

The impact of the haiti earthquake on the environment



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The overall aim of this project was to assess and discuss the impacts to Haiti after a 7.0M earthquake struck the community on the 12 January 2010 at 4.53 p.

m. The earthquake created many detrimental effects on the people and the environment. The environment in and around Port-Au-Prince was greatly affected, were the built environment, water supply and sanitation, woodland, agriculture and coastline and fisheries felt the effects of the earthquake. Many organisation intervened by donating money to help Haiti on the pathway of reconstruction, with leading organisations like the World Bank, United Nations, Water. org and the Clinton Global Initiative who all have attempted to maintain Haiti in terms of their wellbeing and livelihoods.

Strategies have been used in the hope that Haiti's effort will lead to resilience and development for the society in the future. Haiti is located in the western hemisphere on the island of Hispaniola in the Caribbean region. The island of Hispaniola is made up of two separate countries, the Dominican Republic and Haiti (or also known as the Republic of Haiti). The population of Haiti is 9.

8 million (CIA, 2009), and its capital city is Port-du-Prince. The country of Haiti is a total area of 27,750 sq km. Haiti is among one of the poorest countries in the world, but within the Western Hemisphere it is if not near enough the poorest country in that region were around 78% of the Haitian population lives on under US\$2 a day. Haiti has had a long history of political violence and has been subjected to three decades of dictatorship.

In 1986 one of Haiti's previous presidents known as ' Baby Doc' Duvalier was forced from power by the US and put in exile ever since. Several years later in 1990 Haiti elected Jean-Bertrand Aristide to be president. His democratic experience was cut short were in 2004 he was forced out of power. Currently Haiti's president is Rene Preval, he was elected in 2006 as president and compared to the last two presidents of Haiti, Rene Preval has made some sort of improvement for Haiti. Where jobs have been created, the slums have become less violent, and there have been some timid signs of a growth in tourism (BBC news, 2010). Haiti has a GNI per capita of US\$660, with main exports such as Apparel, light manufactures, plant oils, cocoa, mangoes and coffee.

10 miles from the Port-Au-Prince region was the epicentre of an earthquake of the magnitude of 7. 0. The plate boundary is mainly dominated by a left-lateral strike slip motion and compression, and accommodates about 20 mm/y slip, with the Caribbean plate moving eastward with respect to the North America plate. The Earthquake struck 5km (10 miles) south-west of Port-au-Prince, and was quickly followed by two strong aftershocks of 5. 9 and 5.

5 magnitude, (BBC, 2010). Aftershocks are common after relatively large earthquakes and can happen over the duration of days, weeks or even longer than that. Like the main earthquake the aftershocks can still bring about risk to the environment and people in that area. The city of Port-du-Prince is the most densely populated area in the Haiti region were much of it population lives in slum like conditions. Many were killed due to

infrastructure failure, the earthquake overall killed an estimated 230, 000
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people, injuring an estimated 300, 000 and displacing around 1. 5 million Haitian people.

Damages and losses were evaluated at around US\$8 billion or 120 percent of GDP by the Post- Disaster Needs Assessment (PDNA) conducted by the World Bank and other donors (World Bank, 2011). There has been significant impacts to Haiti's environment, that both rely on the well-being and livelihood of the society and also to the countries overall economy and economic growth. The Haitian government is already unstable and the lack of funding and cooperation is leading Haiti to a worse off situation than the day before the earthquake. Damages and losses are estimated at \$8 billion USD (United States dollar) money to which is phenomenal in relation to how poor Haiti is. According to the Action Plan for National Recovery and development of Haiti recognize that the capital city accounts for more than 65percent of the country's economic activity and 85 percent of Haiti's tax revenue.

All these major factors have dramatically contributed to the overall effect of the earthquake on Haiti as a whole. Infrastructure/ shelterThe 7. 0M earthquake which hit Haiti destroyed over 250, 000 buildings, many people were forced to squat with there families on unsafe and unprotected hilltops as a result of losing their home. Make- shift homes from wooden poles and bed sheets are what most people are living in.

Around 1, 300 camps exist as a result of the earthquake that accommodates hundreds of thousands of people who were left homeless. According to the United Nations environment programme the major impact and issue in the

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area due to the earthquake is the extent of the vast amounts of rubble and debris remaining. In Port-au-Prince and other surrounding areas, an estimated 40-50 percent of the buildings fell as a result of the earthquake killing many civilians. There are still civilians dead and trapped under the debris, causing extreme risks to water and waste management in many areas of Haiti. Due to the disruption of the capital city Haiti lacks decentralisation, leaving the country in a vulnerable way. Water There are many threats to the water quality and the abundance of it, due to lack of sanitation and the correct waste management were water has either become to contaminated and unsafe to drink or limited due to efficiency of donated aid reaching areas quick enough to those who need it the most.

