Climate Situation at Caribbean Country of St.Lucia

Impact of climate change on St.Lucia

Climate Change is having a significant impact on countries across the globe. However, the countries that seem to be affected most by climate change related hazards are island and coastal states within the tropical zone. The countries of the Caribbean are particularly vulnerable to climate change and its impacts. Saint Lucia is a Caribbean island, located in the west indies, east of the caribbean sea, and on the boundary with the Atlantic Ocean. It sits on the front lines of the impact of climate change.

Part of the Lesser Antilles, St.lucia is situated northeast of St.Vincent, northwest of Barbados and south Martinique [a Department of France]. It covers an area of 617km2 (238 square miles) and has a population of 165,595 people. Saint Lucia is of volcanic origin and is divided from north to south by a ridge of wooded mountains, the highest point is Mount Gimie stands at 3,145 feet or 959 metres. There are a large number of streams flowing from the mountains to and through the valleys.

St.Lucia is in the path of the northeastern trade winds and has a tropical maritime climate.

As a small island located in the Atlantic belt, St.Lucia is extremely vulnerable to climate change and the costs that come along with climate change. St.Lucia faces high risks of tropical hurricanes and landslides and a medium risk of coastal floods. Amongst the small countries, St.Lucia has a ranking of 5th when it comes to countries that are at risk for natural disasters. While these facts show the challenges that Saint Lucia faces as a small country, the risks associated with climate change will over time make Saint Lucia even more vulnerable to the impacts of natural hazards.

According to the International Monetary Fund Climate Change Policy Assessment published in June 2018, St.Lucia is in the top 10 percent out of 182 countries in the climate risk index when it comes to losses related to natural disasters between 1997 and 2016. The island's average yearly loss from wind related events and floods has a mean of under US $49 million / 3.4% of GDP. St.Lucia's primary concern related to climate change is damage from extreme weather such as floods and landslides with associated loss of life, infrastructure, housing and output. Threats to water supply and economic costs to tourism and primary sectors from rises in temperature and sea level.

Climate change has huge effects on many sectors in St.Lucia. Climate change poses a threat to the coastal infrastructure and economic properties from sea level rise. The impacts of more intense and frequent weather events may be seen. Negative impacts on human and ecosystem health, water, food production and financial services sectors. There may be changes in rainfall distribution and intensity, leading to floods and droughts and coastal degradation may be experienced.

Factors making Saint Lucia susceptible to climate change

St.Lucia is extremely vulnerable to the effects of climate change. St.Lucia's vulnerability to climate change could be attributed to its location, the island's small land mass, topography, its limited resources, its location of social and economic infrastructure and its reliance on the service industry as well as agriculture production. Many of the factors which make Saint Lucia susceptible to climate change are interlinked. For example, the smallness of the island means that the economy is too small to generate enough government and private sector revenue to harden the infrastructure and limit the impact of climate change. In other words, small states need more resources to build infrastructure that is able to withstand natural hazards.

In order to better understand the challenges related to addressing issues connected to climate change in small islands like Saint Lucia, it is important to get a clear picture of how people live and their relationship with the natural environment.

Many of the houses in Saint Lucia are fabricated from of wood making these households susceptible to weather events such as floods, storms and landslides. Moreover many of these wooden houses are located on the sides of mountains and slopes increasing their level of risk to the elements. These wooden houses are more exposed to the effects of storms and other weather events as they have weaker structures compared to the houses made out of concrete.

Economic Impacts

On the economic side, the three main industries in St.Lucia are: Services, agriculture and manufacturing. All of these sectors are at risk of being affected by climate change related events. For Example, the services sector which includes tourism accounts for over 80% of GDP. Also agriculture which does not contribute as much to the GDP as Services employs a significant number of people in rural communities, primarily in farming. In manufacturing, while the smallest of the three major sectors, also generates significant employment opportunities. All of these sectors(services, agriculture and manufacturing) are affected by risks associated with climate change.

