(Draft)

Preliminary Research Report

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On

Covid-19 Pandemic: The Nature's Two Agendas

By

Narong Sinsawasdi, Ph.D. (Political Science, the University of Hawaii)

(Former President, South-East Asia University, Bangkok)

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Content

Forewords

In the first place, this book is meant for the benefit of mankind as a whole. This work is an offshoot of my book "Souls and the Universe: A Scientific Inquiry" and its revised version, "Nuclear War: Souls & the Universe Approach", published in 2001 and 2018 respectively (see www.wisdomns.com). The main theme of both books is about the role of nature in human destiny.

This is the preliminary report of my research on Covid-19 pandemic. At the time of the finish of this preliminary report, at the end of 2020, the pandemic is still spreading ragingly around the world – with a lot of uncertainty of what will happen in the following years.

I hurriedly publish this work mainly because, based on conclusions from the research,medical measuresincluding vaccination, to deal with this pandemic are not enough. I want this message is known to the whole world as soon as possible. Problems of displaced persons and global warming have to be dealt with rigorously along with medical measures. I want this message to be known by the whole world as soon as possible.

Everyone has more or less suffered from the effect of this pandemic. Everyone can also take part in solving these two problems, individually or in the name of one's country. Suggestions of additional measures to deal with the pandemic, aside from medical ones, are in Part V. of this report.

I apologize in advance for typing errors and possible minor mistakes in the presentation of data. Heartfelt thanks are for all the sources used in this research, especially Wikipedia. Last but not least is the Google Search Engine which make it possible to finish the preliminary findings in a much faster time possible.

Dr. Narong Sinsawasdi
Bangkok, Thailand
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Part I
Introduction

1.1 The COVID-19 pandemic

The outbreak of coronavirus disease 2019 or COVID-19 was first identified in the city of Wuhan, China, in December 2019. The disease spread so fast to other parts of China, and to many countries and territories. COVID-19 spread much faster than 2003 SARS outbreak. Scientist have discovered that COVID-19 virus is the mutation of SARS virus. It is less deadly in term of death rates of infected persons. However, it is much more capable to spread than the SARS virus. The ability to spread even before the infected person showing symptom is the main difference.

The outbreak of COVID-19, in the span of less than a year has greatly affected many aspects of peoples all over the world. Travel industry for example was affected heavily as the number of tourists sharply decreased. Airports were relatively empty comparing to the time before the outbreak. Airlines loss was estimated to be more than $US100 billion. Automobile industry saw the sharp decline in output. Schools and university were closed. Sport activities were postponed or scrapped. Regular religious and social gatherings were discouraged if not banned. In all, COVID-19 had disrupted the lives of great number of people around the world at the extent that we have not experienced before. The effects of the COVID-19 pandemic on states and their peoples may be classified into three main dimensions:

1. Economic problems Especially the problems with income sources and shortages of material supplies.
2. Disruption of normal daily life Especially in term of social gatherings, schooling, traveling withing a country, international traveling, entertainments, religious and cultural events.
3. The fear of living in danger and uncertainty of the future.

Many millions of peoples were infected with the Covid-19 virus. A large number died from the infection. After many months of the pandemic, the medical treatment in term of medicines for curing and the vaccine for the immunization from the virus have not been satisfactorily established, and Covid-19 is still infecting more people in countries and territory around the world. By the second week of November 2020, vaccines have been successfully tested in at least three countries, China, Russia, and the United States. Still there are still some doubts about the effectiveness of the vaccines. Most important of all is the worry that some of the Covid-19 virus may mutate into the new strains which can make the already produced vaccines ineffective.

1.2 Purposes of this report

1) ***to explain, with supporting empirical evidence, that the Covid-19 pandemic and the trauma it brings to mankind is a natural phenomenon that did not occur randomly. The Covid-19 virus is a subtle design of nature with specific purposes which relate to two major problems facing mankind at the start of the pandemic: 1) suffering of displaced persons 2) global warming.***
2) ***To suggest additional measures to cope with the Covid-19 pandemic, aside from medical measures, which have been carried out since the outbreak of the pandemic.***

1.3 A scientific research

This report is from the author's independent research concerning the causes and effect of the Covid-19 pandemic. The research *is based on empirical data and reasoning. Empirical data are 1) observation of individual human beings 2) related events of international relations in the past. Therefore, it can be considered a scientific inference.*

At the time of this preliminary report is made, the third week of December, 2020, the Covid-19 pandemic is still spreading ragingly around the world. This means that the research has not been completed. However, because the widespread suffering of mankind from this pandemic, the author of this report considers that the preliminary findings should help to mitigate the effect of the pandemic.

Part II
Two Types of Nature's Intervention in the destiny of a nation

I have been interested to investigate how nature intervenes in the destiny of human being, both on the individual basis and collective basis, for a long time. The testimony of my interests in this realm are my two writings:

1) *The book,* ***"Souls and the Universe: A Scientific Inquiry****". This book was first published in Thai language in 1997. The English version in came out in 2001.this book is now available in e-book at Google Play Books. See especially chapter 8,9, and 11.*
2) The book, **"Nuclear War: Souls & the Universe Approach".** This is the revised version of the first book published in 2018, with additional 47 pages of "2018 forewords" and 29 pages added to the last part of the book. This book is now available in e-book at www.mebmarket.com.

An investigationinto the history of mankind indicates that nature will sometimes intervene, in a very large scale, in the destiny of human beings. A large-scale intervention of nature may affect millions of people in one or more countries at a time. There are at least two main types of interventions:

1) **To stop a catastrophic behavior of human beings**
2) **To inflict suffering to some people for Immoral actions**

The investigation that nature sometimes intervene in the destiny of human beings is based on empirical data and reasoning. Empirical data are 1) observation of individual human beings 2) significant events in the past. Therefore, I consider this conclusion as a scientific inference.

Some well-known events in the history will help to explain how nature had intervened in human destiny in the two types of nature intervention

2.1 Type I of nature's intervention: To inflict suffering for the state immoral action

A state immoral action is an action which the state and its people do not want other states to do to them. When there are immoral actions committed by a state, or a group of states especially the very powerful states, that cause suffering to peoples in other states, or cause suffering to the minority within the committing state, nature will bring corresponding effects to

the leaders and people of the committing state or group of states. Immoral action included the apathy of the third state and its people, that does not collaborate in the immoral action, but does not voice their opposition to that immoral action, or come to help victims of that immoral action even though they can do something which can more or less constrain the immoral action. Intervention by nature may occur many years after the immoral actions which make it difficult for human beings to realize the connection between the stateimmoral action and relevant intervention of nature.

2.1.1 Example I: The Vesuvius eruption and the destruction of Pompeii, 79AD

Roman military was invincible during the first few centuries AD. On August 24, 79 AD., there was an eruption of Mount Vesuvius. Ash and debris from the volcano and quickly covered Pompeii and Herculaneum. Pompeii was about 8 kilometers from Mount Vesuvius and was a prosperous city of the Roman Empire. The population of the two cities combined were about 20,000. The two cities would be covered and forgotten until the 18th century when they were accidentally discovered. The city was identified as Pompeii in August 1763. It was not known how many people of these two cities died from the eruption. More than 1,000 death bodies have been discovered from these two cities.

Nine years earlier in 70 AD., Jerusalem, the capital city of the Jewish Kingdom of Judea. was completely destroyed by Roman troops. In the first century AD, this kingdom was a tributary state of the Roman Empire. There were a lot of Romans and Greeks lived in Jerusalem. In 66 AD, Jews of Jerusalem revolted against the Romans. About 6,000 Romans and Greeks in the city were killed. Rome sent troops to siege the city in 70 AD. The siege began I April and ended in August. Once they took hold of the city, the Romans demolished the city, including the Jew most sacred temple constructed since 516 BC. A lot of Jews were killed and 97,000 were enslaved. Thousands of them were forced to be gladiators.

2.1.2 Example II: The typhoon that destroyed the Mongol Fleet in August 1281

The Mongols in 12th and 13th centuries were invincible. After conquering many powerful states including China and Baghdad, they wanted to invade Japan. In autumn of 1274, they sent a fleet of 800-900 ships carrying 30,000-40,000 to attack Japanese islands. The Japanese put up fierce fighting. While the Mongol fleets were stationing off the Hakata Bay of the Kyushu Islands, a typhoon hit the fleet. About one third of ships were destroyed and an estimated 13,000 soldiers drowned. The Mongols had to withdrew their remaining fleet to China. In 1281, the Mongols sent the fleet of about 4,000 ships and about 140,000 soldiers to attack Japanese islands again. Their fleet arrived in Japan in June 1281. On August 15, a huge typhoon stuck the fleet. It was estimated that 60 to 90 percent of the Mongol soldiers died. The Mongols withdrew and never tried to attack Japan again.[2]

2.1.3 World War II and the independence of former colonies of major powers

In 1945, the year which WWII ended, there were four countries in Africa, which were independent countries. They were Egypt, Ethiopia, Liberia, and South Africa. In 2020, there were 55 independent countries in African continent who are the member of the African Union. The major Western countries that used to have colonies in Africa were Great Britain, France, Portugal, Italy, and Belgium. In South-East Asia, there is the Association of Southeast Asian nations (ASEAN) comprised of 10 Southeast Asian countries. All of these 10 countries, with the exception of Thailand, was colonies of Western powers. This means that, after the World War II, 60 countries in these two regions gained independence.

Outside these two regions, there were a number of former colonies or occupied territories that gained independence after WWII. Examples are India which used to be under the control of the United Kingdom. Korea and Taiwan in East Asia which used to be under the control of Japan.

The major Western countries that used to have colonies in Africa, South Asia, Southeast Asia were Great Britain, France, Portugal, The Netherlands, Italy, and Belgium. Most of their colonies were colonized by them during the nineteenth century, and early 20th century. In many of these colonies, the indigenous peoples rebelled unsuccessfully against their colonizers. Many of soldiers and civilians of colonizers were killed by those peoples under them. However, peoples under their control lost lives many times more in the attempts to free themselves.

