

Haiti – An Unnatural Disaster

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This article brings geophysical and theological perspectives to bear on the historic influence of social, economic, and political factors that turned Haiti's 2010 earthquake into an unnatural disaster. These factors have disabled the native endurance of the majority of Haitian people, and the necessary adaptive requirements of the state, in developing disaster mitigation strategies.

Background

January 12th 2013 marks the third anniversary of a devastating earthquake that struck the Caribbean country of Haiti. Over 220,000 people died (2.3% of Haiti's population, or more than the total population of Southampton, UK). Around 70% of these deaths were in Port-au-Prince, the capital. The earthquake also left 300,000 with life-changing injuries, both physical and psychological, and 1.5 million homeless. 40% of federal employees were killed or injured, including essential government and United Nations personnel; 14% of medical personnel died; 28 out of 29 government ministries were levelled. Around £1.5 billion was pledged in aid for emergency relief and reconstruction, yet the earthquake costs are above £5 billion. A complicating factor was Hurricane Jeanne which struck northern Haiti two years earlier, killing around 3,000 people and leaving 200,000 without homes or livelihoods. Ten months after the earthquake a cholera epidemic took another 7,000 lives and sickened 530,000 patients. The legacies of these tragedies – physical and mental health disabilities, displaced people, unemployment, limited access to medical assistance, little sanitation, poor access to clean water and gender violence – are ongoing as we write.¹

In places like Haiti, where there is recurrent exposure to natural hazards of weather, floods and earthquakes, there can be a tendency to categorise such events as 'natural disasters', as distinct from the 'man-made' kinds such as road or building accidents and terrorism. But often human factors severely exacerbate these disasters. A binary perspective on disasters ('natural' or 'man-made') can have negative practical consequences for those struck by the disaster, for those who respond to it with aid, and for those who try to interpret a world that suffers apparently random catastrophic events. Understanding and interpreting them with scientific and ethical integrity is essential to a constructive response.

In the past thirty years a growing research literature on disasters has shown good reason for abandoning the binary perspective of 'natural' or 'man-made' causes for disasters. Almost always, much of the devastation and destruction stemming from 'natural disasters' arises from ecologically destructive practices and from people putting themselves in harm's way.² The 2010 Haitian earthquake, which caused by far the greatest loss of life in human history for an earthquake of its size, illustrates this clearly.

The Geophysical Setting

Haiti sits on a plate boundary in the Caribbean, a well-known source of frequent large earthquakes. Here, two plates are sliding past each other at a total rate of about 20 millimetres (about an inch) per year. The fault which passes through Port-au-Prince absorbs about 8 millimetres (one quarter of an inch) per year of the total motion. But the brittle uppermost 10–15 kilometres of the earth's crust do not slide past each other smoothly like well-lubricated cogs. Rather, they get stuck and the stresses build up gradually until they are

released in one sudden jerk. That is what happened in Haiti in 2010, when part of the fault moved about 2 metres (6 feet) in one go. That displacement had built up over the past two centuries since the last devastating earthquake in 1770 which had flattened Port-au-Prince. The 1770 earthquake followed another violent earthquake in 1751 which had already destroyed Port-au-Prince once.

It is likely that there will be more large earthquakes in the Port-au-Prince region in the not too distant future. This is partly because the 2010 fault, which was west of the city, did not break the surface. So there is still some displacement remaining to be released in the uppermost 2 kilometres of the crust. Maybe it will do so gradually or through many small, less damaging earthquakes; but we don't know. Secondly, movement on one segment of the fault increases the stresses on the adjacent segment and makes that more likely to fail.

Much of the loss of life in 2010 was because poorly built dwellings, often located on unsuitable landslide surfaces, collapsed on their inhabitants. The buildings themselves became weapons of mass destruction.

Social Dysfunctional

Haitian social history is characterised both by endurance of the people and by crippling economic and social subjugation of the majority of the population.³ In terms of endurance, Haiti was born out of the fight by black slaves, kidnapped from West Africa to serve the white European colonizers who initially conquered the island of Hispaniola in 1492. In 1804 Haiti became the first independent nation to emerge from the abyss of black slavery. The slaves had defied the Spanish and French colonizers and asserted their black ethnicity, purging the whites from their midst. This revolution sent tremors down the spines of many Western, white neighbours, some of whom made urgent moves to ensure that the new found freedoms for which ordinary Haitians had fought became subjugated both by people within her own aspiring leadership elites and by self-interested international parties. Thus, the freedoms of the revolution were soon threatened by internal divisions, corrupt trade deals that favoured minorities within Haiti, and by foreign tax impositions. Businesses in the developed world, recognising an opportunity for exploiting a young, unstable and underdeveloped nation, sought their own commercial interests at the expense of a society

struggling to adapt to trading with the world outside.

