

CLIMATE CHANGE AND THE EVANGELIZATION OF A NEW CULTURE: CAN WE CHANGE THE CULTURE TOO?

In the last decade, the interest in building a greater understanding of climate change and in finding ways to respond to it has dramatically increased beyond the initial scientific community.

The environmental severity and socio-political significance of the problem are very important reasons behind the growing relevance of the climate agenda. Nonetheless, it is the additional uncertainty intrinsically associated with both the nature of the phenomenon (predicting changes in climate patterns in a time window of a century across the whole globe) and with the limitations in computational power (though in rapid development), that has made the climate change topic a highly debatable one across communities and countries.

This paper was written in the context of the Creatio conference which will be held at WYD 2013 in Rio de Janeiro (Brazil) on the topic of *Jesus and nature: Catholic perspectives on environmental issues*. It was designed to provide an understanding of the underpinning knowledge of the climate change phenomenon, in order to provoke thoughts and the discussion on the

development of a new sustainable culture, as suggested by the Church. In the first section I explain the debate with climate sceptics and the difference between climate change and variability. Considering the Latin American context of this WYD, I show some of the human and natural consequences of climate change for this continent. At the end, in the second section, I present some of the Church views on this topic, setting the lay-out for the discussion of evangelization and *culture change* as a response and solution for our current human and natural problems.

The Climate Debate

Over these recent decades the core driving question of climate debates, particularly with those who find themselves sceptical about climate change, has fluctuated in its emphasis and nature. Two decades ago, many were the climate sceptics that argued we lacked scientific evidence to prove that the atmosphere was indeed warming and the climate system inherently changing as a result. Others argued too that despite the evidence of some particular anomalous events, we had no evidence whether this was being caused by the natural variability

in the climate system itself. It did not take many years after until the world widely experienced during the first decade of this century, that something was happening to the climate with abnormal patterns and particularly very hot seasons (for instance see figure 3 with the records of extreme events in Latin America). This obvious evidence made a great number of environmental and climate scientists agree that indeed something is happening and the climate patterns are changing. With them, some decision-makers, politicians and governments became more concerned and engaged in responding to this problem, raising the profile of the climate agenda. Alongside, this had an effect in the climate debate and the views of sceptics. Many could not then ignore the anomalous temperature records globally and their social and environmental consequences across the globe. Climate scepticism hence drifted to the question of whether it was really being caused by global warming resulting from greenhouse gas emissions from human sources or whether it was a matter of natural variability of the system. Hence, in order to understand what is climate change and whether it is anthropogenic or not, it is important to distinguish climate change and climate variability.

Climate Change and Climate Variability

In systems theory, both natural and human systems that are dynamic and open or semi-open have an internal variability which results from the interaction of its internal components with both internal and external forcings. The climate system has too its natural variability which is largely driven by key mechanisms of global variability, for instance the El-Niño Southern Oscillation. One of the key definitions to keep in mind in order to illuminate the climate debate is that climate change is related to but profoundly different from climate variability. While climate variability is the normal oscillation of the system components and is responsible for different variability mechanisms at timescales ranging from years to centuries, climate change is the change in climate variability. In other words, while climate variability is responsible for the succession of weather conditions and its seasons and extreme events; climate change is the underpinning shift in the paradigm where the system finds its balance. Perturbations in the balance of the internal dynamics of a system are responsible for progressive adjustment that leads to a new paradigm, a *new* equilibrium state. The rise of

temperatures in the atmosphere linked to other changes in the intrinsic nature and form of key elements of the Earth System (such as the extent of polar ice, temperatures and the chemistry of the oceans, the extent of global vegetation cover, the extent of some sensitive ecosystems such as mangroves and coral reefs) are *forcing* the climate system to find a new balance within itself and in its relation with the other sub-systems, highly dependent on it. The threat of climate change is precisely the fact that in the process of finding a new balance the climate system will drive most of the planet's environmental systems to a less manageable and resourceful life support for human prosperity.

The core consequences of climate change for Latin America and the Caribbean (LAC) are summarized on figure 1. These materialize in socio-ecological impacts ranging from loss of glaciers in Andes, mangroves, coral reefs, biodiversity, deforestation and sea-level rise in coastal areas and change in frequency of extreme events (figure 2). These environmental changes, far from solely disturbing the environmental equilibrium of nature and causing the loss of valuable resources, they necessarily have fundamental implications for human lifestyles and development, as

humanity is intrinsically dependent on the environment. Figure 3¹ demonstrates the rising cost in lives, people affected and financial costs of hydrometeorological extreme events in the LAC region.