As indicated above the most critical sector is Services. A large part of the services sector is tourism and tourism related services such as tours, transportation and restaurants. This sector is the largest employer on the island and also provides the government with large amounts of taxes both through directed taxes on tourists but also on the activities that are created by tourists. For example, if a taxi driver buys a new car to transport guests, the taxes he pays on that car also go to the government. Tourism has its own economic ecosystem as tourists are usually engaged in other activities such as going to spas, taking tours, going shopping as well as visiting restaurants. These activities also contribute to economic activity in the country. Therefore, climate change related risks have a significant impact on those critical sectors and could create major problems for both hotels, services suppliers and government. This is because, tourists do not visit Saint Lucia during storms and the post-storm reconstruction can take many months during which time the hotels are usually closed.

The agriculture sector is also critical to the development of Saint Lucia as it creates employment opportunities supports food security and is a good source of foreign exchange through trade. In the rural communities there are not many job opportunities therefore agriculture provides jobs to many individuals.Therefore the agriculture sector is critical to the livelihoods of many in the rural communities as it plays a big role in generating much needed jobs. Agriculture also provides food security as it is one of the few avenues through which food can be provided to people who

are cut off from the west of the world by water.

In the manufacturing sector, not only does climate change destroy the manufacturing plants but it disrupts the supply chains and business relationships. Manufacturing is a competitive global business. Few countries are exposed to the hazards connected to climate change like tropical island states such as St.Lucia, for example a storm can destroy a factory and expensive equipment. This makes manufacturing in countries susceptible to climate change more expensive due to higher insurance premiums and higher costs for construction. This is a direct result of climate change connected hazards. Manufacturing is much more difficult in island states such as St.Lucia as the increasing number of storms, coastal erosion, floods and landslides often have a negative impact on connectivity (air and sea freight). Many manufacturers provide “just in time services” and such disruptions related to climate change have a negative impact on supply chains. Cargo planes and freight ships cannot do business in bad weather therefore limiting the reliability of manufacturers in countries vulnerable to climate change.These factors combined ensure the climate change related hazards make the business and economic environment very challenging in parts of the world vulnerable to natural hazards related to climate change. I will explore later on in this paper how the impact of climate change is likely to intensify in the coming years.

Social Impacts

Based on the economic impacts, there are also social impacts which come along with climate change. When a natural disaster occurs, due to the slow financial growth of certain businesses, some companies “let go” of staff. This directly leads to a rise in the unemployment rate. In many cases, unemployment leads to higher crime rates which can become a social issue. Higher crime rates indirectly affect tourism as foreign visitors would not want to visit such a ‘dangerous’ place.

Additionally in the event of a climate change related impact, the health of the people in the affected country can be compromised. Climate change events can result in a disruption in sources of freshwater due to contamination of water as a result of broken pipes and sewage systems. Finally as it relates to the social impacts schools may be destroyed or severely damaged as a result of these natural phenomena and may take several months after the event for schools to reopen. The social costs in lives affected by climate change is significant and should be assessed when analysing the overall impact of climate change related hazards and risks.

Science behind the climate change phenomenon

The year 2018 has been a particularly

A summer heatwave in 2018 is causing issues across the world. From Seattle to Siberia, flames have taken over large areas of land of the northern hemisphere. One of 17 california wildfires is causing so much heat that it has created its own wind. During the summer of 2018, uncontrollable fires in Greece killed 91 people, Japan announced a natural disaster as a result of 65 individuals due to a 40 degree celcius scorcher in Tokyo.

No result of climate change is more obvious than higher temperatures. The earth is about 1 degree celsius hotter today than before greenhouse gases were let out into the environment

during the industrial revolution. Researchers can now calculate how humans make a certain weather event more likely. A study co authored by Dr.Scott in 2004 discovered that the chance of the 2003 European summer doubled as a result of Human activity. Numerous studies have arisen. World Weather Attribution, a website ran by Dr. Van Oldenborgh and Friederike Otto of Oxford University uploads a new one monthly. Apart from examining past weather many experiments look into the future- mostly at how the chance of extreme events changes depending on how seriously countries take their NDCs in Paris during the conference in 2015 to limit global warming to under 2 degrees celsius relative to pre industrial levels.