Opinion
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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: wildlife conservation, covid-19, forestry, horticulture, agriculture, environment, health, biodiversity, science

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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 1to 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 varients.[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.

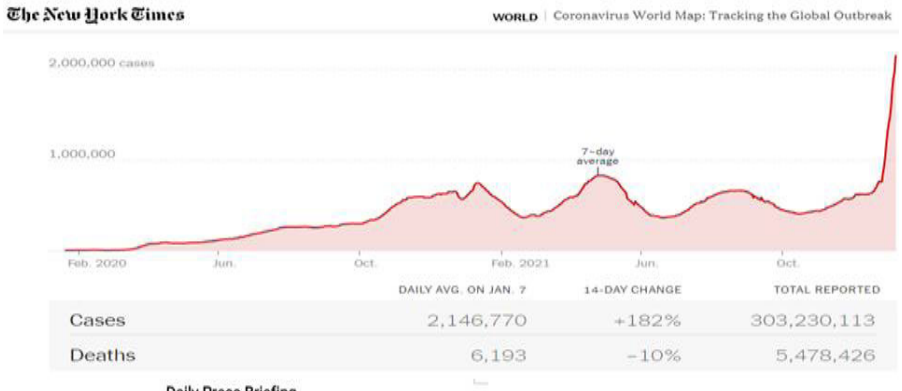
II. Working Group- has 210-members with 11-subgroup, engaged in different social activities.

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]



Daily Press Briefing
Purba Bardhaman
Date: 06/01/2022 (Up to 5.00 P.M.)
(Report to be send by 7.00 P.M Daily)

Part – I: Related to COVID-19

i)	Total No. of COVID Positive Patients found on the day of reporting *	:	381
ii)	Total no of COVID positive patients**	:	42075
iii)	Total no of active patients as on today***	:	876
iv)	Total no of discharged cases	:	40702
v)	Total no of COVID death recorded	:	497
vi)	Rate of Recovery# (Percentage)		96.74
vii)	Rate of Mortality# (Percentage)		1.18
viii)	Current Positivity Rate (last 7 days)# (Percentage)		3.6
▪	**Testing status :** RTPCR + RAT		
xi)	Total no of Sample collected	:	858939
xii)	Total no of Sample tested	:	856605
xiii)	Total no of Positive cases	:	35823 (+53 repeat +Ve)
xiv)	Total no of negative Cases	:	820729
▪	**Containment Zone status :**		
xv)	Total no of Containment Zone as on today	:	
xvi)	Total no of containment withdrawn	:	
▪	**Analysis of Positive Persons Details :** On date – Positive-		
xvii)	Total No. of Migrant (Other State + Other Dist. of WB):	:	00
xviii)	No. of Persons in Safe House:	:	00
xix)	No. of Person in Covid Hospital:	:	00
xx)	No. of Persons in Home Isolations:	:	381
Report on Sample Collection and Testing(On Date):			
xxiii)	Antigen Test	:	1436
xxiv)	RT-PCR Test	:	957
xiv)	Test Result within 24 Hrs.	:	1558 (RAT-1436+ RTPCR-122)

Part- II:

Distribution of COVID Positive Cases found on 06/01/2022

Aushgram -I	0	Galsi-II	0	Ketugram-I	1	Mongolkote	6	Burdwan Municipality	139
Aushgram -II	2	Jamalpur	13	Ketugram-II	0	Purbasthali-I	5	Dainhat Municipality	0
Bhatar	10	Kalna-I	7	Khandoghosh	8	Purbasthali-II	3	Guskara Municipality	2
Burdwan-I	24	Kalna-II	3	Manteswar	1	Raina-I	5	Kalna Municipality	18
Burdwan-II	12	Katwa-I	1	Memari-I	12	Raina-II	6	Katwa Municipality	1
Galsi-I	15	Katwa-II	8	Memari-II	27	Other District	33	Memari Municipality	19

Analysis on COVID +Ve Cases on 06/01/2022		*COVID Positive as on today	**Total Positive Cases
Type	Symptomatic	05	4361
	Asymptomatic	376	37714
Total		381	42075
Contact Analysis	Primary Contact	00	1634
	Travel from High Burden Dist. of W.B.	00	217
	Travel from Other State	00	435
	No Travel History	381	39789
Total		381	42075

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.