The way colonial powers acquired each of their colony was always easy because they were much more powerful militarily. They might use some dubious pretexts, or the divide and conquer strategy to colonize their victim countries. After gaining the political control, they would use ruthless violence to suppress any attempt of the colonized people who wanted independence.

However, many unplanned circumstances after the World War II ended would force them to reluctantly give independence to all without much of the bloody fighting. Some of these unplanned circumstances are: 1) Former colonial powers suffered heavily from the fighting during the war which weakened them militarily and economically after the end of the war.2) The cold war between the Communism countries and Western powers after the end of World War II. The cold war indirectly helped nationalists who fought for independence comparing to the time before the World War II. In the first place, if their leaders embraced socialism, they could gain supports from Communist countries at that time. Good examples were Vietnam, Cambodia, and Laos that nationalist leaders fighting from their independence uphold socialism and gained support from the Soviet Union and China until their achieved independence. Western colonial powers finally realized that it was better giving independence to their former colonies than fighting the leftist guerillas

The fact that all these colonized countries achieved independence after the World War II, was not planned by any country. It could be interpreted that nature intervened to rescue them

from immoral actions of colonial powers by arranging many circumstances that led to the war, and other circumstances after the war that led to their independence.

2.2 Type II of nature's intervention: to stop catastrophic behaviors of human beings

When some pattern of human behavior, intentionally or unintentionally, is leading to the catastrophic condition of natural environment which will lead to the suffering of millions of others, nature will intervene to stop such behavior. The catastrophic condition might cause suffering to a lot of people in many countries at the time of intervention by nature, or may be the potential danger to a lot of people in the later generations.

2.2.1 Example I: Deforestation in Europe and the Bubonic plague

The Bubonic Plague or Black Deaths pandemic occurred during the years 1347-1351. It was estimated that the world population at the time before the pandemic occurrence was about 475 million. It was estimated that about one third to one half of the world population was killed by this pandemic. Europe which was the hardest hit by the pandemic lost about 60 percent of population during the plague. Million in Asia and North Africa also died.

During the three hundred years before the pandemic, there were continued deforestations in Europe more than in other areas. During these three hundred years population growth in Europe resulted in the increasing transformation of forests and woodlands into croplands and pastures. Wood also needed as a source of fuel and construction materials. At that time Europeans were not aware of the negative consequences of deforestation. Because of the deaths from the pandemic, a lot of croplands were abandoned. In fifty-year time, trees would regrow in abandoned croplands and transformed the area back into forests. There are many scientific studies that concluded that one impact of the Black Death pandemic in 14th century was the afforestation of Europe. It would be a hundred years later that the deforestation in Europe would start again as the population had grown to the number before the pandemic.[3]

This could be interpreted that nature arranged the pandemic to put a break on population growth and deforestation in Europe. Without this break, the level of deforestation in Europe must have been must faster than what really happened. Had there been no Black Deaths pandemic in 1347 and deforestation in Europe kept continuing during the second part of the 14th century and after, Europeans of later generations would have faced a lot of suffering of the consequences. The catastrophic behavior of deforestation in Europe was constrained for a hundred years by the pandemic.

2.2.2 Example II. World Population Growth and the AIDS pandemic

In the year 1800, the world population was estimated at 1,000 million. In 1900, it was 1,650 million. In 1950, five years after the end of World War II, it was 2,525 million. From 1,900-1950, there were two world wars with a great number of people killed. From 1950-2020, there is no major war in the world especially between great powers. After the end of the WWII, world population would increase at the rate never happen before in the history of mankind. In 1954, UN organized the first World Population Conference in Rome. After this conference, there would be many more international conferences which gave a special emphasis on the rapid growth of the world population. The common worry for UN and government of most countries was that the population growth could wipe out the gain accruing to economic development by diverting resources f rom investment to consumption. Family planning was universally accepted by UN agencies and governments of member countries. However, world population kept on increasing at faster and faster pace:

- 1950 - 2,525 million
- 1960 - 3,018 million
- 1970 - 3,682 million
- 1980 - 4,440 million

Therefore, amidst the worldwide attempts of family planning, the world population increased 1,915 million in the span of 30 years during 1950-1980. Aside from economic development concern, people began to worry about the impact of world population growth on environment and natural resources.

In 1981, first HIV-virus infected patient was diagnosed for the first time.

- 1990 - 5,310 million
- 2000 - 6,127 million
- 2010 - 6,930 million
- 2019 - 7,713 million (1 July 2019)
- 2020 - 7,800 million (Estimated)

Statistics of annual growth of world population since 1950 indicated that the annual percentage of growth since 1955 would always around 1.70 percent or higher:

- 1955 - 1.70%
- 1960 - 1,81%
- 1965 - 1.94%
- 1970 - 2.07%
- 1975 - 1.95%
- 1980 - 1.71%
- 1985 - 1.76%
- 1990 - 1.72%

- 1995 - 1.51%
- 2000 - 1.33%
- 2005 - 1.23%
- 2010 - 1.19%
- 2015 - 1.11%
- 2020 - 1.04%

It is noticeable from above data that the average annual increase of the world population since 1985 keeps decreasing. This might due in part to the success of family planning worldwide. However, there is also another important factor- the AIDS pandemic during 1980's and after.

In 1981, first HIV-virus infected patient was diagnosed for the first time. It seems that nature knows that human effort to curb population growth since 1960's was not efficient enough to control the world population at the proper level. AIDS virus is a deadly disease and only spread through sexual interaction. After more than three decades since the first diagnosis of AIDS infection, no vaccine to prevent this disease has been successfully produced. These two facts efficiently force human being to use condom in sexual interaction. Beside preventing AIDS transmission, condom can also prevent other sexually transmitted infections. However, the most important role of condom is preventing unintended pregnancy. It is estimated that during 1990-2015, 45 million AIDS infections have been averted through condom use. Millions of unintended pregnancies must have been averted also.[4]

Nature might have more than one agenda in the appearance of AIDS, but It is very likely that world population control is an agenda. Without AIDS, the world population must have been 7.8 billion at least since 2015, not at 2020.

2.3 Subtlety and timing of nature's intervention

In the last two thousand years, there were numerous cases of nature's intervention to inflict suffering to some people for immoral actions of states and its people. There were rare cases of nature's intervention to stop catastrophic behavior of human.

In my writing, "Souls and the Universe: A Scientific Inquiry", the role of nature in the destiny of human being is discussed at length. Some conclusions made are:

1. Each intervention has its cause. The cause of each intervention is human deeds carried out before the intervention.
2. The intervention normally does not occur right after the deed was performed. This fact makes it difficult for human beings to see the connection between human deedand nature's intervention.
3. The manner of intervention is fair, very subtle, and very powerful.

PART III
The analysis: Applying two patterns of nature's intervention to Covid-19 pandemic

After some months of Covid-19 outbreak, the virus characteristics and the effect it has caused to human beings can be systematically studied to a certain extent. It seems that human beings all over the world give priority to four things: 1) The number of infected cases and number of deaths related to Covid-19. 2) How to cure people who were infected 3) How to prevent peoples from getting infected especially by making vaccine. They only look at the Covid-19 pandemic as a dangerous phenomenon, which they would put all the attempt to stop it by medical measures. This research is different because the researcher sees this rare phenomenon as an event that nature purposely want to intervene in the human destiny.

Applying two types of nature's intervention in human destiny mentioned in Part II to data related to the characteristics and effect of this pandemic,the author of this report made **the conclusion thatCovid-19 pandemic is the design of nature with two main purposes:**

> **Purpose I: Regarding inflicting suffering to some people for Immoral actions of States and its people, Covid-19 pandemic is the design of nature to inflict suffering to countries and people that directly or indirectly cause the suffering of more than 70 million displaced persons.**
>
> **Purpose II: Regarding stopping of a catastrophic behavior of human beings, Covid-19 pandemic is the design of nature to stop the behavior which is causing the global warming.**

This part of the report will be the explanation of the study that led to the above conclusions.

3.1 Identifying 30 countries with the highest total death from Covid-19

Covid-19 virus has the following two unique characteristics:

1) the ability to spread before showing the symptoms. This makes it difficult to separate new infected cases from other people. Besides, a portion of infected persons called asymptomatic cases which do not show any symptoms at all.
2) 2)The ability of Covid-19 virus to spread very fast. When the person infected with Covid-19 virus cough, sneeze, sing, talk, or breathe, they produce respiratory droplets.

These droplets can infect people within 6 feet from the infected person. The virus can also spread through small particles formed by small droplets that linger in the air. This makes it possible for the virus to spread to people who are more than 6 feet away. In enclosed space with poor ventilation, the virus can infect people even when the infected person has left the scene.

The Death rate of Covid-19 virus may not be as high as SARS, but has caused many more deaths than the SARS for the shorter period of outbreak. For the SARS outbreak, 1 November 2002-31 July 2003, there were 8,096 cases and 774 deaths in 29 countries and territories. The death rate of SARS was 9.6 percent. As for Covid-19 (first identified in December 2019), as of 6 September 2020, there were 26,763, 217 confirmed cases and 876,616 deaths in more than 200 countries and territories. From this figure, the death rate of infected cases was 3.27 percent.

One fact about the effect of Covid-19 pandemic is that the numbers of confirmed cases and total deaths from Covid-19 virus in different countries are different. This difference is important for the further analysis of nature's intervention in the occurrence of Covid-19 virus. Table 1. Shows the list of top 30 countries in term of total deaths from Covid-19 pandemic. The total deaths figure is as of 6 September, 2020. The figure of total deaths keeps on changing every hour, however the order of total deaths of top 30 countries would not likely change drastically. Therefore, the analysis would be reliable to a certain extent.

