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EXTERMINATION OF BIRDS -TERMINATES INDIAN AGRICULTURAL PROSPECTS

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ABSRACT

India is one among the Asian countries which is endowed with a unique topography and climate which sustains different kinds of habitats and unique bird species of ecological and economical significance. On the other hand the symbiotic relationship between birds and agriculture is poorly studied. The need for studying the economic importance of Indian birds in relation to agriculture is stressed since ages by several Indian researchers. Our observation in delta districts disclosed that hunting of birds is increasing in an alarming way. Resent days the Cattle Egrets are targeted by poachers of this area. We provide some general recommendations for the conservation of waterbirds.

Keywords: Cattle Egrets, hunting, water birds, pesticide.

INTRODUCTION

Agriculture is the major source of livelihood in India, around 65% of the population directly depends on this sector. Moreover, Indian economy strongly depends on this sector since ages because the numbers of vital sectors are interlaced with agriculture (*e.g.* dairy, poultry, garments making). According to the Directory of Indian Wetlands (1993), 70% (40.9 million hectares, *i.e.* 13% of India's total surface area) are under rice cultivation, which is ten times the size of the Netherlands (Sandilyan *et al*., 2010).

Indian Council of Agricultural Research (ICAR) reported that, India's population has been growing at an annual rate of 1.8 percent, and during 2020 it will reach around 1.3 billion. So naturally India would require an additional food grain of about 2 million tonnes per year. On the other hand the surfing reports disclosed that the production losses have shown an increasing trend over the years. It was identified that insect pests, diseases and weeds are the major constraints and limiting factors of the nation's agriculture productivity. Annual crop losses due to insect pests and diseases alone are estimated to be 18 percent of the agricultural output. During 1983, the losses due to insect pests were estimated around Rs 6,000 crores, which increased to Rs 20,000 crores in 1993 and to 29,000 crores in 1996. Obviously, controlling the insect pest in agriculture is a major concern of our Nation (Sandilyan, 2013).

Application of chemical pesticide to control the pest is the common age-old practice in India. ICAR stated that pesticides used by the Indian farmers have been continuously increasing at an annual rate of 2.5% from 1970 onwards. Ironically most of the chemical pesticides contain poisonous chemicals and heavy metals including copper,

mercury and lead. The imminent consequences of chemical pesticides on soil, air and water and other life are not studied well or left in the lurch. Recent studies strongly insist on its ban or practicing safe use of pesticides. The researchers have registered their concern about to find an effective alternative such as bio pesticide and biocontrol. It is worth to mention here the words of M.S. Swaminathanan "if agriculture goes wrong nothing will go right"

Birdss the Natural Biocontroller

The symbiotic relationship between birds and agriculture is one of the primal wonders. The need for studying the economic importance of Indian birds in relation to agriculture is stressed since ages by several Indian researchers. Father of Indian ornithology, Dr. Salim Ali (1936) also raised his hue and cry over this issue. It is a sad irony that the importance of birds in the Indian agriculture sector is poorly studied till date. In the past the birds were considered a serious threat to standing crop like paddy, corn and grams as well as the stored agriculture products. Invariably all the birds which visited the field are viewed as crop pests or predators but it is partially true. Astonishingly the damage ratio is negligible when compared to the benefits (Sandilyan, 2013).

Birds play an economically significant role in agriculture environment by the way of controlling the weed by consuming the seeds of weed and prevent further invasion. Moreover the insects which destroy the agricultural products in all the stages will be effectively controlled by the insectivorous birds. Especially during the pest outbreaks, the birds are the only natural and eco friendly saviours of the crop, and maintain the countries GDP. So it is needless to stress here that the birds in the agricultural lands should be conserved (Sandilyan, 2013).

