Only wildlife conservation may be future omicron-like-preventive-epidemic-covid-19-model enriched forestry-horticulture-agriculture-environment-health-biodiversity-science-technology-communication-application-issues

Abstract

The current COVID-19 disease caused by 'Omicron OR coronavirus-2 (SARS-CoV-2)'-reifection, is highly-infective, causing severe-acute long-term illness, badly impacting on forestry-horticulture-agriculture-environment-wildlife-conservation-biodiversity and global health. Still, now no 'Buster-Dose-Vaccine' is discovered. On the other hand, food production forestry, agriculture, and horticulture significantly reduce different pest's attacks. So, to tackle and overcome both, the naturally growing "Wildlife-Conservation-Project of 'Wild Barn Owl and Bats' in the two Heritage-Schools" forming a 'Complex-Typical-Ecosystem' in the food-chain-relationships-landscaping, controlling the different pests in the forest, horticulture, agriculture, and pisciculture, etc., increasing food-production, but also plays a vital role in preventing-COVID-19, the high rate of morbidity and mortality, showing the "Wild Barn Owls-Bats Act as a Future-Omicron-Like-PreventiveEpidemic-COVID-19 Model", and developing policy initiative potentially life-saving therapies by boosting natural immunities of the different communities of Burdwan-Municipality, West-Bengal, India, and wildlife conservation may be the "Future-Omicron-Like-Preventive-Epidemic-COVID-19-Model" enriching "Forestry-Horticulture-Agriculture-Environment-Health-Biodiversity-Science-Technology-Communication-Application-Issues", and worlds become retained in old form developing education and research.

Keywords: only-wildlife-conservation-future-omicron-like-preventive-epidemic-covid-19-model, enriched-forestry-horticulture-agriculture-environment-health-biodiversity, science-technology-communication-application-issues

Volume 6 Issue 1 - 2022

Subhas Chandra Datta^{1,2}
¹PhD & Research Fellow, Department of Zoology, VisvaBharati, India

²Headmaster & Secretary, Kanchannagar D.N.Das High School (HS), Burdwan Municipality, Purba Bardhaman, India

Correspondence: Subhas Chandra Datta, Headmaster & Secretary of Kanchannagar D N Das High School (HS), C/O Rajendra Nath Nag, House No.430A, Bajeprotappur (Katwa Road), Opposite to entry of SBI Bajeprotappur, 24 No.Ward, Burdwan Municipality, P O Burdwan, Dist Purba Burdwan, PIN 713101, West Bengal, India, Tel +91-9832192464, +91-7602303924, Email dattasubhas@rediffmail.com, subhaschandra.datta@gmail.com

Received: October 13, 2021 | **Published:** January 13, 2022

Introduction

Recently, in the New York Times, the first week of the 'New Year' January 2022, Wolfe J. (Figure 1), reported that the U.S. is about to reach more than 830,000 deaths from Covid-19, and the last more than 5.4 million death globally, and the majority of unvaccinated Americans have died in recent months, they also analyzed that the people who died in the last three and a half months for the spreading widely 'Omicron-Delta mutant variant' in the South lagging in vaccinations.¹ And, after the observation of 'Durga Puja and Christmas' in Purba Bardhaman, West Bengal, India (Figure 1), on 1 to 6-January 2022 showed that the total COVID-19 positive cases are 420756, the total number of discharge cases were 40702, the total number of COVID-19 death is 497, rate of recovery was 96.74% respectively, and rate of mortality was 1.18%, and the distribution of COVID positive patient in Burdwan Municipality was 139. And the recent trend is highly increasing COVID 19 due to the 'Omicron' mutant variant which is hard to track, and the cases have for the first time passed one million per day on an average opening a new chapter in the COVID-19-pandemic that has affected our lives economy education, and the highest-number-of-Covid-19-deaths due to lack-of-vaccines and we-are-now-gasping-for-air. So, it is an urgent need to find out potential policy-initiative, cheap, and non-pollutant strategies to develop immediate-future support and treatments of COVID-19 or new variants.¹⁻⁹