Table 1.
*Top 30 countries in term of total deaths from Covid-19 pandemic**
(as of 6 September 2020)

Country	September 6, 2020 Total Death
1. US	186,663
2. Brazil	125,521
3. India	70,626
4. Mexico	66,851
5. The United Kingdom	41,549
6. Italy	35,534
7. France	30,546
8. Spain	29,418
9. Peru	29,554
10. Iran (Islamic Republic of)	22,154
11. Colombia	20,888
12. Russian Federation	17,820
13. South Africa	14,779
14. Chile	11,551
15. Belgium	9,905
16. Argentina	9,685
17. Germany	9,325
18. Canada	9,141
19. Indonesia	7,940
20. Iraq	7,422
21. Ecuador	6,724
22. Turkey	6,620
23. Pakistan	6,342
24. Netherlands	6,232
25. Sweden	5,835
26. Egypt	5,511
27. Bolivia	5,343
28. China	4,735
29. Bangladesh	4,447
30. Saudi Arabia	4,049

*Source: WHO Weekly Epidemiological Update (6 September 2020)

3.2 What have these countries done which causes the relatively higher total deaths from Covid-19

The data of table I would be very significant for later analysis concerning the causes and the effect of this pandemic. Most importantly, this table indicates a group of countries that, after 9 months of the outbreak of the pandemic, suffered total deaths higher than most other countries. The task is to find out why they are different from the rest of more than 100 countries.

It has been mentioned that there were two patterns of nature's intervention in the destiny of human being

1. **To inflict suffering to some people for Immoral actions of States and its people.**
2. **To stop a catastrophic behavior of human beings.**

Applying these two patterns of nature's intervention to the countries in Table 1. Indicated that these 30 countries may be classified into two groups - first group related to the problem of displaced persons which correspond to the first pattern of nature's intervention (immoral actions of states). The second group related to the global warming problem which correspond to the second pattern of nature's intervention (catastrophic behavior of human beings). Data concerning each group will be presented in separately.

3.2.1 The group related to displaced persons problem

Some background information

Countries and peoples all over the world suffered greatly during World War II, 1939-1945. It was likely that this suffering was the effect of some collective bad deeds committed by governments and peoples of countries before WWII. The opposing parties fighting in the two world wars were mostly major power countries. After WW II, the situation was different. There is no war between major powers. However, there were proxy wars in which major powers were behind the countries fighting in the war. There were also many internal armed conflicts and civil wars. Major powers tend to intervene in most of these wars especially prolonged ones. Many civil wars fought after WWII had ended. At least four civil wars are still being waged at the time of the COVID-19 pandemic: Libya civil war, Syria civil war, Yemen civil war, and Somalia civil war. The patterns of fighting in internal armed conflicts and civil wars, especially prolonged ones, are different from wars between nations before WWII in three factors: 1) There are more casualties among civilians more than soldiers2) The fighting always took place in towns or cities instead of taking place in the battle fields like traditional wars. 3)Long range weapons such as missiles are used which make it difficult to identify the party that launched these weapons4) there were a lot of displaced persons as the result of the internal armed fighting especially the protracted civil wars which could last many years.

According to (UNHCR)There were three types of displaced persons: refugee, internally displaced person, and asylum seekers.

A refugee is a person who has been forced to cross national boundaries and who cannot return home safely.

An internally displaced person is a person who is forced to leave his home or home region from many causes such as violence, ethnic and other persecutions, and natural disasters**.**

An asylum seeker is a person who claims to be a refugee but whose claim has not yet been definitely evaluated or determined by the country where he is seeking asylum.

According to UNHCR, at the end of 2018 there were unprecedented 70.8 million displaced persons around the world. Of all these displaced persons, nearly 25.9 million were the refugees, over half of whom were under age of 18. Others were 41.3 million internally displaced persons, and 3.5 million asylum seekers. (UNHCR.org/figures-at-a-glance.html...Retrieved March 4, 2020). Year 2018 was the seventh year in a row that the number of displaced persons had increased. In the year 2018, an estimated 13.6 million people were newly displaced due to conflict or persecution. This was equivalent to an average of 37,000 people being forced to flee their homes every day**. At the end of 2019, number of displaced people all over the world increased to nearly 79.5 million.**[5]Of this 79.5 million persons, there are 5.6 Palestine refugees, forced out from their homeland for many decades, registered with the UNRWA-United Nations relief and Works Agency. For Latin America, the largest number was 4.5 million displaced Venezuelans-included are 93,300 refugees, 795,500 asylum seekers, and 3.6 million displaced abroad. (page3)

The pictures of refugees crowded on a small boat sailing precariously to other countries, women sat tiredly besides her young daughter on a blanket under a tree, a group of makeshift tents, children of refugees staring sadly at the camera, etc. These pictures or videos could describe the horrible stages of these peoples without the need of description. Their ordeal could be classified into two main dimensions: mental and physical.

Examples of mental sufferings were: having to leave their beloved land, their community, some of their family members, their friends and relatives; the uncertainty that they did not know whether they could go back to the community that they were born and grow up; constant fear of many unforeseen situation as they mostly had to flee the troubled places without much planning; once they could reach their tentative destination it might be a great relieve for a while. But if they had to stay for a long time in crowded refugee camps without seeing clear future, it would be hard on them mentally. Many committed suicides while staying in the refugee camps; if the place they got temporary shelter did not welcome them, this would this would hurt their sense of dignity.

Examples of physical sufferings were: the danger while fleeing their homeland especially if they had to cross the border to another country or having to travel on the crowded boat on the high sea; hungry and thirsty as the source of food would be different from what they had accustomed to. Besides, they tended to have limited amount of money; vulnerable to be exploited

and abused by bad people without the usual protection from the family and society they used to have; when they were sick, they might not get proper medical care. Sanitation would be a problem. They might have less choice for clean water, toilet, and clean environment.

Besides the physical and mental suffering, they could also face many other problems they have never faced before fleeing their home base such as having no school and playground for their children, less chance to enjoy entertainment such watch sporting games, less chance to visit foreign countries as tourist, and having no mean to earn income. Their sufferings might be classified into three dimensions:

1. Economic problems. The loss of income sources and the lack of basic needs especially shelter, food, and medicine.
2. Disruption of normal daily life. Especially in term of social gatherings, traveling, entertainments, religious and cultural events, and children schooling.
3. 3The fear of living in danger and uncertainty of the future.

Relevant empirical data indicates that Covid-19 pandemic relates to the suffering of displaced persons. The relationship is manifested into three evidence: 1)**Similarity of the patterns of human sufferings from Covid-19 pandemic and the suffering of displaced persons2)The effect of external intervention in the civil wars and the level of suffering from Covid-19 pandemic 3)The effect of arms exporting** and the level of suffering from Covid-19 pandemic

3.2.1.1 Similarity of the patterns of human sufferings from Covid-19 pandemic and the suffering of displaced persons

Empirical evidence indicates that there are similarities of suffering patterns of displaced persons and human suffering from the COVID-19. The similarities are in the following dimensions:

1. **The economic dimension**

   Displaced persons lost their source of income because they were forced to stay in different location from their home base without the preparation to find the new sources of income. The loss of income sources will lead to many other problems such as shortages of basic needs especially food, shelter, clothes, and medical care.

   As for the People suffering from COVID-19 pandemic, the most severe economic impact of COVID-19 pandemic is the loss of income source. Closing, or partial closing, of business one used to work for, both in large and small-scale business, would deprive his source of income. The hardest hit is those working in traveling industry (airline, hotel, restaurant). Some industries such as automobile industry may have to cut the pay and the work duration of a number of employees. Movie production comes to a halt. Many small businesses are closed. Millions of workers lost their jobs. Every country faces the economic recession worse than any time since the end of WW II.

Food problems are facing peoples all over the world. In the first place, people have less or no money to buy food. In the second place, food supply also faces disruption because of the lockdowns to prevent the spread of COVID-19.

Another problem is the shortage of medical supplies especially medicines to cure the infected persons and ventilators for patients in serious condition. While struggling to get the vaccine to prevent the virus, a lot of doctors and health workers lost their lives because of the shortages of defensive gears.

2. Normal daily lives dimension

Both displaced persons and those suffer from COVID-19 pandemic face the disruption of their normal daily lives. Some of these disruptions are:

...Disruption of social gatherings, and direct interaction with family members and friends

...Disruption of usual personal celebration such as birthday and love one's birthday

...Disruption of religious and cultural events

...Disruption of accessing to entertainment such as watching professional sport events, and concert because of the cancellation of these events

...Disruption of vacationing such as visiting beaches, visiting beautiful places inside one's country, taking a tour to foreign countries, taking cruise ships to beautiful destinations. The rich will miss these good times more than the poor.

3. Uncertainty of the future dimension

As for displaced persons, they are aware that their lives and their love ones' lives can face death at any time. They have to live in strange environment and will always feel that their lives are precarious. They have to continue living without any certainty of their future

As for those suffering from COVID-19 pandemic, they know that the virus is not visible by bear eyes. It is also deadly and easy to spread. It is more formidable than virus in any horror movie. One cannot be sure of his safety. If infected, the person can spread the disease many days before the symptoms appears. Last, but not least, is its ability to mutate. If it mutates to be a new COVID, the vaccine if successfully produced to cure COVID-19 might not work for the mutated one. In short people all over the world would live in fear of danger and uncertainty of their future for some times.

The similarities of the patterns of human suffering from Covid-19 and the suffering of displaced persons is an indicator that nature designs Covid-19 pandemic to correspond to the pattern of sufferings of displaced persons.

Two inferences mention in the previous section may be applied to make a conclusion concerning the relationship between the suffering from Covid-19 and the plight of displaced persons:

1. A state immoral action includes the apathy of a state (the government, or people, or both) which could help the peoples in other states, who are suffering from the immoral action of another state, but does not offer any help. In another word, even though a state is not the one that cause suffering to people of another state, it is immoral if the state (the government, or people, or both) can offer some help to suffering people but fails to do so.
   Based on this inference, peoples in states around the world have committed bad deed or immoral actions by giving no help to displaced persons.

2. A state immoral action will bring corresponding effect, sooner or later, to the leader and people of the committing state. *The characteristics of an effect will not be without direction.*
   Based on this inference, the pattern of suffering from Covid-19 has some similarities with the suffering of displaced persons

Conclusion I: Peoples around the world have committed immoral action by giving ho help to displaced persons. The similarities of the patterns of human suffering from Covid-19 and the suffering of displaced persons is an indicator that nature designs Covid-19 pandemic to correspond to the pattern of sufferings of displaced persons.

