

WHITEBACKED VULTURE AND PARIASH KITE AS TWO
MAJOR PROBLEM BIRDS AT INDIAN AERODROMES

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Whitebacked vulture (Gyps bengalensis) and pariah kite (Milvus migrans govinda) take the first and second place of significance among the bird species so far known to cause bird strikes in India. Both these species put together have contributed towards more than 55% of the birdstrikes for which the bird species involved have been identified.

These two species as well as other problem birds were studied for 13 months during 1980/81 at two aerodromes near Delhi, one being situated at Agra and the other in the state of Haryana. Investigations included infield ground observations, observations from the air traffic control tower, and a study of significant concentrations of major problem birds upto 25 km. radius from the aerodrome, referred to hereafter as buffer zone. As for vultures and kites, control tower observations and buffer zone studies provided the maximum information, the former on birds over the aerodrome, the latter on bird movement around the aerodrome and on factors causing bird concentrations near aerodromes.

I. Bird movement over and around the airfield:

1. VULTURES:

Whitebacked Vultures were noted flying regularly over and around the airfields. The neophron or scavenger vulture (Neophron percnopterus) also was noticed, but infrequently. Vulture movement over the two airfields, counted for every half hour period from 0800 hrs to 1800 hrs, is shown in the graph.

Vultures usually started appearing in the sky after 0830 hrs. attaining greater frequency and numbers from about 0930 to 1600 hrs, becoming fewer later on and totally absent after 1800 hrs. Vulture movement was fairly regular throughout the year.

The flight of vultures was usually slow and leisurely in the morning hours, at about 150 to 300 feet above the ground and often in loose circles, spending considerable time in the vicinity and gradually drifting up and away. They also flew over the airfield almost in a single file, going from their roosts towards their feeding grounds. Towards noon and in the

afternoon the birds usually flew at greater heights at faster speeds and taking more direct courses.

Vultures fly in similar fashion outside the airfields as well. At certain spots in the buffer zone where regular food supply is available, vultures fly in large concentrations of more than 400 individuals, in a gigantic spiral extending from a height of about 150 to 450 feet or more above the ground level, either preparing to land or getting ready to move away after a meal. This scene is repeated almost every day between 0900 and 1030 hrs. and it is not difficult to imagine the high probability of bird strike to an aircraft making its way through such a large and formidable barrier. Aircraft flying at low elevations over or near airfields are usually at critical phases of their flight when it is difficult to make abrupt avoidance manoeuvres.

The large size (c.5 kg.) numeric abundance, flocking behaviour, slow movement, and the habit of staying up in the sky in an area for minutes at a time, make the whitebacked vultures the most hazardous to aircraft at the study areas especially at climb, approach and low flights, from about 0930 to 1600 hrs.

2. PARIAH KITE :

Pariah kites, easily identifiable by their forked tail, start appearing over the airfields at sunrise and continue to fly singly or in small numbers of upto 10 or more until about 1730 hours. Their aerial movements were either in forage flights when they flew low between 30 and 150 feet, or in soaring flights on thermals when flocks often spiralled upto about 300 feet or more and drifted away.

Besides the airfields the kites also flew scattered over surrounding towns throughout the day in small numbers though flocks of over 100 were not uncommon at large feeding sites.

Though much smaller (c. 650 gm.) than vultures, pariah kites are more widely distributed, and remain airborne over an area even longer than vultures, thereby enhancing the chances of encountering aircraft. Besides flying at different heights within and outside the airfields, pariah kites also alight on runways and thus become a potential hazard at all phases of flight except at higher altitudes. International airports of Bombay and Delhi too are experiencing pariah kite problem on runways and over the airfields.

II. Factors causing vulture and kite concentrations near the aerodromes:

Whitebacked vulture is a carrion feeder, feeding on soft meat and offal from large animal carcasses. Pariah kite is a regular scavenger in Indian towns feeding upon a variety

of animal matter including kitchen scraps, dead rats, animal offal, and poultry dressing yard left-overs. Besides dead food it also takes young rodents and birds, and insects.

Of all the ecological requirements, food supply is the major item controlling the numerical abundance of vultures and kites and hence their concentration and movement in an area. At both the areas food supply is plentiful and supports large populations of these species. The major food sources for kites and vultures are:

1. Primitive slaughter houses.
2. Bone and hide collecting centres and primitive tanneries.
3. Garbage dumps.

More details are given below.

1. Primitive slaughter houses:

Slaughter houses are primitive in the sense that these are meant only to be a shelter to slaughter and cut up animals and do not have facility to utilise or hygienically dispose off offal and other unwanted animal matter. These animal wastes are either thrown just within the premises in the open, or transported to open garbage dumps. In either case food supply is assured for a large number of vultures and kites. One of these attracts at times as many as 750 or more white-backed vultures besides scavenger vultures and pariah kites.

The international airport of Delhi too has the disadvantage of having in its environs a large primitive slaughter house producing offal enough to attract more than 3000 whitebacked vultures. Realising the gravity of the situation the government is now planning to replace the existing slaughter house, with a modern abattoir in the near future. Bombay already has an excellent modern slaughter house.

2. Bone and hide collecting centres and primitive tanneries:

Free-living whitebacked vultures are an integral part of the labour force at these establishments particularly where bones and hides are taken out of dead livestock. These are mainly some form of cottage industries run by one to several rural families. Here dead livestock are brought to centralised places and skinned. The vultures then eat up all soft tissues and leave the bones picked clean. They even help in scraping off soft tissues attached to the hide after men have peeled it from the body. It is a very effective method and vultures do not mind cleaning up even putrefied and foul smelling carcasses.

3. Garbage dumps:

Garbage is dumped openly at several small open dumping sites. Pariah kites are particularly attracted to these places especially for a short period after every fresh dumping. In fact the major source of food supply for kites is the city garbage, particularly the animal matter in it.

In addition to these food sources, kites often pick up insects and other small invertebrates found on runways in the airfield especially after rain.

Recommended remedies:

1. Each city should have a centralised modern slaughter house, and all primitive slaughter houses banned.
2. Tanneries and bone/hide collecting centres functioning as cottage industries, using whitebacked vultures for cleaning up bones and hide could use captive cultures instead of the free living populations which pose threat to air safety. Vultures could be kept in large well ventilated aviaries, within which carcasses could be conveniently skinned. A practical experiment is about to begin at a carcass processing unit near Bombay.
3. An efficient garbage disposal system will considerably reduce proliferation of pariah kites.

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DAILY MOVEMENT OF VULTURES OVER TWO AERODROMES IN INDIA (MARCH '80 TO MARCH '81)

