

The Global Lockdown: Some Thoughts on a Potential Policy Solution to Climate Change and Other Environmental Challenges

Ugbede Victor Ahiaba *

Department of Agricultural and Environmental Engineering, University of Agriculture, Makurdi, Nigeria

*Corresponding author: dr.ahiaba@gmail.com

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Abstract The COVID-19 pandemic resulted in a lockdown across the continents and many countries around the world. In the course of the lockdown that lasted fully for some weeks, NASA and other reports had shown that there was a dramatic reduction in pollution in China, India and Italy, especially the reduction of nitrogen oxide in the atmosphere. In this piece, it is thought that lockdown should be enshrined in global environmental protection agreement such as the Paris Agreement, to serve as a preventive alternative rather than as a defensive approach to stop a pandemic or an environmental emergency. A minimum of 40 days global lockdown in every 30 years has been suggested.

Keywords: lockdown, COVID-19 disease, environment, pollution, control, climate change

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1. Introduction

The environment, as we know it, constitutes the natural world which serves as the habitat for humans, animals, and diverse plant species. The interactions among humans and humans to animals and vice-versa is the most common routes through which disease outbreaks and global pandemics could emerge. Also, human activities such as industrial production of coals and petrochemicals, farming, and various other constructions, are the chief cause of environmental pollutions.

When the resultant disease(s) from human-human and human-animal interactions collide with the pollutions from day-to-day activities of humans within the environment, the result could be an environmental catastrophe.

In 2019, the world started a grand journey to a modern economic standstill following a virus that was ostensibly believed to have originated from a meat market in Wuhan, China. This eventually culminated in a pandemic, a global plague that is currently affecting all the continents of the world. Technically, a plague can be argued to be the most pathogen-related death imaginable [1]. The deadliest pandemic in the history of humankind is the 14th century Black Death or The Plague that claimed the lives of an estimated 75 to 200 million Europeans [2,3]. The 1918 Spanish flu, HIV/AIDS in 1987, the H1N1 (in 2009) are others worthy of note. In recent times, the COVID-19 of 2019 has made its mark in the history of pandemics.

Pollution, on the other hand, has been a debate among scholars, businesses, and environmental activists around

the world. Notable among the activists is the teenager from Sweden called Greta Tintin Eleonora Ernman Thunberg and others from around the world. There are, however, some conflicts of interest from what should be considered a priority over another. To businesses involved in coal mining, petroleum, and natural gasses and those that rely on their products, it is the economic benefits before any other factor. To some environmental professionals, activists, and enthusiasts, there has to be a habitable earth before the economic benefits can be beneficial in real terms.

These conflicts are there to the view of the public despite the various world leaders pledging support to reduce the carbon print of their respective countries. This started globally from the so-called Paris Agreement in 2015 (adopted in consensus) and signed in 2016. Many scientists, politicians, and leaders of various countries and organisations think that the world is at a brink of environmental catastrophe, to the tune of ending the earth. Some others believed that climate change and the perceived environmental disaster are an exaggeration. It was not long after the Paris Agreement that the United States pulled out of it, potentially weakening the agreement, especially in terms of funding.

2. Why Should We Care About Global Warming?

To simply put, global warming is the rise in temperature of the earth, as evidence from direct measurement over time. Between the years 1880 and 2020,

the global temperature has been fluctuating. A rise of 0.98°C has been established as of May 2020 by The National Aeronautics and Space Administration - NASA (NASA, 2020), as shown in Figure 1. The rise in temperature is believed to be a direct result of industrial, transportation, agricultural activities and others, releasing greenhouse gasses into the atmosphere. The greenhouse gasses are gases that cause a greenhouse effect. The greenhouse effect is the trapping of the sun's heat and radiation in the earth's lower portion of the atmosphere. Chief among the gases are carbon dioxide (CO_2) and chlorofluorocarbons (CFC) and Nitrogen oxide (NO_2).

GLOBAL LAND-OCEAN TEMPERATURE INDEX

Data source: NASA's Goddard Institute for Space Studies (GISS).

Credit: NASA/GISS

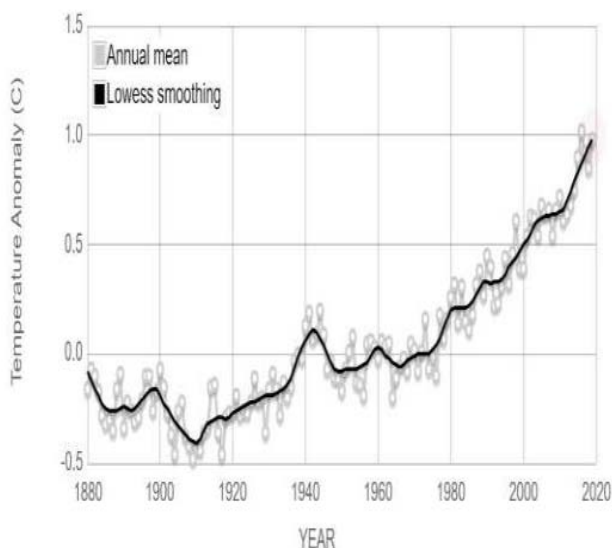


Figure 1. Global land-ocean temperature index (Source: [4])

While the CFC depletes the ozone layers, hence allowing direct visible solar radiation on earth that could have been shielded by the ozone layer, the CO_2 is a heat carrier, trapping the sun's heat in the air around us. With increased CO_2 in the air, the atmospheric temperature of the earth's air increases, since CO_2 is a part of the air around us (though tiny in quantity). The NO_2 reduces visibility as shoots block the clear skies.