3.2.1.2 External Interventions in civil wars and suffering from Covid-19 pandemic

Since the end of the World War II, there was no major armed conflicts between powerful countries as before the war. However, there are many internal armed conflicts and civil wars. These are the main cause of troubles that creates displaced persons. Some of these conflicts have ended. Some are still going on. Available data indicates that external countries tended to in these internal armed conflicts and civil wars.An intervention of an external state in the internal armed conflict of the victim country can be either moral or immoral. Immoral intervention is a form of collective deed.

External intervention may be considered in two dimensions. The first dimension is the main purpose of the intervention. If the purpose of intervention is to help a legitimate party of the conflict and to protect innocent people caught in the conflict without any desire for self-interest, then it is moral. The second dimension is the strategy used in the intervention. If unethical conducts are used in the intervention, then it is immoral even though it is based on the goodwill. unethical conducts are such as follows:

- Creating a puppet leader who will act solely according to the order of the intervening state

- Assassination of leaders of the opposite side
- Fabricating situation to put the blame on the opposite side
- employing unethical weapon such as landmines or chemical weapon
- indiscriminate bombing causing deaths to civilians, destructions of civilian dwelling units, and world heritage monuments
- employing cruel methods such as torturing prisoners
- Using superior mass media and propaganda ability to create false public opinion

It will be difficult for human beings to know the truth of an intervention, whether it is moral or immoral. This is because immoral intervention may be done covertly. Long range weapons such as missiles can be delivered to targets from far away. In such a case it is difficult to identify the party that launched the missiles. Therefore, it is always difficult for human being to identify the party that responsible for any immoral incident. **However, nature can record every activity carried out by a single person, or a number of persons.** This includes recording every activity of an immoral intervention in the internal armed conflict of a country. When it is the time that an immoral action will bring the effect, nature will arrange it in such a way that the effect will correspond to an action, or a set of actions, fairly and precisely. Many civil wars occurred after WWII had ended. Some civil wars are still being waged. The plight of displaced persons since the end of WWII, both from internal conflicts that have ended and are still going on have been recorded by nature, waiting for the right time to bring the corresponding effects.

At the time of the appearance of COVID-19 in 2019-2020, there are civil wars going on in four countries: Syria, Libya, Yemen, and Somali. Foreign interventions in these current civil wars, available from published documents would be mentioned as followed:[6]

1. **Civil war in Libya (2011, and 2014-the present time)**
   There are two phrases of civil war in Libya:
   Phrase I was fought during February – October 2011. External countries participated in the Phrase I, were countries from mostly NATO countries. They were
   Belgium, Bulgaria, Canada, Denmark, France, Greece, Italy, Jordan, Netherlands, Norway, Romania, Spain, Sweden, Turkey, the United Kingdom, and the United states. These countries involved in the military operation on the side of the rebels who were fighting against the government of Muammar Qaddafi. Germany, a NATO member, did not take part in the military operation but lent 100 million Euros to the rebels for "civilian and humanitarian purposes." Three non-NATO members participated on the side of NATO members in this first Libya civil war are Qatar, United Arab Emirates, and Sweden. The roles of these external countries might be varied. The leading countries with major military roles were France, U.S., and the United Kingdom.
   Phrase II had been fought since 2014. The fighting is still going on in 2020
   Foreign countries that intervene in the second phrase war are Egypt, Turkey, United Arab Emirates, Sudan, and Russia.

2. **Civil war in Syria, 2011-to the present time(2020 COVID-19 pandemic)**
   External intervening countries: Iran and Russia on the Government side;United States, United Kingdom, Denmark, France, Italy, Germany, Iran, Russia, Saudi Arabia, and Turkey on the opposition side.
   At the end of 2019, Syrians continued to be the largest forcibly displaced persons worldwide (13. 2 million – 6.6 million refugees and more than 6 million internally displaced persons). (UNHCR. "Global trends: forced Displacement in 2019". unhcr.org/5ee200e37.pdf. page 9)
3. **Civil war in Yemen, 2015-present (2020 COVID-19 pandemic)**
   External intervening countries: Saudi Arabia, United States, United Kingdom, France, and allegations of Iran involvement. In 2020, after more than four years of fighting, the war has displaced more than 3.65 million from their home. According to UN, about 20 million of the total 24 million population need help for food. About 10 million of them are only one step away from famine. Two million children are acutely malnourished.
4. **Civil war in Somalia, 2015-present (2020 COVID-19 pandemic) :more than 1,400,000 civilians displaced**
   External intervening countries: United States, United Kingdom, Ethiopia, Kenya

Table 2. shows the interventiont in civil wars of top 30 countries with total deaths from Covid-19 pandemic(as of 6 September 2020).

Table 2

*Top 30 countries with total deaths from Covid-19 pandemic(September 6 2020)**

And Interventions in four current civil wars

Country	September 6, 2020		Intervention in four current civil wars
	Total Death	Rank	
US	186,663	1	Libya I, Syria, Yemen, Somalia
Brazil	125,521	2	No
India	70,626	3	No
Mexico	66,851	4	No
The United Kingdom	41,549	5	Libya I, Syria, Yemen, Somalia
Italy	35,534	6	Libya I, Syria
France	30,546	7	Libya I, Syria, Yemen
Spain	29,418	8	Libya I
Peru	29,554	9	No
Iran (Islamic Republic of)	22,154	10	Syria, Yemen
Colombia	20,888	11	No
Russian Federation	17,820	12	Libya II, Syria
South Africa	14,779	13	No
Chile	11,551	14	No
Belgium	9,905	15	Libya I
Argentina	9,685	16	No
Germany	9,325	17	Syria
Canada	9,141	18	Libya I
Indonesia	7,940	19	No
Iraq	7,422	20	Syria
Ecuador	6,724	21	No
Turkey	6,620	22	Libya I, II, Syria
Pakistan	6,342	23	No
Netherlands	6,232	24	Libya I
Sweden	5,835	25	Libya I
Egypt	5,511	26	Libya II
Bolivia	5,343	27	No
China	4,735	28	No
Bangladesh	4,447	29	No
Saudi Arabia	4,049	30	Syria, Yemen

*Sources: WHO Coronavirus disease (COVID-19) Weekly epidemiological Update (6 September 2020)

Some observations from the above table:

1. 1.Of top 30 countries suffered the total death from Covid-19 pandemic (as of 6 September 2020), 10 of them intervened in the Libya Civil War I in 2011.
2. 2.Sixteen of them intervened in one or more civil wars fighting at the time of Covid-19 breakout. This evidence can help to make the following inferences:

External Intervention in internal conflicts which caused civil wars, resulting in a lot of displaced persons, has some significant relationship with the suffering from Covid-19 pandemic. Arms aggression into the territory of other states which resulted in a lot of displaced persons would likely bring similar effect.

3.2.1.3 Arms exporting and suffering from Covid-19 pandemic

According to inference 2.7 "A deed committed by more than one person is a collective deed. Facts of nature concerning the deed and its effect is also the same for a collective deed. "The intensity of the effect of collective deed for each participant will be commensurate with each one's role in that collective deed**"**

Most weapons used by conflicting parties of internal conflicts were from arms exporting countries. Not every country produces weapons. In fact, less than 15 countries exported more than 90 per cent of exporting weapons during the period 2014-2018.Even though, in some cases, the arms exporting countries did not directly export their weapons to conflicting parties, they would still hold responsibility if eventually these weapons fell into the hands of conflicting parties. Internal conflicts made innocent people became displaced persons.

If the inference 2.4 above is correct, then arms exporting will be a cause that makes the armed exporting countries suffer from COVID-19 pandemic more than countries that export no weapon.

Table 3. shows the top thirty countries which suffered the highest numbers of total death from Covid-19 pandemic, as of 6 September 2020.The ranking figures are from the list of 25 largest arms exporter for the period 2014-2018, calculated by the Stockholm International Peace Research Institute.According to this article, the top 25 arms exporters accounted for 99 per cent of the world's major arms exports in 2014-2018)

Table 3
Top 30 Countries by total deaths from COVID-19, (as of 6 September 2020), and 2014-2018 Arms Export Ranking***

Country	September 6, 2020		2014-2018 Arms Export Ranking
	Country	Total Death	
U.S	186,663	1	1
Brazil	125,521	2	23
India	70,626	3	No
Mexico	66,851	4	No
The United Kingdom	41,549	5	6
Italy	35,534	6	9
France	30,546	7	3
Spain	29,418	8	7
Peru	29,554	9	No
Iran (Islamic Republic of)	22,154	10	No
Colombia	20,888	11	No
Russian Federation	17,820	12	2
South Africa	14,779	13	22
Chile	11,551	14	No
Belgium	9,905	15	No
Argentina	9,685	16	No
Germany	9,325	17	4
Canada	9,141	18	16
Indonesia	7,940	19	No
Iraq	7,422	20	No
Ecuador	6,724	21	No
Turkey	6,620	22	14
Pakistan	6,342	23	No
Netherlands	6,232	24	10
Sweden	5,835	25	15
Egypt	5,511	26	No
Bolivia	5,343	27	No
China	4,735	28	5
Bangladesh	4,447	29	No
Saudi Arabia	4,049	30	No

*Sources: WHO Weekly epidemiological Update (6 September 2020)

****Full list of the 25 largest exporters of major arms, 2014-2018, can be seen in PIETER D. WEZEMAN, AUDE FLEURANT, ALEXANDRA KUIMOVA, NAN TIAN AND SIEMON T. WEZEMAN "TRENDS IN INTERNATIONAL ARMS TRANSFERS, 2018", SIPRI Fact Sheet. Stockholm International Peace Research Institute, March 2019.(P.2)** According to this article, the top 25 arms exporters accounted for 99 per cent of the world's major arms exports in 2014-2018)

From the Table 3., an important observation is that "Of **twenty-five top arms exporting countries,fourteen or more than half** were in the top Thirty of countries with most total deaths from COVID-19, and the United States which ranked first in arms exporting also ranked first in the number of total deaths from Covid-19.