The majority poor of Haiti have been trapped for generations by ruling regimes that have controlled them by terror, with few employment prospects, meagre wages and an absence of land ownership for most people. Coupled to this is the wide-scale absence of an infrastructure of transportation, of basic sanitation and access to clean water, of adequate education and healthcare. Western nations have also played their part in the deforestation of Haiti's hills and mountains, rendering her once forested and fertile land, and the poorer folk living off it, poorly prepared for the devastating impacts of rains, winds and earthquakes. The undermining of Haitian agriculture (traditionally the main employment in Haiti) by neighbours who manipulated markets to ensure that Haiti had to import from them goods she could have produced and exported herself, and political policies of centralisation, have caused immigration into the slums around the capital city, Port-au-Prince. Urbanisation has placed an unbearable burden on safe housing, sanitation, healthcare and, not least, on the provision of law and order, and justice, for millions. More recently, globalisation has impacted on commercial market forces with crippling results for a socio-economically beleaguered Haiti. It is now the poorest nation in the northern hemisphere. These human factors have all conspired to produce a small, rich Haitian elite, with a poverty-stricken majority.⁴

In short, Haiti has been raped – sociologically, economically, commercially, politically, and psychologically – by her dictators and her invaders alike. We choose our words carefully, because this rape metaphor carries with it serious sexual connotations. Rape is one of the most devastating forms of gender violence and repression that has been inflicted upon the poor of Haiti over generations. More than 10,000 people, mostly women, reported sexual assault in Port-au-Prince within 6 weeks of the earthquake; 3,000 of these were under 12 years old. Sexual rape has been a persistent problem within the temporary encampments in Haiti and has added to the dimensions of the disaster by abusing young, traumatised and vulnerable women, who would otherwise form the *potomitan*, the centre-post, of Haitian society.⁵

These human dysfunctional social factors turned the earthquake into a largely man-made disaster. How

might science and theology be used to reflect on this tragedy?

A Theological Reflection

Theologically, the Fall narrative suggests that humans are able to create a disaster out of the most ideal of environments. Human rebellion against God and the resultant human sinfulness has broken the divinely ordained relationship of humans with their creator God and with his creation. These broken relationships are evident in the struggle humans faced and still continue to face once they had disobeyed God (Gen. 2–3). It is a struggle that will only finally be resolved in Christ and in the eschatological hope of a redeemed creation (Rom. 8:21).⁶

The term 'nature' is not used in the Bible. What our society understands as 'nature', the Bible understands as creation. Natural geophysical events like earthquakes should be interpreted as aspects of creation, of the natural order of things. The earthquake is simply part of the fabric of the created world, albeit potentially hazardous to humans. However, it is an aspect of creation that is accessible to investigation under the creation mandate to 'subdue' the earth (Gen. 1:28). The result of that ought to be the ability to build physical structures that don't fall down in earthquakes, to produce social structures that reduce environmental risks, and to make scientific investigations to discover the history of previous earthquakes in the area, thereby facilitating mitigation of future earthquake hazards. That such outcomes are possible is illustrated by another earthquake that also came immediately to global attention, which occurred offshore Japan on 11th March 2011. This released more than 50 times as much energy as the Haitian earthquake, yet of the millions of people in Tokyo, only one or two at most died in the earthquake. The reason was that the buildings were constructed to withstand such shaking. Technically that could also have been the case in Haiti, an area of known high earthquake risk. That it was not is due to the numerous debilitating factors in Haiti that we have already listed.

Political injustice, corrupt commercial dealings, gender violence, corporate national and international elitist dominance of the Haitian poor majority, and a crippling globalisation that implicates us all for its impact on the economically deprived Haiti, are all sinful. From the perspective of the Haitian poor, this exploitation was clearly voiced by Michele Montas-

Dominique, a radio journalist. In her own words:

*The quake that killed tens of thousands of the people we loved has brought together in the tent cities not only the victims of those thirty-five apocalyptic minutes but also those who have moved from the slums of La Saline, Cite Letènel, or Jalouzi to find, in the camps, the basic services they were denied for decades. The deep-rooted social injustices of the past have now caught up with us, no longer hidden, exposed now on every public square and every vacant lot in this broken city.*⁷

