

Assessment of Bird Species Diversity in Chikotra Dam, Ajara, Kolhapur: A One - Year Observational Study

K. J. Adate, Ajagekar V. V.

¹Shivraj College Gadhinglaj, Dist - Kolhapur (M. S.)

²Department of Zoology, Ajara Mahavidyalaya, Ajara, Dist - Kolhapur (M. S.)

Abstract: *This research presents a comprehensive study of avian diversity in the Chikotra Dam region in Ajara, Kolhapur, conducted from January to December 2022. The study involved frequent field visits to observe and document bird species in the reservoir. The findings reveal the presence of 52 distinct bird species from eleven orders, indicating a rich biodiversity. The population of birds was found to be directly proportional to the physicochemical parameters of the water, suggesting that the health of the water body significantly influences avian diversity. The high number of bird species can be considered an indicator of good water quality in the reservoir.*

Keywords: Avian Diversity, Chikotra Dam, Physicochemical Parameters, Water Quality, Biodiversity Indicator

1. Introduction

Chikotra dam is constructed near village Zulpewadi Taluka Ajara. It is about 15 km away from the Bhudargad city. Water from this dam is being utilized by peoples of villages on the bank of the river Chikotra. This dam generally fills up during rainy season. The water from this dam is used for drinking and agriculture purposes. From December to January water level goes down which expose large wetland area. This wetland attracts the birds during this season. Sense more number of birds it is essential to identify and make a checklist of birds visiting this dam.

Physicochemical and biological parameters strongly influence the aquatic organisms and many of them serves as ecological indicators of water quality (Mishra 1999). Ecological studies generally involves analysis of physicochemical parameters and reflects on status of the environment in connection with both biotic and abiotic factors (Munawar 1974).

2. Study Area

The study area selected for the observation of birds was Chikotra dam Ajara, kolhapur district. Particularly wetland and forest area surrounding the reservoir was taken for observation.

Table 1: Salient Features of Chikotra Dam Ajara

1	Name of the Dam	Chikotra (Kolhapur) dam
2	River	Chikotra
3	Nearest City	Bhudargad
4	District	Kolhapur
5	State	Maharashtra
6	Basin	Krishna
7	Purpose of Dam	Irrigation
8	Year of Completion	2001
9	Operating and maintenance agency	WRD, GOM
10	Seismic Zone	Seismic Zone - III
11	Type of Dam	Earthen
12	Length of Dam	983 meter
13	Maximum height above foundation	64.08 m
14	Total volume content (TCM)	5109
15	Spillway capacity	393 cumec
16	No. of Spillway Gates	3

3. Materials and Methods

Birds are the well known vertebrates having a unique covering of feathers over their bodies. There are several types of birds found everywhere in the world. They attract the human being because of their attractive coloration and sound they produce. Birds are the flying animals. They can't remain at one place for long time. For this purpose frequent visits were arranged to the study area selected at chikotra dam. Bird observations were carried out during period January 2022 to December 2023. All observations are made by using binocular having lens (8 X 40). The characters of birds like size, colour, sound etc. noted on the spot. As soon as bird was seen peculiar character was noted down. The identification of birds was done by using book "Indian Birds" by Salim Ali (2001).

4. Result and Discussion

The checklist of Birds observed during study period.

