

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 1796
TO BE ANSWERED ON 22.12.2022

Critically endangered species in India

1796. SHRI MUKUL BALKRISHNA WASNIK:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether several mammals, birds, reptiles, amphibians and corals are threatened/critically endangered in India;
- (b) if so, the details thereof;
- (c) whether Government has any plans for the protection and conservation of the threatened/ critically endangered species; and
- (d) if so, the details of such plans?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) & (b) Certain mammals, birds, reptiles, amphibians are threatened/critically endangered in India but there is no critically endangered species of coral reported from Indian waters. According to IUCN data, 73 species including 9 species of mammals, 18 species of birds, 26 species of reptiles and 20 species of amphibians are categorized as Critically Endangered in India. The details are attached as Annexure I.

(c) & (d) Yes Sir, the Government of India is taking the utmost steps for the protection and conservation of the threatened/Critically Endangered species in India. The details of steps taken to protect these species are attached as Annexure II.

According to IUCN criteria, 73 species including 9 species of mammals, 18 species of birds, 26 species of reptiles and 20 species of amphibians are categorized as Critically Endangered in India (Table 1). The details are cited below.

Table 1: Summary of Critically Endangered (CR) mammals, birds, reptiles and amphibians from India

<i>Sl. No.</i>	<i>Group</i>	<i>Species</i>
	TERRESTRIAL ECOSYSTEM	
1.	Mammals	9
2.	Birds	18
3.	Reptiles	25
4.	Amphibians	20
	Subtotal	72
	MARINE ECOSYSTEM	
5.	Reptile	1
	Subtotal	1
	GRAND TOTAL	73

Mammals

A total 9 species of mammals are considered Critically Endangered in India including 7 endemic species (Table 2).

Table 2: Critically Endangered (CR) Mammals from India

<i>Sl. No.</i>	<i>Common Name</i>	<i>Scientific name</i>	<i>Probable locality/State(s) in India</i>	<i>Remark</i>
1.	Kashmir Stag/Hangul	<i>Cervuselaphus hanglu</i> Wagner, 1844	Jammu & Kashmir and Himachal Pradesh	Endemic to India (as subspecies)
2.	Malabar Large-spotted Civet	<i>Viverracivettina</i> Blyth, 1862	Karnataka and Kerala	Endemic to India
3.	Chinese Pangolin	<i>Manispentadactyla</i> Linnaeus, 1758	North-eastern India and Sikkim	Bangladesh, Pakistan and Sri Lanka
4.	Andaman Shrew	<i>Crocidura andamanensis</i> Miller, 1902	Andaman & Nicobar Is.	Endemic to India
5.	Jenkin's Shrew	<i>Crocidura jenkinsi</i> Chakraborty,	Andaman &	Endemic to

		1978	Nicobar Is.	India
6.	Nicobar Shrew	<i>Crociduranicobarica</i> Miller, 1902	Andaman & Nicobar Is.	Endemic to India
7.	Namdhapa Flying Squirrel	<i>Biswamoyopterus biswasi</i> Saha, 1981	Arunachal Pradesh (Namdhapa National Park)	Endemic to India
8.	Large Rock Rat	<i>Cremnomyselvira</i> (Ellerman, 1946)	Tamil Nadu	Endemic to India
9.	Leafletted Leaf-nosed Bat	<i>Hipposideros hypophyllus</i> Kock & Bhat, 1994	Karnataka (Manahalli and Theralli in Kolar district)	Endemic to India

Birds

A total 18 species of birds are considered Critically Endangered in India (Table 3).

