (2016) *Gallus gallus*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679199/0> on 08 September 2018.
- BirdLife International (2016) *Ithaginis cruentus*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679144/0> on 08 September 2018.
- BirdLife International (2016) *Lophophorus impejanus*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679182/0> on 08 September 2018.
- BirdLife International (2016) *Lophura leucomelanos*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679217/0> on 08 September 2018.
- BirdLife International (2016) *Pavo cristatus*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679435/0> on 08 September 2018.
- BirdLife International (2016) *Pucrasia macrolopha*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679179/0> on 08 September 2018.
- BirdLife International (2016) *Tragopan satyra*. The IUCN Red List of Threatened Species 2016. Downloaded from <http://www.iucnredlist.org/details/full/22679157/0> on 08 September 2018.

- CDFW (2017) California Waterfowl and Upland Game Hunting Regulations. California Department of Fish and Wildlife (CDFW), California, USA.
- Charlesworth D., & Willis J. H. (2009). The genetics of inbreeding depression. *Nature Reviews Genetics*, 10, 783–796. [PubMed]
- Chaudhary, H. (2008) Nepal – a birdwatching tour. Naturetrek tour report, 29 March – 7 April 2008. [http://www.naturetrek.co.uk/website/reports/NPL04 report_080301 Nepal. A_Birdwatching Tour.pdf](http://www.naturetrek.co.uk/website/reports/NPL04%20report_080301%20Nepal.%20A_Birdwatching%20Tour.pdf)
- Chaudhary, H. and Poudyal, L.P. (2017) Bird Survey of Api Nampa Conservation Area in Nepal, 2016: Report to the Api Nampa Conservation Area Office, Khalanga, Darchula, Nepal. Nepalese Ornithological Union and Department of National Parks and Wildlife Conservation, Kathmandu, Nepal.
- Diwakar, J., Prasai, T., Pant, S.R. and Jayana, L. (2008) Study of Major Pesticide and fertilizer used in Nepal. *Scientific World*, 6: 76-80.
- Dullinger, S., Gattringer, A., Thuiller, W., Moser, D., Zimmermann, N.E., Guisan, A., Willner, W., Plutzer, C., Leitner, M., Mang, T., Caccianiga, M., Dirnbock, T., Ertl, S., Ischer, A., Lenoir, J., Svenning, J.C., Psomas, A., Schmatz, D.R., Silc, U., Vittoz, P., and Hulber, K. (2012) Extinction debt of high-mountain plants under twenty-first century climate change. *Nature Climate Change*, 2: 619-622.
- Fleming, R.L. Sr., R.L. Fleming Jr. and Bangdel, L.S. (1984) *Birds of Nepal with reference to Kashmir and Sikkim*, Avalok Publishers, Kathmandu, Nepal.
- Fox CW, Reed DH. (2011). *Inbreeding depression increases with environmental stress: an experimental study and meta-analysis*. *Evolution* 65: 246–258.
- Frankham, R. (1995). Inbreeding and extinction: a threshold effect. *Conservation Biology*, 9(4), 792-799.
- Fuller, R.A. and Garson, P.J. (eds.) (2000). *Pheasants. Status and Conservation Action Plan 2000-2004*. WPA/Birdlife/SSC Pheasant Specialist Group. IUCN, Gland. Switzerland and Cambridge, UK and the World Pheasant Association, Reading, UK.
- Garson, P. and Baral, H. S. (2007) Cheer Pheasant conservation summit in Kathmandu. *Danphe* 16(1): 24-25
- Ghimire, B.C., Thakuri, J.J., Adhikari, B.R. and Adhikari, S.P. (2011) Assessment of Status of Ibisbill *Ibidorhyncha struthersii* (Vigors, 1832) for Adaptation of Climate Change in Central Nepal. Unpublished report submitted to National Adaptation Program of Action (NAPA) on Climate Change, Ministry of Environment. Kathmandu.
- Ghimirey, Y. (2017). Clouded leopard in Hugu-Kori Forests, Annapurna Conservation Area, Nepal. Unpublished report submitted to Bernd Thies Stiftung, Switzerland.
- Grimmett, R., Inskipp, C., Inskipp, T. and Baral, H.S. (2016) *Birds of Nepal (Revised Edition)*. Christopher Helm, London
- Home, C., Bhatnagar, Y.V. and Vanak, A.T. (2017) Canine Conundrum: domestic dogs as an invasive species and their impacts on wildlife in India. *Animal Conservation*. <https://doi.org/10.1111/acv.12389>.
- Howman, S. and Garson, P.J (1993) Pheasant survey at Pipar Nepal (1979-91). Abstract and poster. In: D.Jenkins (ed.) *Pheasants in Asia 1992*. World Pheasant Association. Reading. UK.
- Inskipp C., Baral H. S., Phuyal S., Bhatt T. R., Khatiwada M., Inskipp, T, Khatiwada A., Gurung S., Singh P. B., Murray L., Poudyal L. and Amin R. (2016) The status of Nepal's Birds: The national red list series. Zoological Society of London, UK.
- Inskipp, C. and Inskipp, T. (1991) *A guide to the birds of Nepal*. Second edition. London, UK: Christopher Helm.
- Inskipp, C. and Inskipp, T. (2010) Nepal trip report 9-19 December 2010.
- Johnsgard, P.A. (1986) *The Pheasants of the World*. Oxford University Press, New York, USA.
- Kaul, R. and Shakya, S. (1998) A wildlife survey of the Pipar Sanctuary, Central Nepal, 28 April – 5 May 1998. Unpublished report to World Pheasant Association, Reading, UK.
- Keller L. F., & Waller D. M. (2002). Inbreeding effects in wild populations. *Trends in Ecology & Evolution*, 17, 230–241.
- Kusi, N., Werhahn, G. and Poudyal, L.P. (2018) Birds of Dolpa: Shey-Phoksundo National Park and Adjoining Areas. Nepalese Ornithological Union and Department of National Parks and Wildlife Conservation, Kathmandu, Nepal
- Lelliott, A. D. (1981) Studies of Himalayan pheasants in Nepal with reference to their conservation. Unpublished MSc thesis, University of Durham, UK.

