

Alarm bell around the cat's neck: The Mauritius and Indian Tsunami Case Study

-expect the unexpected: a time to response-

(A research contribution for preparedness and to awareness against tsunamis for a better sustainable development in Mauritius and in the Indian Ocean)

Rajendra Parsad Gunputh*
Faculty of Law & Management,
University of Mauritius
Email: rpgunput@uom.ac.mu

Paper Accepted on 12 November 2008

Abstract

This article deals with natural disasters¹ and calamities such as cyclones, typhoons and earthquakes. Very unstable, some natural phenomena are even more disastrous, in terms of victims and the wounded, than world wars and armed civil conflicts. Relying on the Red Cross, NGOs and humanitarian actions to give food, shelter and medicine is not the proper remedy today because when earthquakes trigger a series of tsunamis it is sometimes too late to react. Funding and international humanitarian aids are not only the solution. Though there is no international law, which deals directly with the plight of victims of natural disasters, prevention and warning system appear to be more important than cure. It seems that it is more beneficial to assist States to develop means and methods so as to be aware of the unaware than simply sending money and funds. Through a pragmatic approach the aim of this paper is to propose incentives as regards to some regulatory framework pertaining to international instruments, that currently exist but which are still unexploited or which have not been exploited thoroughly, to address particularly to nature's wrath but time is running fast. It is "une course contre la montre". Human beings are all aware of nature's whims and fancies especially when we live in the Indian Ocean surrounded by cyclones, earthquakes, tidal waves, and since recently, another form of menace: tsunamis which are a potential danger to our nation and a threat to sustainable development.

Keywords: tsunamis, disaster mitigation, disaster reduction.

**For correspondences and reprints*

INTRODUCTION

Modern century and natural disasters.

Nature is not always in harmony with humanity. Unfortunately, humanity is powerless against the natural forces, which may strike the most powerful nations of the world, which paradoxically would be left defenceless, just like the least developing country. Natural disasters, a disruption of a peaceful natural environment, may hit us at a time when people have forgotten about them. Nature is one of them. Natural disasters do not obey any artificial rule or political boundary and the international community cannot formally respond to a disaster without the specific request of the recipient governmentⁱⁱ. Legal structures are required, and implemented if necessary, to respond to natural disasters to save lives.

The world is plagued by natural disasters, which mankind cannot prevent, and any unplanned shantytowns and slums and bungalows, which are found on coastal regions, are easy preys to tsunamis. States should unite all their efforts as quick as possible so that there is a certain level of response, awareness and preparedness to such unforeseen disasters in order to alleviate sufferings and to reduce loss of lives.

Nowadays victims of natural disasters are known as ‘environmental refugees’. Because of geophysical events that are provoking socio-economic changes there are many people who have been forced to leave their traditional habit, temporarily or permanently, because of a marked environmental disruptions, natural and or triggered by people. Their existence may have been jeopardized by the quality of their life but, unfortunately, they do not enjoy the rights of refugees.

Nonetheless, natural disasters are threats to international peace and security. Natural disasters have displaced more persons throughout the world than any other conflicts and wars. According to the Red Cross Movementⁱⁱⁱ some 200 natural disasters such as tsunamis and hurricanes kill 130,000 people each year; some 90,000 people are injured and between 140 and 200 million are affected directly or indirectly.

A brief historical perspective.

In the Indian Ocean most of the tsunamis are born in the region of Sumatra and Java and strike islands of the South West Indian coasts and the Mascarene Plateau which includes the Chagos Archipelago, the Seychelles, Agalega Islands and St Brandon. If they run across the Indian Ocean, Madagascar, Mauritius and Comoros Island are inevitably potential victims as well. However, most tsunamis occur more frequently in the Pacific Ocean.