Table 3: Critically Endangered (CR) Birds from India

<i>Sl. No.</i>	<i>Common Name</i>	<i>Scientific name</i>	<i>Probable locality/State(s) in India</i>	<i>Remark</i>
1.	Pink-headed Duck	<i>Rhodonessacaryophyllacea</i> (Latham, 1790)	Gangetic Plains (Bihar, Uttar Pradesh) No recent record from these states.	Last confirmed sighting from India came from Darbanga of Bihar in June, 1935.
2.	Baer's Pochard	<i>Aythya baeri</i> (Radde, 1863)	North-East India especially Assam and Arunachal Pradesh	Sporadic records from Assam and the population during migratory season in India may not be more than 10 individuals.
3.	Himalayan Quail	<i>Ophrysius superciliosa</i> (Gray, 1846)	Western Himalaya (Uttarakhand) No recent record in India	The last Mountain Quail was

				shot at Nainital in 1876 and no record of the species in India since then.
4.	Great Indian Bustard	<i>Ardeotisnigriceps</i> (Vigors, 1831)	Desert and arid regions of Rajasthan, Madhya Pradesh, Karnataka, Maharashtra, Tamil Nadu and Andhra Pradesh.	Now restricted only to Rajasthan, Madhya Pradesh, Andhra Pradesh, Gujarat and Maharashtra and estimated population in India is around 100 individuals mostly in Rajasthan's Thar Desert.
5.	Bengal Florican	<i>Houbaropsisbengalensis</i> (Gmelin, 1789)	Terai Grasslands in Uttar Pradesh, Assam, Arunachal Pradesh	Once found in northern West Bengal but no recent record from West Bengal and majority of the birds live in Uttar Pradesh and Assam where the combined population would be around 280 birds.
6.	Lesser Florican	<i>Syphoetidesindicus</i>	Tall to medium-	Can also be

			height grasslands in Gujarat, Madhya Pradesh	found in agricultural field in Gujarat and Madhya Pradesh but no study to enumerate exact population status in India.
7.	Masked Finfoot	<i>Heliopaispersonatus</i> (Miller, 1782)	Indian Sunderbans; no reliable records in India but all from neighbouring Bangladesh only	No recent record from Indian Sunderbans.
8.	Siberian Crane	<i>Leucogeranusleucogeranus</i> (Pallas, 1773)	Keoladeo National Park in Rajasthan but over a decade not a single bird reported from India	No recent sighting in India in the last 15 years.
9.	Sociable Lapwing	<i>Vanellus gregarious</i> (Pallas, 1771)	Flooded grasslands in western India mostly Gujarat and Rajasthan.	Migratory species to India during winter months and no local breeding records. Sporadic sighting from these states during winter.
10.	Spoon-billed Sandpiper	<i>Calidrispygmaea</i> (Linnaeus, 1758)	Migratory bird to wetlands and coastal lagoons in East Coast of India	Winter visitor to the east coast of India and only one bird recorded in West Bengal in 2019.

11.	Jerdon's Courser	<i>Rhinoptilus bitorquatus</i> (Blyth, 1848)	Restricted only to ShriLankamaleshwara Wildlife Sanctuary in Andhra Pradesh. No recent record.	Last individual was photographed in late-2002 and no record afterwards and no population estimation carried out but dedicated surveys in Andhra Pradesh yielded none.
12.	White-bellied Heron	<i>Ardeainsignis</i> Hume, 1878	Fast-flowing rivers in north-east India especially Assam and Arunachal Pradesh and only 8-10 individuals present in India.	So far only two nesting records from India and both the nest did not produce any youngones as both ended in failure, thus far Bhutan is the only known country where the species breeds but possibility of them breeding in India cannot be ruled out and more studies needed. In India.
13.	Red-headed	<i>Sarcogypscalvus</i> (Scopoli, 1786)	Mostly in western and	In these

	Vulture		northern India	states the population has declined alarmingly to handful of individuals. In India the numbers may not be as high as 100 individuals.
14.	White-rumped Vulture	<i>Gyps bengalensis</i> (Gmelin, 1788)	Once recorded throughout India but now very few here and there especially in Rajasthan, Gujarat, Haryana etc.	Conservation breeding programmes has been undertaken to introduce captive-bred individuals into the wild but wild population has declined to fewer than 100 individuals in India.
15.	Indian Vulture	<i>Gyps indicus</i> (Scopoli, 1786)	Once recorded throughout India but now very few here and there especially in Rajasthan, Gujarat, Haryana etc.	Conservation breeding programmes has been undertaken to introduce captive-bred individuals into the wild but wild population has declined to fewer than 100 individuals in India.

