

Environmental Radiations Effects on Birds in Surguja District

Dr. Meena Singh

Govt. Rajmohini Devi P.G.College Ambikapur, Chhattisgarh, India

Abstract

A field survey was conducted on effect of mobile tower radiation on birds in Ambikapur District Surguja C.G. from January 2021 to Feb. 2022, in different site of mobile tower situated in this area. This survey identifies species of bird present before and after mobile tower. Electromagnetic radiation from cell phone and cell tower affects the birds, environment. When birds are exposed to weak electromagnetic fields, they disorient and fly in all directions, which harm their natural navigational abilities. A large number of birds like Pigeons, sparrows, mynah are getting lost due to interference from the “unseen enemy”, i.e. mobile tower. It has also been noted of late that animals used near mobile towers are prone to various dangers and threats to life including still births, spontaneous abortions, birth deformities, behavioral problems and general decline on overall health. Aim and objects selection-based birds’ reservations and conservation. Electromagnetic pollution is a possible cause for deformations and decline of some Present study in Surguja district available of all mobile towers attending in radiations effects on birds. The radiations from mobile communications towers has severally affected arrival of migratory, birds. Pointing to the drop in their numbers over the years. The radiations from cell phone towers impairs their natural sense of direction. The brain cells in the migratory birds help them track the route direction.

Keywords: mobile tower radiation, Electromagnetic Pollution, migratory birds.

Introduction

The 160 species of migratory birds cannot be hunted down, but the growing number of mobile towers is affecting their numbers both in rural and urban areas.

Out of the total 8000 species of birds in the world, 1295 of them arrive in India during Deepawali and return Holi seasons. The declining trend in migratory birds can be checked with the help of right measures. Right kind of protection to the sites of migratory water birds, as well preventive and timely management of their protected habitat might do Wonder’s.

‘Even through the numbers of migratory birds has not Increased, we have greater diversity now due to exploration of new areas. Birds like Black stork, Greater Flamingo, common merganser, spot-billed pelican, Bar- headed Goose, Lesser Adjutant, Black neck stork, Sarus Crane and other threatened wetland species can be found here.

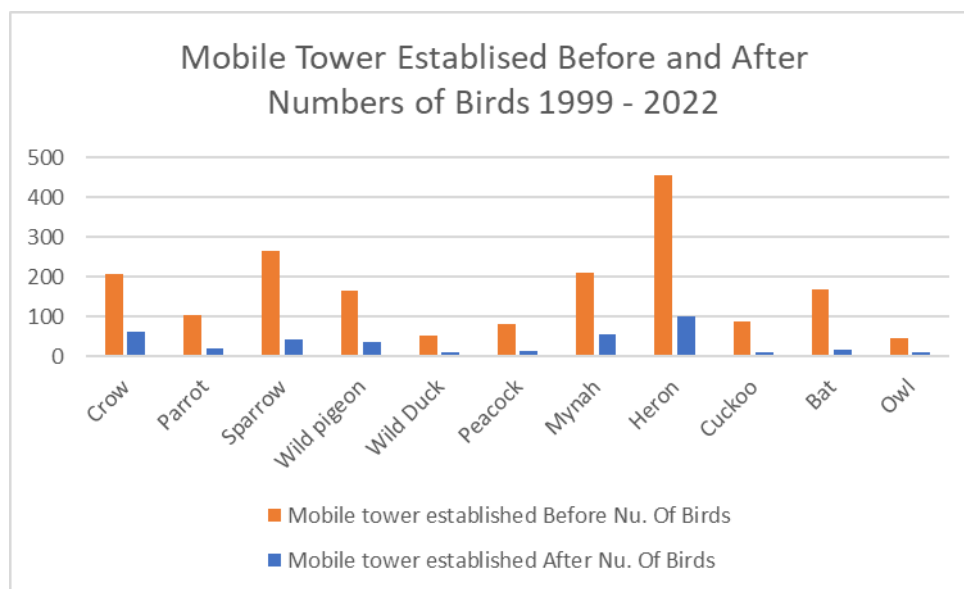
It must be noted here that the radio/ Televisions transmitters transmit a weak radiofrequency (Above 10 MHz) field while all the electrical appliances transmit a low frequency (upto 300 Hz) electromagnetic field or intermediate frequency (300 Hz-10 MHz). On the other hand, cellular phones and the mobile base stations transmit a strong electromagnetic field. Cell Tower antennas with GSM 900 and GSM 1800 technology, transmit electromagnetic field with a frequency range of 935-960 MHz and 1810-1880 MHz. It is noteworthy here that the strength of electromagnetic field and radiations is maximum close to the towers, which decreases with the increase in distance from these towers.