In 1600 BC a tsunami generated by a volcano destroyed la Crête. Indeed, the first recorded tsunami dates back to 1700, near Vancouver Island, and the last recorded one dates back to December 2004. The 1755 Lisbon earthquake killed tens of thousand of Portuguese, and half a century later, in 1881 a major earthquake of

magnitude 7.9 occurred on December 31 in the Andaman Sea in the vicinity of Nicobar Island. Just only two years after, in 1883, the Krakatoa volcano between Java and Sumatra generated a huge tsunami, which killed nearly 37,000 people in both islands of Java and Sumatra. Since then, earthquakes of a magnitude ranging from 7.7 to 7.9 provoked tsunamis in the Simeulue Island in 1907, in the Andaman Sea in 1941, the Makran coast of Pakistan in 1945 and the deadliest one, on December 26 2004 which killed some 250, 000 people.

Very recently, on July 17 2006, a 7.7 magnitude earthquake shocked the Indian Ocean seabed, 200 km south of Pangandaran. The tsunami, which was generated, was reported to have killed 600 people and some 150 others were missing. From 1600 BC till to now, after more than four centuries, and prior to the Indian Ocean tsunamis of December 2004, which killed some 250,000 people, governments and donors have failed to set up a tsunami early warning mechanism. This is a lesson, which has been retained and learned in a very costly way. The main issue is not raising funds or disaster management but, instead, what should be done is to send an alarm bell to all of us in order to minimise damages.

In the absence of any formal piece of legislation and any appropriate device to alert the local population, it is time to set an alarm bell in some sensitive regions.

Potential generating sources.

Strong earthquakes of magnitude of 9.15 (Richter scale) generate giant destructive waves known as tsunamis. Where do they come from and how is the power generated, enough to sweep across one continent to another?

The answer is found below the sea where tectonic plates form plate boundary, which are in continuous motion, but at a very low speed of $2.22 \times 10^{-9} \text{ ms}^{-1}$. This is enough to fracture the earth's surface, provoking earthquakes, which trigger tsunamis at very high speed. Sub-marine landslides, explosives and submarine volcanoes, subduction earthquakes may lift sea water generating tsunamis in the form of ripples which radiate across the sea at astonishing speed enough to sweep bungalows and concrete habitations on their way through. Born and gone so swiftly with the wind, such natural disasters can cause much havoc in a few minutes.

Tectonic plates are drifting towards the north through the Eurasian tectonic plate while the Makran coast of Pakistan is interacting with the Arabian microplates, but the major tectonic movement is located in the Andaman Islands where earthquakes have triggered tsunamis through extensive seismic exposure. Tidal waves are born causing solitons, which produce water waves estimated at 150 metres and may even reach 500 metres high.

AN ALARM BELL FOR VULNERABLE ISLANDS IN THE INDIAN OCEAN.

Today, humanity has to face tsunamis (giant destructive waves or harbour waves) in unprepared circumstances. Unfortunately, there are very few appropriate and reliable devices to detect their approach and some computerized models give only a rough picture of the phenomenon.

Obstacles in setting the tsunami alarm bell.

Proposals^{iv} to set up a tsunami early warning system in the Indian Ocean were turned down in 2004, but when a destructive earthquake accompanied by waves hit small vulnerable islands in the Indian Ocean, governments began to act and donors, who initially rejected the proposals, responded and the attitude changed. Meanwhile humanity had learnt a lesson in a very costly way^v.

At first, prior to 26th December 2004, the Intergovernmental Oceanographic Commission (IOC) pledged for funds but governments and observers kept at bay and there was no response at all. On the 26th December 2004 the Indian Ocean earthquake of a magnitude of 9.15 unexpectedly triggered a series of tsunamis that killed 250, 000 people, and unlike the Pacific Ocean there was no computerized alert service. In the light of the unforeseen undesired events, UNESCO and other bodies have called for a global tsunami monitoring system. Had there been a tsunami warning system in place many of those lives could have been spared and the damages incurred could have significantly reduced.

The disaster of 26th December 2004 was one of deadliest recorded in history. For scientists it was a phenomenon since it released some powerful energy enough to wobble the planet on its axis by approximately 2.5 cm^{vi}. As a result, small vulnerable islands such as Agalega, the Maldives, Mauritius Island, Reunion Island, and the Seychelles do not feel secure at all^{vii}. By January 2005, the Intergovernmental Oceanographic Commission Secretariat (I.O.C) proposed to set up an Indian Ocean Tsunami Warning and Mitigation System (I.O.T.W.S).

