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Topic: The Impact of Climate Change on Human Health

Section 1: Background Information

Changes in greenhouse gases and other drivers of climate change are bringing life threatening human health consequences. Environmental consequences of climate change, such as extreme heat waves, rising seas levels, changes in precipitation, and degraded air quality, greatly affect human health. For instance, changes in precipitation is causing major changes in the availability and quantity of water; however, changes in precipitation are also causing extreme weather events such as intense hurricanes and flooding. Climate change can be a driver of disease migration, as well as heighten health effects resulting from the release in toxic air pollutants in vulnerable populations. People who are children, elderly, or have asthma or cardiovascular disease are more affected than others.

Each change in our environment has a different affect on us as humans. For example, extreme heat causes heat-related illnesses and cardiovascular failure while air pollution may cause asthma and cardiovascular diseases. Another example would be water quality. Water makes up 70% of our body, and in order to stay healthy, we must drink several bottles of water a day. This is why it's important to have a clean water source since cholera, cryptosporidium, campylobacter, leptospirosis, and harmful alleges blooms can occur. Moreover, vector ecology, which has increased because of climate change, has also become a serious problem. A vector is any agent that carries and transmits an infectious pathogen into another organism. The changes in vector ecology have proven to be deadly to human health. Diseases like malaria, dengue, encephalitis, hantavirus, Rift Valley fever, Lyme disease, chikungunya, and West Nile virus have shown a steady growth in the number of humans being affected. To make matters worse, severe weather has also caused some health problems. Injuries, fatalities, and mental health are the main health issues that arise. Overall, climate change is a major threat around the world. Not only is climate change causing significant environmental impacts but also human health issues like environmental illnesses and death from heat stress, breathing problems due to worsening pollution, and increased incidence of infectious diseases.

Peru is the third largest country in South America with 30.38 million people since 2013. It contains 71% of tropical glaciers. These glaciers are crucial to Peru’s water supply as they slowly release water into rivers which provide drinking water and water for agriculture, hydroelectricity and industry such as agro-exports and mining. Studies show that, since 1970, Peru's glaciers have irretrievably lost a third of their surface area. The now unavoidable melting

of glaciers will severely reduce water supplies in a country that is already water-poor; of Peru's 8.9 million rural people, 3.3 million currently have no access to safe drinking water. Between 2 to 5 million people die due to contaminated water. Most of these people are children. It is known that the reproduction cycle and transmission to humans of microorganisms such as E. coli, Salmonella and Campylobacter will benefit from global warming.

Peru is at a geographical disadvantage since it is an already war country and is subjected to droughts and extreme weather. El Niños is just one example of climate change in Peru. El Niños is a warming of the ocean current along the Peruvian coast that causes changes in the region's weather patterns; a major El Niño event generally occurs every three to seven years, but climate change could make major El Niños much more common. The most drastic was the one that occurred in 1998.

The global temperature estimated in 2100 was 2°C. This is already considerably dangerous. Now, scientists are a rise closer to 4°C, unless action to cut emissions is taken urgently. Such a rise is comparable in magnitude to the temperature difference between now and the last ice age, and could result in a truly global catastrophe with severely adverse health implications. While most nations see the impacts of climate change as a future issue, they are being felt right now in Peru.

Section 2: Past Actions

Since 2008, the World Health Organization (WHO) has strived to raise awareness of the threats posed by climate change to health. Specifically, WHO has provided evidence, technical guidance, and piloted approaches to protect health from climate risks. In March 2009, WHO published a work plan on climate change and health. Their plan was to be enforced over a 5 year period. The goal of their work plan was to aid smaller countries by supporting health systems. The plan was centered to follow 4 main objectives. First, raise awareness in the risks and effect of climate change on health. Second, engage in United Nations organizations and sectors. Third, promote and support the generation of scientific evidence. Fourth, strengthen health systems to cope with health threats posed by climate change. The overall function of these objectives is to ensure that health protection and health promotion are central to climate change adaptation and mitigation policies. Also, to prompt change in reducing greenhouse gas emissions and prepare countries for the effects of climate change.

Section 3: Possible Solutions

The most occurring issue in climate change is the lack of clean, uncontaminated water. Climatic conditions also strongly affect water-borne diseases which results in millions of people dying. This especially happens in Peru. The best and inexpensive way to start getting fresh water is by turning salt water into drinking water using sustainable solar power. This was invented by a

research team from the Massachusetts Institute of Technology (MIT) in the US. The team's invention works by using solar panels to charge a cache of batteries that power an electrodialysis machine that removes salt from the water and makes it perfectly drinkable. David L. Chandler explains: "Electrodialysis works by passing a stream of water between two electrodes with opposite charges. Because the salt dissolved in water consists of positive and negative ions, the electrodes pull the ions out of the water, Winter says, leaving fresher water at the centre of the flow. A series of membranes separate the freshwater stream from increasingly salty ones" (BEC Crew, Sciencealert). This system can turn 90% of salt water that's fed into drinking water which is huge, compared to the 40 to 60 percent from reverse-osmosis systems. The team tested their invention on several villages in India in 2014, and they have been using the Brackish Groundwater National Desalination Research Facility in the US to run 24-hour tests to analyse its efficiency and cost of maintenance. According to their research, in just 24 hours, their system can remove the salt from 2,100 gallons (7,950 litres).

Another possible solution to reducing the health risks caused by climate change is by creating a public database. This database would inform citizens of the effects of diseases and other health risks. It would also show where they are located and the best way to prevent being infected. It is believed that the most effective way to lower exposure to harmful diseases is by raising awareness. This database would be worldwide, so every country would be able to benefit from this. It would also be created and updated by the UNFCCC.

