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Vietnam, Global Warming

Vietnam and Global Warming: How, Why, and What's Next

Vietnam is a country located in Southeast Asia with a rich history and even richer culture. As Vietnam has aged as a country, it has experienced many difficulties, and these struggles are likely to continue. One major issue Vietnam faces is climate change. According to the International Trade Administration, Vietnam is one of the world's five most vulnerable countries to climate change. It is important for the country to look at how they should move forward in their development while still acknowledging things like climate change.

A 2023 report from the United States Agency for International Development (USAID) states that Vietnam stands at a population of approximately 104.7 million people. About 30 percent of people in Vietnam live in urban areas, while the other 70 percent reside in rural areas. Along with 70 percent of their population being rural, one-third of Vietnam's land is used for agriculture. Their largest agricultural export is rice, as they are the world's second largest rice exporter. The average farm size is one half of an acre which is comparable to a third of a football field, and the majority of their food comes directly from self-run or community oriented farms (USAID).

Vietnam also exports crude oil, clothes, shoes, marine products, wood products, cassava, electronics, and coffee. Since Vietnam's economy relies on agricultural production and exporting Vietnam-made products, these industries provide the majority of employment opportunities (USAID). A 2023 employment survey reveals that the agriculture, fishing, and forestry industry is the largest employer in Vietnam with the average employee making the equivalent of 275 United States Dollars per month (Statista). While Vietnam is highly agricultural, its dairy and soy production is insufficient to provide for the nutritional needs of the country. As a result, a significant amount of Vietnamese people have calcium deficiencies (World Bank).

The heat and humidity of Vietnam means the climate is ideal for growing rice, but also leads to a very hazard prone climate. Although Vietnam has a dry season, they still experience a fair amount of rainy days. To go along with that, Vietnam often experiences typhoons, floods, droughts, and landslides (United States Agency for International Development). In October of 2016, a poor Vietnamese family was interviewed over their experience from the devastating flood season. "We lost almost everything," Chu Huu Trang quotes 48 year old Nguyen Van Hat. Hat also speaks of how he lost his two buffaloes, worth approximately 2,000 USD (UNICEF). Since Vietnam is ruled by The Communist Party of Vietnam (CPV), they are classified as an Authoritarian state (United States Department of State). An Authoritarian state is a state that has a lack of civil liberties, such as freedom of speech or religion. Authoritarian states often do not alternate power following free elections.

While Vietnam may have climate and political challenges, they have one of the most successful health care systems in Asia. Also, schooling is accessible to the general public with low tuition rates due to government subsidies. It is important that tuition rates are low because most families in Vietnam are low-income (University of the People). Along with accessible schooling, the majority of Vietnam's population has access to electricity. Ninety-nine percent of the population uses electricity. In contrast,

only 51 percent of the population in Vietnam have access to clean water. The country also struggles with safe, accessible roads, impacting people commuting to work, students going to school, and even farmers trying to take care of their land (World Bank).

Since Vietnam is so vulnerable to the effects of climate change, it is important to recognize the aspects of this challenge. As was addressed earlier, Vietnam has common droughts, floods, landslides, and typhoons. These natural disasters lead to issues with farming and maintaining a steady food supply in the country. During the Vietnam war, an herbicide called Agent Orange was released into the environment. This toxic substance was largely made up of a dominant chemical called dioxin. This chemical affected not only people, but the environment, too. Although Agent Orange can only last on surfaces like leaves and in soil for one to three years, buried amounts of this substance in the ground or in rivers can last more than one-hundred years. To add to this, Vietnam's temperature is increasing about three degrees celsius per year. The main contribution to this increase in temperature is their Carbon emissions and greenhouse gasses (Aspen Institute). A major portion of the pollution and waste is from urban areas but gets dumped in rural areas of the country and pollutes the farmland which also ends up polluting people's places of living (United Nations). Along with the pollution of homes, research suggests that there will be a significant decrease in the health of the elderly because they will be more likely to suffer from the changes that come along with climate change due to mental and physiological differences (Linh).

Climate change is defined as long term shifts in temperatures and weather patterns. Although some of these changes are natural, a large majority of them are caused by aspects of human life (United Nations). To properly evaluate these issues, a team of scientists and researchers, along with various people involved in STEM operations When considering the solutions for climate change help is needed from people that do work in all areas of STEM. In Vietnam, men are two times more involved in STEM efforts than women (Linh). This means that men have more of a say, power, and involvement in the decision making process regarding all efforts related to STEM, including how the country moves forward and works to slow climate change. One of the first things Vietnam should consider when it comes to working to solve climate change would be the diversity of the people they have working in these areas. They should include men, women, young people, old people, poor people, rich people, farmers, lawyers, and so many more. This leads to decisions that have a benefit on all the people of their country in some way.

Vietnam's president has already made several commitments towards combating climate change. The Ministry of Natural Resources and the Environment has made plans to be more environmentally conscious of how land is divided in the country. This means that they made commitments to be more aware of who is purchasing land and what this land will be used for in the future (United Nations). Another solution that has been proposed by the Multilateral Investment Guarantee Agency was a loan to develop a 102 megawatt hydropower project on the Ma River in Vietnam. This can contribute to Vietnam's high demand for energy while being more environmentally friendly, safe, and conscious.

In the United States, as of 2023, there are more than ninety thousand wind turbines (United States Department of Energy). Some people dislike wind turbines because they can be used as obstructors and are also costly to service and keep up to code. Another option for renewable energy is solar panels. Although they are effective in the sun, they do not work as well in bad weather conditions. Unfortunately, Vietnam has a significant amount of bad weather. Also, solar panels are very expensive and can take up lots of space depending on the type. These steps being taken are smart and beneficial, but it is also important to be aware that many of them are labeled as future projects or estimated solutions. Climate change is not stopping or slowing just because of said future project and estimated solutions. While some solutions offered are viable, many of them are very costly.

If I were in charge of decision making in this situation, I would want to look at a number of things. First, I would like to take a closer look at transportation and land usage in Vietnam. Since Vietnam produces so

many greenhouse gasses, I recognize the impact transportation and factories have on these gas emissions. Putting solar panels and wind turbines in could be one thing to do that would help with this issue, but a more beneficial solution would be through stopping environmentally harmful habits. There could be laws and regulations put on businesses and large corporations that run through or in Vietnam on what they can do with, and how much they can use when it comes to fossil fuels. Also, I would implement more regulations stipulating the approved locations where businesses can dump their waste and how waste needs to be dumped to diminish negative environmental impact. These regulations can include incentives that are good examples of sustainability. If large companies keep dumping their harmful, possibly toxic, waste in and around farms, there can be a harmful impact on these farms, and food supply in the country.

Therefore, a large part of my solution is simply governmentally rooted. Through a series of regulations, laws, and recommendations, Vietnam would already be moved in a much more positive direction for the future of climate change in their country. When going through the process of forming these regulations, I would put together a team of people. People with all sorts of backgrounds and experience. Like I discussed above, old, young, rich, farmers, women, men, and all sorts of people involved in STEM careers. Once a group of people from the country had been gathered together, I would present them with my ideas. I would share a proposal of stricter regulations on what agricultural and industrial companies can do with their waste and land and ideas for implementing wind turbines in empty or free spaces around the country.

To conclude, Vietnam is a country that has much work to do in many areas, specifically climate change solutions and environmental health. When looking at the steps they have taken so far, it is recognizable that there are many steps yet to be taken. Through a panel of experienced, diverse people, regulations on agriculture companies and factories, and a use of some renewable energy source, like wind turbines, Vietnam could be on their way to a healthier, cooler, and safer environment.

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