The United Nations responded positively and were ready to raise funds budgeted around US 3.5\$ million provided the sum raised would afford sufficient international coordination groups for the development of tsunami warning under the chairmanship of U.N.E.S.C.O^{viii}. Resulting from the events in the Indian Ocean, it was declared^{ix} that:

“UNESCO has tried to organize global efforts to build a worldwide early warning system that would warn against tsunamis and other natural disasters like floods, typhoons, hurricanes, and volcanic eruptions. It hopes to have such a system in place by 2007”.

The substantive work began in March 2005 but met some obstacles: the Mauritius Oceanography Institute^x (M.O.I) recommended strategic inundation maps, which were, privileged documents and, above all, there were military bases in Diego

Garcia which kept confidential documents and other strategic armaments. Nevertheless, Mauritius made some important declarations, known as the “Mauritius Declaration”, which was adopted by all members. The Mauritius Declaration included the setting up of sea-level stations, the installation of new gauges, strategic maps, detection of strong tsunamigenic earthquakes, regional tsunami watch, location of epi and hypo centres of earthquakes and financial support from the European Commission^{xi}. The government of Mauritius also pledged for some \$5 million to the United Nations in order for the I.O.T.W.S to be more efficient and to be more holistically constructive.

Australia gave its support too and acknowledged the establishment of a Tsunami Warning System but which would cover both the Indian Ocean region as well as the Pacific Ocean coasts. In 2007 the U.N.E.S.C.O has funded for devices and seismometers to be installed in the Indian Ocean and has delegated qualified engineers for the installation and the interpretation of data. However, it is believed that there is no appropriate device to detect tsunamis well in advance and computer models are not very accurate either.

On the other hand what is sure is that there is no proper form of law that alleviates human suffering from natural disasters at international level.

STATE RESPONSIBILITY IN THE WAKE OF NATURAL DISASTERS.

There are international humanitarian laws to protect civilians, refugees or internally displaced persons in time of conflicts whereas there are none for natural calamities, which are getting stronger and more powerful and are having a large impact on our lives.

Those who find themselves displaced due to natural disasters do not have any specific protection afforded to them under international law^{xii}. The international community cannot anyway formally respond to a disaster without the specific request of the recipient government^{xiii}. There is practically no appropriate law, which deals directly with natural disasters properly though more and more States are responding positively since the Asia tsunami and the Hurricane Katrina have shown that being a super power does not exempt a country from nature's wrath. The law applicable to natural disasters is a particularly narrow field that relies on a more restrictive legal approach, which rejects many of the traditional theories present in other venues^{xiv}.

Proposals and incentives.

To fight against natural disasters in pre/post disasters is important to achieve international standards but where is the law? Is there anything in the international system, which deals with natural disasters? Is there a need to develop a new set of international rules related to “tsunami law” or the law of natural disasters? And have there been any sets of legal rules, which deal with natural disasters indirectly,

they are rarely called upon and are less explicit unlike other branches of international public law or international humanitarian law.

The very first article of the Charter of the United States 1945 for example states that its purpose is *“to achieve international co-operation in solving international problems of an economic, social, cultural or humanitarian character”^{xv}*.

Natural disasters involve economic, social and cultural character too. With refugees and IDPs they represent a humanitarian problem both at national and international level and they fall therefore within the ambit of the Charter of the United Nations. Similarly, since article 2(5) of the United Nations stipulates that *“all members shall give the United Nations every assistance in any action it takes in accordance with the present Charter”*. However, it does not refer to any specific event, natural disasters are presumed to fall within the scope of the Charter of the United Nations which invites all members of the United Nations to take steps in order to alleviate any suffering and to promote solutions of international economic, social, health, and related problems^{xvi}.

In 1972, the United Nations General Assembly established the United Nations Disaster Relief Coordinator (U.N.D.R.O) and by proclaiming the 1990s the International Decade for Natural Disaster Reduction (I.D.N.D.R) the international community seems to shoulder efforts to combat natural disasters. It was proclaimed that the I.D.N.D.R’s goals *“were to reduce, through concerted international action, especially in developing countries, loss of life, property damage, and social and economic disruption caused by natural hazards”*.

