

STATUS OF WATERBIRDS OF AMBASAMUDRAM TANK, TIRUNELVELI, TAMILNADU

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ABSTRACT

Ambasamudram irrigation tanks have socio-economic and cultural significance, very little is known of their ecological importance. These tanks have the potential to harbor good populations of resident and wintering waterbirds but no studies have been done to confirm this. A survey was carried out in Ambasamudram tanks from November 2013 to January 2014. A total of 32 waterbird species were recorded. Ambasamudram tanks had good population of birds and this site along with associated wetlands is important for the long term conservation of waterbirds in the region.

Key words: Waterbird, Irrigation tanks, Conservation, Waterfowl and populations.

Introduction

Wetlands support highly valuable pools of biodiversity and genetic resources, but unsustainable development is threatening the bio-wealth and even causing species extinction (Khan, 2000) and wildlife protection, recreation and food prevention (Sivaperuman and Jayson, 2000). Wetlands are provide breeding site for bird habitats (Ali, 2005) and many services that contribute to human wellbeing and poverty alleviation.

These are fragile ecosystems that are susceptible to changes even with little change to the composition of their biotic and abiotic factors. In recent years, there has been increasing concern over the continuing degradation of world's wetlands (Pattanaik *et al.*, 2008; Sandilyan *et al.*, 2008; Kannan and Pandiyan, 2010). Wetlands sustain all life and perform useful functions in the maintenance of ecological balance. There are about 242 wetland bird species and 67 wetlands support bird species among the 1300 species of birds recorded in the Indian subcontinent (Grimmett *et al.*, 1999; Manakadan and Pittie, 2002). Of these 125 are migrants, among which 102 species are winter migrants, 10 are summer migrants and 3 are passage migrants. Approximately 12% of Asian birds are globally threatened (Arun Kumar *et al.*, 2003). Wetland birds comprise about 10% of the globally threatened species and 20% of Asian threatened species. About 34 of the wetland birds are globally threatened species, 34 are critically endangered and one conservation dependent (Manakadan and Pittie, 2001).

One of the best known functions of wetlands is to provide a habitat for birds (Sampath and Krishnamurthy, 1990; Nagarajan and Thiyagesan, 1996). Wetlands are

important bird habitats and birds use them as migratory resorts for breeding, nesting and rearing young once. Birds also use wetlands as a source of drinking water and for feeding, resting, shelter and social interactions.

The taluk of Ambasamudram in the semiarid landscape of southern Tamil Nadu have many manmade, small- to large-sized, irrigation tanks. These inland tanks were built a few centuries ago and are interconnected by canals that bring water from the rivers originating in the Western Ghats (Vaidyanathan, 2001). These rivers and associated tanks support a rich social and cultural heritage and economically support agriculture that is the main source of livelihood for the people in these taluk.

Based on the above considerations the present study has been designed on the Ambasamudram tank, Tirunelveli District Tamil Nadu, India during November 2013 to January 2014 to document the systematic position of various ecological groups of waterbirds.

Material and Methods

Study area

The study on the biodiversity of water birds was carried out in Ambasamudram tank, perennial in nature located in Tirunelveli district of Tamil Nadu state, India has the area about ca. 15 ha surrounded by Agricultural land and human settlement. Ambasamudram tank is located in the foothills of Western Ghats of Tirunelveli, Tamil Nadu, and Southern India. The area receives good rainfall during both the north-east and south-west monsoons.

Methods

The waterbird population was estimated by direct count method as described by Nagarajan and Thiyagesan

A total of 32 waterbirds species were recorded in Ambasamudram tanks.

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Table 1: Checklist of waterbirds recorded in the Ambasamudram tank