16.	Slender-billed Vulture	<i>Gyps tenuirostris</i> Gray, 1844	Recorded in Gangetic plains and north-east India especially Assam.	Fewer than 100 individuals in India and neighbouring Myanmar.
17.	Bugun Liocichla	<i>Liocichla bugunorum</i> Athreya, 2006	Recorded only from Eagle Nest Wildlife Sanctuary of Arunachal Pradesh	Only record in Arunachal Pradesh and the numbers many not be as high as 100 individuals in Eagle Nest Wildlife Sanctuary of Arunachal Pradesh.
18.	Yellow-breasted Bunting	<i>Emberiza aureola</i> Pallas, 1773	Restricted to wet and tall grasslands in north and north-east India	It is a migratory species to India and no local breeding records. However, continued conversion of natural tall grassland habitats to agriculture and aquaculture has reduced the natural habitat of the species in India where only a few individuals have been

				sighted from these regions.
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Reptiles

A total of 26 species of reptiles under the Critically Endangered category from India including one species of Gharial, seven species of freshwater turtles, one species of marine turtle, two species of tortoises, 12 species of lizards, and three species of snakes (Table 4). Among these five are endemic to India.

Table 4: Critically Endangered (CR) Reptiles from India

<i>Sl. No.</i>	<i>Common Name</i>	<i>Scientific name</i>	<i>Probable locality/State(s) in India</i>	<i>Remark</i>
1.	Gharial	<i>Gavialis gangeticus</i> (Gmelin, 1789)	14 localities in north India. Five subpopulations recorded in Chambal River, Katarniaghat Reservoir (on Girwa River), Corbett National Park and Gandak River.	Historically distributed throughout the major channels of the Indus, Ganges, Mahanadi, Brahmaputra-Meghna and possibly Irrawaddy drainages.
2.	Northern River Terrapin	<i>Batagur baska</i> (Gray, 1831)	Odisha and West Bengal. Now limited to the Sundaban area of India.	The population has declined from abundant in the 19 th century to likely fewer than 100 mature animals remaining. All remaining wild subpopulations have fewer than 50 mature individuals.
3.	Three-striped Roofed Turtle	<i>Batagur dhongoka</i> (Gray, 1834)	Assam, Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, and West Bengal.	Degradation of its riverine habitat, suggest a decline of over 80% in the past three generations (probably in the order

				of 15-25 years each.
4.	Red-crowned Roofed Turtle	<i>Batagurkachuga</i> (Gray, 1831)	Chambal River, Ganga basin of India.	Threatened by incidental exploitation and systemic impacts on main river habitat. There is an inferred decline of well over 80% in the past 50 years.
5.	Assam Roofed Turtle	<i>Pangshurasyllhetensis</i> Jerdon, 1870	India	Over exploitation and habitat loss, and viable populations are now restricted to scattered occurrences in suitable stream habitat within protected areas.
6.	Hawksbill Turtle	<i>Eretmochelys imbricata</i> (Linnaeus, 1766)	Andaman and Nicobar Islands, Andhra Pradesh, Gujarat, Kerala, Lakshadweep, Odisha, West Bengal and Tamil Nadu	Anthropogenic activities, Mechanized fishing, gill nets and in trawl nets, Incidental catch, killed for the oil, loss of marine habitats (due to pollution, aquaculture, coastal tourism) are the major threats.
7.	Leith's Softshell Turtle	<i>Nilssonialeithii</i> (Gray, 1872)	Endemic to peninsular India from south of the Ganges basin, Andhra Pradesh to Karnataka and Tamil Nadu.	This species has become subject to intensive exploitation over the past 30 years, and has also suffered habitat degradation, and is believed to have suffered a range-wide decline.
8.	Black Softshell Turtle	<i>Nilssonianigricans</i> (Anderson, 1875)	Assam and Tripura of Northeast India	Population decline of over 80% over a three generation period since 2000 and