Inference III. It was highly likely that arms exporting was related to the level of suffering from COVID-19. Arms exporting may not be the only factor that related to the level of suffering from COVID-19, but it seems to be a very important factor.

3.2.2 The group that related to the global warming

From available data related to the effect of Covid-19 pandemic, there are indicators that Covid-19 occurrence is also related to human deeds which cause the global warming. As in the above section, the relevant empirical evidence will be presented with the reasoning based on the inferences concerning nature's role in the destiny of human being mentioned in section 3.2.1

3.2.2.1 Background of global warming

3.2.2.1 Covid-19 and the reduction of Co2 Emission

3.2.2.2 Co2 Emission and the level of suffering from Covid-19

3.2.2.3 Deforestation and the level of suffering from Covid-19

At a certain hour of a day the temperature may be different from a country to another country. It may be -2 degree Celsius in London, but it may be 25 degree Celsius in Bangkok. On a same certain day, the temperature will be higher in temperate zone than in tropical zone. When scientists say that the Earth is warmer, they mean the average global temperature now comparing to the temperature level before pre-industrial era. Pre-industrial temperature refers to the period 1850-1900.(IPCC. "Special Report: Global Warming of 1.5°".ipcc.ch/site/assets/uploads/sites/2/2-19/06/SR15_Full_Report_High_Res.pdf;

When the scientists say that the Earth temperature is 1° degree Celsius higher than the pre-industrial era, it does not mean that the temperature at a certain hour of a day at one place is 1 degree Celsius higher than the previous average. It can be many degrees higher.

Since about the last three decades of the 20th century, it has been observed by scientists and non-scientists alike that the average global temperature seems to be rising. People would often hear that the temperature at a certain place at a certain time of the year was a record high. Rising temperature caused more glacier and ice caps to melt at comparatively higher rate. This phenomenon then results in the rise of sea level. Rising sea level then cause the fear that the low-lying islands and coastal cities would be inundated by the rising sea level. Not only the earth surface has been getting hotter, there are also many changes of the global climate. There are

more frequent and intense extreme weather events such as cyclones, droughts and floods, wildfires, and bushfires. Winter seems to be shorter, whilesummer seems to be longer and hotter.[8]

Two main Causes of the global warming

Scientists have discovered that the increasing of greenhouse gases in the atmosphere and deforestation **are two main causes of the global climate change.** The increasing of greenhouse gases in the atmosphere and deforestation are the results of human deeds.

1. **Greenhouse gases emission**
   Greenhouse gases are gases that trap heat in the atmosphere comprising of four gases: Carbon dioxide comprised about 80 percent, Methane about 10%, Nitrous oxide about 7%, and Fluorinated gases about 3%. Co2 comes mainly from burning fossil fuels (coal, oil, natural gas), wood fuels (including firewood, twigs, branches, branches and residues). Co2 emissions percent of primary fuel from wood fuels are about the same coal, but 30 percent higher than fuel oil and 80 percent higher than natural gas. Methane released from biological sources such as landfills, animal manure, cow digestion, fertilizers, burning of agricultural residues, burning fossil fuel, and human waste. Animal manure, especially cattle poop, keeps releasing methane due to its decomposition by bacteria existed along with the nanure. Fluorinated gases are from industrial process.

   Co2 has the highest proportion of the greenhouse gases. Co2 once added in the atmosphere, it would hang around in the atmosphere for three hundred years or much longer. Therefore, it would cause suffering for many generations of human beings and animals in the future.(footnot..Alan Buis. “The Atmosphere: Getting a Handle on Carbon Dioxide”. Global Climate Change, October 9, 2019. Climate.nasa.gov/news/2915/the-atmosphere-getting-a-handle-on-carbon-dioxide/

2. **Deforestation**
   Forests cover 31 percent of global land area. About half of the forest area is relatively intact.

   More than one-third of the forests is primary forest (no human activities and the ecological processes are not significantly disturbed. More than half of the world forests are in the Russian Federation, Brazil, Canada, the United States, and China.

The most critical role of forests in the global warming is absorbing carbon dioxide, the main component of the greenhouse gases. When human beings burn fossils fuels for energy and other purposes, they emit carbon dioxide into the atmosphere. Trees in the forests and other vegetation capture carbon dioxide from the atmosphere and convert it into living biomass: tree trunks, roots, branches, flowers, and leaves. Forests also store carbon in forest soils, woody debris, and roots. About half of carbon dioxide emitted by human activities is absorbed by forests and

other vegetation. The other half is absorbed by the oceans. Deforestation reduces the ability of world forests to absorb carbon dioxide from the atmosphere.

Since 1990, it is estimated that 420 million hectares of forest have been lost through conversion to other land uses, although the rate of deforestation has decreased over the last three decades. Between 2015 and 2020, the rate of deforestation was estimated at 10 million hectares per year, down from 16 million hectares per year in the 1990s. The area of primary forest worldwide has decreased by over 80 million hectares since 1990.[9](FAO. "The State of the World's Forest, 2020".fao.org/state-of-forests/en;)

Deforestation is not a recent phenomenon. When the number of human beings in a small community increased, more space would be needed for construction of dwelling units, and agricultural purposes (i.e. farming and raising cattle). Trees would be cut down for the construction space and agricultural space. Trees would also be used for home constructions, making furniture, and used as fuel.

There are three main types of forests: tropical, temperate, and boreal.

Boreal forest, about 35% of all forests, is characterized by its diverse coniferous trees, lakes, and wetland. The boreal forests encircle the northern part of the globe, extending through Alaska (USA) and the northern region of Canada, Finland, Norway, Sweden and the Federation of Russia. Almost three-quarters of the total is in Russia. A further 20 percent is in the Canada and Alaska and about 5 per cent in the Nordic countries. Although large areas of forest are harvested every year, the quantities of wood removed are substantially less than the overall annual growth or the boreal forests. Because of the harsh climate, difficult and often dangerous terrain and long distances, a large proportion of the forests is likely to remain outside the scope of commercial logging for the indefinite future.

Temperate forests are those found between the tropical and boreal regions. Temperate forests are in both hemispheres at latitudes from 25-50 degree, covering about 25 % of the world's forest area.

Tropical forests are mainly in the area between the tropic of cancer and the Tropic of Capricorn. Tropical forests have extended period of warm weather as they are near the equator than other two types of forests. Tropical forests relatively receive more rainfall more than other two types of forests. Therefore, it is the wettest of the three types.

Both temperate forest and tropical forest have similar one subtype: rainforest. Rainforest can be found both in temperate and tropical forests. The rainforest is characterized by high and continuous rainfall. The main difference between the tropical rainforest and the temperate rainforest is the amount each type of forest receives rainfall. Tropical rainforest receives 80-400 inches of rainfall per year. Temperate rainforest receives about 100 inches of rain per year.

Rainforests in both tropical and temperate zones have subtypes according to some special characteristics of each location. Examples are mangrove forests and monsoon forests. Mangroves rainforests are forest of mangroves which are small trees that can grow in the saline water or brackish water of coastal areas. Mangrove forests exist worldwide mainly between latitude 25 North and 25 South. The Monsoon rain forests are in areas which get the influence of seasonal monsoon rains. They are also called "dry rainforests" because they have a dry season. These get around 31-71 inches (800-1,800 mm) of rain annually. Up to 75 percent of the trees in dry rainforests can be deciduous.

Rainforests are found in West and Central Africa, South and Central America, Indonesia, Southeast Asia and Australia. They are vitally important for, producing most of the oxygen we breathe and absorbing Co2.

3.2.2.2 Crucial role of tropical rainforests of the Amazon Basin for the climate change

The greatest concentration of the tropical rain forest is in the Amazon Basin. It accounts for two-third of the world's tropical rainforests. (FAO. "World Forests". FAO.ORG/3/T0829E/t0829e04.hym) -Amazon basin covers an area of about 6,300,000 square kilometers, 35% of the South American Continent. Most the basin, about 5.5 million KM2, is covered by densely tropical rainforests. The Amazon basin covers some parts of 8 South American countries, Brazil(60.3%), Peru(11.3%), Colombia(6.95%), Bolivia(6.87%), Venezuela(6.73%), Guyana(3.02%), Suriname(2.1%), Ecuador(1.48%), and one oversea territory of France-French Guiana(1.15%). (Wikipedia. "Amazon rainforest". en.wikipedia.org/wiki/Amazon_rainforest; Camilla Costa. "Amazon under threat: Fires, loggers and now virus". 21 May 2020, BBC News.bbc.com/news/science/science-environment-51300515;

The Amazon rainforests accounts for two-third of the world's tropical rainforests. (FAO. "World Forests". FAO.ORG/3/T0829E/t0829e04.hym)The Amazon rainforests absorb about 5% of carbon dioxide produced globally. Therefore, it is a vital of factor of preventing climate change.(Wikipedia. "Amazon basin". En.wikipedia.org/wiki/Amazon-basin))))))end of footnote.

The global situation on global warming hadbeen worse, years by years, as more carbon dioxide was emitted by human activities especially burning fossil fuels for energy to move vehicles (automobile, ship, airplane), or in industrial factory). As trees were cut down, eventually carbon dioxide store in the fallen trees and in the soil would be emitted into the atmosphere. When dwindling forests and warmer oceans cannot absorb all excess carbon dioxide, the greenhouse gases increase above the pre-industrial level. Then it affects the global climate.

So, there are two factors implement each other to cause the global climate change especially the more warming of the climate: higher Co2 emission and deforestation.