- Lelliott, A. D. and Yonzon, P. B. (1980a) Studies of Himalayan Pheasants in Nepal. *Journal of World Pheasant Association* 5: 11-30.
- Lelliott, A. D. and Yonzon, P.B. (1980b). Pheasant studies in the Annapurna Himal I: field studies. Pages 53-55 in Christopher Savage (ed) *Pheasants in Asia 1979: Proceedings of the First International Symposium on Pheasants in Asia*. World Pheasant Association, Exning, UK.
- Madge, S. and McGowan, P. (2002) *Pheasants, Partridges and Grouse: A Guide to the Pheasants, Partridges, Quails, Grouse, Guineafowl, Buttonquails and Sandgrouse of the World*. London: Christopher Helm.
- Mahato, N.K., Poudyal, L.P., Subedi, P. and Singh, P.B. (2006) 2005 spring survey of Galliformes in the Pipar Reserve and of Santel, Annapurna Conservation Area, Central Nepal: a World Pheasant Association Report. World Pheasant Association, Fordingbridge, UK
- McGowan, P.J.K. and Garson, P.J. (eds.) (1995) *Pheasants. Status survey and conservation action plan 1995-1999*. WPA/Birdlife/SSC Pheasant Specialist Group. IUCN, Gland Switzerland.
- MoFSC (2014) *Nepal National Biodiversity Strategy and Action Plan 2014-2020*. Ministry of Forests and Soil Conservation, Singhadurbar, Kathmandu, Nepal
- Mustin, K., Newey, S., Irvine, R.J., Arroyo, B. and Redpath, S. (2012) Biodiversity impacts of game bird hunting and associated management practices in Europe and North America. Contract report, The James Hutton Institute, UK.
- Parajuli, A., Chand D.B., Rayamajhi, R.K., Baral, S., Malla, Y. and Poudel, S. (2015) Spatial and temporal distribution of forest fires in Nepal. XIV WORLD FORESTRY CONGRESS, Durban, South Africa, 7-11 September
- Picozzi, N. (1985) WPA trek and survey to Pipar, Nepal, May 1985. *World Pheasant Association News* 10: 21-23.
- Picozzi, N. (1987) Pipar Pheasant Trek, April 1987. Unpublished
- Pons, P. and Prodon, R. (1996) Short term temporal patterns in a Mediterranean shrubland bird community after wildfire. *Acta Oecologica*, 17: 29-41.
- Potts, A. (2012) *Chicken*. University of Chicago Press, Chicago, USA.
- Poudyal L.P. and Chaudhary, H. (2017) Spring Survey of Galliformes in Pipar and Santel, Annapurna Conservation Area, Central Nepal. A Report to the World Pheasant Association, UK. Department of National Parks and Wildlife Conservation and Nepalese Ornithological Union, Kathmandu, Nepal. Unpublished
- Poudyal L.P. and Dahal B.V. (2014) Monitoring the Pheasant populations in Pipar, Nepal 2014. Report submitted to IUCN-SSC/WPA Galliformes Specialist Group and The World Pheasant Association, UK (June 2013) Unpublished.
- Poudyal, L. P. (2008) Distribution and habitat use of pheasants in the headwater forests of Seti Khola, Annapurna Conservation Area, Nepal. Thesis for the Degree of Master of Science in Natural Resource Management and Rural Development. Tribhuvan University, Institute of Forestry, Pokhara, Nepal
- Poudyal, L. P. (2017) Pheasant Survey 2017 - Pipar and Santel, Nepal *World Pheasant Association News*: 104
- Poudyal, L. P., Mahato, N. K., Singh, P. B., Subedi, P., Baral, H. S. and McGowan, P. J. K. (2009) Status of Galliformes in Pipar Pheasant Reserve and Santel, Annapurna, Nepal. *International Journal of Galliformes Conservation* 1:49-55.
- Poudyal, L. P., Outhwaite, W., Poulton, S., Sharma, S. and Thakuri, J.J. (2011) Monitoring pheasants in the Pipar area of Nepal: the 2011 expedition. A report for the World Pheasant Association. Unpublished.
- Poudyal, L.P. and Maharjan S. (2013) Pheasant Survey in Pipar in 2013. A Report Submitted to IUCN-SSC/WPA Galliformes Specialist Group and The World Pheasant Association, UK Unpublished.
- Ramesh, K. & McGowan, P. (2009). On the current status of Indian Peafowl *Pavocristatus* (Aves: Galliformes: Phasianidae): keeping the common species common. *Journal of Threatened Taxa* 1(2): 106-108.
- Roberts, J. (1980) Status of the pheasants of Nepal. Pages 22-26 in Christopher Savage (ed) *Pheasants in Asia 1979: Proceedings of the First International Symposium on Pheasants in Asia*. World Pheasant Association, Exning, UK.
- Settele, J., Scholes, R., Betts, R., Bunn, S., Leadley, P., Nepstad, D., Overpeck, J.T. and Taboada, M.A. (2014) Terrestrial and inland water systems. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to*