				continuing into the future.
9.	Asian Giant Softshell Turtle	<i>Pelochelyscantorii</i> Gray, 1864	Lowland rivers and estuaries from southern and eastern India.	Declined and locally disappeared across much of its range due to exploitation and habitat destruction.
10.	Elongated Tortoise	<i>Indotestudoelongata</i> (Blyth, 1854)	Foot hills of Himalayas, Gangetic plain up to Northern Eastern Ghats in Odisha.	This species has declined across its range by at least 80% in the last 90 years (three generations) for habitat loss reasons alone, and has additionally been extensively and intensively exploited for consumption and export trade.
11.	Asian Giant Tortoise	<i>Manouriaemys</i> (Schlegel & Müller, 1844)	North-eastern India	Based on habitat loss rates alone, half the area of suitable lowland and mid-elevation evergreen forest has been degraded and lost in the past half century throughout its range.
12.	Superb Large Fan-throated Lizard	<i>Saradasuperba</i> Deepak, Zambre, Bhosale&Giri, 2016	Chalkewadi, Satara District, Maharashtra (Western Ghats).	Its extent of occurrence is less than 11 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
13.	Adi's Day Gecko	<i>Cnemaspisadii</i> Srinivasulu, Kumar &Srinivasulu, 2015	Karnataka	Only known from a single location, a temple complex with an area of 10 km ² within which it has a known extent of

				occurrence of less than 8 km ² , and there is a continuing decline.
14.	Anaikatti Day Gecko	<i>Cnemaspis anaikattiensis</i> Mukherjee, Bhupathy & Nixon, 2005	Anaikatti Hills in the Western Ghats.	Extent of occurrence is less than 100 km ² , all individuals are in a single location (type locality in the Anaikatti Hills), and there is continuing decline in the extent and quality of its habitat.
15.	Kottiyoor Day Gecko	<i>Cnemaspis kottiyoorensis</i> Cyriac and Umesh, 2014	Western Ghats	Extent of occurrence is less than 70 km ² , its distribution is severely fragmented, and there is continuing decline in the extent and quality of its habitat outside of the Kottiyoor Wildlife Sanctuary.
16.	Shevaroy Day gecko	<i>Cnemaspis shevaroyensis</i> Khandekar, Gaitonde & Agarwal, 2019	Kottachedu Kari Raman Temple, Valavaendhi, Keerakaad, and Pattipadi Velur below Yercaud in the lower slopes of the Shevaroy Hills, Salem District, Tamil Nadu.	Its extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
17.	Thackeray's Dwarf Gecko	<i>Cnemaspis thackerayi</i> Khandekar, Gaitonde & Agarwal, 2019	Grange resort in Yercaud town, at an elevation of around 1,390 m asl. in the isolated Shevaroy Hills, Salem District, Tamil Nadu.	Extent of occurrence is less than 100 km ² , all individuals are in a single location (Yercaud), and there is continuing decline in the extent and quality of its habitat.
18.	Chamba Bent-toed	<i>Cyrtodactylus chambaensis</i> Agarwal,	Endemic to Chamba, Himachal Pradesh,	Only known from a single location where

	Gecko	Khandekar& Bauer, 2018	India Endemic.	little natural vegetation remains and there is a continuing decline in the extent and quality of remaining natural habitat as a result of multiple pressures and the occurrence presumed to be below 100 km ² .
19.		<i>Cyrtodactylus montanus</i> Agarwal, Mahony, Giri, Chaitanya& Bauer, 2018	North Tripura District, Tripura.	Extent of occurrence of 15.1 km ² , the hill range is considered to occur as a single location defined by multiple threats from forest clearance, and there is a continuing decline in the extent and quality of its habitat.
20.	Satara Gecko	<i>Hemidactylus sataraensis</i> Giri& Bauer, 2008	Chalakeswadi Plateau, Satara District, Maharashtra (Endemic).	This species occurs in a single location, a plateau with an area of around 10 km ² , and there is a continuing decline in the extent and quality of its habitat.
21.	Yercaud Slender Gecko	<i>Hemiphyllodactylus aurantiacus</i> (Beddome, 1870)	Endemic to India. Yercaud, Shevaroy Hills in the Eastern Ghats of Tamil Nadu.	Presently known, thus is a single-site endemic which occurs in a single location defined by a major threat from slash and burn agriculture.
22.		<i>Hemiphyllodactylus kolliensis</i> Agarwal, Khandekar, Giri, Ramakrishnan & Karanth, 2019	Selur Nadu, Kolli Hills, Namakkal District, Semmedu, Thinnanurnadu and Solakkadu.	Extent of occurrence of 45 km ² and, although it is still fairly common and has apparently

