

Migratory Birds Safeguarding at Telukunchi Bird sanctuary in Srikakulam wetlands, Andhrapradesh, India

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Abstract:

Telukunchi bird sanctuary located at Telukunchi village near 4km from Ichapuram dist of srikakulam in Andhra Pradesh. It is one of the best serve and significant rainy grounds for migratory birds breeding from the hosts of central Asia like Srilanka, Nepal, Bangladesh, Thailand, Myanmar, Cambodia. We study and evolves the migratory bird protection, conservation of the wetland ecosystem. This bird sanctuary is a natural host to the open billed migratory birds. We are study first examination: Collect the data time period between middle of June 2023 to end of December 2025 with based on the direct observation survey method by the help of advanced binoculars and cameras (**A Canon power shot 90X camera, 10× 21 DPCI Olympus Binocular**) twice a month every year duration period. The number of population\ no.of nests) data count based on years 2021-22- 3640\1820, 2022=23-3480\1740, 2023-24- 3390\1695' 2024-25-3680\1840. In my observation I find the population density, Child death rate and difference between immigrants and emigrates. Second examination sanctuary faces critical challenges like climate impact, invasion birds and water scarcity. Its overall examine the current conservation strategies like declining of migratory birds population, habitat loss and sustainable management. community influence and avian habitat long term furtiveness.

Keywords: Telukunchi bird sanctuary , Migratory birds conservation, wetland management and water scarcity, climatic challenges



1. Introduction:

Telukunchi bird sanctuary is one of the inter link habitation between the Andhra Pradesh and Odessa states. Its distributed more or less 35 hectares near 4km distance from Ichapuram following to 199km Bhubaneswar, 136km to srikakulam. It is one of the best wild life conservation part of the Srikakulam wetlands. Its rainy ground vital stopper to the thousands of migratory birds. mostly more or less 3300-3300 open billed storks are coming to here by the traverse long distance along the central Asia like Srilanka, Nepal, Bangladesh, Toyland, Myanmar, Cambodia. Ecologically its best habitat to the migratory birds which are coming to here from last several decades. It is a reserve host to mostly white open billed storks. The surrounding wet lands are crucial habitat to the breeding birds and other fauna like fishes, amphibians, mollusks. Ecosystem vegetation and farming in a tightly inter linked ecological system monitoring, demands adaptive management and conservation. Wet lands are faces significant conservation challenges and water scarcity impact on the health of the arrival and survival migratory birds population. The birds effecting to ecological balance, to the native vegetation, oxygen imbalance in aquatic life. The present paper research aims to evolutes the birds and facing problems, improvement of ecological resistance , habitat preservation and wild life management, evidence based analysis. Additionally revives the state and national levels publications, issued information by the forest and

climate change department of environment ministry of forest department in Andhra Pradesh. Above documents include annual reports, wetland project evolution, biodiversity action plane.

2. Methodology:

The study comprehensive literature review methodology evolves the ecological and conservation data of Telukunchi natural park. The information gathering from the both current and relevant publications in the wetland migratory birds. This is my first survey and direct observation. analytical frame work of the structured study area from last three years , first examined the determination of the birds arrival patterns, number, species richness based on the year, abundance, second: conservation strategies like water management habitat loss and effects in disasters based on the last information, ecosystem balance, surviving of life to present climate in their habitat, finally generate the information data and conclusions about the migratory birds at Telukunchi bird sanctuary, Srikakulam.

3. Results and analysis:

a) Study area: Telukunchi Bird sanctuary at Telukunchi village and their surroundings wetlands.

b) Data collection:

Telukunchi village surrounding horticulture area in the natural habitat to the migratory birds which are coming to here from central Asia. I studied and collect the accurate data with the use of advanced binoculars, cameras(A Canon power shot 90X camera, 10× 21 DPCI Olympus Binocular)) and the information from the forest department, village and surrounding people. i collected the information monthly twice early morning and late of evening when the birds are reached to their nests every year duration ,the time period between 2021 June to December 2025. First collected data ratio between Immigrates and emigrates. Second climatic(external) influence on the migratory birds. I counted the birds data based on the number of nests in each tree.