- the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., Barros, V.R., Dokken, D.J., Mach, K.J., Mastrandrea, M.D., Bilir, T.E., Chatterjee, M., Ebi, K.L., Estrada, Y.O., Genova, R.C., Girma, B., Kissel, E.S., Levy, A.N., MacCracken, S., Mastrandrea, P.R. and White L.L. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 271-359.
- Shakya, K. (1980) Reports on the status of pheasants: Nepal Introductory Paper. Pages 21-22 in Christopher Savage (ed) *Pheasants in Asia 1979: Proceedings of the First International Symposium on Pheasants in Asia*. World Pheasant Association, Exning, UK.
- Sharma, D.R., Thapa, R.B., Manandhar, H.K., Shrestha, S.M. and Pradhan, S.B. (2012) Use of Pesticides in Nepal and Impacts on Human Health and Environment. *The Journal of Agriculture and Environment*, 13: 67-74.
- Singh, P. (2009) Cheer Pheasant in peril in Rara National Park, Nepal. *World Pheasant Association News*: 4.
- Singh, P. B., Subedi, P., Garson, P. J. and Poudyal, L. (2011) Status, habitat use and threats of cheer pheasant *Catreus wallichii* in and around Dhorpatan Hunting Reserve, Nepal. *International Journal of Galliformes Conservation* 2:22-30.
- Subedi, P. (2010) Monitoring of Yarsagumba *Cordyceps sinensis* harvesting and assessing its effect on pheasants and the livelihoods of local people at Pipar, Nepal. MSc thesis to the Tribhuvan University Institute of Forestry, Nepal.
- Tamrakar, R. and Waylen, K. (2010) Pheasant poaching at Pipar. *WPA News*, 84: 5.
- UNEP (2001) Nepal: State of the Environment. United Nations Environment Programme, Urban, M.C., Tewksbury, J.J. and Sheldon, K.S. (2012) On a collision course: competition and dispersal differences create no-analogue communities and cause extinctions during climate change. *Proceedings of the Biological Society*, 279: 2072-2080.
- Warwick, J. (1986) Selected bird records for Nepal, April-May 1985. Unpublished. 4 pp.
- Wilson, C.W., Masters, R.E. and Buehner, G.A., (1995) Breeding bird response to pine-grassland community restoration for red-cockaded woodpeckers. *Journal of Wildlife Management*, 59: 56-67.
- WTTC (2017) TRAVEL & TOURISM ECONOMIC IMPACT 2017 WORLD. World Travel and Tourism Council, UK.
- WWF Nepal (2017) World Wildlife Fund, 'Habitat Loss', accessed on 03/15/18 http://wwf.panda.org/what_we_do/where_we_work/eastern_himalaya/threats/habitat_loss/
- Yonzon, P.B. and Lelliott, A.D. (1980) Pheasant studies in the Annapurna Himal II: field studies. Pages 56-62 in Christopher Savage (ed) *Pheasants in Asia 1979: Proceedings of the First International Symposium on Pheasants in Asia*. World Pheasant Association, Exning, UK.
- Yonzon, P.B. and Lelliott, A.D. (1981) Food Habits and Feeding of Himalayan Pheasants. *Journal of Natural History Museum* 5(4):93-95.