Conclusions

We conclude that what happened in Haiti, on January 12th 2010 to make it the disaster it continues to be, was not natural, but something that was the consequence of accumulated human evil, historic and current, within and without the borders of this nation. But the fault line that moved in the earthquake is not the real fault; it is simply part of God's creation behaving in ways his creation has always done. Given the social and political infrastructure that the majority of Haiti's population desires, given the intellectual capabilities and endurance of that population under a fair democratic rule, and given a just political and civil infrastructure, it is well within the capacity of Haitians *from within Haiti*, to produce social and physical structures that can mitigate and aid adaptation to the environmental geophysical hazards. As Oliver-Smith concludes, '... disasters either do not occur or are not severe if a community is successfully adapted to its environment,' and '...disasters occur in societies. They do not occur in nature'.⁸

For centuries Haiti has been denied the opportunities to successfully adapt; the 2010 earthquake *could* go down as an event that gave her such an opportunity. It gives an ethical world the opportunity to help her in this process. This requires schemes of moral integrity, contextualised by what Haitians want and which serve the agendas of Haiti rather than of donor nations and international corporations. They must assist with capacity building and capability resources, but at the same time give responsibility and accountability to the Haitian people to build back *their* Haiti better. Perhaps such ethical instruments would then serve to convince Haiti of the urgent requirement for ethical integrity in her national governance that would establish the security and stability that would make Haiti safe for business and industrial investment and the employment opportunities that brings – the most

significant, practical key for Haiti's future. It also provides opportunity for the Christian Church to stand with the Haitian Church in encouraging moral and ethical integrity as leaven within her own spheres: this would demonstrate a hope for Haiti in the here and now while at the same time holding firm to the Christological and eschatological hope of a renewed world to come.

There is a media photograph that portrays rubble from the toppled buildings of a sun-drenched, quaked Port-au-Prince; the dust clouds hang in the sunbeams and a building in the background leans at a terribly unsafe angle. A heavily pregnant Haitian woman walks in the foreground, erect and determined as she looks, stern but not desperate, toward the camera. Over a part of the photograph is written a verse, taken from the Old Testament prophecy of Ezekiel 37:9: 'Ainsi parle le Seigneur l'Éternel: Viens des quatre vents, esprit, et souffle sur ces hommes tués, et qu'ils vivent'. (Thus says the Lord God: Come from the four winds, O breath, and breathe on these slain that they may live" [ESV].) For the population of Haiti, situated socio-historically and geophysically where they are today, this prayer holds hope. The 2010 earthquake in Haiti and its aftermath challenges the Christian world, at least, to stand with Haiti in the hard work that an answer to this prayer demands both of her and of us in partnership with her if another future disaster is to be averted.

1. Figures from: 'Post-Earthquake Injuries Treated at a Field Hospital --- Haiti, 2010', *Morbidity and Mortality Weekly Report*, Centre for Disease Control and Prevention 59. 51/52 (January 2011), 1673-1677; WHO/PAHO, 'Significant natural catastrophes worldwide 2010: 10 deadliest events', NatCatSERVICE, Munich Re (January 2011); WHO, *Culture and Mental Health in Haiti: A Literature Review* (Geneva, 2010); Roger Bilham, 'Lessons from the Haiti earthquake', *Nature* 463 (18 February 2010), 878-879.
2. Janet Abramovitz, 'Unnatural Disasters' (Paper 158 ed.) (Washington, D.C.: Worldwatch Institute, 2001), 5-62.
3. See J. Birkmann, 'Measuring vulnerability to promote disaster-resilient societies: conceptual frameworks and definitions', in J. Birkmann ed., *Measuring Vulnerability to Natural Hazards: Towards Disaster Resilient Society* (Tokyo: United Nations University Press, 2006).
4. Our summary of Haiti's tortuous struggle between repression and resilience has come out of Erica Caple James, *Democratic Insecurities: Violence, Trauma, and Intervention in Haiti* (London: University of California Press, 2010).
5. See Lisa Davis, 'Still Trembling: State Obligation under International Law to End Post-Earthquake Rape in Haiti', *U. Miami L. Review* 65, 867 (2010-2011); Didi Bertrand Farmer, 'Mothers and Daughters of Haiti', in Paul Farmer, *Haiti After the Earthquake* (New York: Public Affairs, 2011), 282-295.
6. R. White & J. Moo, 'Environmental Apocalypse and Christian Hope', *Ethics in Brief*, 17.1. (August 2011).
7. Michele Montas-Dominique, 'Sim pa rele (If I Don't Shout)' in Farmer, *Haiti After the Earthquake*, 260.
8. Anthony Oliver-Smith, and Susannah Hoffman, *The Angry Earth: Disaster in Anthropological Perspective* (London: Routledge, 1999), 27-28.

For further reading:

- Paul Farmer, *Haiti After the Earthquake* (New York: Public Affairs, 2011).
- Michel-Rolph Trouillot, *Haiti: State Against Nation: The Origins and Legacy of Duvalierism* (New York: Monthly Review, 1990).

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