The lack of waste management has enabled water to be a vector for diseases, and in recent cases this has caused outbreaks of cholera. Water.org explain that in a disaster such as the earthquake in Haiti an earthquake can cause underground water and sanitation pipelines and concrete water storage tanks to be highly susceptible to damage by the earthquake and will likely need to be repaired or replaced. The earthquake caused this system to fail, and the progress of repairing and replacing this system is slow if not non-existent. Access to safe water and sanitation services are among one of the major impacts to Haiti. Woodland A lot of the woodland previous to the quake had already been subjected to the vast amounts of deforestation, and now the rest of which remains is used for the reconstruction of temporary shelter or sold to get money for the local people in the form of products like charcoal.

There has been a 100% price increase due to the dramatic impacts of the earthquake on the Haitian economy and well-being. The United Nations Environment Programme (UNEP) suggests that environmental issues such as extensive deforestation and soil erosion, can be adverse effects as a result of the earthquake.

Agriculture

The United Nations Environment Programme (UNEP) states that the largely destroyed rural environment could not fully feed its population or provide adequate livelihoods. There has been significant losses in rural areas to the west of Port au Prince extending beyond Jacmel and Petit Goave to the west. Indirect earthquake impacts are also emerging in areas such as Les Cayes and Gonaives, which are hosting disaster survivors displaced from Port au Prince. An estimated 598, 000 individuals have been forced to move from urban areas such as the port-du-prince area as a result of lack of shelter, food, water and several other basic human needs.

Coast/ fisheries

There has been coastal zone degradation around the Haiti region, many of which have been further exacerbated by the recent earthquake. Many fisheries have felt the earthquake's impacts significantly, although previous to the earthquake, overfishing was seen throughout Haiti, the earthquake has just escalated the effects. Reconstruction efforts and future strategies

There have been many efforts made internationally to help reconstruct Haiti, with substantial donations and vast amounts of volunteers who have attempted to help Haiti in the recovery state and also long term. The World Bank has played a significant role in the recovery and reconstruction of Haiti, the World Bank have already donated US\$479 million to target and address areas that had been dramatically impacted by the

earthquake. Work for cash is a programme that has been set up to employ Haitian people who had lost their jobs due to the earthquake. The work for cash programme allows the Haitian community to clear away rubble from sidewalks and roads, improving their living standards but also providing money for basic needs and has been a great success.

Camp co-ordination and camp management (CCCM) according to the United Nations (UN), have 'coordinated provision of camp management to over 60% of the displaced population. It has led the registration and monitoring of the displaced population and provided expert training to 400 people from over 80 organizations in camp management skills. CCCM has also established the Displacement Tracking Matrix, which provides a birds-eye-view of the situation in 95% of camps in order to assess levels of service and raise awareness about difficulties.' In relation to water supply there are short term responses that typically include bottled water and the use of high volume purification equipment. Although this can be expensive, it can be quickly deployed as a short-term solution. There have been many relief agencies who have been involved in these types of efforts, in the hope that it brings Haiti clearer and safer water.

The responses of organisations all over the world have been significant. Water.org is one of the leading organisations who has been involved in the rehabilitation and expansion of sustainable water and sanitation infrastructure in the region of Haiti. Water.

org has previously to the earthquake helped Haiti through the use of several programmes. Water.org was already coordinating with the Clinton Global

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Initiative, the United Nations, and other agencies to provide Haiti with clearer and safer water to the Haitian society. Water. org aims to increase the level of access to sustainable, safe water and sanitation.

Also to decrease the prevalence of water and sanitation related diseases. And lastly to promote integrated water resource management, increase awareness of good hygiene, and finally to be able to measure the demand of water supply and sanitation on a community level. Much of Haiti's educational system was greatly affected by the catastrophic impacts of the earthquake. There have been many efforts of reconstruction to which thousands of children now attend private schools across Port-Au-Prince, and receive hot meals each day. Efforts within the educational sector are thanks to the World Bank support programme who donated a significant sum of money for the wellbeing of the children.

The programme intends to extend this to more children in the coming months with new improved grants. The programme also helps train those who are willing to teach at a cost of nothing. Education overall within this society can be a key of development. Resilience and enthusiasm are the primary keys to improving a country like Haiti.