

## A LOOK AT GLOBAL CLIMATE CHANGE THROUGH PAPAL ENCYCLICALS

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**ABSTRACT:** The aim of this article is a comprehensive review of Papal Encyclicals in the context of global environmental and climatic change, against the backdrop of the activity of multinational institutions. The Encyclicals look to the future in teaching the faithful, in a manner which indicates that they are part of a goal-oriented policy, both in terms of scientific research, and concrete economic, social, and geopolitical activity.

Attention has also been paid to the relationship between the activity of humankind, and global environmental change, particularly of the biotic and climatic variety. If this aggressive anthropogenic activity cannot be deemed responsible for initiating global warming, it may certainly be seen to have “encouraged” it.

The impulses behind sustainable development, as well as the instruments of its implementation, and the inspiration behind the idea, have also been discussed. The achievement of this goal, necessitating the balancing of anthropological aspirations and the long-term security of the environment are also referenced in the Encyclicals.

**KEY WORDS:** theses in Encyclicals, environmental balance, instruments of sustainable development, global warming, global change, climate change, greenhouse effect.

### INTRODUCTION

The three most recent Pontificates of Popes John Paul II, Benedict XVI and Francis have seen an abundance of Encyclicals, with as many as 17 having been published in

the years 1978–2015 – the very years which saw an ever-greater negative human impact on the environment, accompanied by the development of ever-more-intensive measures to counteract this impact.

Each Encyclical, to a greater or lesser extent, included references to contemporary changes to the Earth's environment, in connection with the existential changes conditioned by environmental and economic change (Gutry-Korycka 2016). While the dominant narrative in all was care for the condition of humanity, strong hints at the negative human impact on climate change can be found in the texts, and are reflected in the titles of the Encyclicals (Tab. 1).

Table 1. The Encyclicals of the three last Papal Pontificates, 1978–2015  
(author's own compilation from various sources)

No.	Original title of Encyclical	Date of announcement	Title in English
<b>Pope John Paul II</b>			
1	<i>Redemptor hominis</i> *	04 03 1979	The Redeemer of Man
2	<i>Dives in misericordia</i>	30 11 1980	Rich in Mercy
3	<i>Laborem exercens</i> *	14 09 1981	On Human Work On the 90 <sup>th</sup> anniversary of the <i>Rerum novarum</i> Encyclical
4	<i>Slovorum apastali</i>	02 06 1985	The Apostles of the Slavs On the 1100 <sup>th</sup> anniversary of evangelisation
5	<i>Redemptoris mater</i>	25 03 1987	Mother of the Redeemer
6	<i>Sollicitudo rei socialis</i> *	30 12 1987	On Social Concerns On the 20 <sup>th</sup> anniversary of the <i>Populorum progression</i> Encyclical
7	<i>Redemptoris misio</i>	07 12 1990	Mission of the Redeemer
8	<i>Centesimus annus</i> *	01 05 1991	The Hundredth Year On the 100 <sup>th</sup> anniversary of the <i>Rerum novarum</i> Encyclical
9	<i>Veritatis splendor</i>	06 08 1993	The Splendour of Truth
10	<i>Evangelium vitae</i>	25 03 1995	The Gospel of Life
11	<i>Ut unum sint</i>	25 05 1995	That They May Be One
12	<i>Fides et ratio</i>	14 09 1998	Faith and Reason
13	<i>Ecclesia de Eucharistia</i>	17 04 2003	The Church of the Eucharist
<b>Pope Benedict XVI</b>			
1	<i>Deus caritas est</i>	25 12 2005	God is Love
2	<i>Spe salvi</i>	30 11 2007	In Hope We are Saved
3	<i>Caritas in veritate</i> *	29 06 2009	Charity in Truth
<b>Pope Francis</b>			
1	<i>Laudato Si</i> '*	24 05 2015	On Care for our Common Home

\* Encyclicals considering changes in the Earth's environment in the social and ecological aspects.

The publication of successive Papal Encyclicals by the Catholic Church reflected strong action on the part of multinational organisations, the founding of worldwide scientific projects, reports, conferences and Protocols, and declarations signed by individual nations in support of global initiatives (Fig. 1).

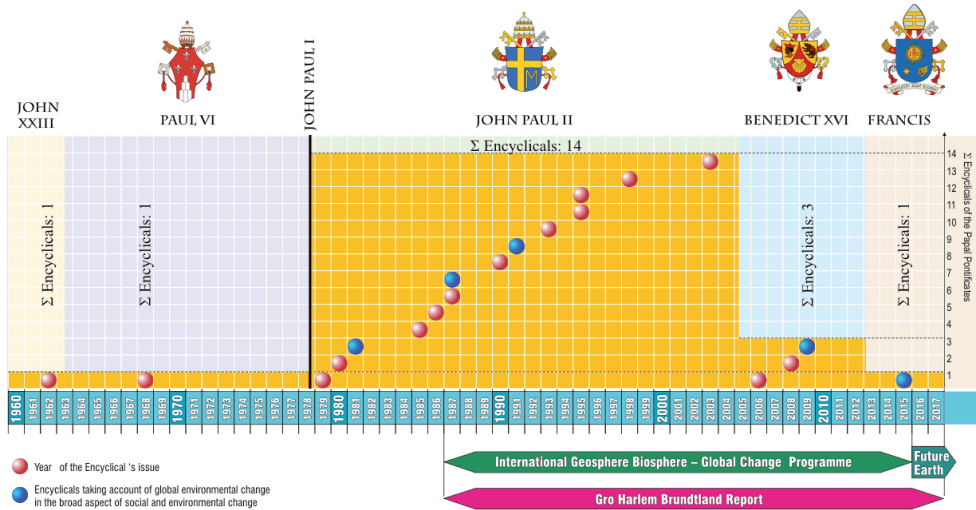


Figure 1. Encyclicals taking account of global environmental change in the broad aspect of social and environmental change, as set against Encyclicals issued in the years 1978–2015 relating to the Brundtland Report and IGBP–Global Change Programme (author’s own compilation from various sources)

