

Depleting grasslands with plant invasion: rising threat for lesser florican

¹ SS Rokade, ² SB Bali, ³ PB Ingle

¹ Department of Botany, Late Pundalikrao Gawali Arts and Science Mahavidyalaya, Shirpur (Jain), Dist Washim, Maharashtra, India

^{2,3} Watsagulma Biodiversity Conservation Society, Malegaon Dist. Washim, Maharashtra, India

Abstract

Lesser florican (*Sypheotides indica*), is indicator of good health of grassland. It is also one of the three bustard species of India under threat of extinction. The grasslands are very important for hydrological cycle. With drought condition rising in Vidarbha, it becomes mandatory to conserve the grasslands along with other water conservation measures. With the conservation of grassland not only the bird will survived, but hydrological cycle of this region will also be maintained. We have surveyed historical sites where lesser florican was known to present in past. We observed that the grassland pastures in given area are largely been replaced by agricultural land and whatever uncultivated land present today is invaded by other species of dicot weed.

Keywords: Biological invasions, bustard, biodiversity conservation, conservation management

1. Introduction

The Lesser florican (*Sypheotides indica*), is endangered bird as per IUCN. The major threat to this bird is habitat loss and degradation [1]. The bird is an extreme habitat specialist and indicator of grassland. In the state of Maharashtra Lesser Florican was not recorded of nesting in almost last 100 years. Akola and Washim Districts of the state of Maharashtra are in Deccan Plateau and Western Plateau of the eco-zone of India. These grasslands provides a friendly habitat for the lesser florican [2]. In this region, Lesser Florican male is known as 'Khalchida' and the female is known as "Bhandewdi" [3]. This bird was sighted in this region on 29th April 2010 [4].

From pre-independence times (1947), hunting was thought as the main reason of declined of lesser florican. Phase Pardhi, nomadic tribes used to hunt them as the only a means of livelihood. With the conversion of grasslands to agriculture and urbanization, traditional grasslands are decreased. Fragmentation and the introduction of invasive species have considerably altered grassland biodiversity [5]. The habitat of lesser florican is shrunk by almost 90% [6].

This is very shy bird and it is almost impossible to sight them without the help of expert. Males occupy territories of less than 2 ha, during the breeding season from which they display aerially to attract females [7]. The nests are located well away from or at the periphery of the territories established by breeding males [8]. As females nest outside male territories, large grassland areas are necessary to accommodate all the nesting females.

2. Method

Systematic survey was carried out during rainy season of 2016 from the areas where lesser florican was found

historically. Lesser florican can only be found in rainy season when males are engaged in courtship displays otherwise due to shy nature it is not easy to locate. All display reported in this area are from September, so all known habitats were searched on bike for determining the composition of habitat one by one on separate dates in the group of two authors.

3. Results

We observed that the grassland pastures in given area are largely been replaced by agricultural land and whatever uncultivated land present today is invaded by *Parthenium hysterophorus*, cassia species or by other dicot weed. Invasion by *Prosopis juliflora* is found to be one of the threats to habitat of lesser florican [9], along with *Lantana camera*. During our observation, we could find *Lantana camera* distributed in pasture where recently female lesser florican was sighted but abundance of *Prosopis juliflora* was not noticeable. We have also seen small bushes of *Butea monosperma*, which is native to this region but may cause problem for lesser florican. The bird is known to live in grassland which occupies a shrub but in the density low [10] and *Butea* is also helpful for florican as florican feasts on the caterpillar outbreak on this plant [11], but the bushes that we observed had higher density. There are some patches seen by the sides of road where cassia species were present in large density. In similar study elsewhere in same district, we came to know that these patches are formed after the replacement of *Parthenium*. There are some class E land are present near some villages in the habitat of lesser florican. These are the government owned lands that are reserved for arranging fairs and common pasture for grazing of village animals. These grasslands were ideal for lesser florican. It was observed that those class E lands were also having very small grasses indicating overgrazing. In some area, small patches of acre or half were seen as uncultivated lands in between cultivated agriculture fields. After consultation of farmer, it was understood that those patches were due to over flooding of water in them, any ways these small patches are very less useful for lesser florican.

4. Conclusion

With its conservation status, habitat speciality and indicator of threatened habitat lesser florican (*Sypheotides indica*) conservation in Vidarbha becomes prime importance. It has become flagship species for wildlife conservation of grassland ecosystem in other parts of country [12]. In present research, we have found that along with other causes of grassland depletion, invasion is also a one of the cause of grassland depletion in Washim district, which lead to adverse effect on the habitat of lesser florican (*Sypheotides indica*).

These grasslands are not wastelands. Water losses in grassland are less compared to tree plantations^[13]. Thus, grasslands are very important in maintaining hydrological cycle. For conserving lesser florican, conservation of these grasslands is must. Therefore, to solve the persistence problem of droughts there is necessity to form composite policy for the conservation of grasslands, which will also help peoples of rural Vidarbha by increasing water availability by grasses.

5. References

1. www.iucnredlist.org
2. Thamizoli P, Balakrishna Pisupati. Investing in Future Rediscovering endangered Lesser Florican by involving Phase Pardhi, a traditional hunting community. Sustainable Development – Stories from those making it Possible. Fledge, India, 2015.
3. Kasambe R. Names of birds in Pardhi dialect of Maharashtra. Newsletter for Birdwatchers: 2007; 47(2):28-29.
4. Kasambe R, Gahale P. Status survey and sighting records of Lesser Florican in Maharashtra. Mistnet. 2010; 11(2):7-9.
5. Bird Life International. Species fact sheets: *Sypheotides indicus*, and Great Indian Bustard *Ardeotisnigriceps*, 2014. Website URL: <http://www.birdlife.org>.
6. Rahmani AR. Need to start Project Bustards. Pp 20. Bombay Natural History Society, Mumbai, 2006.
7. Sankaran R. Some aspects of the breeding behaviour of the Lesser Florican *Sypheotides indica* (Miller) and the Bengal Florican *Hiubaropsis bengalensis* (Gmelin) Ph. D. thesis University of Bombay, Bombay, 1991.
8. Sankaran R. A fresh initiative to conserve the Lesser Florican. Oriental Bird Club Bulletin. 1995; 22:51-54.
9. Narwade SS, Hegde V, Vipin Fulzele V, Lalsare BT, Rahmani AR. Lesser Florican *Sypheotidesindica* in Warora (Chandrapur, Maharashtra, India): Conservation requirements. Indian Birds, 2015; 10(2).
10. Ridlye MD, Magrath RD, Woinarksi JJCZ. Display Leap of the Lesser Florican *Sypheotides indica*. J. Bombay Nat. Hist. Soc. 1985; 82(2): 271-277
11. Ali S. Do you know these vanishing birds? Hornbill. 1981; (2):24-27.
12. Jhunjhunwala S, Gupta AD. Final Report, Lesser Florican Community Leadership Programme, India, 2008.
13. Noretto MD, Jobbagy EG, Parueloz JM. Land-use change and water losses: the case of grassland afforestation across a soil textural gradient in central Argentina. Global Change Biology, 2005; 11:1101-1117.