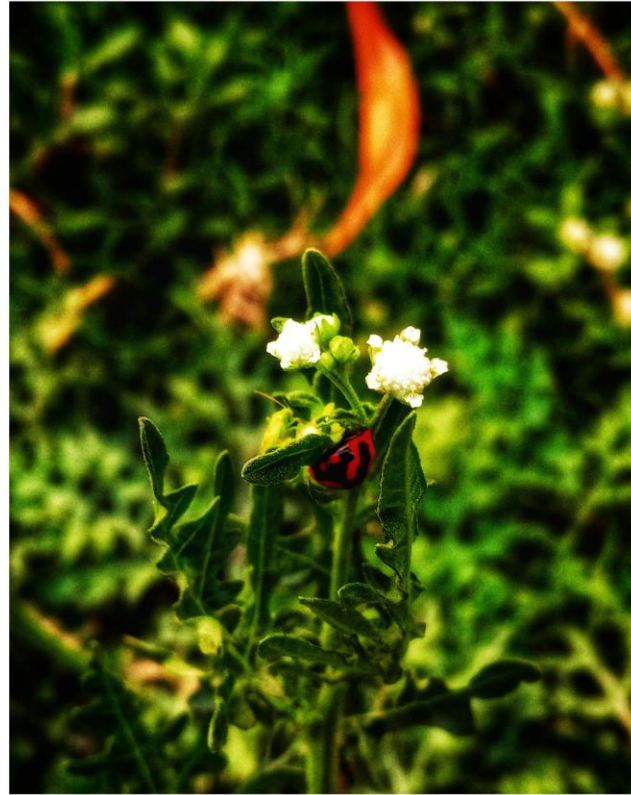


Digital magazine 2021

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Covid 19 and its impact on Biodiversity



Introduction

The onset of COVID 19 has reminded us our place among nature. We humans have the always been busy with modernizing and industrializing our society. We have turned blind eye about our mother nature and the ecosystem. The result of which we are feeling today.

According to data from the University of Maryland, in 2019 the tropics lost 11.9 million hectares of tree covers. The data shows that several countries suffered record losses, and fires created astonishing impacts in primary forests and beyond. The fires in amazon rain forest were aghast in destruction. Thousands of fires had burned more than 7,600 square kilometers by October ,2019.

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According to the data from THE HINDU ,886 large fires detected across different forests in India.

Telangana and Madhya Pradesh followed Odisha with 126 and 107 incidents of forest fires.

A data of INSIGHTSIAS, world Air Quality reports ,2018 reveals on a study of 3000 cities, 64 percent of cities exceeded the World Health Organization's annual exposure guideline for PM 2.5. Of the 10 cities with highest pollution ranking 7 are in India, while one is China and two are in Pakistan. Delhi was 11th in that ranking order.

In south Asia, out of 20 most polluted cities in world 18 are in India, Pakistan, Bangladesh .

The United Nations World Water Development Report, Leaving no one behind , launched 19 March 2019 during the 40th sessions of the United Nations Human Rights Council (UNHRC), a staggering 784 million people live without basic access to clean water .

