Chapter – 1

Introduction
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Nowadays, many ecosystems and natural habitats are being converted very fast into industrial settlements, agriculture and urban areas. In addition, natural environment is also becoming polluted very fast because of greenhouse gases, other emissions, toxic waste, sewage etc. Habitat destruction is being taking place due to human activity such as harvesting of natural resources for industry production and urbanization, clearing habitats for agriculture is principal cause of habitat loss. Other important causes of habitat loss include mining, logging and urbanization (Pimm and Peter 2000).

These globalizing actions cause fragmentation, isolation, degradation and loss of natural habitats. Due to habitat destruction the organisms that previously used the site are displaced or destroyed and ultimately reduce biodiversity (Sahney et al., 2010). In the simplest terms, when habitat degradation takes place, populations decline and extinction of plants and animals species becomes more likely (Scholes and Biggs 2004). Many species are becoming extinct and many species are being added as threatened species in Red List because of habitat loss. Temple (1986) found that 82% of endangered bird species were significantly threatened by habitat loss.

Thus, loss of habitat is very serious threats for those ecosystems which are more fragile.

Grassland is the one of the most fragile ecosystem on earth therefore it is the one of the most affected habitat under the threat of habitat loss. Grassland is affected due to agriculture practice, grazing pressure, development activities and
plantation of tree. It is the one of the most significant ecosystem on earth. Some of the rarest species of wildlife are found in the grasslands, many of them totally dependent on them like Indian Bustard, Bengal Florican, and One-horned Rhinoceros etc. It is a source of survival for millions of livestock, rural people, rare wildlife species and biodiversity. Grasslands are the only breeding grounds of a number of avian species. But many grassland areas are being converted into agriculture, grazing ground for livestock and urbanization. These result into the decline of its dependent fauna.

Birds are the one of the most indicator group in grassland habitat (Melanie and Rayment 2001). Effect of habitat degradation and fragmentation can be observed in avifauna of that area. Its negative effect can be seen on the endemic and breeding birds of the habitat. Habitat destruction also critically affects to endemic species, mainly because these organisms obtain limited ranges, and not found anywhere else within the world. Thus they have less chance of recovering. This endemic species has very specific requirements for their survival that perhaps can only be found within a certain ecosystem. Therefore, they need serious attention for conservation.

Indian Courser (Cursorius coromandelicus) is the species which mainly found in grassland and fallow land and it is an endemic and resident species of Indian subcontinent. It lives in Indian subcontinent for a prolonged period. Mostly, it occurs in the arid and semiarid areas of the country. The distribution range of the species is spread over India, Pakistan, Nepal, Sri Lanka and Bangladesh (Ali and Ripley 1998). It is found in most parts of India excepting Assam and Manipur. To a greater extent, the species is common in its distribution range, though patchily distributed. The species is described as partly nomadic and locally migrant (Ali and Ripley 1998). Generally, the bird is observed to be inhabited in wasteland and fallow land with scattered scrub,
ploughed fields, and village grazing grounds of dry stony plains. The species keeps away from the areas with heavy rainfall. It also avoids pure desert. The species is not recorded on the coastal areas (Ali and Ripley 1998).

Most of the times, the species has been recorded during bird-watching activities in India. But this species have not received any serious attention as ecological exploration. Very few published literature are available on the species.

Little explored Indian Courser is being vanished in some region of the country. Globalizing actions and unplanned developmental activities in the habitat of Indian Courser have affected its occurrence in some parts of the country. Population of Indian Courser is declining at alarming rate from its natural habitat (Pande et al., 2003). In Haryana, now it has become rare breeding resident bird in Sultanpur bird Sanctuary (http://www.haryana-online.com/fauna/Birds/indian_courser.htm). Once it was often encountered and inhabiting the scrub and wasteland vegetation of campus of National Chemical Laboratory, Pune in the sixties. But now they are rarely sighted in campus (www.ncl-india.org).

In Gujarat until recently Indian Courser was frequently encountered in grassland and fallow-land but now the birds sighting is getting rare according to ornithologists, naturalists and birdwatchers of the State. It was common to see in part of Kachchh but know it is observed only at few places in Kachchh.

No accurate information is available about the population in India. It is feared that its population is dwindling rapidly. There is an urgent need for the conservation of this species before it is extinct from areas like Kachchh.

Very few literatures and less information indicate that the species has attained hardly any serious attention in ecological research and also from the
conservation point of view. Ecological facts of Indian Courser have not been studied yet in India. However, the species is depleting from its natural habitat in Gujarat and other parts of the country.

Hence, it is urgent requirement of systematic and scientific information of various ecological aspects of this species. It is much needed to evaluate its status for formulating effective conservation strategy for long term survival of the species and documentation which helps in its future conservation and management.

Therefore, the present study was planned to conduct detailed ecological study of the species through which various facts of the species can be discovered and conclusion can be drawn. The study is designed to explore the details of habitats and its component, population estimation and its critical issues.

We therefore propose to evaluate the detailed ecological study of Indian Courser with following objectives:-

**Objectives of the study**

1. To estimate the population of Indian Courser in Abdasa Taluka
2. To identify the habitats of Indian Courser in Abdasa Taluka
3. Qualitative assessment of habitat of Abdasa Taluka
4. To study some ecological aspect of Indian Courser in Abdasa Taluka
Plate 1

A: Grassland – one of the most fragile ecosystem and most affected ecosystem under the threat of habitat loss

B: Indian Courser (*Cursorius coromandelicus*) – an endemic and resident species of Indian subcontinent found in grassland and fallow-land