Material and methods

Place, weather, and biodiversity: According to the Imperial Gazette of 1810, there were two English Medium Schools with Dispensary in Burdwan; Burdwan Raj Collegiate School (HS) and Kanchannagar D N Das High School (HS), Burdwan Municipality, Purba Bardhaman-713102, West Bengal, India, (Plate 1), the oldest area, where the temperature was 22±5°C, relative humidity was 75±5%, is situated near the Damodar and Banka river, and is surrounded by forest, ponds, different old trees, park, garden, playground, different storehouse, rice mill, markets, agriculture-horticulture land, brave-yard, wildlife sanctuary, masjids, temples, etc. forming the 'Location Wise an Ideal Place' for keeping and caring of 'Wildlife Conservation', with the average rainfall was 150 millimeters. The school campus prevails the different old and tall trees, nutritional kitchen garden with a midday meal, exhibited an enriched faunal diversity comprising small mammals, mongoose, owls, bats, pigeons, different small birds, reptiles, toads, and insects, etc. and the two heritage oldest schools are the symbol of the 'Wildlife Conservation', especially the wild owls, bats, and mongoose.¹⁻⁹

Duration and habitat: The observation of the experiment was conducted in the COVID 19 from 18th-March 2020 to Up to date 2022, in the 12 ft height ceiling of the 10-big rooms, big under-ground, big core-door, artificial long- nest in the veranda, and big trees in the large campus, and owls and bat, make their habitat, homes (roosts)

in a variety of different structures in the cracks in wooden bar and buildings, artificial different kinds of nest hanging in trees, and even the attic artificial nest of the building (Plate 1). The bats and owls were observed every day thrice or more.²⁻⁹

Activity of students and NGO: The Burdwan Green Haunter and Students' Goal, NGO, forms four main activity-groups; core group, working group, advisory group, and social media group, guided and guided by Dr. Subhas Chandra Datta, and coordinated by the secretary, Mr. Rakesh Khan, M.A., B.Ed. (Gold Medalist), and president, Mr. Subhendu Bose, Administrator of B.Ed. College).

- I. Core Group- has 22-members with 10-subgroup, decision-making, and leading-working group.
- II. Working Group- has 210-members with 11-subgroup, engaged in different social activities.
- III. Advisory Group- has 10-members in different disciplines like academicians, administrators, doctors, teachers, scientists,

business personalities, engineers, accountant, social reformer, reporter, government employee, and entrepreneur with different-subgroup, give advice and problem solve, if necessary.

- IV. Social-media Group- has more than 1300 members, followers 21,000, engaged mainly for publicity.²⁻⁹

Counting: A team of students helped to the proper count of wild owls in trees as well as in the building (Plate 1). The direct counting technique is used for counting bats roosting in buildings but is difficult to count bats inside trees.²⁻⁹

Maintenance of records: All the data were maintained for record and the survey was randomly recorded by the young students Non-Governmental-Organization (NGO) named "Burdwan-Green-Haunter and Students'-Goal", at ward no. 24 and adjacent surrounding total area of the Burdwan Municipality, Bardhaman, Purba Bardhaman District, India.²⁻⁶

Figure 1 COVID-19 report of the United States, seven-day average in the 1st week of January 2022 in The New York Times, and of Purba Bardhaman District from 06th January 2022.