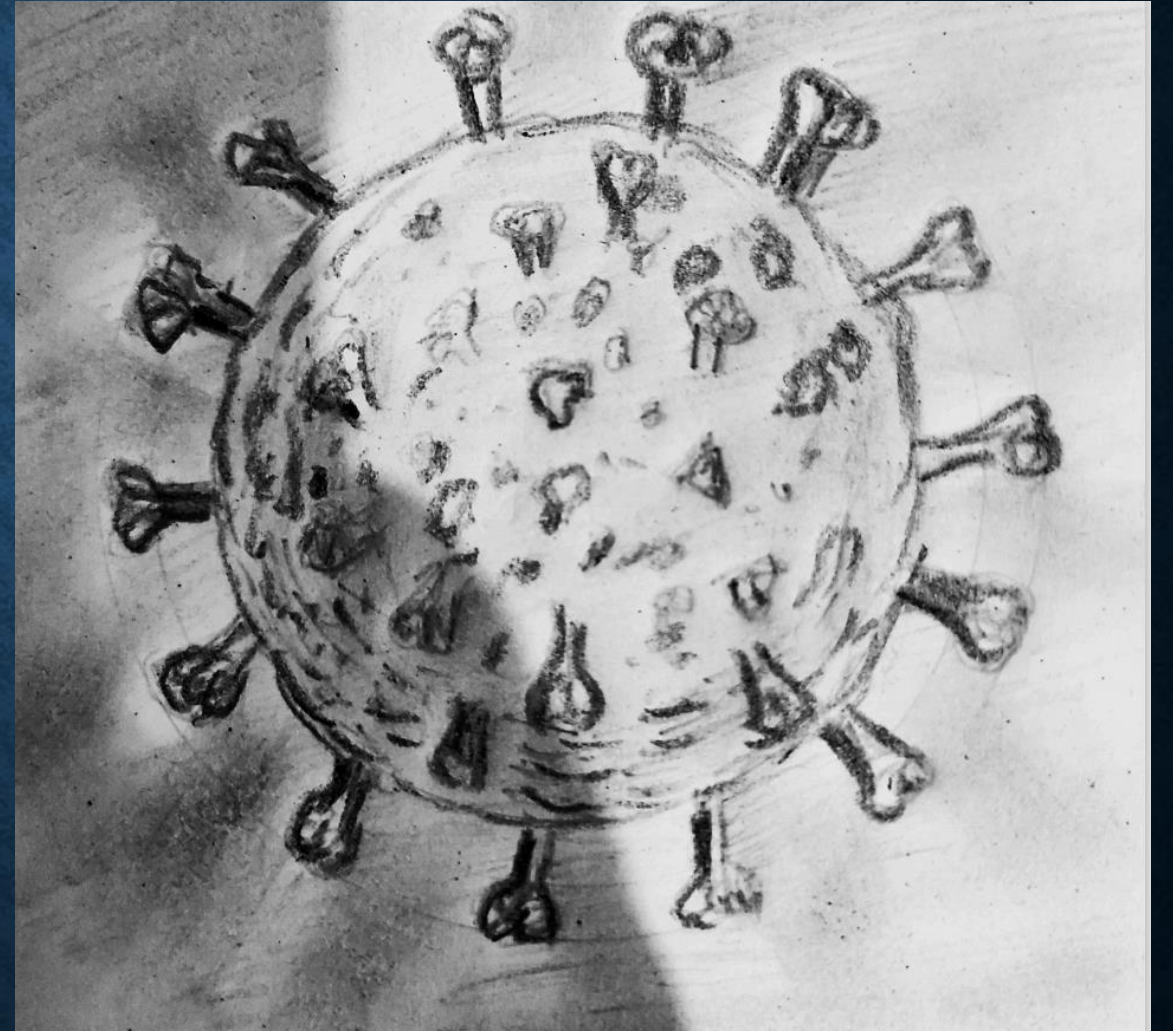
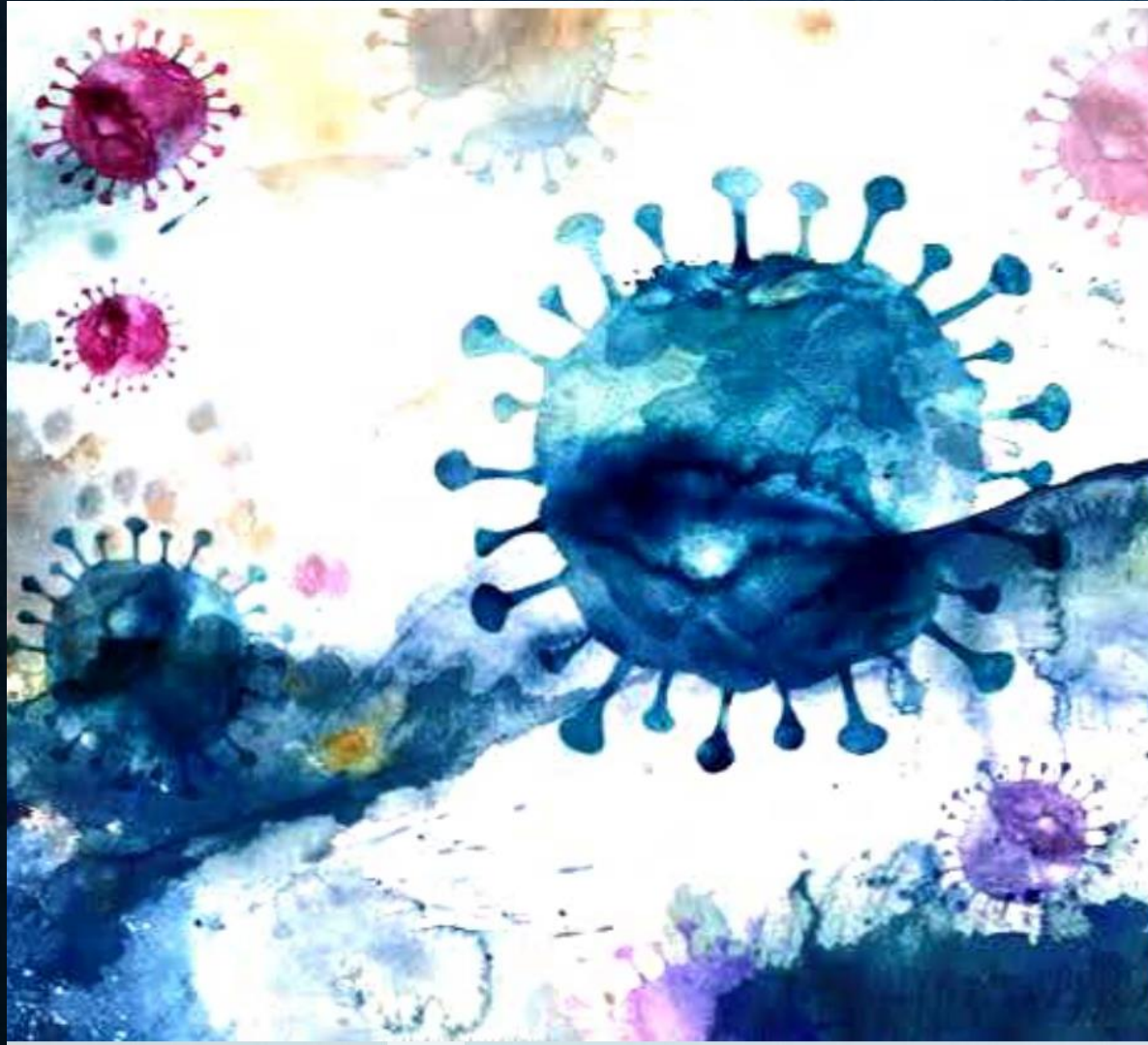
Nature has its own resilience power, It has become stringent to heal itself.

History

- COVID 19 first came to news on 31st December 2019 and was temporarily known as "2019 -nCoV".
- The World Health Organization declared the outbreak a public health emergency of international concern on 30th January 2020 and a pandemic on 11th March 2020

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Corona Virus



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Some effects:

- The catastrophe has affected the normal functioning of society in terms of economy in terms of lifestyle, social , political and health related consequences.
- Lockdowns throughout countries have forced us to stay locked inside our homes while the animals and the nature enjoys freedom. In our absence nature has started rejuvenating itself.
- Pollution levels have decreased in several parts of the world. Several Animals' habitat has been restored.
- Thus, the onset of COVID 19 is showing us the impact of us humans on the world by creating a contrast without our presence and activity.
- It is helping us humans to understand what good we can do to our environment with a little bit of effort.

BEFORE



AFTER



- Improvement in the quality of air after Covid 19 lockdowns.



