THE GREAT EAST JAPAN EARTHQUAKE: DISASTERS RISK REDUCTION AND THE POLICY OF THE INTERNATIONAL COMMUNITY

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1. *Background*

On March the 11th, 2011, an earthquake and a subsequent tsunami hit the Pacific coast of Japan. It was the most powerful earthquake to have hit Japan, and one of the most powerful earthquakes in the world since accurate recording began, early last century.

Although Japan is universally well known for the extensive precautionary measures adopted and implemented to limit the effect of earthquakes, the event caused several thousand deaths, the destruction of important infrastructure, damage worth more than 200 billion dollars, and a serious nuclear accident at the Fukushima I Nuclear Power Plant Complex.

The disaster, along with other disasters occurring in the previous years (earthquakes in Chile and New Zealand, Hurricane Katrina in the U.S., to name just a few), shows that scientific improvement and the progress of technology do not necessarily reduce the impact of these disasters. On the contrary, the damage caused by catastrophic events is steadily increasing: estimated to amount to 40 billion dollars in the 1960's, 120 billion dollars in the 1980's, and more than 200 billion dollars in the first ten years of this century (due mainly to damage caused by Hurricane Katrina).

In fact, although in 1989 a UN Resolution declared 1991-2001 to be the International Decade for Natural Disaster Reduction (IDNDR), in order to raise awareness about the need for adopting risk reduction policies, and despite efforts at national and international level, human and economic losses resulting from natural disasters are rising year after year.

Two other lessons can be drawn from the recent earthquake in Japan.

Firstly, disasters are foreseeable: U.N. statistics show that approximately every three weeks a catastrophe occurs somewhere in the world, often in countries that are wholly unable to cope with the human and economic consequences.

Secondly, there is much that can be done to reduce the damage and ensuing consequences. The former Secretary General of the U.N., Kofi Annan took the view that even if you cannot always prevent disasters, you should always be able to limit damage and death.

During the 1970's the U.N. established the Office of the United Nations Disaster Relief Coordinator to deal with relief and humanitarian aid: the U.N Disaster Relief Organization (UNDRO).

In 1992 the office was merged into the Department of Humanitarian Affairs (DHA), based in Geneva and New York, and a new Secretariat was created, the International Strategy for Disaster Reduction (ISDR). Two year later, in May 1994, the ISDR organized a World Conference in Yokohama, the Yokohama conference on Disaster Reduction, where a Strategy and Plan of Action for a Safer World was adopted.

The Plan also marks an important change: not only natural but also industrial or environmental incidents are taken into consideration, if they have an impact on the socio economic and cultural system of the affected country. This change follows the approach of the European Union, where the consideration has traditionally been focused on the prevention of relevant industrial accidents and the reduction of the ensuing risks (Seveso Directive 1 of 1976, and Seveso Directive 11 of 1994 comprise comprehensive regulations covering these issues).

In the following years, the Yokohama Plan has been frequently modified.

From 18 to 22 January 2005, in conformity with U.N. General Assembly resolution 58/214 of 23 December 2003, a second conference was held in Kobe, the World Disaster Reduction Conference (WDRC), to update the Yokohama Strategy. There 168 UN member states adopted the Hyogo Framework for Action (HFA), a 10-year plan to make the world safer from natural hazards: the Disaster Risk Reduction Programme (DRR). In order to implement the HFA the World Meteorological Organization (WMO) put the DRR at the core of its mission.

The HFA describes the work that is required to reduce disaster losses, outlining five priorities for action:

1. Ensure DRR is both a national and a local priority.
2. Identify, assess and monitor disaster risk and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

The goal of the HFA is to reduce loss of life, and losses to social, economic, and environmental assets by 2015, by improving the resilience of nations and communities to disasters.

The Hyogo Declaration, adopted as a conclusion of the Conference, after stating that *"the States have the primary responsibility to protect the people and property on their*

territory from hazards, and thus, it is vital to give high priority to disaster risk reduction in national policy", remarked the *"intrinsic relationship between disaster reduction, sustainable development and poverty eradication, among others, and the importance of involving all stakeholders, including governments, regional and international organizations and financial institutions, civil society, including non-governmental organizations and volunteers, the private sector and the scientific community".*

The Hyogo Conference, held a few weeks after the Indian Ocean Earthquake and Tsunami of the 26th of December 2004 that hit many countries in South-East Asia, initiated the creation of an agency to deal with the huge humanitarian problems in the aftermath of the tsunami. The Tsunami Evaluation Coalition (TEC), was formally established in February 2005. It comprised more than 50 agencies, including the United Nations, Donors, Non-Governmental Organisations and the Red Cross. Its task was to carry out joint evaluations of the response to the disaster in the relief and development sector. The goal was to improve policy and practice in the relief and rehabilitation sector; to provide accountability to the public, and to improve evaluation in the relief and rehabilitation sector by learning from the TEC process itself.