Observation on different behaviors: Nesting and hunting behavior, sound-producing behaviors, wild behavior, and social behaviors, as well as bio-indicator behaviors, has been observed, and the relationship with other bats, pigeons, small birds, dogs, cats, visitors as well as staff, has also been observed, and the ‘Bardhaman Fire Brigade Service-Team’ helped to conduct examination on 26th-September 2021 (Sunday) without fear from owls and bats.²⁻⁹

Observations attitude: Different behavior and attitude of the barn owls, students, teachers, guards, guardians, communities, photographers, and different types of visitors have been observed by NGO-direct physical access.²⁻⁹

Results and discussion

relationships. Rats that happen to spoil food items of mid-day meals, rooms, and documents are controlled by Barn owl keeping in the school. Bats which inhabit the big building and different trees making the school buildings dirty by their excreta are also controlled by this owl species. Different pests which are found to significantly reduce food production in the kitchen garden in the school are also appreciably kept in control. Barn owl and bat breeding projects in the two school premises also help to escalate the vegetation profile of the school and the surrounding area and even keeps the pond ecosystem viable. It is worth mentioning that the Barn owl in this school environment plays the role of a top carnivore, predating on mongoose juveniles and bats which are mainly dependent on fishes and aquatic animals in the ponds. And, as such, an improved midday meal is possible conserving aquatic biodiversity. In fact, it is observed that Barn owl keeping helps improve the school environment, arouse the interest of students and communities on ecology and food chain relationships as well as biodiversity conservation issues. And, this ultimately contributes to sustainable pond and kitchen garden management, micro-and macro- climate issues, and also students' health and awareness development including joyful learning experiences with "Wild Barn Owls and Bats Use as Social Vaccine Bio-Indicator Against COVID-19 Improving Science and Technology Communication Environments Socioeconomic Applications with Joyful Learning School Environment",^{2,-10}

Here, the bats not only control the different pests in forestry, horticulture, agriculture, and pisciculture, etc., increasing food production, but also plays a vital role in preventing the high rate of morbidity and mortality, showing the “Wild-Owl-Bat Act as a Natural-Booster-Community-Vaccine against COVID-19”, and developing effective life-saving immunomodulatory therapies by improving natural-immunities, and provides-“Preventive-Community-Health-Clinical-Research-Education-and-Enriched-Wildlife-Biodiversity-Conservation-Agriculture-Forestry-Environments-Socioeconomy-and-Science-Technology-Communication-Application-Issues with Joyful-Learning-Environment-with-Human-Health-Ecology, and Food-Chain-Relationships, and Community-Health”²⁻¹¹

Future research: Wild ‘Owls and Bats’, are also opening a path of more future research and communication and we strive towards the betterment of societal conditions benefitting global humanity by advancing innovations in the fields of scientific research. The wild owls

and bats may be “Potential Policy Developer Family-Based-Social-Natural-Booster-Community-Omicron-Preventive-Vaccine COVID 19 Epidemic-Models Against Future SARS-CoV-3 (Coronavirus-3) Crisis Achieved Sustainable Development Socio-Economic Welfare Science Technology Innovations Application Issues”, focusing on methods of drug and clinical research, and technology development innovation for larger green-socio-economic-welfare, supported the theme “Vision 2040” that might help policymakers, solving any future virus-induced crisis of epidemic or pandemic enriching natural resources with cost-effective treatment methods, and the world will be retained in old form, and it may resist the probable 3 million death due to COVID19 in India.²⁻¹¹

Conclusion

Here, the owls and bats not only control the different pests in forestry, horticulture, agriculture, and pisciculture, etc., increasing food production, but also confirms and plays a vital role in preventing the high rate of morbidity and mortality, showing the “Wild- Owl-Bat Act as a Natural-Booster-Community-Vaccine against COVID-19”, and developing effective life-saving immunomodulatory therapies by improving natural-immunities, and provides-“Preventive-Community-Health-Clinical-Research-Education-and-Enriched-Wildlife-Biodiversity-Conservation-Agriculture-Forestry-Environments-Socioeconomy-and-Science-Technology-Communication-Application-Issues with Joyful-Learning-Environment-with-Human-Health-Ecology, and Food-Chain-Relationships, and Community-Health”.²⁻¹¹ So, only wildlife conservation may be the “Future-Omicron-Like-Preventive-Epidemic-COVID-19-Model” enriching “Forestry Horticulture Agriculture Environment Health Biodiversity Science Technology Communication Application Issues”, and worlds become retained in old form developing education and research. And we will enjoy and tell, “Happy New Year 2022!