3.2.2.3 The 2015 Paris Agreement: the attempts to curb global warming and climate change

Since the last two decades of the last century, the United Nations had started to worry about the deterioration of global climate polluted by co2 at the level that would be harmful to human beings. After two years of initial preparation, the first United Nations Climate Change Conference (UNCCC) was held in1995. After the first conference, there was a climate change conference every year. The objective was to stabilize greenhouse gas concentrations in the atmosphere at the level that would not cause the dangerous climate change. The 21st conference was held in Paris during 30 November-12 December 2015. There were 196 parties of the conference, 195 countries and the EU. After negotiations for 20 years, this conference produced the Paris Agreement. It was the agreement on the reduction of climate change. The agreement was approved by all 196 attending parties. On 22 April 2016, 174 countries signed the agreement in New York.

The 2015 Paris Agreement mentions both the goal to reduce the emission of greenhouse gas and deforestation. In article 2, there is a clause concerning the goal of average global temperature as follows: ***Holding the increase in the global average temperature to well below 2 C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.***

In the preamble of Article 4, it was written that in order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible.

In Article 5, deforestation is mentioned saying that Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases including forests. Parties are encouraged to reduce emissions from deforestation and forest degradation.

To achieve the target of 1.5 degree Celsius, There was clause about enforcement in the agreement. Each signing party is only asked to set their own plan of action to reduced Co2 emission.

Since the signing of the agreement, until the year 2020, the global emission of greenhouse gases have not been decreased. In 2018, the US government under President Trump proceeded to withdraw US from the agreement. The withdrawal would be effective on November 4, 2020.

In 2016, the global average temperature was 1 degree Celsius above pre-industrial level (1850-1900) for the first time. The worries are that the Paris Agreement target of 1.5 degree Celsius at the year 2100 would not be fulfilled and it would reach 2 degree Celsius instead-a third more of an increase. The impact of global warming will be raised by the same fraction. Heat waves would last a third longer, rain storms be about a third more intense. The increase of sea level would be a third higher. At 1.5 degree Celsius, the tropical coral reefs might be able to adapt and survive. But at 2 degree C increase, all tropical coral reefs would be wiped out.

The situation in 2020

Since the signing of the agreement, until the year 2020, the global emission of greenhouse gases have not been decreased. On June 1, 2017, the US government under President Trump announced that the US would cease all participation in the 2015 Paris Agreement on climate change mitigation. As there were some conditions for the withdrawal written in the Article 28 of the Paris Agreement, US withdrawal would be effective on November 4, 2020. US withdrawal is significant in curbing the global warming and climate change because US is the second highest country that emit the greenhouse gases into the atmosphere after China.

The target of the Paris Agreement wants to limit the increase in the global average temperature was set to be well below 2 C above pre-industrial levels, and limit the temperature increase to 1.5 C above pre-industrial levels.However, there are a lot of problems to fulfil the target:

1. By the year 2016, the global temperature average had increased 1 C above pre-industrial level already. There is not much gap between 1-1.5 C to work for.
2. There was no enforcement mechanism of the agreement to enforce the signatory members to actually carry out the action. The history of international relations indicates that nations always give priority to their national interests. The US withdrawal is a good example.

At the end of 2019, the related UN agencies reported the gleam outlook of the global warming mitigation.The global climate reports at the end of 2019 to the first half of 2020 indicates that the global climate seems to getting worse than any time in mankind history .[10]

3.2.2.4 Intervention of nature

There are two facts before the occurrence of Covid-19 pandemic: 1) human failure to manage the global warming crisis as targeted in the 2015 Paris Agreement 2) the threshold of the unprecedented catastrophe from global warming.

1) Human failure to manage the global warming crisis

At the start of the year 2020, as the Covid-19 virus was at the early stage of the outbreak, the situation concerning the climate change can be summarized as follows:

1. After four years of the signing of the 2015 Paris Agreement, the emission of Co2 globally had not decreased.
2. Deforestation in Latin America and some countries with sizable forests had not been decreased. Therefore, the ability for existing forests to absorb Co2 keep decreasing.

It is obvious that at the start of 2020, human beings cannot mitigate the rising of global temperature. Concerning scientists of various fields have predicted the

unprecedented catastrophe as the consequence. The author of this essay believe that nature has been following all these events for many years. The conclusion is that, human beings cannot control the rising global temperature which will bring suffering to a lot of people at the present generation and the following generations. A lot of animals would suffer too such as estimated three billion animals killed in bushfires in Australia during September 2019-March 2020.[11]

Scientists with relevant data and theories can predict many future events correctly. Nature must be able to do the same with much better predictions. The

2) The threshold of unprecedented catastrophe

Scientists with relevant data and theories can predict many future events correctly. Nature must be able to do the same with much better predictions. Nature can predict the consequence of global warming from the following data:

1. Global temperature has been rising from higher emission of Co2 and deforestation.
2. Human beings are aware of the problem and set up the measures to solve the problem in the 2015 Paris Agreement.
3. Four years after the signing of the agreement, human beings cannot efficiently handle the problem while the global temperature keeps rising resulting in the higher intensity of various kinds of natural disasters.

From the above data nature can precisely predict unprecedented catastrophe caused by the global warming. That is the main reason that nature brought in Covid-19 at the end of 2019. This virus has the following two unique characteristics:

1) the ability to spread before showing the symptoms. This makes it difficult to separate new infected cases from other people. Besides, a portion of infected persons called asymptomatic cases which do not show any symptoms at all.
2) The ability of Covid-19 virus to spread very fast. When the person infected with Covid-19 virus cough, sneeze, sing, talk, or breathe, they produce respiratory droplets. These droplets can infect people within 6 feet from the infected person. The virus can also spread through small particles formed by small droplets that linger in the air. This makes it possible for the virus to spread to people who are more than 6 feet away. In enclosed space with poor ventilation, the virus can infect people even when the infected person has left the scene.

3.2.2.5 Covid-19 and the reduction of Co2 Emission

Aside from infection and death from Covid-19 pandemic, there are two effects that occur to human beings:

1) Swift reducing of the Co2 emission into the atmosphere
2) Causing relatively more suffering to countries which emit relatively higher Co2 into the atmosphere
3) Causing relatively more suffering to countries that currently committing impacted deforestation

These two effects can be interpreted that nature intervenes to put a break on the climate change.

1Swift reduction of Co2 emission by restraining traveling inside a country and between countries

Nature cannot verbally tell us that, for mankind's own sake, mankind has to reduce Co2 emission immediately. However, nature has effective measures, through Covid-19 virus, to compel human beings to reduce Co2 emission in many ways. Two important measures of nature are:

1.1 Restraining on traveling within cities and within a country

Private automobiles in cities around the world are a large source of Co2 emitted into the atmosphere. The occurrence of Covid-29 impels human beings to lockdown cities in order to stop the spread of the virus. When city dwellers cannot travel, vehicles driven by fossil fuels are not used. The result is Co2 emission from automobiles is greatly mitigated. The International Energy Agency-IEA's analysis of daily data through mid-April shows that countries in full lockdown are experiencing an average 25% decline in energy demand per week, and countries in partial lockdown an average 18% decline.[12]

1.2 Restraining on global tourismiea.org/reports/global-energy-review-2020;)

International tourism industry is the highest growth of all industries. The United Nations World Tourism Organization (UNWTO) estimates that internationally there were about 438 million international arrivals in 1990. In 2018, the number has increased to 14 billion, and 15 billion in 2019[13]. Tourism is an energy intensive industry. According to a research report of the University of Queensland Business School released in 2018, the data of 2013 indicated that the global tourism footprint of tourism-related greenhouse gas emission is four times greater than previous estimates, and is responsible for eight per cent of global emissions.[14]

Low-cost airlines made traveling by air affordable for more people. Before the occurrence of Covid-19, Co2 emitted by airplanes increase with the increasing number of

international tourists. In 2018, both passenger and cargo carriage emitted about 2.4% of Co2 emitted globally from fossil fuel uses. Co2 emission in 2018(passenger 81% and freight transport 19%) increased 32% over the previous 5 years. International Civil Aviation Organization expected in 2018 that the aviation emissions would roughly triple by 2050.[15]

The occurrence of Covid-19 virus impels human beings to put the restraint on international traveling, both going out of the country and coming in from foreign countries. Those who are permitted to travel have to face the 14 days quarantine upon entering the country. The 14 days quarantine is a very effective measure that discourages people from international travelling. This discouragement is also true with cruise ship travelling. The spread of Covid-19 on a cruise ship is a great nightmare for both ship operators and passengers. Most countries which used to be the popular destinations of cruise ships have banned all the arrival of cruise ships.

International airlines have to ground almost all their passenger planes. Cruise ships are ban. The result is Co2 emission from passenger airplanes and cruise ships have been reduced by probably more than 90 percent comparing to the time before the Covid-19 pandemic. A data of arrivals of international tourists in months of 2020 comparing to months of the same month of 2019 is a good indicator of the effect of Covid-19 on air traveling. For examples international tourist arrivals globally of April 2020 was -97% of April 2019, and May 2020 was -98% of May 2019.[16]

International Energy Agency-IEA estimated in April 2020 that, because of Covid-19 pandemic and the decline in energy demand globally, global Co2 emissions are expected to decline by 8% to levels of 10 years ago. This year-on-year reduction would be the largest ever-six times larger than the previous record reduction in 2009 caused by global financial crisis- and twice as large as the combined total of all previous reductions since the end of World War II.(IEA. “Global Energy Review 2020”. April 2020.iea.org/reports/global-energy-review-2020;

Therefore, comparing with the measures adopted by the 2015 Paris Agreement to mitigate Co2 emission, Covid-19 pandemic has been more effective to mitigate Co2 emission in a shorter period of time.

IEA also suggests that the wave of investment to restart the economy should be dedicated to cleaner and more resilient energy infrastructure.