Several countries have observed a reduction in bird diversity coinciding with the proliferation of cellular mobile base stations (GSM 900 or 1800).

Research method

At present this work in Surguja District birds, effects in mobile towers and radiations one year January 2021 to Feb. 2022 observation to birds' activities properly different causes of disease complications in body not a survive in environment more then less mortality of birds not a survival of long life

S.N.	Bird's	MobileTower Before	MobileTower After
1	Crow(Corvus splendence)	206	62
2	Parrot(Psittacula krameri)	103	21
3	Sparrow(Passer domesticus)	266	44
4	Wild Pigeon(Coluba livia)	165	36
5	Wild Duck	54	11
6	Peacock	82	14
7	Mynah(Acridotheres tristis)	209	56
8	Heron (Bagula)	456	102
9	Cuckoo(Eudynamys melanorhynchus)	87	12
10	Bat	167	17
11	Owl(Bubo bengalensis)	47	9



At presented to bird numbers are totally count of less then time to time next generations. Mobile tower and radiations are averages of high frequency wavelengths affecting to environments at present animals.

Cell phone radiation is majorly affecting the health of birds. Many pieces of evidence have observed that birds are getting killed due to radiation from mobile phones and towers.

We can save birds from radiation by doing little changes in our lifestyle. We should minimize the use of cell phones as much as we can. Prefer to make only important calls or at least cut down your talking time over cell phones to minimal time.

Try to communicate through text messages instead of making a call to cause less radiation. Prefer not to use multiple SIM cards as a greater number of SIM card will release more radiations in the air. Try to minimize the use of mobile internet to reduce the amount of radiation in the atmosphere. Prefer not to use mobile phones when the signal is weak because, during weak signals, the radiation becomes very strong to connect with a nearby mobile tower. Govt should also make rules to restrict the rate of electromagnetic radiation. Observe the towers that emit extreme electromagnetic radiation beyond the set limit and take it down. Limit the maximum number of the tower to be installed in a particular city. Raise awareness about the harmful effects of cell phone radiations in birds and what we can do to save the birds from radiation.

Spread awareness about the threats and preventive measures of bird species especially at high risk endangered species. Certain human activities also disturb the bird quite severely, such as fishing lines, wind farms, heavy decorations, balloons, litter, etc. We should try to minimize these activities to protect birds from extinction. Radiation is also big reason for bird extinction, as also mentioned in this article before. Use your cell phone properly to minimize the effects of radiation on birds. Air pollution also affects the survival of the birds. We should reduce the carbon footprints to conserve birds. Minimize energy use to protect bird's species from going extinct. Avoid disposing of waste in an open area mainly plastic wastes. Most of the time, birds consume these wastes that also become a big reason for bird extinction. Loss of habitat is one of the major reasons for bird extinction. You can initiate in protecting bird habitat in several ways such as buying duck stamps, organize clean-up events to clean rivers, beaches encouraging people, etc. You can be a part of a bird conservation program that takes care of the breeding, rehabilitation, rescue of endangered bird species, etc. By adding your contribution to these programs or conservation organization by making donations.

Radiation is not only a serious hazard for the birds but also to other species. The unfortunate thing is that the common person doesn't even realize the harmful effects of radiation from cell phones & mobile towers.

Now a day cell phones are the primary means of communication widely across the world. Millions of people are using cell phones worldwide, causing massive radiation in the atmosphere. This is the right time to realize the hazardous effects of radiation through cell phones and mobile towers especially for birds. We should make all possible efforts to protect birds from radiation and extinctions for the upcoming generations.

