

SOUND AND LIGHT CAN CONTROL  
BIRD ACTIVITY AT INDIAN  
AIRPORTS

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**Summary**

Judicious use of combined sound and light showed promise in reducing bird activity at some airports in India. The 'Patrol' model of Scarecrow, a hand-held bio-acoustic bird - scaring machine made in the United Kingdom producing distress calls of birds, used in conjunction with crackers and cartridges scared away several species of problem birds at some aerodromes and vast sanitary landfills in and around Delhi. Some birds such as Pariah kites got attracted and some repelled but subsequent use of crackers and bird fright cartridges drove away most of the birds from the area. Bright light and powerful sound produced close to the flock of birds gave desired result in chasing them away.

(Key words - Sound, Light, Judicious use, Distress calls, Bioacoustics, Scare away, Problem birds, Scavenging birds, Landfills, Patrol, Scarecrow, Attractants, Repelled, Pyrotechnics.)

## **INTRODUCTION**

Playing back the distress calls of a bird is known to repel the bird species in question. The 'Patrol' version of the Scarecrow a hand-held bio-acoustic machine made in the United Kingdom works on this principle and is used to scare away birds at airports. This machine was tested at some airports and sanitary landfills in and around Delhi and new techniques were evolved to scare away birds for which specific distress calls were not available in the machine.

## **AIMS AND OBJECTIVES**

The aims and objectives of testing the 'Scarecrow Patrol' was to know the efficacy of the machine in repelling the Indian birds with the digitally stored distress cries of the British birds. Developing new techniques to scare away problem birds using 'Scarecrow Patrol' in combination with crackers and bird fright cartridges was the main aim of the project.

## **MATERIALS AND METHODS**

The 'Scarecrow Patrol' was tested at Safdarjung airport and Indira Gandhi International Airport, New Delhi and Hindan Airforce Station at Ghazaiabad, the Yamuna River in Delhi and sanitary landfills at Okhla, Indrapuram and Naraina between January and May 1998.

## **RESULTS**

The following observations were made during the field studies.

1. The distress calls of the Rook when played for 5-60 seconds at time intervals of 2-5 minutes attracted House and Jungle Crows first but slowly and eventually they got dispersed clearing the area.
2. The distress calls of Starling dispersed Common, Jungle, Bank, Pied and Brahminy Mynas at the first play itself. The response was almost immediate.
3. The distress calls of Lapwing dispersed Red and Yellow-wattled Lapwings when played for 10-40 seconds at interval of 2-4 minutes.
4. The distress calls of Lapwing scared away pigs at sanitary landfills.
5. The distress calls of Lapwing attracted Pariah kites towards the machine. This could be used to attract kites away from operational runway, gather them in one place and later disperse them using crackers or bird fright cartridges.
6. The distress calls of Rook also dispersed raptorial birds such as Kestrel, Blackwinged kites and Pariah kite (in small numbers). The reasons probably is that these birds are mobbed and harassed by crows in nature.
7. The distress calls of Starling, Lapwing and Rook in combination dispersed several small bird species such as Babblers, Sparrows, Bulbuls and Pigeons sitting on the ground and in bushes.
8. Pigeons in hangars perched at a height above 3 metres were not affected by any of the sounds in the machine.
9. The distress calls of three Gull species dispersed thousands of Gulls and other water birds found in the Yamuna River at Delhi.
10. The distress calls of Gulls also dispersed egrets feeding at different sanitary landfills.
11. The distress calls of Lapwings attracted dogs probably because of the resemblance to the sound of puppy or the sound of a trapped bird or animal.
12. Raptorial birds such as Pariah kites are attracted towards the machine when distress calls of Lapwing and Starling are played probably because these raptors want to feed on the trapped or dying bird.
13. The pariah kites attracted towards the machine took to higher altitudes when crackers and cartridges were fired at them and then they dispersed.

## **DISCUSSIONS**

Distress calls are an efficient and cost effective means of dispersing birds from aerodromes (Blokpoel 1976, Krebs 1980, Slater 1980). But responsiveness decreases with the number of exposures of the same stimulus. Response may recover with time but with repeated exposures of the same stimulus, a stage is reached with no response (Rochard 1996). It is advisable to vary the approach as much as

possible within the limitations of the equipment (CAA, London 1990). it is necessary to vary the stimulus, use it as infrequently as possible and reinforcement should follow. Everything possible should be done to prevent habituation by adding additional visual and auditory stimuli. Using different types of crackers and bird fright cartridges serves this purpose. Birds respond quickly if powerful sound and bright light are delivered very close to their flock. That is why pariah kites attracted by the machine and gathered as a large flock in one site can be easily and economically dispersed by cartridges and crackers than dealing with smaller flocks or individual birds in different areas. Combined use of sound and light of 'patrol' and crackers or cartridges saves time, labour and money.

## CONCLUSION

The 'Scarecrow Patrol' can be effectively used to drive away several species of birds. In the case of birds or animals attracted towards the machine crackers or cartridges should be subsequently used to disperse them. Sound and light used in a judicious manner can help chase most of the birds away from the aerodrome area.

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