This evidence of a changing environment led by a changing climate that affects the optimal balance for human prosperity, should also contribute to demonstrate that the human race is an intrinsic part of the created natural world, thereby affecting and being affected by it.

The Church, God's assembly celebrating and witnessing His love, is also the place and the agent to contribute not only in helping the afflicted and affected by climate change but also in promoting this conscience that God created the Earth for humankind as well as men and women for the Earth too. We are intrinsically related with our planet by God's willed creation and thus our collective and individual actions can naturally have an influence in the created world, whether if at the local, regional or global scale.

¹ UN-ECLAC (2012) *Sustainable Development 20 years on from the Earth Summit* – United Nations, Rio+20



Figure 1 - Source: ECLAC, on the basis of information from the National Institute of Spatial Research (INPE) of Brazil.

Latin America and the Caribbean: Areas most vulnerable to climate change according to its expected impacts by 2050



Figure 2 - Source: United Nations Environment Programme (UNEP)/Economic Commission for Latin America and the Caribbean (ECLAC), Vital Climate Change Graphics for Latin America and the Caribbean 2010 [online] www.grida.no/

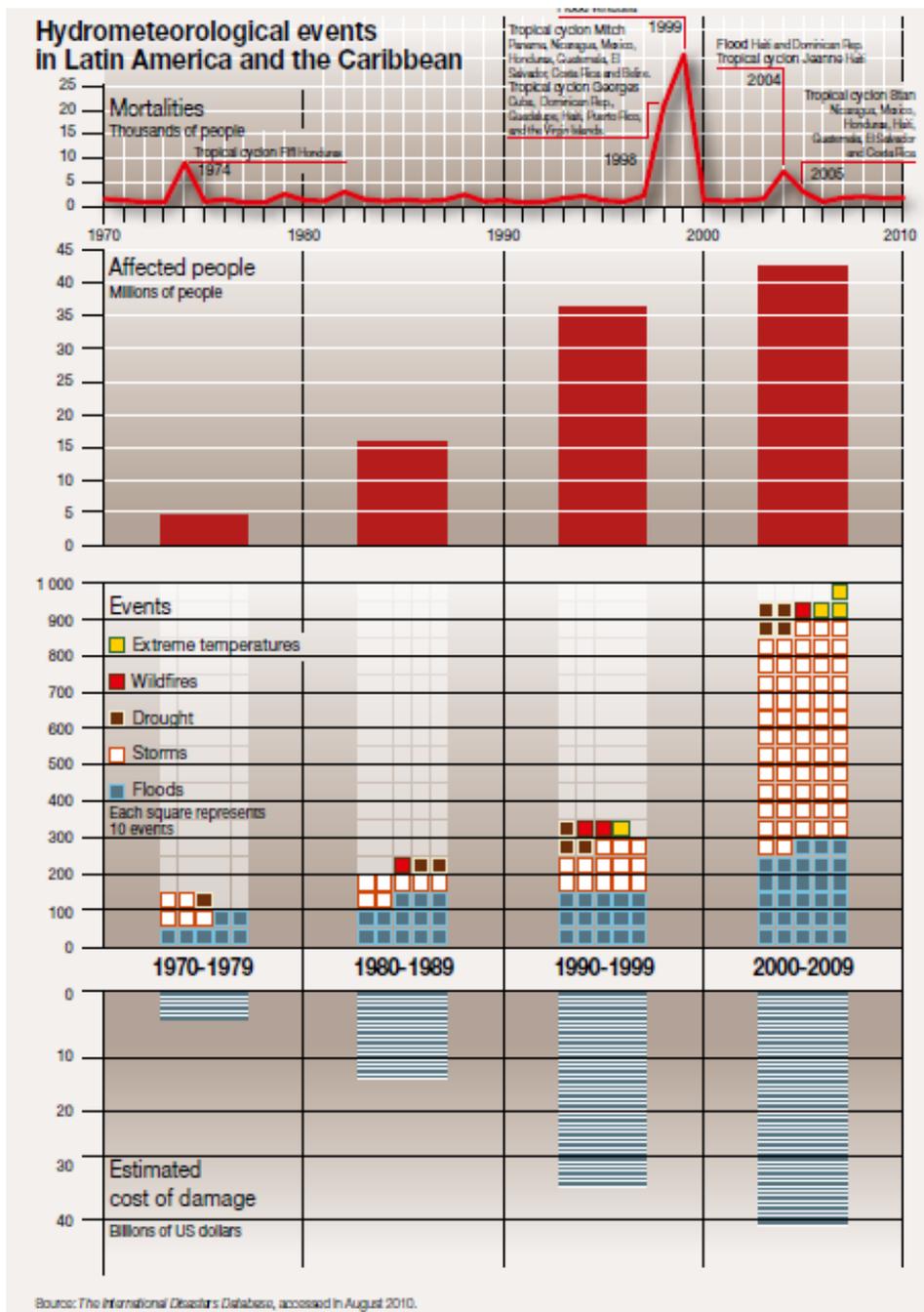


Figure 3 -United Nations Environment Programme (UNEP)/Economic Commission for Latin America and the Caribbean (ECLAC), Vital Climate Change Graphics for Latin America and the Caribbean, 2010 [online] www.grida.no/publications/vg/lac2/, on the basis of Catholic University of Louvain, “EM-DAT, The OFDA/CRED International “Disaster Database” [online] www.cred.be/emdat/intro.html.

Evangelization of a New Culture