In addition there are bits and pieces of law, which can be gathered for a law of natural disasters for the welfare of all States, their sovereignty as well as their citizens:

- Victims of natural disasters should be taken individually and the Universal Declaration of Human Rights 1948 (UDHR) is then the most important declaration. Everyone has the right to life, liberty and the security of person (article 3 UDHR). Article 25 of the UDHR states that: *“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to secure in the event of circumstances beyond his control”*. Those struck by a natural disaster are entitled to certain rights in relation to their standard of living (art.25 UDHR).
- Since natural disasters provoke fear and its effects deal directly with social and international order, it is important to establish that order once again. There is article 2(1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966 which proclaims that *“Each State Party to the present Covenant undertakes to take steps, individually and through*

international assistance and co-operation, especially economic and technical, to the maximum of its available resources". Everyone must have an adequate standard of living for himself and his family, adequate food, clothing and housing (art. 11(1) ICESCR). States that are party to the Covenant are bound to take appropriate steps to ensure that these rights are respected.

- Natural disasters strike to life and include natural disaster victims. Article 6(1) of the International Covenant on Civil and Political Rights (ICCPR) 1966 provides that: "Every human being has the inherent right to life. This right shall be protected by law". This article can be extended to victims of natural disasters. All measures should be taken to ensure that such a right is protected.
- The impact of geophysical events on human culture, society and socio-economic challenges also determines the toll of casualties and damage. The Declaration on Principle of International Law Concerning Friendly Relations and Co-operation among States in Accordance with the Charter of the United Nations 1970 says that: "States have the duty to co-operate with one another, irrespective of the differences in their political, economic and social systems, in the various spheres of international relations, in order to maintain international peace and security and to promote international economic stability and progress, the general welfare of nations and international co-operation free from discrimination based on such differences". Even if a State is powerful economically and militarily it must accept humanitarian help from all States but it seems that the victims of Hurricane Katrina have not enjoyed such wisdom and, still, some States are simply unwilling to give/accept support to/from other States because for political reasons and other conflicting views.
- Poorer regions of the world must be given additional support. Principle 1 and 6 of The Rio Declaration on Environment and Development 1992 provide that "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature" and "The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actors in the field of environment and development should also address the interests and needs of all countries". Although Principle 6 of the Rio Declaration is clear very little attention was afforded to victims of the Pakistanis earthquakes and humanitarian aid came but it was too late.
- International laws should punish for lack of assistance to States, which failed to give assistance in the event of natural disasters as it is to be construed as an international wrongful act and a breach of international obligation. Most of the legal rules can be borrowed from The International Law Commission's

Articlesxvii on State Responsibility. Article 1 claims that there is a “responsibility of a State for its internationally wrongful acts”, Article 2 provides that: “There is a breach of an international obligation when conduct attributed to a State as a subject of international law amounts to a failure by that State to comply with an international obligation incumbent upon it, or when such conduct constitutes a breach of an international obligation of the State”.

STATE SOVEREIGNTY AND PUBLIC POLICY.

Unlike States, natural disasters don’t have any legal frontiers or barriers. It is therefore difficult to deal with natural disasters when humanitarian intervention is in issue because despite international law any State is responsible at international level to intervene into another State’s affairs, which is more than an intrusion as it also affects State’s sovereignty^{xviii}. Should there be any intervention it should be two-fold: first there is a duty of a State to be responsible for the lives of its citizens and it is urgent to offer/provide assistance in the wake of natural disasters (*salus populi est suprema lex*: regard for the public welfare is the highest law).

Indeed, on one side a State may refuse to provide assistance because refugees of natural disasters flow inundates States located in the vicinity and on other side that State may be responsible for serious breaches of international covenants. The Pakistan earthquake reveals that Pakistani officials were reluctant to accept humanitarian help from the Indian Government. Similarly, Fidel Castro offered to send assistance to the United States but based on the political climate between the two countries the offer was firmly denied^{xix}.