It is apparent from the simplified explanation that climate change is an ongoing build-up of gasses that could potentially cause serious environmental problems that could render the earth uninhabitable.

Should humanity panic? Yes and no. Yes, because, if the earth's temperature keeps rising, even though it is still less than 1°C since 1880, the rise is enormous enough to cause bacteria to grow exponentially. When this happens, the chances of another pandemic increases, crop disease may arise, and food shortage may occur. Also, the rise may cause the ice caps in the polar region of the earth to melt quickly enough to cause a rise in sea volume and an eventual flooding of the lowlands.

On the other hand, humanity should not panic. The experience gathered from the global lockdown in response

to the COVID-19 has shown that a voluntary reduction or stoppage of industrial and vehicular movements could quickly allow the earth to "heal" up the wounds inflicted on it by the activities of humankind.

Current available solutions to contain climate change and other environmental challenges include:

- The call for energy shift, aiming to "kill the fire to end the smoke". There must be change of energy from fossil fuels to the cleaner, reusable energy sources such as solar energy and battery technology in electric cars, airplanes, and power generating units.
- The planting of more trees to use up quickly all excess CO_2 in the atmosphere at a rate that could potentially stabilize or reduce the rise in temperature is another.

3. The Global Lockdown: New Policy Approach to Solving both Real and Perceived Environmental Catastrophe

What happens if humanity is unable to keep the earth temperature down, and all the potential projected problems begin to surface? That is where this study comes in, proposing a lockdown when needed - just for the earth to have time to clean up quickly.

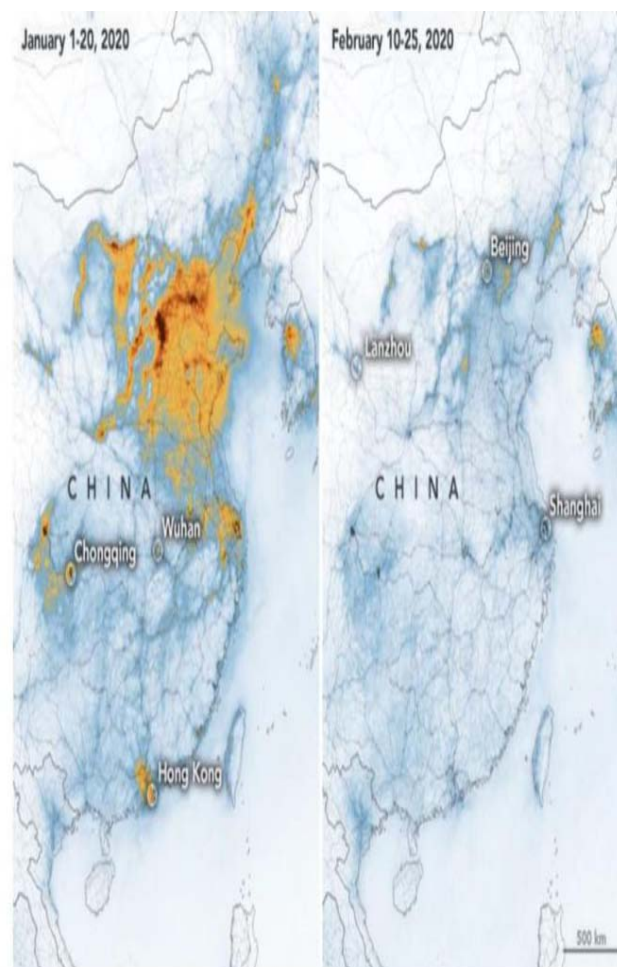


Figure 2. China's air pollution in January 2020 (left) and February (right) 2020 (Source: [6])

What is the lockdown policy about? The National Aeronautics and Space Administration (NASA) has provided pieces of evidence from China that the lockdown has resulted in environmental cleaning. Other reporters have shown that some countries have improved significantly in terms of pollution reduction. In just about 40 days of lockdown, as shown in Figure 2, the air pollution in China improved significantly [5].

According to Nace (2020), NASA scientists were astonished about the sudden improvement, describing the reduction in pollution as dramatic. In comparison, “the drop in NO₂ is more significant and rapid than during the 2008 recession and during the Beijing 2008 Olympics”.

Similarly, Figure 3 shows the air pollution in Wuhan (the epicentre of the COVID-19) in China at the same time in 2019 and a year later.