Table 2: Checklist of Birds

Sr. No.	Order	Family	Scientific Name	Common Name
1.	Anseriformes	Anatidae	1) <i>Sarkidiornis melanotos</i>	Knob - billed Duck
			2) <i>Tadorna ferruginea</i>	Ruddy Shelduck
			3) <i>Dendrocygna javanica</i>	Lesser Whistling - Duck
			4) <i>Anas acuta</i>	Northern Pintail
			5) <i>Anas crecca</i>	Eurasian Teal
			6) <i>Anas poecilorhyncha</i>	Spot - billed Duck
			7) <i>Anas Penelope</i>	Eurasian Wigeon
			8) <i>Anas strepera</i>	Gadwall
			9) <i>Anas clypeata</i>	Northern Shoveler
			10) <i>Anas querquedula</i>	Garganey
			11) <i>Aythya Nettepus</i>	Common Pochard
			12) <i>coromandelianus yaferina</i>	Cotton Pygmy - goose
2.	Ciconiiformes	Ardeidae	1) <i>Ardea insignis</i>	White - bellied Heron
			2) <i>Ardea cinerea</i>	Grey Heron
			3) <i>Ardea goliath</i>	Goliath Heron
			4) <i>Ardea alba</i>	Great Egret
			5) <i>Ardea purpurea</i>	Purple Heron
			6) <i>Egretta intermedia</i>	Intermediate Egret
			7) <i>Egretta garzetta</i>	Little Egret
			8) <i>Bubulcus ibis</i>	Cattle Egret
			9) <i>Nycticorax nycticorax</i>	Black - crowned Night - Heron
			10) <i>Ardeola grayii</i>	Indian Pond - Heron
3.	Charadriiformes	Charadriidae	1) <i>Vanellus indicus</i>	Red - wattled Lapwing
			2) <i>Vanellus malabaricus</i>	Yellow - wattled Lapwing
			3) <i>Charadrius dubius</i>	Little Ringed Plover
		Scolopacidae	1) <i>Calidris minuta</i>	Little Stint
			2) <i>Limosa limosa</i>	Black - tailed Godwit
			3) <i>Gallinago gallinago</i>	Common Snipe
			4) <i>Actitis hypoleucos</i>	Common Sandpiper
		Accipitridae	1) <i>Haliastur Indus</i>	Brahminy Kite
			2) <i>Circus aeruginosus</i>	Western Marsh Harrier
4.	Falconiformes	Rallidae	1) <i>Amaurornis phoenicurus</i>	White breasted Waterhen
5.	Gruiformes	Gruidae	1) <i>Grus grus</i>	Common Crane
6.	Coraciformes	Alcedinidae	1) <i>Alcedo atthis</i>	Common Kingfisher
			2) <i>Ceryle lugubris</i>	Crested Kingfisher
			3) <i>Halcyon smyrnensis</i>	White - throated Kingfisher
		Bucerotidae	1) <i>Ocyrceros birostris</i>	Indian Grey Hornbill
			2) <i>Anorrhinus austeni</i>	Brown Hornbill
7	Piciformes	Capitonidae	1) <i>Megalaima virens</i>	Great Barbet
			2) <i>Megalaima asiatica</i>	Blue - throated Barbet
		Picidae	1) <i>Dendrocopos nanus</i>	Brown - capped Woodpecker
			2) <i>Dendrocopos mahrattensis</i>	Yellow - crowned Woodpecker
		Meropidae	1) <i>Merops orientalis</i>	Green Bee - eater
			2) <i>Merops philippinus</i>	Blue - tailed Bee - eater
8	Galliformes	Phasianidae	1) <i>Pavo cristatus</i>	Indian Peafowl
			2) <i>Gallus gallus</i>	Red Jungle fowl
9	Ciconiiformes	Threskiornithidae	1) <i>Pseudibis papillosa</i>	Black Ibis
		Ciconiidae	1) <i>Ephippiorhynchus asiaticus</i>	Black - necked Stork
			2) <i>Mycteria leucocephala</i>	Painted Stork
			3) <i>Ciconia ciconia</i>	White Stork
10	Psittaciformes	Psittacidae	1) <i>Psittacula krameri</i>	Rose - ringed parakeet
11	Micropodiformes	Apodidae	1) <i>Tachymarptis melba,</i>	Alpine swift

5. Conclusion

The study concludes that the Chikotra Dam reservoir hosts a diverse range of bird species, with a total of 52 species from eleven orders and seventeen families identified. This diversity is indicative of the reservoirs healthy state and high productivity. The presence of aquatic vegetation, providing ample food resources, is a significant factor contributing to this diversity. Seasonal variations were observed, with the highest species count recorded in December and January, and the lowest in May due to reduced water levels. The

study underscores the importance of maintaining water quality and aquatic vegetation for preserving avian biodiversity.

References

- [1] Ali, S. D. Reply E 1987 - 1 - 737 Compact handbook of India and Pakistan.
- [2] Ali Salim The book of Indian birds, Oxford University press, 1992.

- [3] Ali's and Reply, S. D.1968 - 74 Handbook of birds of India and adjacent countries. Oxford University press.
- [4] Ali. S. and H. Whistler (1933a) The Hydrabad state Ornithological survey part - 3.
- [5] Aashish Pittie (Zool) standardized common and scientific names of the birds of the Indian subcontinent. Bom. Nat. His. Soc. Mumbai, Buceros 6 (1): 11 - 37.
- [6] Champion H. G. and S. K. Seth (1968) a Revised Survey of Forest type India. Govt. of. India, New Delahi.
- [7] Fry B (1991) stable Isotope diagrams of freshwater food webs, Govt. of. India, New Delahi.
- [8] Gaston A. J. (1973) Methods of estimating birds population J. of Bom. Nat. His. Soc. Mumbai, 72 (2): 272 - 281.
- [9] Koskimies P 1987 1 - 255. Monatoring of Finish bird fauna birds as environmental indicator (in finish with English summery)
- [10] Majumdar, N (1984) On a collection of birds from Adilabad Dist. Andhra Pradesh.
- [11] Ripley S. D.1982 a synopsis of birds of India and Pakistan. J. of Bom. Nat. His. Soc. Mumbai, pp 652. .
- [12] Taher, S. A. and A. Pittie 1989. A checklist of Andhra Pradesh.