3.2.2.6 Co2 emission and level of suffering from Covid-19

Data concerning the restraining of internal and international traveling is on the global level. If the data in each country is analyzed, there is an interesting relationship between the level of Co2 emitted and the intensity of suffering from Covid-19. It seems that the country which emits more Co2 into the atmosphere suffers from the Covid-19 pandemic more than the other countries with lower level of Co2 emission. Table 4 below shows countries in the list of top 30 countries that emitted Co2 from fossil fuels in 2017 and the ranking of these countries on the list of top 30 countries with total deaths(as of September 6, 2020).[17] The data of Co2 from fossil fuel emitted in the year 2017 is used only to roughly estimate the quantity of Co2 from fossil fuel emitted into the atmosphere. It will be better if the figures of every year emission in the last 50 years are available. It is certain that share of each country emission had been changing over times. The main purpose for utilizing the 2017 emission statistics is to roughly demonstrate the relationship between co2 emission and the suffering from Covid-19

Table4

Top 30 countries that emitted Co2 from fossil fuel in 2017

(%of world) And Ranking on the list of top 30 total deaths(as of 6 September 2020)*

Countries deaths	**%of the world (2017)**	**Ranking on the list Of top 30 total** (6 September 2020)
1. China	29.34	28
2. US	13.77	1
3. India	6.62/15	3
4. Russia	4.76	11
5. Japan	3.56	not on the list
6. Germany	2.15	17
7. South Korea	1.82	not on the list
8. Iran (Islam Republic of)	1.81	10
9. Saudi Arabia	1.72	30
10. Canada	1.66	18
11. Mexico	1.37	4
12. Brazil	1.33	2
13. Indonesia	1.28	19
14. South Africa	1.26	13
15. Turkey	1.16	22
16. Australia	1.08	not on the list
17. United Kingdom	1.02	5
18. Italy	0.97	6
19. France and Monaco	0.91	7
20. Poland	0.86	not on the list
21. Spain and Andorra	0.76	8
22. Taiwan	0.75	not on the list
23. Thailand	0.75	not on the list
24. Kazakhstan	0.72	not on the list
25. Malaysia	0.70	not on the list
26. Egypt	0.70	26
27. Vietnam	0.59	not on the list
28. Ukraine	0.55	not on the list
29. Iraq	0.54	not on the list
30. Netherlands	0.47	24

*Source:Adapted from the table in Wikipedia. “List of Counties by carbon dioxide emissions” en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions.

From the above table, following observations can be made:

1. Twenty of top 30 Co2 emitters are on the top 30 list of deaths from Covid-19
2. Sixteen of top 21 Co2 emitters are on the top 20 list of deaths from Covid-19
3. South Africa, the only African country on the list of top 30 Co2 emitters, is the only African country on the top 30 list of deaths from Covid-19 pandemic.
4. Mexico and Brazil are the only two Latin American countries on the list of top 30 Co2 emitters.

It can be concluded that the level of co2 emitted into the atmosphere is a factor relates to the number of deaths from Covid19.However, as far as the level of Co2 emission is concerned, it seems that death toll in the countries that emit relatively high Co2 is not the main target of the Covid-19 pandemic. The main target is the reduction of Co2 emission. That is the reason why China which ranks 1 on the list of top 30 Co2 emitters, ranks 28 on the list of total deaths. China was the first country to apply the lockdown of cities affected by the pandemic. This measure greatly reduced Co2 emission from China during the lockdown in two ways:1) Reduction of automobiles used in the affected cities 2) Reduction of plane travelling between Chinese cities, and between China and foreign countries. Covid-19 pandemic affected Chinese international tourists more than those in other countries. For an example in 2018, the outbound Chinese International Tourists were 149,720,000 which was the highest in the world. The second most was Americans at 92,564,000.[18]

Thailand is relatively high on the list of top 30 Co2 emitter, but has very low number of deaths from Covid-19. The case of Vietnam is also similar. These two countries suffer fewer deaths than most countries while emitting relatively high amount of Co2. However, these two countries lost a lot of income from tourism as both were very popular destinations for international tourists. International tourists worldwide in 2020 decrease by more than 90% from the previous years due to the Covid-19 pandemic. Countries which used to be the popular destination would feel the impact of Covid-19 pandemic more than the countries which were not popular destination.

3.2.2.6 Deforestation and the level of suffering from Covid-19 pandemic

It has been mentioned that deforestation relates to the level of Co2 in the atmosphere because it decreases the ability to absorb excessive Co2 of world forests. Available data after the outbreak of Covid-19 pandemic indicates that there is relationship between a country that has the problems of deforestation and the intensity of suffering from Covid-19 virus of the population. Table 5. shows this relationship. “Extensive deforestation” in the table refers to the large-scale deforestation with a very significant impact on climate change. “Enormous uses of wood fuels” in the table refers to the uses of wooden fuels(including fuel wood, twigs, branches and residues)of more than 100 million population in one country.

Table 5.

Countries with Deforestations (2000-2020)[19]

*And Ranking on the list of Top 30 countries with total deaths from Covid-19 pandemic (September 6 2020)**

Country	Total Death As of	Ranking on the list of top 30 countries	Roles in Deforestation
	6 September 2020With total deaths		
Brazil	125,521	2	Extensive deforestation
India	70,626	3	Enormous uses of wood fuels
Mexico	66,851	4	Extensive deforestation
Peru	29,554	9	Extensive deforestation
Colombia	20,888	11	Extensive deforestation
Russian Federation	17,820	12	Deforestation
Chile	11,551	14	Extensive deforestation
Argentina	9,685	16	Extensive deforestation
Indonesia	7,940	19	Deforestation
Ecuador	6,724	21	Deforestation
Pakistan	6,342	23	Deforestation and enormous uses of wood fuels
Bolivia	5,343	27	Deforestation
Bangladesh	4,447	29	Enormous uses of wood fuels

*Sources: WHO Coronavirus disease (COVID-19) Weekly epidemiological Update (6 September 2020)

Observations and analysis

1. There are 13 countries in the table. Eight of them are Latin American countries: Brazil, Mexico, Peru, Colombia, Chile, Argentina, Ecuador, Bolivia. Of these eight countries, Mexico, Chile, and Argentina do not have the areas of the countries that cover the Amazon Basin. The other five countries have parts of Amazon Basin in their territories. Venezuela which is one of the six Amazon Basin countries, occupying 6.73% of the Amazon Basin, does not have the problem of deforestation, and is not on the list of to 30 countries with total deaths from Covid-19 virus.
2. The three countries with occupy highest areas of the Amazon basin, Brazil(highest-60.3%), Peru (second highest-11.3%), and Colombia (third highest-) rank the same order on the list of top 30 total deaths: Brazil (rank 2). Peru (rank 9), Colombia (rank 11). The ones that do not correspond to the same pattern is Ecuador 1.48% ranks(21) higher than Bolivia 6.87%(27)

Countries, with large forest areas, which have been committing deforestations in the last 20 years and still committing at the time of Covid-19 outbreak seem to suffer from Covid-19 pandemic much higher than the world average. Countries with large number of populations using wood fuels for cooking seem to suffer from Covid-19 pandemic more than the world average. Deforestations decrease the ability of world forests to absorb Co2.

Therefore, concerning the climate change, Covid-19 pandemic has affected human beings in three ways:

1) Swift reduction of Co2 emission by forcing human beings to lockdown cities, and almost stop all international traveling
2) Causing more suffering to countries with relatively higher Co2 emission
3) Causing more suffering to countries which are currently committing deforestation that significantly reduce the ability of world forests to absorb Co2.

3.3 Concluding table of four patterns of human behavior which relate to the occurrence of Covid-19

Table 6. put data of table2.-Table 5. Into one table so that the total picture of causal relationship between human actions which seem relate to the occurrence of Covid-19 pandemic.

Table 6

Top 30 countries in total deaths from Covid-19 And their four patterns of deeds related to the plight of displaced persons and global warming (Data as of 6 September 6 2020)*

Top 30 Total Deaths Ranking	Dimension I		Dimension II		Total patterns Involved
	Displaced Persons		Climate Change		
	Pattern1	Pattern2	Pattern3	Pattern4	
	Civil War Intervention	Arms Export	Top 30 Co2 emission	Deforestation	
1) US	✓	✓	✓	-	3
2) Brazil	-	✓	✓	✓	3
3) India	-	-	✓	✓	2
4) Mexico	-	-	✓	✓	2
5) The United Kingdom	✓	✓	✓	-	3
6) Italy	✓	✓	✓	-	3
7) France	✓	✓	✓	-	3
8) Spain	✓	✓	✓	-	3
9) Peru	-	-	-	✓	1
10) Iran (Islamic Republic of)	✓	-	✓		2
11) Colombia	-	-	-	✓	1
12) Russian Federation	✓	✓	✓	-	3
13) South Africa	-	✓	✓	-	2
14) Chile	-	-	-	✓	1
15) Belgium	✓	-	-	-	1
16) Argentina	-	-	-	✓	1
17) Germany	-	✓	✓	-	2
18) Canada	✓	✓	✓	-	3
19) Indonesia	-	-	✓	✓	2
20) Iraq	✓	-	✓	-	2
21) Ecuador	-	-	-	✓	1
22) Turkey	✓	✓	✓	-	3
23) Pakistan	-	-	✓	✓	2
24) Netherlands	✓	✓	-	-	2
25) Sweden	✓	✓	-		2
26) Egypt	✓	-	✓	✓	2
27) Bolivia	-	-	-	-	1
28) China	-	✓	✓	-	2
29) Bangladesh	-	-	-	✓	1
30) Saudi Arabia	✓	-	✓	-	2
Total for each issue	15	14	20	13	

Part IV
Worldwide effect: comparing between people of richer and poorer countries

The analysis of empirical data in 3.1 and 3.2is conducted on the country basis. Countries in the analysis are:

1) Top 30 countries suffering the total deaths
2) Top 30 countries in term of Co2 emission
3) Top countries in committing current significant deforestation
4) Countries that intervene in one or more of current four civil wars
5) Top 25 arms exporting countries.