- **Positive Effect of Covid 19 on the Environment.**

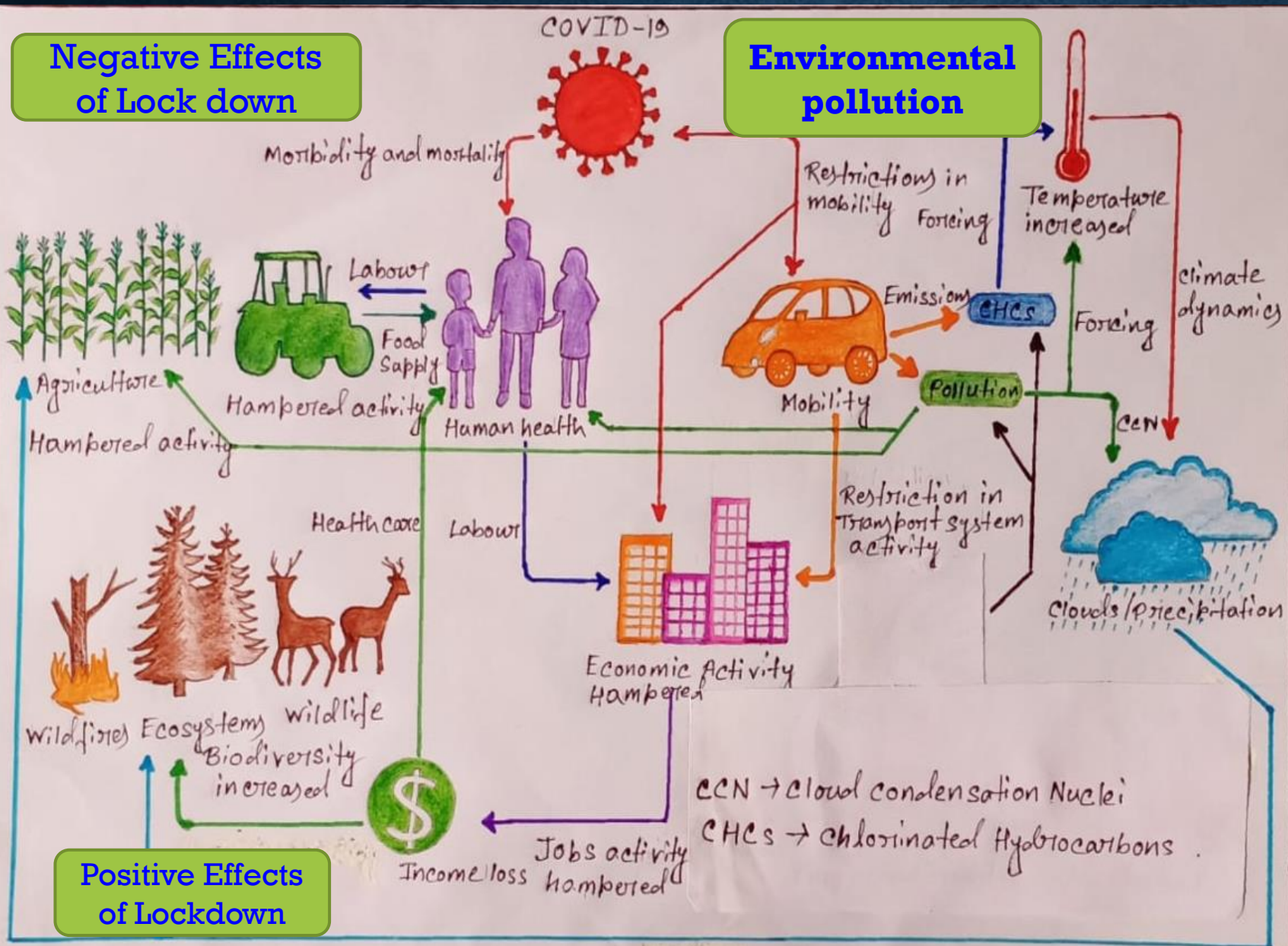


- **India Gate after the Air pollution level started to drop during nation wide coronavirus lockdown.**



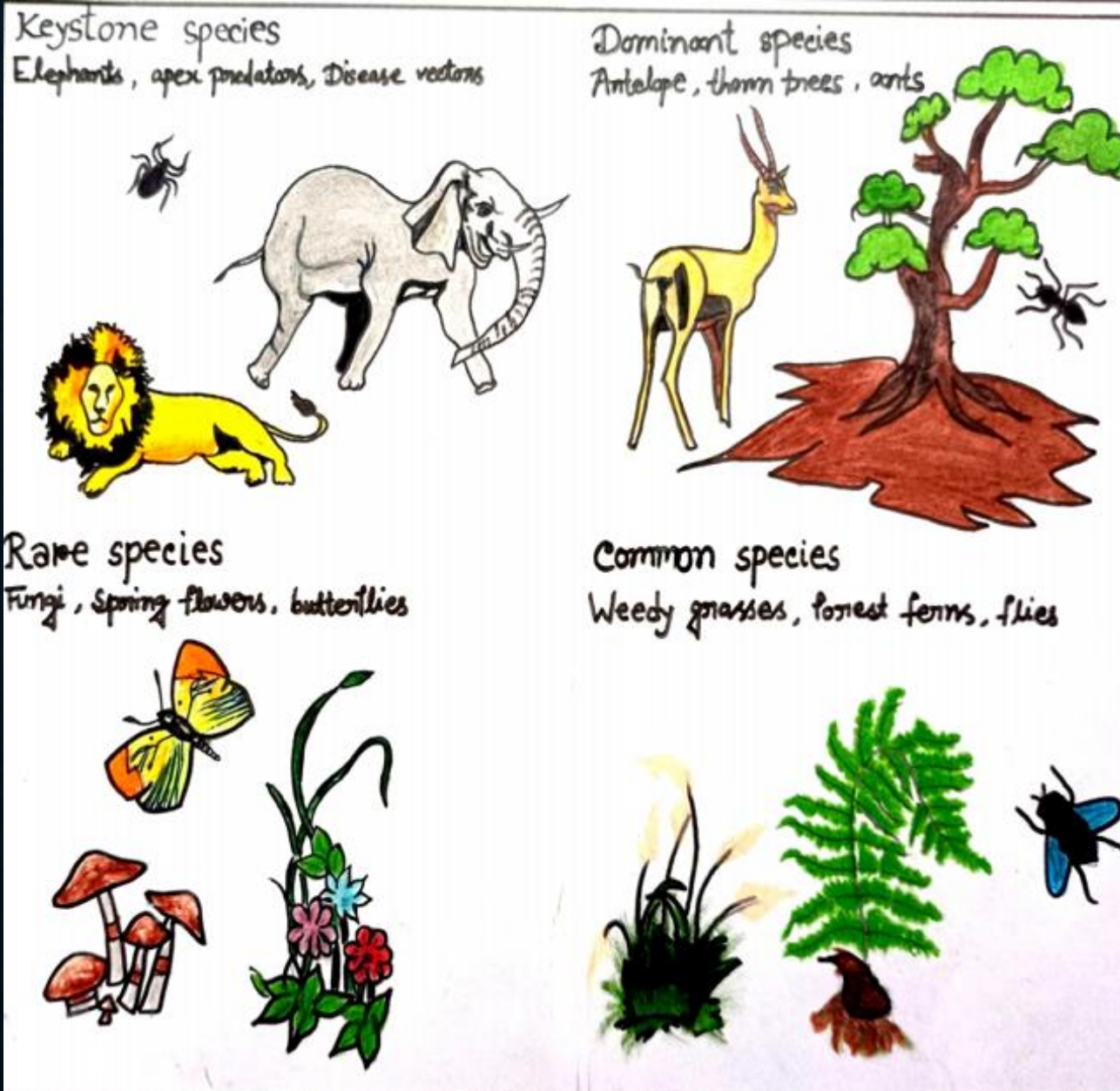
- **River Ganga has been polluted due to input of domestic sewage and agricultural runoff.**