Climate change is from its utmost root a unique environmental challenge, inasmuch as it is an Earth-scale problem with a human origin which has critical consequences for human prosperity, albeit the two - cause and consequence - having very different geographic and socioeconomic features. One other particularity of the phenomenon is that it is not simply a result of bad governance distant from most individuals' lives, but rather it is dependent on our daily lifestyles, especially in our ways of producing and consuming goods and services. In fact, at the centre of such problem are the difference in lifestyles and options between individuals, communities and countries.

Some lifestyles are ruining the environmental balance of the planet, despite having achieved a fairer distribution of wealth, while others are very sustainable from an environmental perspective though not generating the necessary distribution of wealth to eradicate poverty. The former are causing the global climate system to change through GHG emissions, which in turn is most likely to affect the livelihoods of the

latter, whose lifestyles were actually in harmony with the created world but still required more effective strategies to deliver human development and prosperity. Figures 4 and 5 illustrate the two worlds of those harming and those being harmed by the climate system.

The climate system, created by God as a non-linear but balanced field of energy, regulating ecosystems and seasons in the planet, is at the middle of this globalized world and becoming more and more an amplifying mechanism of the consequences of unsustainable lifestyles on those most vulnerable.

In a moral perspective could one say that climate change brings a new challenge of global charity?

The responsibility and vulnerability to climate change is also a difficult one to discern, especially when considering the multiplicity of human lifestyles and how they are inversely proportional: indeed those least affected are the most responsible and those least responsible are the most affected. It then makes Climate Change a problem of global justice too.

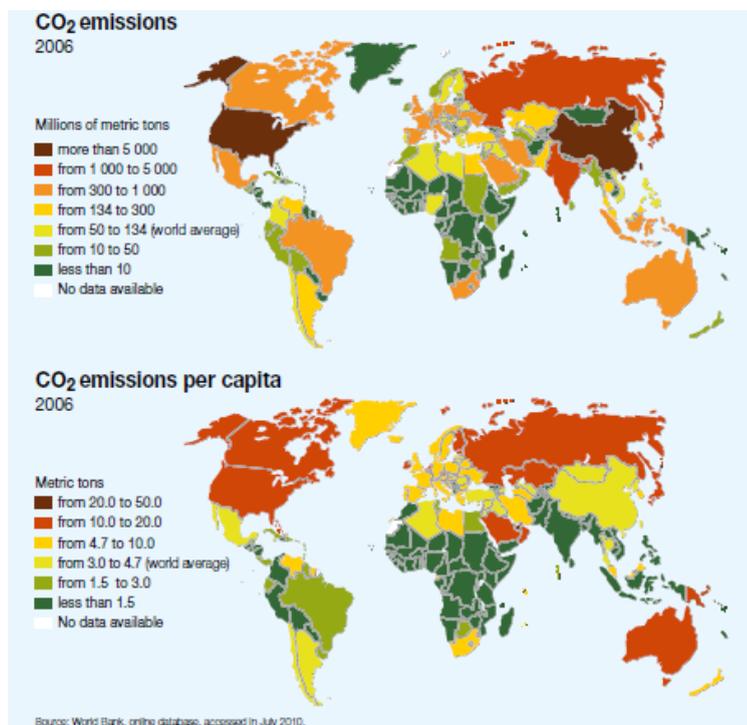


Figure 4 Source: World Bank, online database (UN-ECLAC, Climate Change and development in Latin America and the Caribbean)