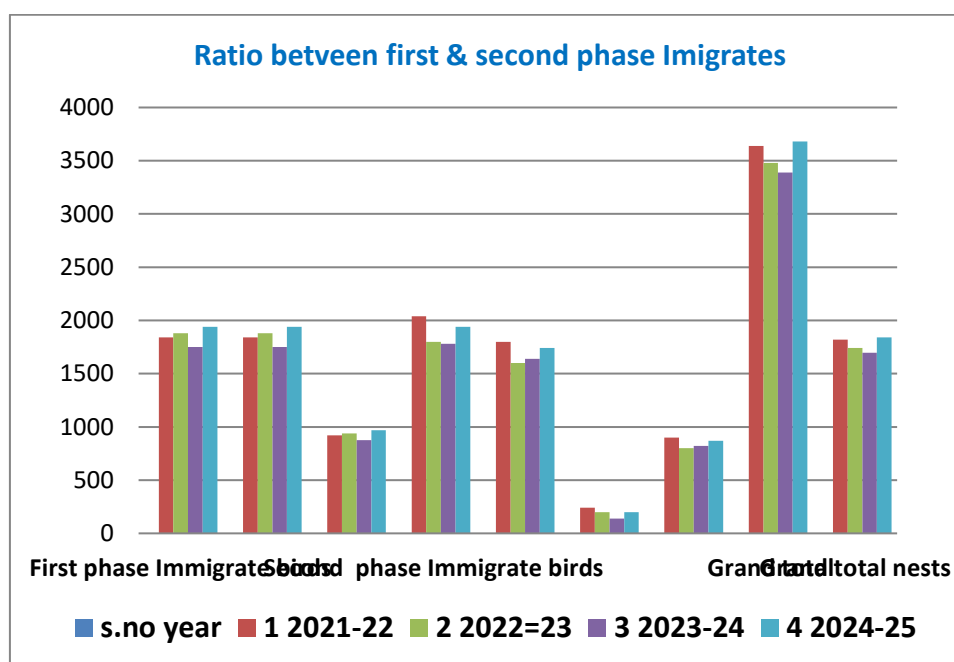
c) Discussions:

The migratory birds are came to here every year the period early rainy season for the breeding and adopting to climatic temperature. The Migratory birds are came to here from the central Asia countries for theater and breeding according to seasons. It is one of the best ecological indicators to the sustainable wild life conservation. The migratory birds are came to here two phases, based on the monsoon that is first phase has been reaching the time between end of June to end of July. According to my studies when the rainy season will come than the first phase birds immigration has been start. Mostly the second phase emigrates are child population. I collected the data use of modern binoculars, the year 2021-22 first phase

birds population is based on the number of nests 1840 out of the nests 920, following the years 2022-23, 1880 out of 940,2023-24, 1750 out of 875,2024-25, 1940 out of 970. The second phase has been reaching time between end of July to end of August 2021-22, 1800 were stable out of 2040 arrival based on the nests are 900, following years 2022-23,1600\1800 nests are 800,2023-24,1640\1780 nests are 820,2024-25,1740\1940 nests are 870. according to above second phase information habitat loss is major reason for some number of birds had go to the other places. The period between 2021-2025 the year 2021-2022 highest birds re back 240 (6.59%),the year 2023-24 lowest number disturbed 140 (4.12%).

1.1: Migratory birds Ratio between the first phase and second phase:

s. no	year	First phase Immigrate birds			Second phase Immigrate birds				Grand total	Grand total nests
		Arrivals	Stable	Total nests	Arrivals	Stable	Left	Total nests		
1	2021-22	1840	1840	920	2040	1800	240	900	3640	1820
2	2022=23	1880	1880	940	1800	1600	200	800	3480	1740
3	2023-24	1750	1750	875	1780	1640	140	820	3390	1695
4	2024-25	1940	1940	970	1940	1740	200	870	3680	1840



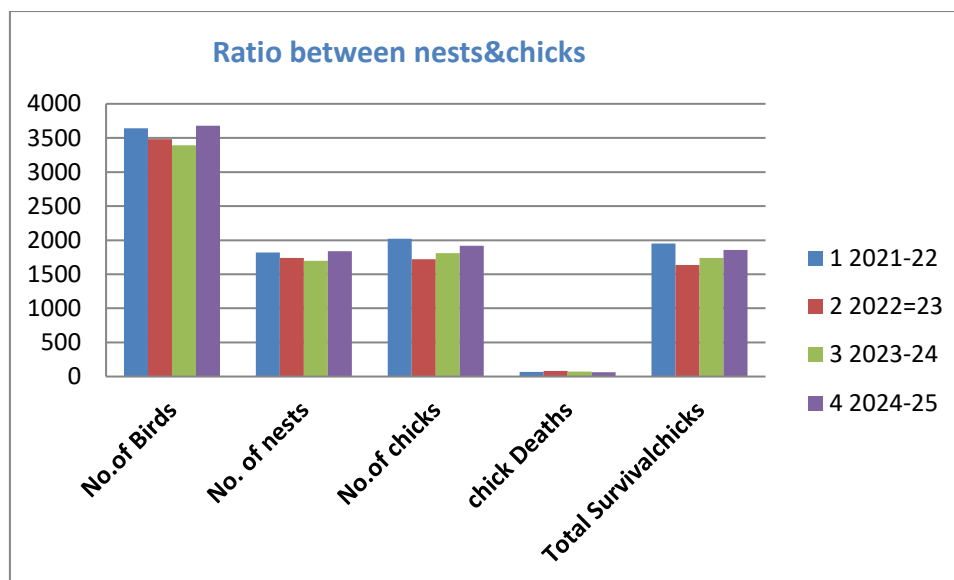
Graph:1.1: Migratory birds Ratio between the first phase and second phase:

Total birds data population of the Telukunchi bird sanctuary based on one year, that the time between arrival to left from here. after reach to here the birds' nests will making after pairing,(<https://www.wildsideofmathew.com>) each female will laying eggs are 2-4, hatching period 26-28 day after the chicks will count based on the nest number. After the breeding the adults will go back to here when the winter will start. The child's start re back to native where they are started. The chicks number is favorable based on the monsoon climate . According to my study 2021-22 and 2024-25 child's survival rate is high 96.7,Death rate high in 2o22-23, fallowing to low survival 95.3 in the year2022-23, low death rate 3.3 2021 and 2025.(Pelicans and Painted storks nesting behavior was studied and provided data by Adesh Kumar and Amita Kanaujia (2015), Vaithianathan and Jeganathan (2012) studied intensive studies were carried out in four colonies two colonies with 746 nests in 60 trees).

2.1: Child survival and death rate:

S.no	Year	No. of Birds	No. of nests	No.of chicks	chick Deaths	Total Survival chicks
1	2021-22	3640	1820	2020	68	1952
2	2022=23	3480	1740	1720	82	1638

3	2023-24	3390	1695	1810	72	1738
4	2024-25	3680	1840	1920	64	1856



Graph:2.1: Child survival and death graph

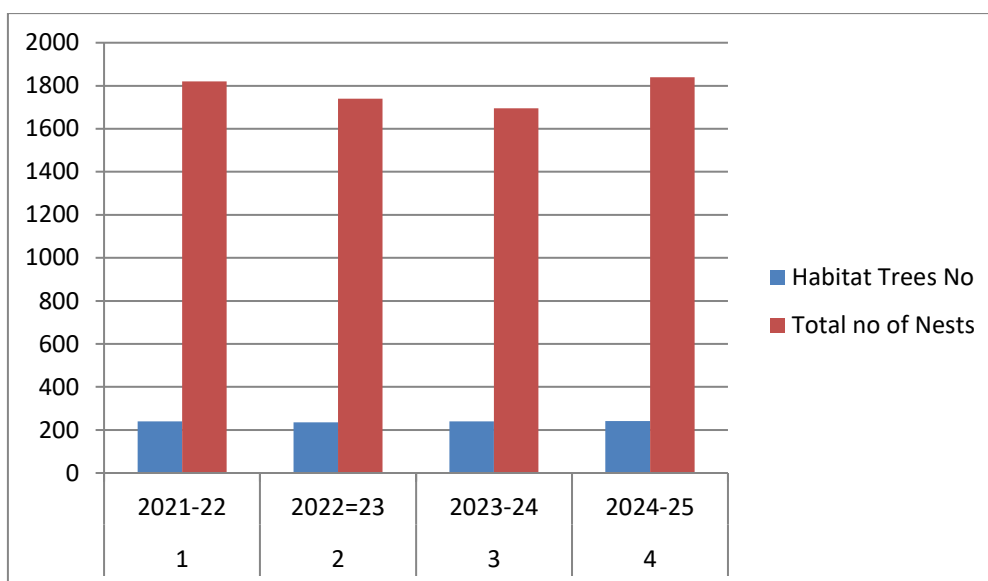
Habitat loss:

Natural disasters are majorly effect to the habitat loss when the cyclones\storms will than sanctuary natural habitat will destroy, before couple of decades multiple cyclones are highly destroy the trees in their natural habitat(Titly cyclone). Recent before couple of years in my study period natural habitat should not loss why because big disasters were not faced

In the study period ratio between the sheltering trees and number of nests are following 239.25 and 1773.7.

3.1: Ratio between no. of trees and nests:

S.no	Year	Habitat Trees No	Total no of Nests
1	2021-22	240	1820
2	2022=23	235	1740
3	2023-24	240	1695
4	2024-25	242	1840



Graph:3.1: Ratio between no. of trees and nests:

Major conservation challenges of bird sanctuary wet land area:

a) Water scarcity:

Srikakulam wetlands are Ramsar site . They are complex net work of the water sources include with hydrological intervention(<https://whc.unesco.org/en/list/340/>) and natural precipitation Rivers Mahindra tanaya and Bahudha are major water source to uddanam wetlands, when the seasonal monsoons will start the Bhahudha river will flowing with high floods with the muddy water from eastern Ghots. This water is spreading to surrounding of the bird sanctuary. The farmers are utilize the water from deep and shallow bore wells. Ichapuram municipality drainage also enters in to the river lands and it is also use to survival to the migratory birds life. during the drought conditions . These multi water sources are major to water management and ecological sustainable to the aquatic ecosystem.