				adapted well to historical habitat loss within its range, ongoing conversion of these secondary habitats.
23.	Madras Spotted Skink	<i>Barkudia insularis</i> Annandale, 1917	Barkud Island, Chilika; Nandankanan Biological Park, Odisha.	Extent of occurrence is thought unlikely to exceed 50 km ² . The habitat of this species on Barkuda Island, from which the majority of records are known, is highly fragmented and is undergoing a continuing decline due to livestock grazing, slash-and-burn.
24.		<i>Rhinophis goweri</i> Aengals & Ganesh, 2013	Only from its type locality in the Bodamalai Hills and the adjacent Kolli Hills, Eastern Ghats of Tamil Nadu, India	Extent of occurrence is less than 50 km ² , its distribution is severely fragmented, and there is continuing decline in the extent and quality of its habitat.
25.	Shevaroy Hills Earth Snake	<i>Uropeltis shorttii</i> (Beddome, 1863)	Shevaroy Hills in the southern Eastern Ghats (Endemic).	Extent of occurrence is less than 12 km ² , all individuals are in a single location (Shevaroy Hills), and there is continuing decline in the extent and quality of its habitat.
26.	Island Pit Viper	<i>Trimeresurus labialis</i> (Steindachner, 1867)	Nicobar Islands.	Extent of occurrence is less than 100 km ² , all individuals are in a single location (Car Nicobar Island), and there is continuing

				decline in the extent and quality of its habitat and number of mature individuals.
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Amphibians

The amphibian fauna of India comprises 20 Critically Endangered species including one species of toad and 19 species of frogs (Table 5).

Table 5: Critically Endangered (CR) Amphibians from India

<i>Sl. No.</i>	<i>Common name</i>	<i>Scientific name</i>	<i>Probable locality/State(s) in India</i>	<i>Remarks</i>
1.	Konkan Tiger Toad	<i>Xanthophryne tigerina</i> (Biju, Van Bocxlaer, Giri, Loader & Bossuyt, 2009)	Amboli of Maharashtra	Area of occupancy is estimated to be less than 10 km ² , its extent of occurrence less than 100 km ² , all individuals are in a single location, and there is a continuing decline in the extent and quality of its habitat and in the number of mature individuals.
2.	Ghats Wart Frog	<i>Fejervaryamurthii</i> (Pillai, 1979)	Naduvattom of Tamil Nadu	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
3.	Charles Darwin's Frog	<i>Ingeranacharlesdarwini</i> (Das, 1998)	Andaman Islands	Extent of occurrence is less than 100 km ² , its distribution is severely fragmented, and there is continuing decline in the extent and quality of its habitat.
4.	Resplendent Shrubfrog	<i>Raorchestesresplendens</i> Biju, Shouche, Dubois, Dutta, & Bossuyt, 2010	Anamudi summit of Idukki District, Kerala	Extent of occurrence is estimated to be less than 100 km ² , its area of occupancy is estimated to be 3 km ² , all individuals are in a single location, and there is a continuing decline in the number of mature individuals.