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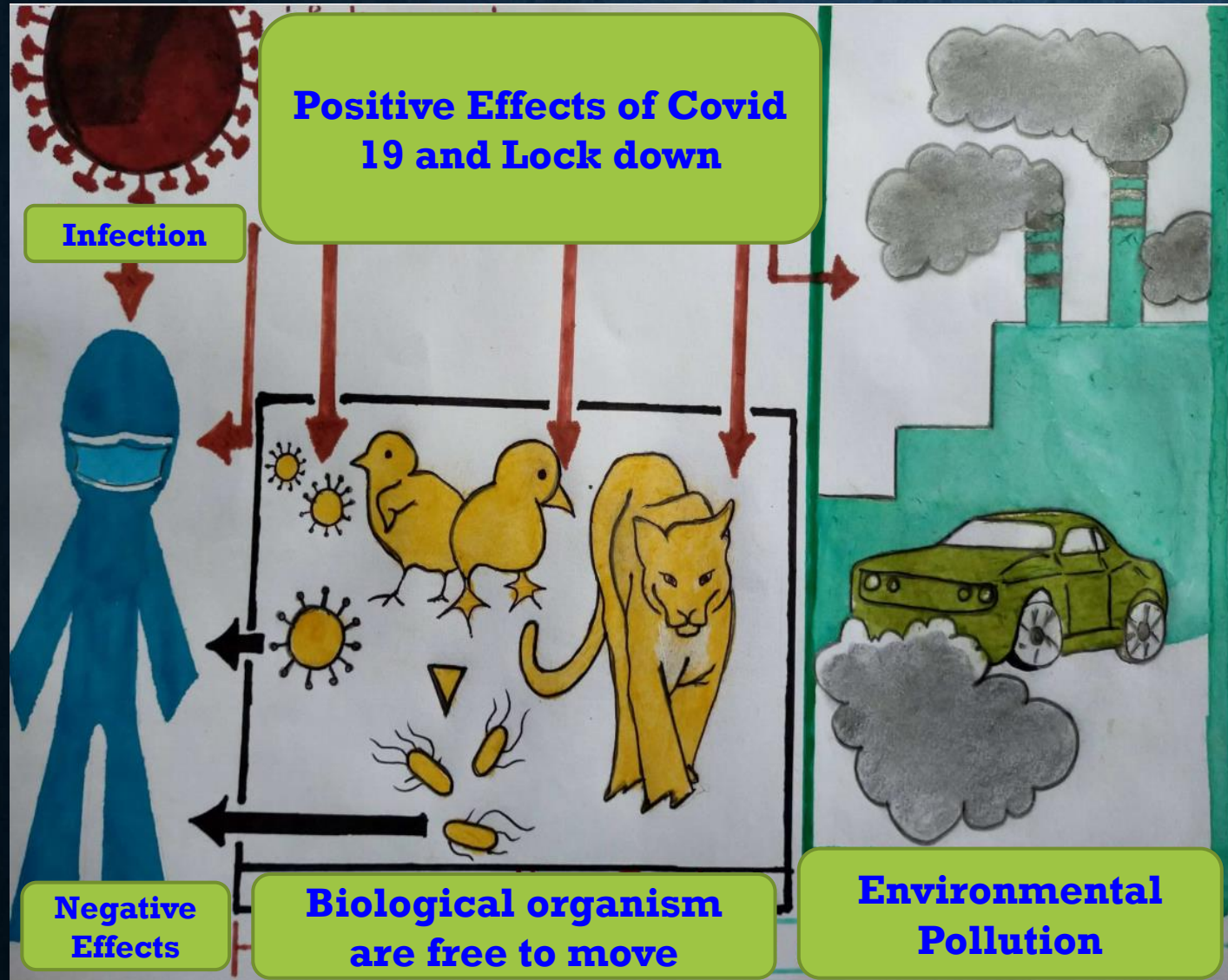
- **Covid 19 has many positive and Negative Effects.**