However, people in countries other than countries in the above analysis have also been affected by Covid-19 pandemic. In this part the analysis will be on the individual level of people in every country affected by Covid-19 pandemic. As I see it, people all over the world related directly or indirectly to the climate change and the suffering of displaced persons, but people in richer countries are likely to suffer from Covid-19 pandemic more than people of poorer countries for two reasons:

1. People in every country relate to climate change because they, on their personal affairs, have some part in causing the climate change such as using fossil fuels for cooking or for running their automobiles. When they fly in passenger airplane which use fossil fuels, they indirectly take part in the Co2 emission from the airplane. Richer people on the average are likely to directly or indirectly contribute to Co2 emission than poorer people because they tend to own automobiles and travel in passenger plane more than poor people. Based on this fact, it is likely that, on the individual basis, people in richer countries are more responsible for the climate change than the people in poorer countries. Therefore, nature is likely to make them suffer from Covid-19 pandemic more than people in poorer countries.
2. People in every country also relate to the suffering of displaced persons because they, on individual basis, may help the displaced person by donating money to international agencies responsible for taking care of displaced persons. Rich people are in the better position to donate money to help displaced persons.However, available data shows that there is no significant difference, regarding to helping the displaced persons, between the peoples in richer countries and the peoples in poorer countries. In another word, peoples of all countries around the world show their apathy towards the plight of displaced persons. Nature, in my interpretation, considers that both peoples of rich or poor countries have been equally indifferent, and deserve some suffering. However, nature considers that

people in richer countries are able to give help more than people in poorer countries. Therefore, even though people of both rich and poor countries are about the same in regard to the suffering of displaced persons, nature is likely to make people in richer countries to suffer from Covid-19 pandemic more than people of poorer countries.

Because of the above two reasons, I hypothesize that nature is likely to make people in richer country on the average suffer from Covid-19 pandemic more than people of poorer countries.

To test this hypothesis, the data concerning income level, the number of confirmed cases and deaths from Covid-19 of 60 countries will be studied. The 60 countries to be studied will be divided into two groups: the 30 top countries and the 30 bottom countries in regarding to the level of per capita income. Data on the confirmed cases and total death, as of 6 September 2020, of each country will be presented. The country name, number of confirmed cases and total deaths of each country will be presented in two tables. Table 7.1 for top 30 countries, and Table 7.2 for the bottom 30 countries regarding to per capita income.At the bottom of the table, average confirmed cases and deaths from COVID-19 per 1,000,000 population are presented.

Table 7.1
*Top 30 rich countries in term of per capita income**
*And Number of confirmed cases and deaths for every 1 million population***
(6 September 2020)

Country	Confirmed cases Per 1 million population	Deaths per one million population
1. Luxemburg	10,949	198
2. Switzerland	5,067	200
3. Ireland	5,981	360
4. Norway	2,051	49
5. Iceland	6,259	29
6. US	18,562	564
7. Singapore	9,740	5
8. Qatar	41,604	70
9. Denmark	3,029	108
10. Australia	1,028	29
11. Netherlands	4,306	364
12. Sweden	8,415	578
13. Austria	3,226	82
14. Finland	1,484	60
15. Germany	2,984	111
16. Canada	3,474	242
17. Belgium	7,570	855
18. Israel	14,451	114
19. United Arab Emirates	7,429	39
20. United Kingdom	5,070	612
21. New Zealand	295	5
22. France	4,604	468
23. Japan	565	11
24. Italy	4,570	688
25. Bahamas	6,269	140
26. Kuwait	20,832	126
27. South Korea	413	7
28. Brunei	331	7
29. Spain	10,672	629
30. Malta	4,561	32
Average for each 1 million population	**7,193.03**	**226.06**

*Source: Wikipedia. "List of Countries by GDP (nominal) per capita", en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)_per_capita; Per capita income is of the year 2019 as estimated by the World Bank. Four countries on the list are taken out because the population of each of them is less than 100,000. They are Rank 1. Monaco, Rank 2. Liechtenstein, Rank 17 San Marino, and Rank 25. Andorra. They are taken out because it can affect the reliability of the statistics. As for the bottom 30 countries, none of them has the population less than 100,000.

**Sources: WHO Coronavirus disease (COVID-19) Situation Report, Weekly epidemiological Update (6 September 2020)

Table 7.2
Bottom 30 countries in term of per capita income
And Number of confirmed cases and deaths for every 1 million population
(6 September 2020)

Country	Confirmed cases Per 1 million population	Deaths per one million population
1. Zambia	691	16
2. Pakistan	1,351	29
3. Benin	183	3
4. Lesotho	536	14
5. Tanzania	9	<1
6. Nepal	1,554	10
7. Guinea	740	5
8. Yemen	67	19
9. Mali	140	6
10. Tajikistan	918	7
11. Ethiopia	500	8
12. Rwanda	336	1
13. Uganda	77	1
14. Burkina Faso	67	3
15. Haiti	730	19
16. Gambia, the	1,291	41
17. Chad	63	5
18. Guinea-Bissau	1,141	19
19. Togo	174	4
20. Liberia	258	16
21. Niger	49	3
22. DRC Congo	113	3
23. Madagascar	551	7
24. Sierra Leone	256	9
25. Afghanistan	986	36
26. Mozambique	139	1
27. Central African Republic	979	13
28. Sudan	306	19
29. Malawi	293	9
30. Burundi	39	<1
Average for each 1 million population	**484.5**	**10.9**

Table 7.3

Comparative average confirmed cases and deaths from Covid-19(as of 6 September 2020 Between Top 30 and bottom 30 countries in term of per capita income

	Average confirmed cases	Average deaths
Top 30 countries	**7,193.03**	**226.06**
Bottom 30 countries	**484.5**	**10.9**

From above tables, the following conclusions can be made:

1. **For every 1,000,000 population, the top 30 richer countries had infected cases 14.84 times that of the bottom 30 countries.**
2. **For every 1,000,000 population, the top 30 richer countries had total deaths 20.73 times that of the bottom 30 countries.**

The discrepancy of the figures of average confirmed cases per 1,000,000 population, average deaths per 1,000,000 deaths, of the two group are very wide. Even if I have expected this pattern that the top 30 countries would suffer the effect of COVID-19 more than the bottom 30 countries, I have not imagined that it would be this much different. I write this sentence in the morning of 25 September 2020. In general, the richer country will have more advance medical care system than the poorer country. Therefore, by a common-sense reasoning, the country with better medical care system should be able to control a particular sickness better than the country with less advanced medical system. But the empirical data concerning suffering from Covid-19 is contradict to this reasoning.

The COVID-19 is still spreading ragingly all over the world. The data used for the analysis is the figures on 6 September 2020. It is still the time of uncertainty as to what will happen in the following months. The gap between the effect on the two groups of countries in term of confirmed cases and deaths could be different from the data as of 6 September 2020. However, if the two types of nature's intervention in destiny of human beings(catastrophic behavior and immoral behavior) are correct, the pattern of differences in suffering from Covid-19 pandemic of the people in richer countries and poorer countries will be the same – that is people of richer countries suffer from Covid-19 pandemic much more than the people of poorer countries

Part V: Suggestions

5.1 Concerning displaced persons:

Governmental level:

1) Countries all over the world, especially major powers and the United Nations, use the utmost effort to stop all civil wars
2) Countries all over the world should render help by all means necessary to help displaced person, both from current civil wars and previous civil wars, to be able to go back to their home and be able to restore their wellbeing as much as possible.
3) For arms exporting countries, see to it that weapons exporting from their countries would not be used in any internal armed conflicts or civil wars.

Individual level:

1) Encourage their government to take part in stopping all civil wars, and to help displaced persons
2) Donate money that will be used to help displaced persons, via related organizations especially the United Nations High Commissioners for Refugees (UNHCR).

5.2 Concerning climate change

Governmental level:

1) For countries committing deforestation, stop the practice as it will bring effects of Covid-19 to their people. The damage from Covid-19 will be higher than what gained from deforestation.
2) Every country should embark on the project of reforestation and afforestation as much as possible.
3) Issues and applies laws and regulations to limit the emission of Co2. For example, vehicles using fossil fuels such as gasoline should be prohibited as soon as possible. Wooden fuels for cooking should be changed to less co2 emitting fuels.

Individual level:

1) Reduces fossil fuels consumption as much as possible especially the automobile should be an electric car.
2) Grows trees as many as possible as each tree will help absorbing Co2 from the atmosphere

Every suggestion above will be good for every society as a whole. The most important thing to be aware of, for every government and every individual, is that nature records every action carried out by every human being. Therefore, in the case of Covid-19, every action that help to solve the problems of displaced persons and global warming will be recorded by nature. Nature will acknowledge these actions, recording them. It will indirectly help the individual from harmful effect of Covid-19. However, remember that medical measure is equally important and one has to take all necessary medical measures.

Part VI
Nature Is the judge

At the end of the year 2020, many countries have been successfully produced vaccines for Covid-19. Many countries have begun to vaccinate their people. People of the world highly appreciate this medical endeavor. It is the high hope that we can go back to live the lives like before the pandemic.However, if it is correct that nature designs this virus because of the displaced persons and global warming problems, then mankind also has to solve these two problems while applying vaccination. If not so, we might face some other problems such as the mutation of new strains of Covid-19 which can decrease the efficiency of the already produced vaccines. Besides, nature can bring other new methods to force us to solve these two problems.

It will undoubtedly be beneficial to mankind as a whole if problems of the suffering displaced persons and global warming can be solved. The important point is if it is correct that nature has designed Covid-19 virus because these two problems, then medical measures will not be enough. It is imperative that mankind has to solve these two problems together with taking the best medical measures available.

In some aspects, it seems that mankind can control his destiny without any intervention of nature. Nature's intervention has to base on a proper cause. For example, nature cannot make an apple tree to bear oranges. However, in many occasions with proper causes, nature can intervene with more powerful force than the most powerful nation on Earth at a particular time as have been mentioned earlier in this report.

Nature is like the judge. Nature's judgement is based on nature's ways of interpretation or nature's law. Human being has to understand this law and behave accordingly. It is beyond the ability researcher of this research to tell why nature's law is what it is. However, if similar events in the past are carefully observed and analyzed, it is possible to tell what nature's law is in some certain aspect is***. If someone will ask me how much am I confident that the conclusions made in this research are corrected, I would say that I am 100% confident that they are correct. This is because of two factors: 1) observations of many similar events in the history 2) Empirical relevant data related to Covid-19 pandemic used in this analysis.***

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