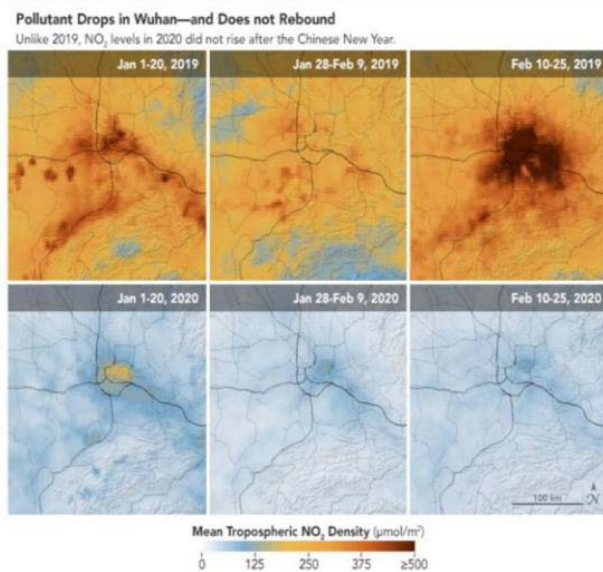


Figure 3. Air pollution in Wuhan at the same time in 2019 and 2020. Above is before, below is after (Source: [6])



Figure 4. Milan Italy before (above) and after (below) (Source: [6])



Figure 5. India as seen from the Yamuna River - before (above), and after (below) (Source: [1])

Figure 4 and Figure 5 show the improvement of air quality in Milan, Italy and that of New Delhi, India. According to Hoeller (2020), Milan, just like India, to Asia, is one of the most polluted cities in Europe. It can be deduced from these pictures that enacting a global lockdown to combat climate change has high potentials in combating the forces behind climate change.

4. Key Elements of the Proposed Global Lockdown Policy against Pollution and Climate Change

Base on the evidence provided by NASA and other reporters mentioned, key elements must be kept within the proposed global lockdown policy as suggested below:

- Lockdown should serve as a preventive exercise against global warming/climate change rather than as a defensive approach to combat an outbreak - health or environmental.
- The lockdown should take place either with or without any pollution or disease outbreak, every 30 years or a generation.
- The lockdown must last 40 days globally - just about the length of time it took Wuhan - China, New Delhi, India and Milan, Italy, to significantly recover from the NO₂ and other environmental pollutions during the lockdown.
- All vehicular movements and industrial activities must be brought to a complete halt except for critical services. Only electric vehicles should be used by essential services during the lockdown.
- The planned lockdown should take place during the hottest periods of the year as evidence has shown that hot a slightly high temperature kills the COVID-19.
- A localised lockdown can be adopted to deal with any observed negative trend in a locality, even within the 30 years or when there is a need for it.

- g Human rights must be respected throughout the lockdown. The government of each country must bail all economic activities on crucial areas that deal with food, healthcare, insurance, rent, and mortgages.
- j. Defaulters of the weeks of lockdown must be severely punished irrespective of who may be involved.
- k. The Lockdown must be adopted by the world leaders, in a modified Paris Agreement.
- l. There must be strict global regulations preventing unnecessary experiments with bacteria and viruses, especially where genetic modification is required.

pollutions, and not only as a defensive approach against an outbreak. Pieces of evidence provided and observed during the lockdown have shown a significant improvement in the pollution level of major polluted cities around the world like Wuhan - China, New Delhi -India and Milan, Italy. It is therefore concluded that world leaders should adopt this protective approach to combat not only pandemics, but also environmental pollutions. In every 30 years, the lockdown of 40 days must be observed. A modified Paris Agreement is required, to include deliberate global lockdown strategies suggested.

5. Benefits of the Proposed Global Lockdown Policy

- 1. It can prevent potential outbreaks from developing.
- 2. The lockdown can be the period of compulsory rest for the people. This rest can improve the wellbeing of people around the world with work-related stress. The lockdown can create an unusual moment to rest and plan.
- 3. The earth is not docile - it is continuously working to neutralise toxins in the ecosystem, but the lockdown could fasten up the healing processes.

6. Conclusion

The ongoing global lockdown can be the type of preventive measure we require against environmental

References

- [1] DeLeo, F. & Hinnebusch, B. "A plague upon the phagocytes", *Nature Medicine* 11, 927-928, 2005.
- [2] Perry, R.D. & Fetherston, J.D. "Yersinia pestis-- etiologic agent of plague", *Clinical Microbiology Reviews* 10, 35-66 (1997).
- [3] Gould, S.J., "Allometry And Size in Ontogeny and Phylogeny", *Biological Review, Cambridge Philosophical Society*, 1966.
- [4] NASA, "Global temperature" - Available at <https://climate.nasa.gov/vital-signs/global-temperature/>, 2020.
- [5] Nace, T., "Coronavirus: NASA reveals how china's lockdown drastically reduced pollution", 2020. Available at <https://www.forbes.com/sites/trevornace/2020/03/03/coronavirus-nasa-reveals-how-cinas-lockdown-dramatically-reduced-pollution/#3b2b85c62a75>
- [6] Hoeller, S., "Before-and-after photos show the dramatic effect lockdowns are having on pollution around the world", Available at <https://www.businessinsider.com.au/before-after-photos-show-less-air-pollution-during-pandemic-lockdown-2020-4>.



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