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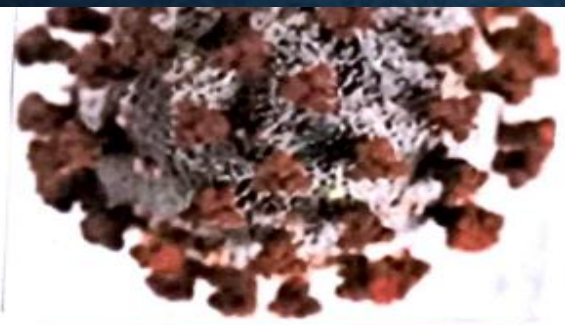


- Positive impact of Covid 19 on biological organisms

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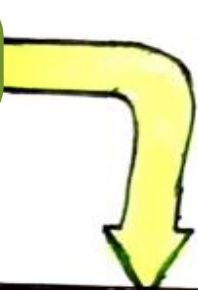
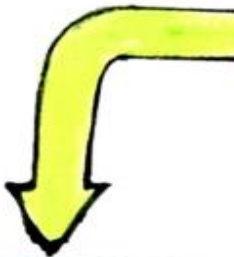
- Before Covid 19 environmental pollution has increased. After the onset of Covid 19 outbreak, prolonged compelled lockdown causes rapid positive changes in environmental condition and increased in biological organisms, but at the same time human may be affected by this infection also.



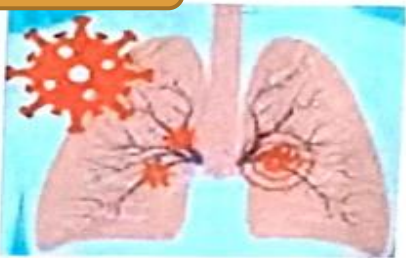
SARS CoV 2



Lockdown

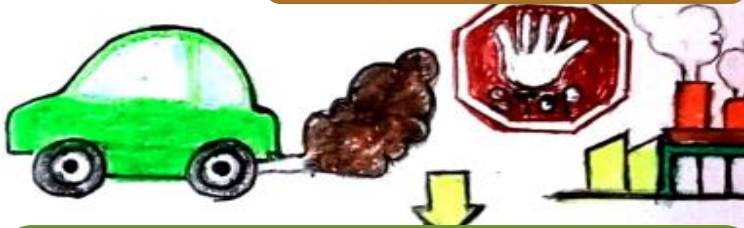


Negative Effects



- **Global health hampered**
 - **Economy loss**
- **Reduction in Waste Recycling**

Positive Effects



- **Clean Beaches**
- **Decline in air pollution**
- **Decline in Nitrogen dioxide concentration**
- **Reduction in Environmental Noise**

• **Positive and Negative impacts of Covid 19 in our lives.**

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Some Changes to the environment which have been observed are:

- **Scientists have analyzed daily geo chemical record of Ganga River and expresses that reduced industrial discharge during 51 days of mandated nationwide lockdown decreased the dissolved heavy metal concentration by a minimum of 50 percent**

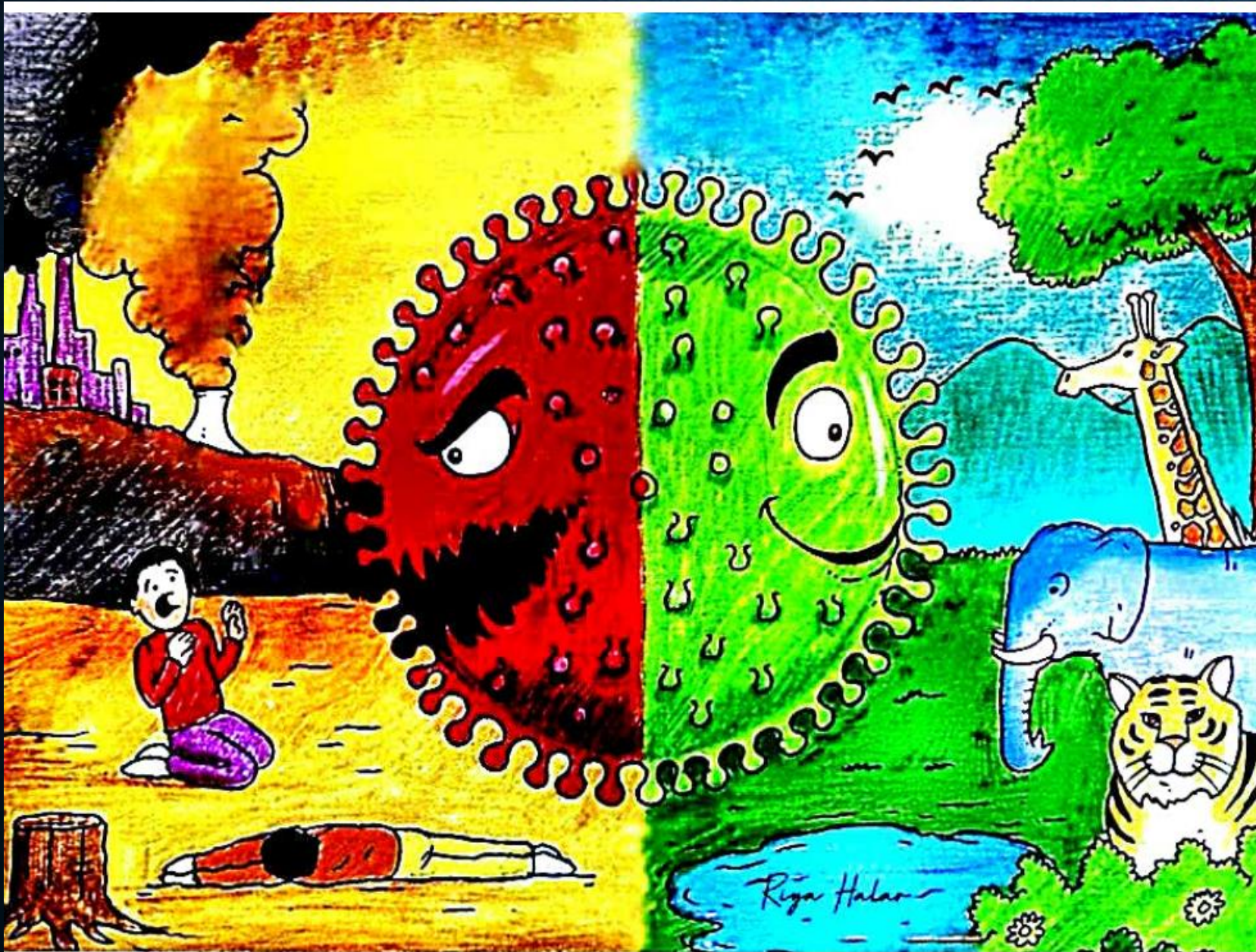
.....India News (8th February , 2021)