Kalij pheasant (Seejan Gyawali)

Annex I: Logical Framework

Hierarchy of Objectives	Objectively Verifiable Indicator	Means of Verification	Risk/Assumption
Goal: Populations of all the species of pheasant increased and their habitats protected.			
Objective 1: Enhance knowledge on the ecology and threats to pheasant species .			
Output 1.1 Adequate information on all pheasant species available.	One centralize database management system in full operation	Fully functioning online database site	Stakeholders share the data
Output 1.2 A monitoring system for pheasants standardized across Nepal	National protocol on pheasant research and monitoring developed	Pheasant research and monitoring protocol	Stakeholder responded positively to science based information.
Output 1.3 Scientific research on all pheasant species initiated	At least one research on each pheasant species conducted	Annual reports, Research report and thesis, Journal articles	Projected funding secured
Output 1.4 Status and threats to pheasant species assessed and documented	Status and threat assessment status on each pheasant species conducted	Research report, scientific articles,	Effective collaboration among stakeholders
Actions			
Assess distribution, status and threats of all pheasant species all over the country.			
Carry out species distribution modelling of all pheasant species.			
Identify priority sites for all pheasant species			
Develop monitoring protocols for pheasant species.			
Conduct regular monitoring at established monitoring points in every three years			
Establish new long-term monitoring stations in both inside and outside protected areas at three geographical regions (Tarai, mid-hill and high mountain).			
Study the impact of climate change on various aspects of pheasants such as shift and modification in habitat, food and breeding habits etc.			
Document ethno-pheasant relation at three geographical regions.			
Conduct genetic assessment of pheasant species including genetic identity of Red Junglefowl separating them from domestic chicken.			
Establish pheasants related centralize database management system.			
Objective 2: Implement conservation initiatives to reduce threats to pheasant species and their habitat.			
Output 2.1 Poaching and illegal trade of pheasant species reduced	Survey reports indicate population of pheasants is increased.	Annual report, Research reports, Seizure cases in news	Effective law enforcement is in place.
Output 2.2 Science-based participatory conservation initiated	Anthropogenic threats to pheasants in Nepal reduced by 20%	Research reports	capacity of local people is enhanced on use of protocol.

Output 2.3 Population and distribution status of pheasant species in Nepal improved.	Population of pheasant species increasing by 10% at known sites and new populations identified	Annual reports, Research reports, Media coverage on species conservation issues increased	Suitable habitat coverage is increased and output 2.1 is in place.
Output 2.4 Pheasant conservation issues in five years' district forest management plans, BZCF operation plans and CF operation plans mainstreamed.	All Protected Areas, Buffer Zones and Community Forests mainstream pheasant habitat management in their respective management/work plans	Finalized PAMP, CFWP and BZCFWP	Pa and DFOs authorities adopt the pheasant conservation issues as priority
Actions			
Manage the quality of degraded grassland and forest habitats.			
Control forest fires and overgrazing.			
Monitor the trend of land use change and development practices and advocate sustainable practices.			
Coordinate with law enforcement agencies to deter poaching and illegal trade.			
Establish/mobilize community-based organizations to control poaching activities.			
Form new and strengthen existing eco-clubs, local bodies, CBOs, schools children and educate them on pheasant conservation.			
Coordinate with local government for the control of stray dogs.			
Produce and disseminate pheasant conservation awareness materials (print, audio and video).			
Coordinate with local and provincial governments for pheasant conservation.			
Mainstream pheasant conservation actions in CFUG's Action Plan and PA's Management plan.			
Sensitize and engage non-conventional conservation partners such as media houses, corporate sector etc on pheasant conservation.			
Identify Important Bird and Biodiversity Areas for Pheasant Conservation			
Objective 3: Explore the possibility of local livelihood enhancement.			
Output 3.1 Eco-tourism initiatives and facilities at important areas identified for pheasants started.	Eco-tourism activities started in at least three sites	Annual report of DNPWC and DFSC, Media articles	capacity of local peoples is enhanced. Sites are rich for other tourism component.
Output 3.2 Livelihood enhancement options identified and implemented	Three sets of livelihood enhancement trainings carried out at every important pheasant sites	Annual report of DNPWC and DFSC	Livelihood activities are directly addressing the pheasant conservation.
Output 3.3 Possibility of pheasant farming assessed	Pheasant farming started by 50 people/ groups across Nepal	Annual report of DNPWC and DFSC, Research reports, Media coverage	farming policy is well followed and monitoring mechanism is in place.
Actions			
Develop and promote eco-tourism in pheasant hot spot areas.			
Develop tourist facilities near the pheasants' hotspots with respect to other wildlife.			
Train local communities on home stay/community lodge registration and management.			