5.	Günther's Bush Frog	<i>Raorchesteschalazodes</i> (Günther, 1876)	Munnar of Kerala	Extent of occurrence of less than 100 km ² , its area of occupancy is less than 10 km ² , its distribution is severely fragmented, and there is a continuing decline in the extent and quality of its forest habitat.
6.	Green Eyed Bushfrog	<i>Raorchesteschlorosomma</i> (Biju&Bossuyt, 2009)	Munnar of Kerala	Extent of occurrence is much less than 100 km ² , all individuals are in a single location, and there is a continuing decline in the extent and quality of its habitat due to extensive tea, eucalyptus and wattle cultivation.
7.	Kaikatti Bush Frog	<i>Raorchesteskaikatti</i> (Biju&Bossuyt, 2009)	Kaikatti in the Nelliampathi Hills within the Western Ghats	Area of occupancy is estimated to be less than 10 km ² , its extent of occurrence less than 100 km ² , all individuals are in a single location, and there is a continuing decline in the extent and quality of its habitat.
8.	Mark's Bush Frog	<i>Raorchestesmarki</i> (Biju&Bossuyt, 2009)	Kaikatti-Nelliampathi of Palakkad district, Kerala.	Area of occupancy is estimated to be less than 10 km ² , its extent of occurrence less than 100 km ² , all individuals are in a single location, and there is a continuing decline in the extent and quality of its habitat.
9.	Large Ponmudi Bush Frog	<i>Raorchestesponmudi</i> (Biju&Bossuyt, 2005)	Ponmudi Hill, part of the Agasthyamala Hill range.	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of some of its habitat.
10.	Sacred Grove Bushfrog	<i>Philautussanctisilvaticus</i> Das &	Kapildhara Falls of	Extent of occurrence is less than 100 km ² and its area of

		Chanda, 1997	Amarkantak.	occupancy is less than 10km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
11.	Amboli Bush Frog	<i>Pseudophilautus amboli</i> (Biju&Bossuyt, 2009)	Amboli of Maharashtra	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
12.	Griet Bush Frog	<i>Raorchestes griet</i> (Bossuyt, 2002)	Munnar of Kerala	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
13.	Munnar Bush Frog	<i>Raorchestes munnar</i> (Biju&Bossuyt, 2009)	Munnar of Kerala	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
14.	Shillong Bush Frog	<i>Raorchestes shillongensis</i> (Pillai&Chanda, 1973)	Shilong of Meghalaya	Extent of occurrence is less than 100 km ² , its distribution is severely fragmented, and there is continuing decline in the extent and quality of its habitat.
15.	Sushil's Bush frog	<i>Raorchestes sushili</i> (Biju&Bossuyt, 2009)	Coimbatore of Tamil Nadu	Extent of occurrence, while currently unquantifiable, is expected to be much less than 100 km ² as it is in a restricted forest patch in a matrix of agricultural land use, all individuals are in a single location, and there is a continuing decline in the extent and quality of its habitat.
16.	Anaimalai Flying Frog	<i>Rhacophorus pseudomalabaricus</i> Vasu	Indira Gandhi National Park	Extent of occurrence is less than 100 km ² , all individuals

		devan and Dutta, 2000	and surroundings in Tamil Nadu	are in a single location, and there is continuing decline in the extent and quality of its habitat, and number of individuals.
17.	Dattatreya Night Frog	<i>Nyctibatrachus dattatreyaensis</i> Dinesh, Radhakrishnan & Bhatta, 2008	Bhadra Wildlife Sanctuary of Karnataka	Extent of occurrence is currently estimated at 30 km ² , all individuals are in a single threat-defined location, and there is continuing decline in the extent and quality of its habitat in the Manikyadhara Falls area of Karnataka.
18.		<i>Micrixalus kottigehearensis</i> (Rao, 1937)	Chicamangalore of Karnataka	Area of occupancy is probably less than 100 km ² , its distribution is severely fragmented, and there is continuing decline in the extent and quality of its habitat.
19.	Gundia Frog	<i>Indiranagundia</i> (Dubois, 1986)	Karnataka	Extent of occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat.
20.	Kerala Indian Frog	<i>Indiranaphrynoderma</i> (Boulenger, 1882)	Anamalai Hills of the Western Ghats	Extent of Occurrence is less than 100 km ² , all individuals are in a single location, and there is continuing decline in the extent and quality of its habitat outside of Indira Gandhi National Park.