- **Overall AQI of Delhi NCR region improved by 58% and came under satisfactory level during lockdown. Consistent and significant reduction observed in other pollutants such as So₂, CO, NH₃, and C₆H₆.**

..... science Direct (19th February, 2021)

- **Many air pollutants such as PM 2.5, PM 10, NO₂, SO₂, CO and CO₂ reduced up to 30% within 2-4 weeks of lockdown. It's optimistic for biodiversity as elevated CO_x, NO_x, SO₂, and other pollutants affect plants, insect, bird and mammals.**

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- The Effects of Covid 19 on human and Environment

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- There is a significant decrease in noise pollution. This sound affect anatomical and morphological development, physiology and behavior in invertebrates and vertebrates species in terrestrial and aquatic ecosystems. (Science direct ; 23rd April, 2020).
- Gangetic dolphins appeared after 175 years in Kolkata (Hooghly). News 18.com (22nd April, 2020).

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- A line blue butterfly commonly known as Ramasamy's six line blue (*Nacaduba sinhala ramaswamii*), found in 45 kilometers from Madurai. This is a line blue butterfly belonging to the family Lycaenidae, have heart shaped or well-rounded wings and chevron shaped spots.



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- *Oryctopterus yeswanthi* , **monster cricket** belongs to the family *stenopelmatidae* has been found.
- *Prometopidua joshimathensis* , moth has discovered a town in stretches of Uttarakhand .



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- For the first time in India researchers spotted a new finch species of bird in Coniferous forests of Arunachal Pradesh at the Sela Pass , between the Tawang and west Kameng districts by a team of researchers from the Bombay Natural History and called the three banded rose finch . Both male and female species of this birds are found in Arunachal Pradesh.

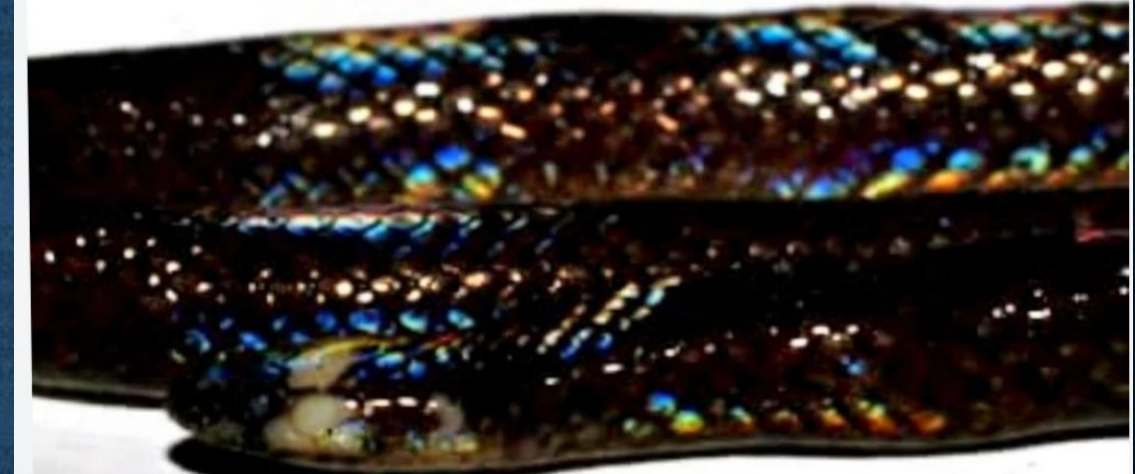


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- **This year a new species of green pit viper *Trimeresurus salazar* was found in the forests of Western Arunachal Pradesh by researchers of the national centre of biological science of Bangalore, India .**

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- **Scientists have discovered a new species of snake called *Levitonius mirus*. The snakes have long narrow skull are highly iridescent . They are of 6•7 inches in length.**



BIODIVERSITY NEAR
NABADWIP, SAMUDRAGARH,
TEHATTA, PURBOSTHOLI &
KRISHNANAGAR



Anisptera (Samudragarh)