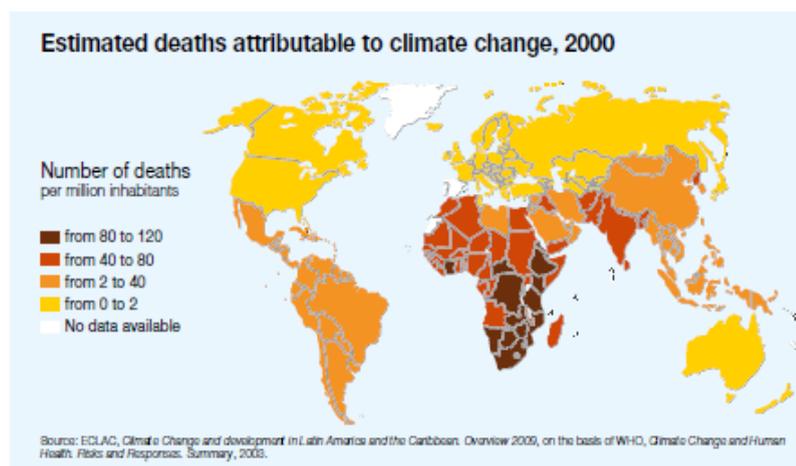


Figure 5 - ECLAC, Climate Change and development in Latin America and the Caribbean. Overview 2009, on the basis of WHO, Climate Change and Human Health. Risks and Responses. Summary, 2003

Charity and Justice are certainly two of the greatest lines of prayer and action of the Church and therefore it is most right and reasonable that She becomes more concerned with the consequences of climate change for human beings as well as with the spiritual and moral roots of the problem.

The Pope Emeritus Benedict XVI explains in his encyclical letter *Caritas in Veritate* how the rise of our current environmental problems is actually resulting from a deeper cultural problem whereby the human being and its actions are disconnected from the natural environment and not seen as an integral part of the created world:

The deterioration of nature is in fact closely connected to the culture that shapes human coexistence: when “human ecology” is respected within society, environmental ecology also benefits. Just as human virtues are interrelated, such that the weakening of one places others at risk, so the ecological system is based on respect for a plan that affects both the health of society and its good relationship

*with nature.*²

Truly, when the human being is set in its environment, fully understanding its role and, through faith its purpose and relation with the rest of Creation, he and she are more capable to protect and care for the environment, in whose balance its prosperity depends upon. The very recent encyclical letter of Pope Francis (with Pope Benedict’s collaboration) provides a good insight into how faith, can be a *light* in this need of caring for the natural created world.

Faith, on the other hand, by revealing the love of God the Creator, enables us to respect nature all the more, and to discern in it a grammar written by the hand of God and a dwelling place entrusted to our protection and care. Faith also helps us to devise models of development which are based not simply on utility and profit, but consider creation as a gift for which we are all indebted; it teaches us to create just forms of government, in the realization that authority comes from God and is meant for the service

² 51, Benedict XVI, Encyclical Letter *Caritas in Veritate* (29th June 2009)

*of the common good.*³

The solution proposed in both encyclicals for such a problem of global charity and justice is the transformation of the current global culture in bringing the Truth and the Love that only God can provide (*Caritas in Veritate* c.52) to help mankind understand their place in creation. Ultimately, if the world lives and loves God more closely, elevating thereby the full dignity of human life, it is a natural and subsequent result that the ecological life-support which we depend upon will too be elevated, cared for and bequeathed in good conditions to future generations.

The question that Catholics are now facing is: If the world provoked a change in the climate as a result of an unsustainable, unjust and inequitable way of life, **what can we do now as Catholics to change this?**

³ 55; Francis, Encyclical Letter *Lumen Fidei* (29th June 2013)