2. *Materials: Norms and Relevant Documents*

History of Natural Disasters (on French)

http://www.linternaute.com/histoire/categorie/117/a/1/2/histoire_des_catastrophes_naturelles.shtml

U.N. Economic and Social Council - Resolution 1994/31

http://www.un.org/documents/ecosoc/res/1994/eres1994-31.htm

World Disaster Reduction Conference (WDRC) and Hyogo Declaration

http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=392&ArticleID=4707&l=en

(http://www.unisdr.org/2005/wcdr/wcdr-index.htm)

World Meteorological Organisation (WMO)Disaster Risk Reduction Programme

http://www.wmo.int/pages/prog/drr/

Tsunami Evaluation Center

http://itic.ioc-unesco.org/

Tsunami Evaluation Coalition, Synthesis Report: Expanded Summary, Joint evaluation of the international response to the Indian Ocean tsunami

http://www.alnap.org/resource/5536.aspx

3. *Analysis*

In the last 50 years, mainly as a consequence of the efforts of the international community to promote the action of national governments, the traditional perception of disasters has changed in four relevant ways.

First. Disasters, traditionally considered an act of God and a divine retribution for the sins of the population concerned (a belief still widely held), have been increasingly treated as events whose impact on people and property can be reduced by adopting preventive measures, and coordinating efforts at relief and rebuilding after the event.

Second. The distinction between natural and man-made disasters has become much less clear.

In fact, in both types there are manmade *effects:* the consequences on population and property depend mainly on human activities or omissions before the disaster, (prevention, precaution and information), or afterwards (relief, aid organization).

Moreover, in many cases the distinction itself is inconsistent: disasters often combine *causes* both natural and technological: Natech is the acronym introduced at the Yokohama Conference to describe this situation.

Two examples illustrate this point.

Hurricane Katrina was a natural phenomenon. But the subsequent disaster was largely created by human activity and development.

The flood was also caused by negligent upkeep of the canal levees, and by the careless maintenance of the old flood control system and, after the hurricane hit, the slow response and lack of preparation of the local and federal authorities, and the lack of coordination with other relief organizations. If preventive measures and subsequent action had been more effective, the number of victims and the extent of the damage, would probably have been much more limited.

Then, consider the climate: climatic events are a natural phenomenon. Yet, the present scale of these events in both frequency and intensity, indicate climate change, and this is caused by human activities emitting carbon dioxide, whose accumulation has gradually altered the composition of the atmosphere. What at first glance appears to be a natural event is on the contrary, mainly a consequence of human development.

In both cases, the disaster is the result of an interaction between natural and human causes.

Third. The awareness that disasters, although very different (earthquakes, floods, the outbreak of an epidemic, the explosion of a chemical plant, the derailment of a train), have something in common. This has led to the development of a specific discipline: kindunology, a science studying the social and economic aspects of disasters (many think that the forerunner to this discipline came at the beginning of the last century when Samuel Henry Prince published *Catastrophe and Social Changes*).

Fourth. The awareness that very similar disasters may produce hugely different effects in relation to the social and economic situation of the affected area. The reason poor countries generally incur the greatest damage is due to the lack of adequate preventive measures, the lack of an efficient organization and infrastructure at local and national level, and the lack of adequate financial means, to supply aid to the affected areas. Disaster reduction policies have therefore emerged as a fundamental element of sustainable development.

4. Issues.

Two main issues concerning the effects of disasters deserve to be considered.

The first issue concerns the long-term economic effect of the disaster. Contrary to a common belief, recent researches show that in the rich world disasters do not necessarily have negative effects on economic growth as generally happens in poorest countries.

In fact, they may even have positive effects, offering an opportunity to update the capital stock and fostering the substitution of old infrastructures with new technologies. This is known as the "Jacuzzi effect". Again, Japan illustrates this Schumpeterian "destructive creativity": in 1995 the city of Kobe and the nearby harbor (the sixth in the world in terms of naval traffic) were completely destroyed by an earthquake. After a year the traffic in the harbor and the associated industrial activity were as intense as before the earthquake.

The second issue worthy of consideration relates to responsibility.

The increasing attention paid to the technological and manmade effects of catastrophic events has eroded the Act of God view where disasters were regarded as unforeseeable, and for which nobody could be held accountable. As the link between human activity and climatic disasters has grown, so has the notion of accountability, and the search for legal responsibility and liability.

It is not simply the climatic or geophysical hazard which kills: it is the political, economic and social structures which determine the vulnerability of the population that bear responsibility.

This shift of attitude, common to all the countries of the rich world, is reflected in many concurrent trends: the expansion of the principles of legal responsibility into new areas, the perceived unfairness of leaving the damages to be borne exclusively by the victims, risk aversion.

Consequently, many believe that where governments have failed to prevent, or mitigate the worst effects of natural disasters, the governments involved may be considered to have violated the human rights of the victims. If this can be established, then the international community would have a specific ' responsibility to protect' lives, not only in the circumstances of genocide, war crimes, ethnic cleansing and crimes against humanity, but also in a situation where aid is not provided to victims of a natural or manmade disaster by the responsible government.

6. *Further Reading*

On Disaster Risk Reduction

Wahlstrom, M. Disaster Risk and its Reduction: Who Is Responsible? in The Fletcher Forum of World Affairs Journal 33, 2009, p.153

On the economic effect of disasters:

Skidmore, M. and H. Toya. "Do Natural Disasters Promote Long-run Growth?" in *Economic Inquiry*, 40, 2002, p. 664-687.

Cuaresma, J.C., J. Hlouskova, and M. Obersteiner. "Natural disasters as Creative Destruction? Evidence from Developing Countries in *Economic Inquiry* 46, 2008, p. 214-226.

On the Katrina Hurricane

Grow Sun L., Disaster Mythology and the Law, in Cornell L. Rev. 96, 2011, p. 1131