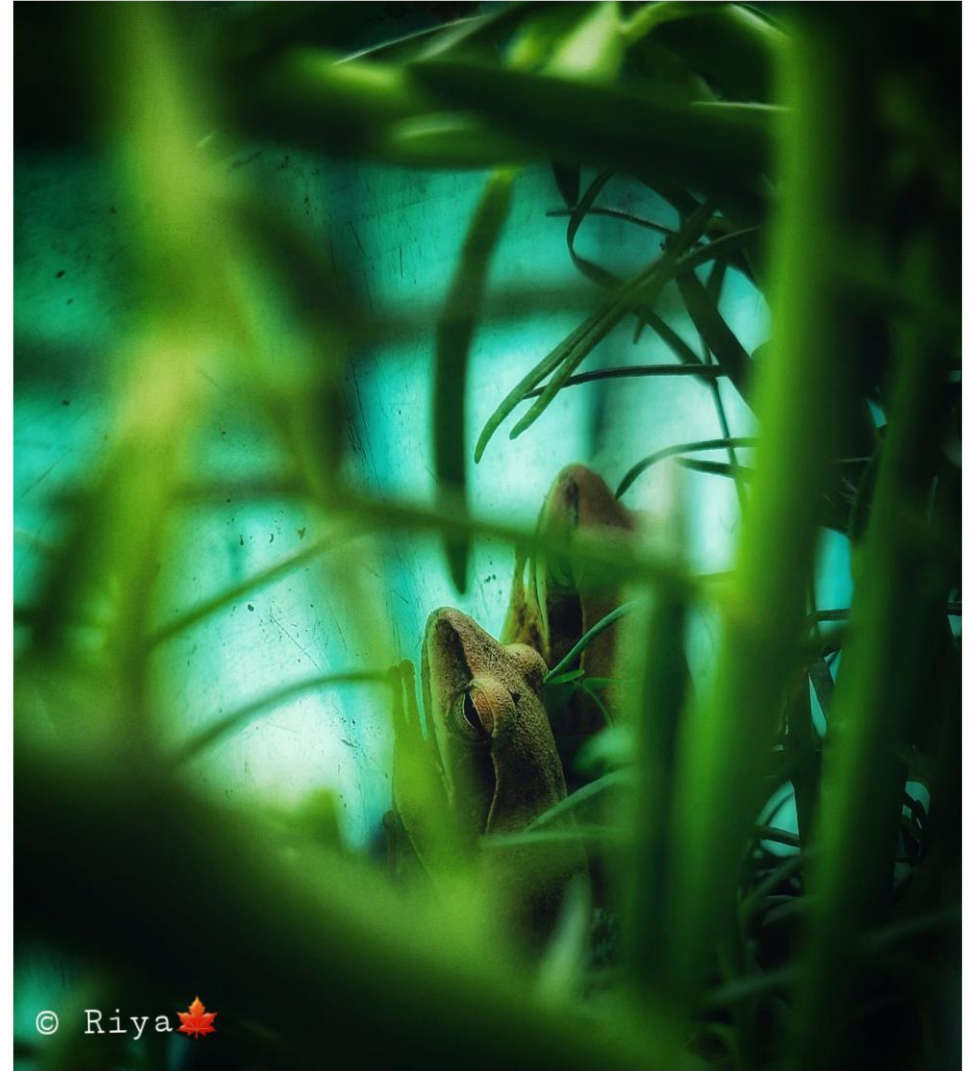
Cratilla (Samudragarh)



*Black and white Lady bug
(Samudragarh)*



*A fungi, Kolba,
Samudragarh*



Tree Frog (Samudragarh)

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Hypolimnas bolina, Samudragarh



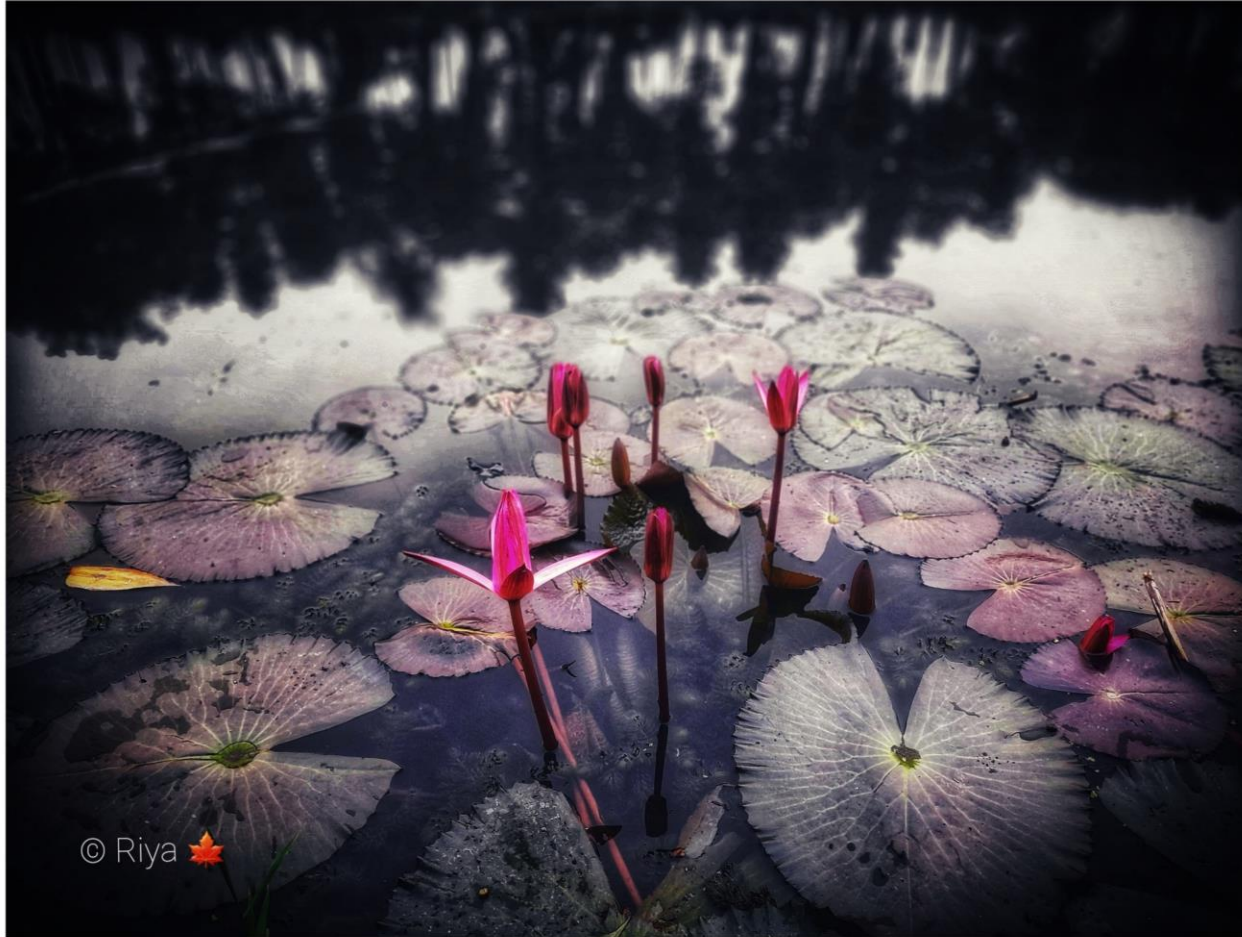
Junonia almana, Samudragarh



- **Floral Diversity**

Mahek

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Nymphaea pubescens (Kobla, Samudragarh)