Train local people on various income generation activities like nature guide, bio-pesticide preparation, organic farming.			
Conduct feasibility study on pheasant farming.			
Objective 4: Enhance partnership and capacity.			
Output 4.1 Network and coordination with national and international institutions increased.	Number of local, province, national and International networks established	Annual reports, Signed MOUs	Positive coordination with other stakeholders and development agencies
Output 4.2 Capacity of local community on pheasant monitoring enhanced and engaged.	Community based monitoring protocol developed and piloted	Monitoring report, Media news	Local community friendly monitoring protocol is in place.
Output 4.3 Stakeholders in pheasant research monitoring and habitat management engaged.	Number of trained personnel on pheasant monitoring and habitat management	Annual report, Training report	Regular training and technical guidance are in place.
Actions			
Organize forest fire control training for PA staff, CF, BZCF members.			
Provide sustainable NTFP harvesting training for PA staff, CF, BZCF members			
Conduct regular coordination meetings between stakeholders (Federal, Provincial and Local) on pheasant conservation issues			
Strengthen international networks for research and conservation			
Train local birdwatchers on pheasant monitoring			
Initiate community-based monitoring of pheasants			
Train frontline staff (Government/non-government) on pheasant research and conservation			

Annex II: Five-year budget of pheasant conservation action plan (NPR)

	Activities	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Objective 1: Enhance knowledge on the ecology of and threats to pheasant species.							
1.1	Assess distribution, status and threats of all pheasant species		1,500,000			1,000,000	2500000
1.2	Carry out species distribution modelling of all pheasant species.		500000			400000	900000
1.3	Identify priority sites for all species	700000					700000
1.4	Develop monitoring protocol for pheasant species .	500000	500000				1000000
1.5	Conduct regular monitoring at established monitoring points in every three years	1,000,000					1000000
1.6	Establish long-term monitoring stations at three geographical regions (Terai, mid-hill and mountain) .	1,800,000	1,800,000				3600000
1.7	Study the impact of climate change on various aspects of pheasants such as shift and modification in habitat, food and breeding habits and distribution etc.		700000	700000	700000	700000	2800000
1.8	Document ethno-pheasant relation at three geographical regions	500,000	800,000				1300000
1.9	Conduct genetic assessment of pheasant species including genetic identity of Red Junglefowl separating them from domestic chicken.	500,000	15,000,000				15500000
1.10	Establish pheasant related centralize database management system	700,000	300,000	300,000	300,000	300,000	1900000
Objective 2: Implement conservation initiatives to reduce threats to pheasant species and their habitat.							
2.1	Manage the quality of degraded grassland and forest habitats.		500,000			500,000	1000000
2.2	Control forest fires and overgrazing .			800,000	100,000		900000
2.3	Monitor the trend of land use change and development practices and advocate sustainable practices.		800,000	600,000	200,000		1600000
2.4	Coordinate with law enforcement agencies to deter poaching and illegal trade		300,000	300,000	300,000	300,000	1200000
2.5	Establish/mobilize community based organizations to control poaching activities		500,000	500,000	500,000	500,000	2000000
2.6	Form new and strengthen existing eco-clubs, local bodies, CBOs, school children and educate them about pheasant conservation	500000	500000	500000	500000	500000	2500000
2.7	Coordinate with local government for the control of stray dogs.			750000	750000	750000	2250000



The Pheasant Conservation Action Plan for Nepal (2019-2023) has been prepared in collaboration with **BCN, NTNC, WWF Nepal and ZSL Nepal**

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