It is therefore important to establish a legal framework to serve as coordination and which will enable States, NGOs and the United Nations to work more efficiently. As a model there is the Early Recovery Framework, which was born out of the events, which took place surrounding the Pakistan earthquake. It was formulated in such a way as to:

“Inform and support the national strategy for reconstruction and rehabilitation, with assistance from the United Nations system as well as selected non-governmental organizations and other international partners in Pakistan. Its aim is to bridge immediate relief and long-term reconstruction”.

The United Nations had established the International Strategy for Disaster Reduction and had launched the Global Campaign for Education in Disaster Reduction but States should also take initiative like the Yokohama Strategy. Its main objective is to endorse principle holding each country primarily responsible for protecting its people, infrastructure, and other national assets from the impact of a natural disaster.

In March 2006, the Yokohama Strategy was reviewed together with the Third International Conference on Early Warning, and the Hyogo Framework for Action^{xx} was introduced. It suggests that:

“There is now international acknowledgment that efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction, and supported through bilateral, regional and international cooperation, including partnerships. Impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management”.

Another incentive to fight against natural disasters was launched at an international level -The Sphere Project^{xxi}. Unfortunately, though its aim is to improve the effectiveness of humanitarian efforts and to enhance the accountability of the humanitarian system, it seems to deal more with man-made disasters than natural disasters but it proves to be an important milestone for a potential international law in relation to natural disaster response.

RECOMMENDATIONS.

Prevention is better than cure. Give a man a fish he will eat for one day. Show him how to fish he will feed himself and his family for the rest of his life.

An alarm bell is actually the most urgent thing to do to alleviate human sufferings. Just like the horrors of wars natural disasters strike at the heart of humanity by destroying what mankind has built. The effects of natural disasters, as bad as the horrors of war, or even worse, are also a long term problem such as unclean water, diseases; lack of adequate shelter, food and medical attention; AIDS contamination, malaria and poverty.

Humanity does not need funding to build and to reconstruct again as much as it needs an alarm bell to prevent further havoc and to respond quickly in the event of a disaster.

The Asian tsunami, the Hurricane Katrina and the Pakistan earthquake provoked an unimaginable toll over the world. The overwhelming failure of States to respond to disasters, where each of them may be different, not because of a lack of funds but humanitarian help was disorganised, without strategy at all and the response was inevitably poor.

It is therefore urgent to set up a disaster programme, in the form of a regulatory framework capable of coordinating both management and strategy in the wake of natural disasters. It may comprise the following criteria irrespective of political, economics and social systems when assistance is required^{xxii}.

- Location of areas of relief coordination
- Disaster assessment
- Disaster preparedness
- Collection of data pertaining to dissemination information
- Management capability
- Social, economic and political impact caused by natural hazards
- Engaging public and private sector
- Decentralization
- Restoring capacities and securing human development gains
- Rebuilding under transparency, accountability and quick response
- Self-sufficiency and State responsibility.

It is understood that these recommendations are accompanied by external funds with full support from the international community so as to save as many lives as possible if other natural disasters strike. This is the most important goal actually.

All States and the global community, if they are agreeable, may adhere to the regulatory framework to establish a legal framework, though there will never be a real specific law that could be interpreted and applied strictly to natural disasters.

CONCLUSION.

The Hurricane Katrina was a model of State sovereignty and remained a proof of human assistance in case of need: States did not have time to think about international laws, the UN Charter or the UDHR, or about its weakness during natural disasters. In fact there was practically no specific, appropriate ‘disaster law’ to remind States of their obligations and yet States responded positively and funds flew from all parts of the globe. Obviously, natural disasters cannot be avoided but we can prepare ourselves by installing an alarm bell in the Indian Ocean. To focus on funding aspects, to discuss temporary relief from international debt repayment for countries affected by the tsunami^{xxiii}, countries should offer assistance in the absence of a specific international law, the South Asia Earthquake Flash Appeal was finally established on October 11 2005 and such instrument should have greatly reduced the amount of time it was taking aid to reach the devastated areas of Pakistan.