Delonix regia
(Krishnanagar)

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- Gifts of pure nature by Covid 19

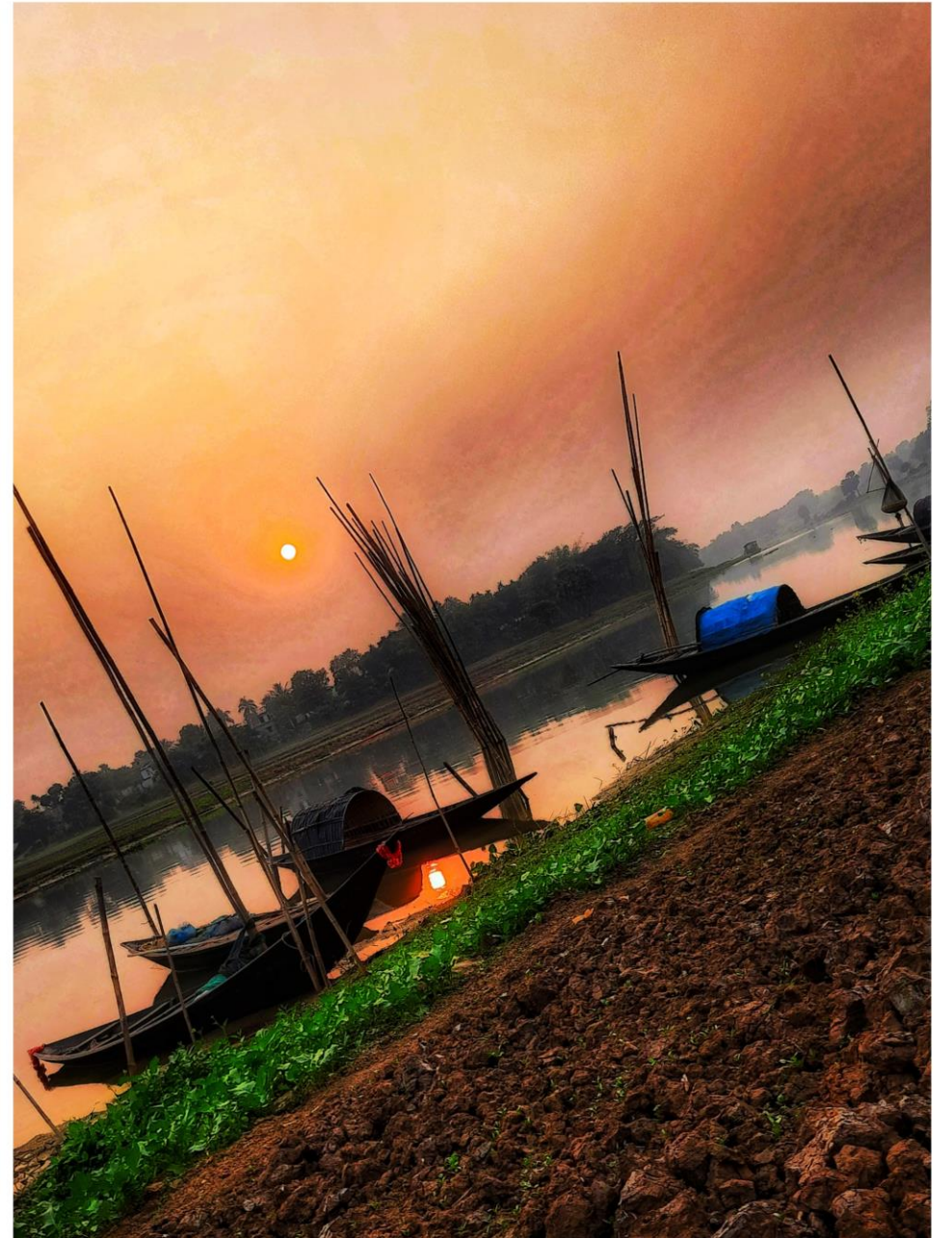


Subha
River Ganga , Nabadwip and its near by area





Nature Rejuvenating itself



A plant biodiversity near Nabadwip



A animal biodiversity near Nabadwip



Covid 19 and its impact on Biodiversity



Covid 19 and its impact on Biodiversity



Subha

- **Nature healing itself**

Covid 19 and its impact on Biodiversity



Subha

Covid 19 and its impact on Biodiversity

A new hope for Nature to heal itself.



CONCLSION:

The COVID 19 Pandemic has affected people throughout the world. It has primarily affected the economic , sociopolitical, educational and healthcare systems throughout. People have fallen ill, suffered, watch their loved ones pass away. Indeed it has been very painful for many us. However due to government imposed lockdowns and limited socio-economic activities for months, people have been forced into their homes. The result of which was Nature got a slight chance to rejuvenate itself. We could suddenly see a prosperous nature by observing clear skies, clear water bodies, wild animals carefreely taking to the deserted streets, skies and waterbodies. Thus It shows us what just a few months of human environment control can do to the nature. If we humans start to act a bit more consciously towards nature we can greatly improve it to a great extent. Thus COVID -19 pandemic has surely been a very painful thorn in the recent human history however on the positive side it forced us to see the benefits we can do to nature by limiting our socioeconomic activities to some extent. We humans are a product of nature. If we take care of it we can greatly improve our lives as well as countless other organisms coexisting with us.

Sources:

- <https://www.thehindu.com/sci-tech/energy-and-environment/new-insect-species-discovered-in-india-in-2021/article34735508.ece>.
- <https://nenow.in/north-east-news/arunachal-pradesh/for-the-first-time-in-india-new-bird-species-spotted-in-arunachal-pradesh.htm>
- <https://www.news18.com/news/buzz/scientists-discover-new-species-of-snake-about-the-size-of-a-pencil-hiding-in-plain-sight-3218627.html>.

Thank you

श्रीगणेशाय नमः



श्रीगणेशाय नमः