Acknowledgments

The work described here has been fully supported by the Hon’ble Nature-lover Headmaster, Mr. Subrata Mishra, double M.A. in Literatures (English & Bengali), who help to write the manuscripts by providing day to day information and photographs. I like to thanks Mr. Rakesh Khan, M.A., B.Ed., Secretary, and Mr. Subhendu Bose, Assist Lecturer, President, and all members of Burdwan Green Haunter and Students’ Goal for helping me for collection of data, and arranging several awareness programs regarding Science and Technology Communication Wildlife Conservation Bio-diversity issue. I am also thankful to the Hon’ble Divisional Forest Officers and his teams, Burdwan Division, Bardhaman-713104, West Bengal, India, who helped to the proper count of wild bats. Last but not the least; I’m thankful to the eminent educationist Sri Tapaprakash Bhattacharya for inspiration and guidance.

Conflicts of interest

The author declared that he has no conflict of interest regarding the research work.

References

1. The New York Times. *The Covid-19 Pandemic*. 2022.
2. Datta SC. Improved Science and Technology Communications: Barn Owl Act As Social Vaccine Against COVID-19. *International Journal of Latest Research in Science and Technology*. 2020;9(3):6–13.
3. Datta SC. Owls and Bats Act as Future ‘Wild X-Disease’ Preventive COVID-19 Non-Medicated Vaccine: Improved Global-Health-Forestry-Agriculture-Environment-Science-Technology-Communication! *Global Journal of Science Frontier Research: C Biological Science*. 2021;21(5):1–6.
4. Datta SC. Bats Act as a Natural-Booster-Family-Vaccine-Immunization Against COVID-19: Provide Preventive-Family-Health-Care-Health-Risk-Services-Healthy-Lifestyle:Enriched-Wildlife-Conservation-Agriculture-Forestry-Science-Technology-Communication-Application-Issues! *Journal of Family Medicine*. 2021;8(9):9.
5. Datta SC. Bats Act as a Natural-Booster-Community-Vaccine Against COVID-19. *IASR Journal of Medical and Pharmaceutical Science*. 2021;1(2):13–25.
6. Datta SC. Wildlife-Owl-Conservation May be Immunized-Community Against ‘Future-Disease-X’: Provide Clue Clinical-Biomedical-Research:Global-Health-Enriched-Biodiversity-Forestry-Agriculture-Environment-Science-Technology-Communication-Issues! *Aditum Journal of Clinical and Biomedical Research*. 2021;3(2).
7. Datta SC. Wildlife Conservation Act as Future Clinical-Medical Images-Case Reports of COVID-19 Model: Enriched Forestry-Horticulture-Agriculture-Environment-Health-Biodiversity-Medical-Science-Technology-Communication-Application-Issues! *Journal of Clinical and Medical Images, Case Reports*. 2021;1(1):1033.
8. Datta SC. Sustainable Reopening of School Preventing Reinfection-Coronavirus 2 in New-Normal by Vaccine-Nationalism- Equity-Passport with Ginger-Drinks-Bio-Medicinal-Mid-Day-Meals! *Int J Res –Granthaalayah*. 2021;9:165–170.
9. Datta SC. Artificial-Nest Rainwater-Harvesting with Fishery and Floating-or-Rooftop-Gardening Act as 21st Century Civil-Engineering COVID-19 Epidemic-Model: Improved Biodiversity Agriculture Socio-Economic Environmental-Sciences Technology-Communication. *Journal of Civil Engineering and Environmental Sciences*. 2020;6(2):022–036.
10. Cohen J. Close cousins of SARS-CoV-2 found in a cave in Laos yield new clues about pandemic’s origins. *Sci*. 2021;30.
11. Christie MJ, Irving AT, Forster SC, et al. Of bats and men: immunomodulatory treatment options for COVID-19 guided by the immunopathology of SARS-CoV-2 infection. *Sci Immunol*. 2021;6(63):1–20.