The International Red Cross and the Red Crescent Movement, as well as NGOs, have taken steps to address a number of issues, which are in the form of a Code of Conduct. The humanitarian imperative comes first, aid is given regardless of race, creed or nationality of the recipients and without distinction of any kind and, we shall attempt to build disaster response on local capacities.

From its 6.5 billion people population about 200 million individuals are affected by natural disasters every year and one over 32 individuals is affected by a natural disaster^{xxiv}. This figure is alarming and if natural disasters plague all parts of the world without exception and if we are not sufficiently prepared then there is no

doubt that there is a good probability that tomorrow we should prepare ourselves to be victims too. In this 21st Century, from lessons learnt and the way forward, it seems that many of us are now more conscious of the danger of natural disasters. It is not too late to respond and at least preachers' prayers and scholars' writings are tainted with a glimpse of hope, which enlightens our knowledge on nature's whims and fancies.

Outside, the first alarm bell is ringing...



ENDNOTES

-
- ² Alexander David (2000): *Confronting catastrophe*, London Terra Publishing, p.7. According to the Red Cross there are 130,000 people who are killed; 90,000 are injured and between 140 and 200 million are affected by an average total of more than 200 natural disasters.
- ³ Kent Randolph (1987): *Anatomy of disaster relief: The international network in action*, Pinter Publishers, London, 75.
- ⁴ Alexander David (2000): *Confronting catastrophe*, Terra Publishing, London, p.7.
- ⁶ Sources: The Mauritius Meteorological Services, The Mauritius Oceanography Institute.
- ⁷ Prem Saddul: *Tsunami and small islands: lessons learnt and the way forward*. L'Express, Thursday 24 August 2006, p.12.
- ⁸ Source: The Mauritius Meteorological Services and The Mauritius Oceanography Institute..
- ⁹ Prem Saddul (2002): *Mauritius: Geomorphological Analysis*. Moka: MGI Press.
- ¹⁰ The First International Coordination Meeting was held in UNESCO Headquarters (March 2005).
- ¹¹ Inderfurth (2005): *The 2004 Indian Ocean Tsunami: six months report*, Washington D.C., The Sigur Centre for Asian Studies, 27 pp.
- ¹² The Second International Coordination Meeting was held in Mauritius (Grand Baie, April 2005).

- ¹³ Australia, France, Italy, Japan, Germany. The USA participated as well.
- ¹⁴ Hong, Jeanhee (2001): *Refugees of the 21st Century: environmental injustice*, Cornell Journal of Law and Public Policy, 328 pp..
- ¹⁵ Kent, Randolph C. (1987): *Anatomy of disaster relief: the international network in action*, Pinter Publishers, 75.
- ¹⁶ Seamone, Evan R. (2003): *The duty to expect the unexpected: mitigating extreme natural threats to the global commons such as asteroid and comet impacts with the earth*, Columbia Journal of Transnational Law 743.
- ¹⁷ Article 1(3) of the Charter of the United Nations 1945.
- ¹⁸ Article 55 and article 56 of the United Nations Charter combined.
- ¹⁹ Crawford James (2005): *The international law commission's articles on State responsibility: introduction, text and commentaries*, Cambridge University Press, Cambridge, 124.
- ²⁰ Ruddick Elizabeth E. (1997): *The continuing constraint of sovereignty: international law, international protection, and the internally displaced*, Boston University Law Review 429.
- ²¹ *CNN Reports*, 15.
- ²² Hyago Framework for Action 2005-2015: *Building the Resilience of Nations and Communities to Disasters*.
- ²³ Gostelow Lola (1999): *The Sphere Project: The implications of making humanitarian principles and codes work*, Disasters 316.
- ²⁴ Evans Malcolm D. (2005) : *Declaration on principles of international law concerning friendly relations and co-operation among States in accordance with the Charter of the United Nations (1970)*, Blackstone's international law documents, Oxford University Press, p.167.
- ²⁴ According to the January 5 2005 aid conference held in Jakarta.
- ²⁵ Source: U.S Census Bureau.