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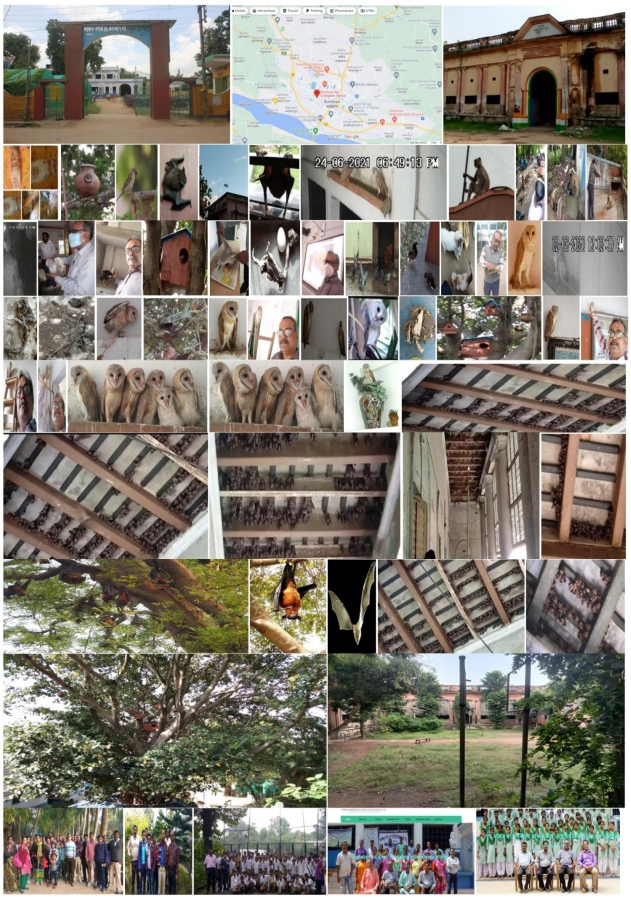

Plate 1 Activities of wild barn owls and bats in the two heritage schools Kanchannagar D. N. Das High School (HS) and Burdwan Raj Collegiate School (HS) during COVID-19 periods.

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]

Observation of human interactions: Human interactions with wild barn owls are observed and recorded of interactions, extinction and reduction, uncountable human deaths and economic losses, which may be positive or negative, and common people compete with wildlife for different disciplinary perspectives to address human-wildlife conservation conflict and coexistence outcomes.[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]

Science and technology communication: The activity of the community, different visitors and media personnel, campaign or aware or make the news or publications regarding importance is recorded.[2-9]

Results and discussion

The environment of both the schools depends on both plants and animals in the school compound in which keeping and caring of barn owls apparently act as a keynote species in the food chain 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]

Primarily it has been also observed, "The wild 'Owls' becomes the 'Social Guards, Bio-Indicator, and Social Vaccine' against COVID-19 by consuming especially Coronavirus-carrier wild bats and mongoose, enriching community health, health-risk-services, healthy-lifestyle, wildlife-conservation, agriculture, forestry, horticulture, science, technology, and communication-application-issues, socioeconomic, joyful learning environment, communities-and-health-ecology, food chain relationships issues, and contribute to sustainable pisciculture, and kitchen garden management, micro-and macro-climate issues, where it is mentioned that the wild bats secrets of immunity confirm the clues of treatment against various mutant-Coronavirus with developing the policy also, and arouse the interest of students about conservation of biodiversity".[2-10] And recently in 'Science', a cave in a mountain in Laos not far from the one shown here is home to bats infected with the closest coronavirus to SARS-CoV-2 yet, and the new viruses, the SARS-CoV-3, show for the first time that a key feature of the pandemic virus exists in the wild, that viruses genetic sequence to SARS-CoV-2 up to 96.8% identical, using its surface protein, spike, angiotensin-converting enzyme 2(ACE2) for initiating an infection, and may cause 'Future Pandemic' due to evolution, several decades separate these bat viruses remain inactive.[9-11]

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!

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Conflicts of interest

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

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