Large number of birds depend on the agricultural lands for their survival since ages, in fact farm lands are turned as promising pockets for bird diversity. To support this a recent study by Balasundram and Rathi (2004) in the Tiruverumber Taluk of Tiruchi reported 108 species, Sandilyan (2009) and Nagarajan (1998) reported 35 species of waterbirds in the Paddy fields of Pichavaram, Nithiyanandam (2010) reported 64 species of birds in and around paddy fields of Myailaduthurai town and a series of studies by Asokan in A.V.C. College (2008, 2009, 2010) emphasized the diversity and richness of birds in and around the agriculture lands of Nagai District.

Invariably all the studies disclosed that a major proportion of birds (60-80%) which utilize the agriculture land are insectivores and carnivores (*e.g*. Black Drongo, Pittas, Larks, Swallows, Indian Roller, Common Myna, Common Hoopoe, Tree Pie, Pond Heron, Cattle Egret, Red Wattled lapwing. Barn Owl, Spotted Owlet, Kites). To state the pest control efficiency by birds it is better to know about the Cattle Egrets (Figure 1).

Cattle Egret, mainly feed on the orthopterans (51.1%), isopterans (19.9%), other invertebrates (15.3%) and Acarina (0.4%) and vertebrates (2.0%). Interestingly all the major preys of Cattle Egrets were identified as serious pests in the agricultural lands with 88.7% pest status. Moreover it was estimated that every 100 preys consumed by Cattle Egrets, they could save 1,58,361.54 ha of farmlands in one season (Sharah *et al*., 2008**)**, fortunately it is a common bird in India. And the above said data has amply elucidated the pest control efficiency of birds.

Status of Birds in Agriculture lands

The application of pesticide in agriculture land leads most of the common birds to the verge of extinction (*e.g*. Sarus Crane, House Sparrow). Moreover in recent days farm lands are turned as bird hunting yards (Sandilyan, 2013). Unprecedentel and uncontrolled bird hunting in agricultural lands increased in an alarming manner. Especially the more people in delta districts are turning as consummate bird hunters and they are using different equipments and shot guns for killing the birds (Figure 2-4) (Sandilyan, 2013). The very good market is there for the poached birds in this region. Numbers of hotels in this area are regularly purchasing the birds from the poachers. Even the birds are available in the nearby slaughter houses and fish markets (Sandilyan, 2013). Unfortunately the hunters target the most beneficial species such as Cattle Egrets, Bitterns, Herons, Sandpipers and Storks. Especially the Cattle Egrets are the highly targeted species in the delta districts. The hunting reaches its peak during rainy season, plowing periods and weekends. The uncontrolled killing of this species might have a palpable effect on

agriculture and might lead to frequent pest outbreaks which reflect on the GDP (Sandilyan, 2009, 2013).

Figure 1. Flocks of foraging cattle egrets during plough in a farm land.

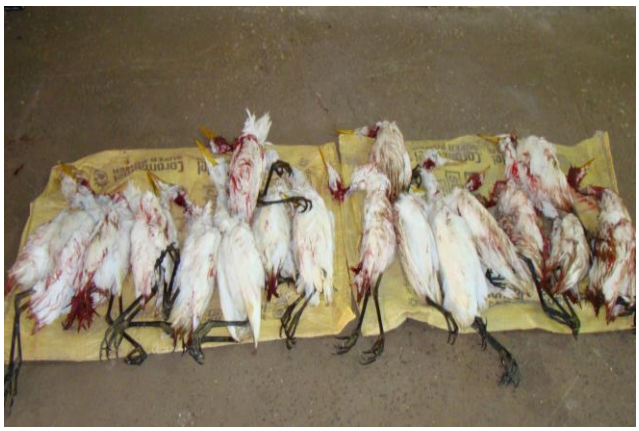

Figure 2. Cattle Egrets killed by shotgun and ready for the market.

Figure 3. Trapped waterbirds inside tied sac before taken to market.

Figure 4. Common equipments used by the poachers for illegal waterbird hunting in the delta region of the state.

CONCLUSION

It is high time to adopt a road map to stop the brutal killing of birds from agricultural lands for which continuous awareness and monitoring programs should be conducted. Forest department and agriculture department should join their hands in this kind of programs otherwise the agriculture sector will have a grim future.

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