Observation & Results

S.N.	Tower location in Ambikapur City	Type, of Tower	200-500 meter radiance Total no. Of Tower	Power density in wats/ meter ²	Total Power density in wats/ meter ²	200-500m radiance distance total no. Of Birds watching in area
1.	Ambedkar chowk	Idea	1	0.008	0.008	6
2.	Railway station	Reliance jio	1	0.008	0.008	28
3.	Kendriya vidyalaya	Airtel	1	0.008	0.008	4
4.	Gandhi chowk	Airtel	1	0.008	0.008	34
5.	Central Jail area	BSNL	1	0.008	0.008	12
6.	New Bus Stand	Idea	1	0.008	0.008	5
7.	Old Bus Stand	Airtel	1	0.008	0.008	13

8.	Joda Pipal	Airtel	1	0.008	0.008	8
9.	Mahamaya Road	Airtel	1	0.008	0.008	3
10	Ramanuj naka	Idea	1	0.008	0.008	6

Mobile Tower status in Ambikapur City

Total number of Mobile Tower available in Ambikapur City

1. Ambedkar Chowk - Idea
2. Railway Station - Reliance Jio
3. Kendriya Vidyalaya - Airtel
4. Gandhi Chowk - Airtel
5. Central Jail - BSNL
6. New Bus Stand -Idea
7. Old Bus Stand -Airtel
8. Joda Pipal - Idea
9. Mahamaya Road - Airtel
10. Ramanujnaka Chowk - Idea
11. Kanyaparisar Road - Idea
12. Kharisiya naka Chowk - Airtel
13. Bilashpur Chowk - Idea

Suggestions

Help us to Radiations effects awareness in public sector. Regular monitoring and auditing in urban localities, hospitals. Industrial residential areas. And ecologically Sensitive areas must be done. Then the task of providing regular awareness among the people about the norms on cell phone towers and damages of Eelectromagnetic radiations from them.

Conclusion

cellular phones are essential to our lives for all the communications. However, their extensive usage and upgraded services continue to threaten the species diversity and the lives of different birds in the region. While the cellular phones cannot be completely wiped out of our lives it is important to find an alternative technology that can keep the wireless communication strong but do not pose any risk to the lives of these little creatures around us. Birds' diversity is important to keep that plant diversity and all the researchers must try to begin looking for alternative technology for safe surroundings.

Reference

1. Selga T., Selga M. response of pinussylvestris L. needle to electromagnetic field, cytological and ultrastructural Aspect Sci Total Environ,1996;180:65-73.
2. Tkalec M., MaLarik K., Pavlica M., Pevalsek-Kozlina B. and Vidakovic-Cifrek Z., Effects of radiofrequency electromagnetic fields on seed germination and root meristematic cells of Allium cepa L., Mut Res,2009;
3. 672: 76-81.http://www.ncbi.nlm.nih.gov/pubmed/19028599.
4. Sharma VP, Singh HP, Kohli R.K. and Batish DR, Mobile phone radiation inhibits Vigan radiate (mung bean) root growth by inducing oxidative stress, science of the total Environment, 2009; 407(21):5543-5547.

5. Mohitkaushal, tanvirsingh Ami kumar, Effects of mobile tower Radiations & Case Studies from different countries pertaining the Issue,"International Journal of Applied Engineering Research, ISSN 09734562,2012;7(11).
6. Saeid, S.H., Study of the cell Towers Radiation levels in Residential Areas, Proc. Int. Conf. Elec. And Comm.Sys.,2013;87-90.
7. Memom, A., Sheth, H., Patel, P.U. and M. Ansari, Passer domesticus - A disappearing species due to increasing effects of electromagnetic radiations (EMRS). International Journal of Pharmaceutical and Biological Science Archive, 2013;1(1): 1-6.
8. Aldad TS, Gan G, Gao XB, Taylor HS. Fetal radiofrequency radiation exposure from 800-1900 MHz-rated cellular telephones affects neurodevelopment and behavior in mice. Sci Rep, 2012;2:312.
9. Kaur, G., Dhami, A.K., Orientation studies of a cell-phone mast to assess electromagnetic radiation exposure level, Int. J. Env. Sc, 2012;2(3):2285-2294.
10. B. Blake levitt and Henry Lai, "Biological effect from exposure to electromagnetic radiation emitted by cell tower base station and other antenna arrays," published by NRC Research press, Environ Rev, 2010.
11. Report on Cell Tower Radiation submitted to secretary, DOT, Delhi Prepared by Prof. Girishkumar Electrical Engineering Department IIT Bombay, Powai, Mumbai - 4000.