ANNEXURE-II

- Over the years, the Government of India through the Ministry of Environment, Forest and Climate Change (MoEF&CC), and the Department of Science & Technology (DST) has sponsored many research activities to the researchers belonging to the government, private, NGOs, and universities targeting some of the threatened bird species. For example, the Department of Science & Technology (DST) supported a project on Critically Endangered White-bellied Heron *Ardeainsignis* in Namdapha Tiger Reserve, Arunachal Pradesh to study the foraging behaviour as the species is found only in Arunachal Pradesh and neighbouring Assam in India. The present global population of this species is less than 60 individuals and India has less than 15 individuals in PAs and a few areas outside PAs.
- Similarly, funds have been allocated to study the recent decline in vulture populations across India by sponsoring surveys to enumerate three species of vulture (White-backed, Slender-billed, and Indian Vultures) besides setting up Conservation Breeding Centres in various states (Haryana, West Bengal, Assam, and Madhya Pradesh) with the help of foreign institutions.
- The Centrally Sponsored Scheme 'Integrated Development of Wildlife Habitats' also has the component, the 'Recovery of Endangered Species' and 16 species have been identified for recovery including 09 bird species viz. Great Indian Bustard, Lesser Florican, Bengal Florican, Edible Nest Swiftlet, Nicobar Megapode, White-backed Vulture, Slender-billed Vulture, Indian Vulture, and Jerdon's Courser to curb any further extinction from India.
- Legal protection has been provided to these Critically Endangered species against collection, hunting, and poaching under the provisions of the Indian Wildlife (Protection) Act, 1972. The act has been amended and made more stringent. The punishment in cases of offenses has been enhanced. The Act also provides for forfeiture of any equipment, vehicle, or weapon that is used for committing wildlife offence.
- Protected Areas, viz, National Parks, Sanctuaries, Conservation Reserves and Community Reserves all over the country covering important habitats have been created as per the provisions of the Indian Wildlife (Protection) Act, 1972 to provide better protection to wildlife, including threatened species and their habitat.

- Financial and technical assistance is extended to the State Governments under various Centrally Sponsored Schemes for providing better protection and conservation to wildlife habitats where many of these threatened animals also live.
- The Central Bureau of Investigation (CBI) has been empowered under the Indian Wildlife (Protection) Act, 1972 to apprehend and prosecute wildlife offenders.
- The State Governments have been requested to strengthen the field formations and intensify patrolling in and around the Protected Areas.
- The Wildlife Crime Control Bureau has been set up to control poaching and illegal trade in wildlife and its products.
- The Zoological Survey of India (a subordinate office under MoEF&CC) has been undertaking status surveys of the Threatened/Critically Endangered species of mammals, birds, reptiles, and amphibians in India.
- MoEF&CC (through its institutions) is proposing species for the inclusion in various Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to curb illegal international trade of the species. For CITES, CoP-19, MoEF&CC proposed to transfer two species of Critically Endangered freshwater turtles (Red-crowned roofed turtle and Leithi's softshell turtle) from Appendix-II to Appendix-I and both the proposals are provisionally accepted for amendment held on 14th -25th November 2022 in Panama.
- Most of the Threatened/Critically Endangered species are now proposed to be included in the Schedule-I of Wild Life (Protection) Act, 1972 to provide the highest level of protection.
- Creating awareness programmes and introducing capacity-building training amongst the common public and frontline staff of forest departments further to provide better protection to these faunal communities.
- Introduction of the captive breeding program for terrestrial animals and release of animals in the wild after successful development and nourishment.
- More focus on species recovery programs, estimation, and periodical monitoring of the Critically Endangered species.
- Establishment of Long Term Permanent Monitoring Plots to assess the population dynamics and ecological cohesion of the Critically Endangered species.