Topic: Climate Refugees

Section 1: Background Information

In 1990, the International Panel on Climate Change (IPCC) predicted that climate change would result in displacing millions of people. Today, large-scale refugee flows and lack of progress in slowing global warming are the top risks that the world faces in the coming decade, according to a survey by the World Economic Forum. Each year people are affected by climate change, and in many cases, they are forced to move due to rising sea levels or extreme heat waves.

Due to its location, Peru is affected the most by climate change. For this reason, Peru has displaced hundreds of refugees each year. Whole communities have abandoned their lands, leaving ghost towns throughout much of the southern Andes. Unlike refugees who flee across borders, Peru's internationally displaced cross an "invisible border of race, culture and language within their own country" (Brooke, New York Times). But because Peru's refugees don't cross borders, there is very little international attention and very limited international aid to help the displaced. Overall, Peru is emerging as the worst refugee problem in Latin America. '"Never in

my life have I been in an empty house, without meat, without cheese," said Victoria Valenzuela, a 55-year-old refugee who said she had left behind a family farm with pigs, goats and 13 acres of fields planted in wheat, barley, corn and squash" (Brooke, New York Times). Victoria is just one of example of the multiple people who have left their villages because of the increase in climate change. As displaced people they go unaccounted and unrecognized, unwanted reminders of a war most Peruvians would like to forget.

Every day, about 20 % of Lima's population eats in neighborhood soup kitchens where a meal costs about 20 cents. Much of the food comes from the United States, which in recent years has made Peru the largest recipient for food aid in the hemisphere. But Peru's government has yet to make good on 18-month-old promises of a multinational emergency aid effort. The government plans on starting a 300 million program, largely funded by foreign organizations. It is said to be the pillar of Peru's national recovery program.

Section 2: Past Actions

Since 2009, an estimated one person every second has been displaced by a disaster, with an average of 22.5 million people displaced by climate- or weather-related events since 2008. Extreme weather, rising sea levels, environmental changes can leave huge numbers of people traumatized without shelter, clean water and basic supplies. The UNHCR leads the Global Protection Cluster for protecting and assisting people who are forcibly displaced and cannot return safely home. Although the majority of people displaced by disasters and climate change will remain within their own borders where states have clearly defined responsibilities, the international community can, on request, provide support and humanitarian assistance.When called upon to intervene, we can deploy emergency teams and provide concrete support in terms of registration, documentation, family reunification and the provision of shelter, basic hygiene and nutrition. Many of those who are displaced across borders as a result of climate change may not meet the refugee definition. Nevertheless, they are in need of protection and assistance. Therefore, UNHCR is supporting the Platform on Disaster Displacement, which is a follow up to Nansen Initiative on cross-border displacement. This Platform will coordinate the implementation of the recommendations from the Nansen Initiative Protection Agenda. UNHCR has also developed planned relocation guidance to move people out of disasters and climate change effects while respecting their human rights. Furthermore, UNHCR has provided technical support to the UNFCCC process since 2008, including through coordinating the Advisory Group on Human Mobility and Climate Change. UNHCR remains committed to continue providing technical support to Parties in implementing the Paris Agreement.

Section 3: Possible Solutions

The first course of action is to raise awareness about climate refugees. Organizations from the UN can host campaigns where people can donate money and learn about refugees. This money would be used towards providing aid to climate refugees. Its vital that these campaigns draw in a lot of people because it's important to promote change in greenhouse gases and inform people about the growing danger in climate change.

Countries should also take steps in ensuring that they individually provide for its refugees and prepare for future problems facing its people. If the government fails to give aid to its people, cross-border migration then seems like the only option. However, countries must consider revising an entirely new legal framework that outline the protection and resettlement of these victims. The international community must then provide financial support to host countries who are taking in refugees. This money would be provided by a new organization called the Climate Refugee Defense and Immigration Fund. It would be an independent fund for all parties to the climate refugee protocol. Those countries which exceeded the cap on greenhouse gas emissions would be made to pay. Also, countries and organizations are allowed to donate money to as well. Another way to gain funds would be to introduce a $2 tax on international flights. All passengers would be required to pay, and this money would given to the Climate Refugee Defense and Immigration Fund.

Topic: Steps to Enforce the Paris Agreement and Further Reduce Greenhouse Gas Emissions

Section 1: Background Information and Past Actions

The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with greenhouse gases emissions mitigation, adaptation and finance starting in the year 2020. The agreement was negotiated by representatives of 195 countries at the 21st Conference of the Parties of the UNFCCC in Paris and adopted by consensus on December 12, 2015. It was opened for signature on April 22, 2016. In November 2016, 193 UNFCCC members have signed the treaty. 102 countries have ratified it. After the European Union ratified the agreement in October 2016, there were enough countries that had ratified the agreement that produce enough of the world's greenhouse gases for the agreement to enter into force. The agreement went into effect on November 4, 2016. The only countries that have not yet signed the Paris Agreement is Iraq, Syria, Uzbekistan, and Nicaragua.

The aim of the convention is described in Article 2, “enhancing the implementation” of the UNFCCC through:

“(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue 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;
(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (Paris Agreement, Wikipedia).

Countries also hope to reach the global peaking of greenhouse emissions as soon as possible. This agreement is said to be a driver for fossil fuel divestment.

Section 2: Possible Solutions

The Paris Agreement has been described as “revolutionary”, and while this agreement will surely help prevent further damage from greenhouse gases, it's the duty of each country to enforce it. Otherwise, climate change will continue to affect the world. There should be a group of people who travel to each country every year to do an evaluation. Their main objective is to enforce the Paris Agreement. They would study and review the effect of climate change in each country, and if necessary, help countries continue to abide by the agreement. If countries work towards making their country a better place, it will be a lot easier to enforce the Paris Agreement. Overall, it's vital that we stand by our beliefs in doing what’s best for the people.

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