The major challenges like in sufficient the water flows are directly and indirectly effects to migratory birds drinking water and feeds.

b) Invasive species management:

Telukunchi bird sanctuary surrounding wetlands are mostly occupying with invasion flora like Eichhornia species. These highly spread than feeds through their aquatic seeds and they reduce the light ,(<https://roundglassustain.com/habitats/keoladeoghana-national-park>) smooth water flow, oxygen levels. They can directly effect on the ecosystem fauna conservation and influence to the ecosystem food chain. According to this local fauna is reduced and effect on the migratory birds management. Similarly Paspalum distichum also highly established in wetland ecosystem, it is also suppressing the native vegetation and effect on the BOD levels.

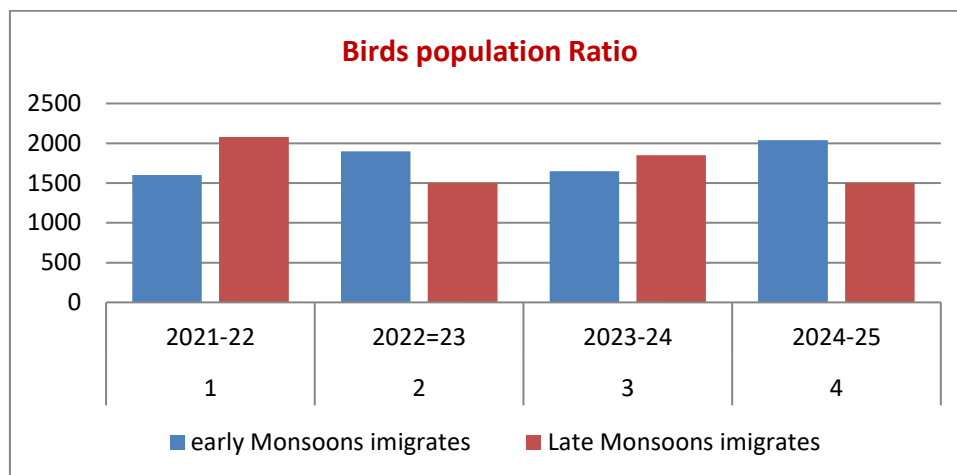
Local Mangooses (Herpestinae comprises) are major effect to birds eggs and young once when they are went to feeding fields. Above factors are crucial mitigating to the long term effect on the migratory birds.

C) Climatic impacts on bird sanctuary conservation:

Climatic changes are major impact factor to the migratory birds habitat and patterns stability, temperature fluctuations disasters and habitat loss.

Temperature fluctuations:

According to present pollution and climatic changes the temperature is major effect to the breeding cycles. Monsoons are not following the cyclic process the temperature is high, than the birds are not reached to here with in the time. That is when formers paddy cultivation will start species immigration high than the late rains.



Graph:4.1: Ratio based on the monsoons irregular:

Conclusion:

Telukunchi bird sanctuary is multiple need to natural habitat to the migratory birds. It is marshy land high feed available with flora and fauna. The migratory birds are facing more problems(<https://www.boutindia.com/blog/keoladeonational-park-a-bird-sanctuary-for-wildlifeexperience>) like lac of habitation' water scarcity and suffering with invasion species. The habitation availability is depends upon on the natural disasters like super cyclones, over floods, drought conditions. When the natural disasters will came sheltering trees and making nests will damage , it is big barrier to the migratory birds arrival. Water scarcity is major problem to the wild life conservation management and ecosystem sustainability. Invasion species and climatic changes(<https://studentera.net/keoladeo-national-park/>) are big effect on the migratory birds feed management and life cycles. Water scarcity is major problem to the migratory birds number decreasing. The government should not protect the bird sanctuary artificial habitation and shelters. The birds majorly suffering with lac of habitation and feed at the time of disasters child deaths also high when the nests will disturb, sometimes most of chicks will died by directly fall down on the earth,. Before couple of decades according to forest department immigration birds number more or less 6000-7000 and emigration birds are 11000-12000 along with chicks. Now this number should reached to 3500-4000 immigrates and 7000-8000 emigrates.

Recommendations:

- Personal care is not there: The government should concentrate on this immigrates number should increase and it will made like best wild life reservoir.
- Most of child's will fall down and died without protection of the artificial nets. It should be provide child death rate will reduce.
- Water scarcity is major barrier to lac of the feed: The government should construct the reservoir on the Bahuda River near of the bird sanctuary.

- Natural habitation (plantation zone) is decrease day by day, if it will prepare with manmade, habitation will increase, it is push up to the increase of migratory birds.
- Human hunters are indirectly hunt to the this birds, the government should take care on this.
- The people should not aware on the importance of wild life conservation, so if we will conduct the awareness programs the birds protection will increase

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