S. No	Order	Family	Scientific name	Common name	Status
1	Podicipitiformes	Podicipedidae	<i>Tachybaptus ruficollis</i> (Pallas)	Little Grebe	R
2	Pelecaniformes	Pelecanidae	<i>Pelecanus Philippensis</i> Gmelin	Spot – billed Pelican	RM
		Phalacrocoracidae	<i>Phalacrocorax niger</i> (Vieillot)	Little Cormorant	RM
			<i>Anhinga melanogaster</i> Pennant	Darter	RM
3	Ciconiiformes	Ardeidae	<i>Ardea Cinerea</i> Linnaeus	Grey Heron	RM
			<i>Ardea Purpurea</i> Linnaeus	Purple Heron	RM
			<i>Ardeola grayii</i> (Sykes)	Indian Pond – Heron	R
			<i>Egretta garzetta</i> (Linnaeus)	Little Egret	R
			<i>Casmerodius albus</i> (Linnaeus)	Large Egret	RM
			<i>Mesophoys intermedia</i> (Wagler)	Median Egret	RM
			<i>Bubulcus ibis</i> (Linnaeus)	Cattle Egret	RM
		Ciconiidae	<i>Mycteria Leucocophala</i> (Pennant)	Painted stork	RM
			<i>Anastomus oscitans</i> (Boddaert)	Asian Open bill – Stork	R
		Threskiornithidae	<i>Plegadis falcinellus</i> (Linnaeus)	Glossy Ibis	RM
			<i>Threskiornis melanicephalus</i> (Latham)	Oriental White Ibis	R
			<i>Pseudibis Papillosa</i> (Temminck)	Black Ibis	R
			<i>Platalea leucorodia</i> Linnaeus	Eurasian Spoonbill	RM
4	Anseriformes	Anatidae	<i>Dendrocygna Jaranica</i> (Horsfield)	Lesser Whistling – Duck	R
			<i>Sarkidiornis melanotos</i> (Pennant)	Comb Duck	R
			<i>Anas poecilorhyncha</i> J.R. Forester	Spot –billed Duck	RM
5	Gruiformes	Rallidae	<i>Amaurornis phoenicurus</i> (Pennant)	White – breasted Waterhen	R
			<i>Porphyrio</i> (Linnaeus)	Purple Moorhen	R
			<i>Fulica atra</i> Linnaeus	Common Coot	RM
6	Charadrii forms	Jacaniidae	<i>Hydrophasianus Chirurgus</i> (Scopoli)	Pheasant – tailed Jacana	R
			<i>Metridius indicus</i> (Latham)	Bronze- Winged Jacana	R
		Charadriidae	<i>Vanellus indicus</i> (Boddaert)	Red- wattled Lapwing	R
			<i>Tringa glareola</i> Linnaeus	Wood Sandpiper	M
			<i>Actitis hypoleucos</i> Linnaeus	Common Sandpiper	RM
7	Coraciiformes	Alcedinidae	<i>Alcedo \atthis</i> (Linnaeus)	Small Blue Kingfisher	RM
			<i>Halycon smyrnensis</i> (Linnaeus)	White- breasted Kingfisher	R
			<i>Ceryle rudis</i> (Linnaeus)	Lesser Pied Kingfisher	R
8	Passeriformes	Motacillidae	<i>Motacilla maderaspatensis</i> Gmelin	Large Pied Wagtail	R

(1996). Observations were made twice a month in the early morning and late evening. For watching, counting and identifying birds, wide-range binoculars, spotting scope and telescopes were used. Birds systematically conducted from morning 6:00hrs to 10:00hrs and using Bushnell binocular (8x42) and birds were identified by their characteristic features in accordance with the identification keys evolved by Ali (1969), King *et al.* (1978), Sonobe and Usui (2000) and Grimmett *et al.* (2001).

Results

Checklist of waterbirds : The results of the waterbird species inventory in the Ambasamudram tank are presented in Table 1. A total of 32 species of waterbirds belonging to 8 orders and 12 families was recorded during the study period. Birds with the highest number of species were those of the order Ciconiiformes (13 species) followed by Charadriiformes (5 species), Anseriformes, Pelecaniformes, Coraciiformes and Gruiformes (3 species each), Podicipitiformes and Passeriformes (1 species).

Discussion

Altogether 32 waterbird species have been recorded in the Ambasamudram tank during 2013 to January 2014. Many factor, which threaten the Ambasamudram tank ecosystem and in turn the bird population, were identified during study. Pollution, mainly from the agricultural waste is the major threats faced by birds in this pond ecosystem. The local people use water that has leaked out from this tank for agricultural activities. During summer season the local dwellers empty the scanty water bodies and catch fish. The main reasons for decline of waterbirds in the study area may be due to significant decline of annual rainfall, due to sand mining and fish catching carried out by local peoples in the pond. During the study period two globally near threatened species are recorded; namely Spot-billed Pelican and Darter (Vijayan, 1986).

Conservation

The main threats identified were sand mining and fish catching and human disturbances. The information is presented with the fervent hope that it will assist in the

establishment of more comprehensive wetland management programmes and policies. Hence, there is an immediate need to restore and conserve this existing wetland to maintain and improve the ecological balance.

Some management options are suggested in managing and restoring the wetlands. Further surveys and intensive studies in different seasons will bring out better results for the conservation of this pond.

अम्बासमुद्रम टैंक, तिरुनेलवेली, तमिलनाडु के जलपक्षियों का स्तर

सेकर रामराजन, पाण्डियन कुमार एवं एस. डार्विन पॉल एडिसन

सारांश

अम्बासमुद्रम सिंचाई टैंक का सामाजिक-आर्थिक एवं सांस्कृतिक महत्व है, जो अपने पारिस्थितिकीय महत्व के विषय में बहुत कम ज्ञात है। इन टैंकों में आवासी एवं शीतकालीन जलपक्षियों की अच्छी खासी आबादियों को आश्रय देने की क्षमता है किन्तु इसकी पुष्टि करने के लिए कोई अध्ययन नहीं किया गया है। नवम्बर, 2013 से जनवरी, 2014 तक अम्बासमुद्रम टैंकों में एक सर्वेक्षण किया गया। कुल 32 जलपक्षी अभिलिखित किए गए। अम्बासमुद्रम टैंकों में पक्षियों की अच्छी आबादी थी तथा सम्बद्ध आर्द्रभूमियों के साथ यह स्थल क्षेत्र में जलपक्षियों के दीर्घकालीन संरक्षण के लिए महत्वपूर्ण है।

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