In the wake of the Report from Norway’s Gro Harlem Brundtland, interest in the global implications of climate change on the world stage grew (*Human Dimensions...* 1999). The United Nations and the European Union then took the lead on climate-change policymaking, while the International Council for Science, FAO, WHO, WMO, and others undertook to investigate the scientific aspects of the problem.

Under the auspices of the ICSU and UNESCO, independent international programmes such as MAB (Man and the Biosphere), IHP (the International Hydrological Programme) and IGBP-Global Change (International Geosphere Biosphere – Global Change Programme) were founded – Figure 2.

It was in 1998, under the auspices of IGBP-Global Change that the sub-programme on Human Dimensions of Global Environmental Change developed, while late 2015 saw IGBP-Global Change redeveloped into the World Future Earth System Programme (otherwise known as Future Earth), understood as a synthesis of understanding of the development of the Earth in the context of a summary of theoretical applied knowledge, which would allow for a forecast of changes up to the year 2100 (Fig. 3).

The main goal of the Programme will be an assessment of the changes, and the pinpointing of causal relationships and inverse correlations of changes in mass and

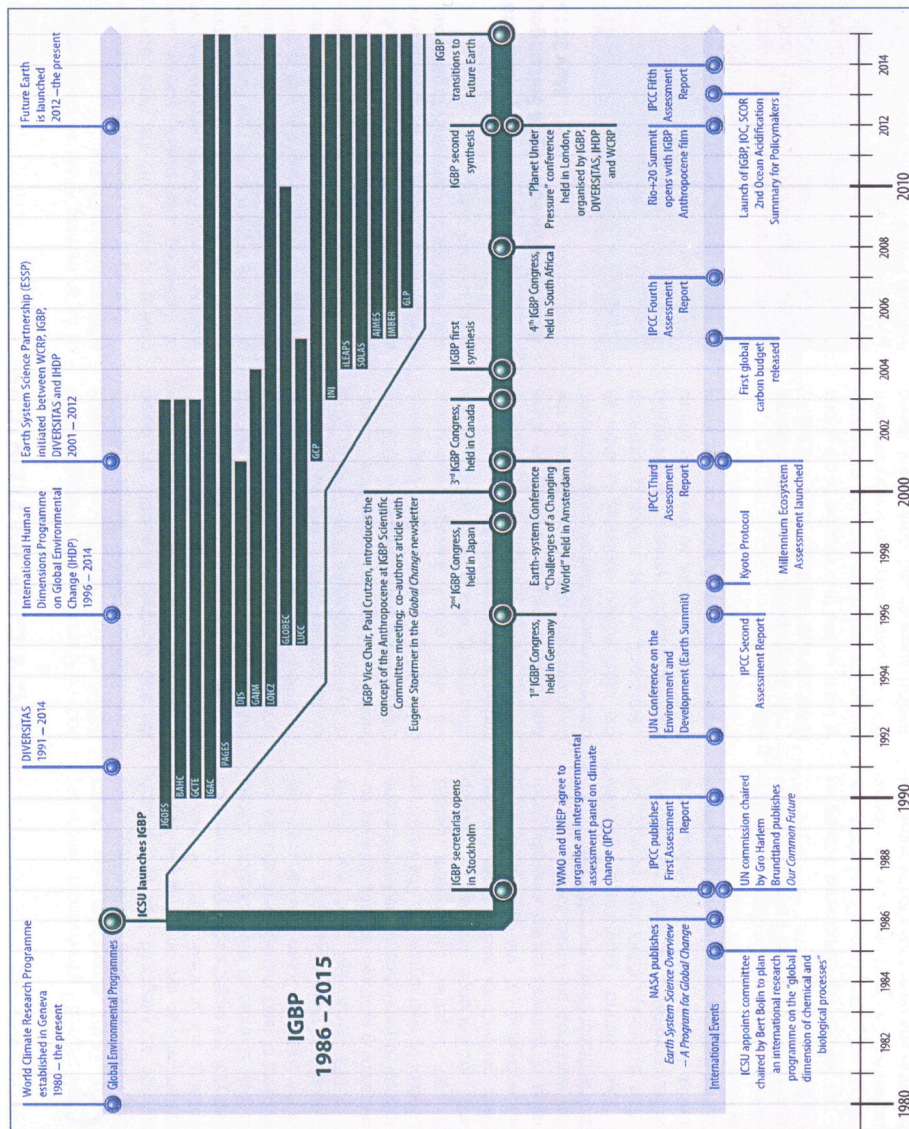


Figure 2. International cooperation on the issue of global climate change (1980–2015): governmental institutions and NGOs, programmes, projects and international partnerships (IGBP ... 2016)



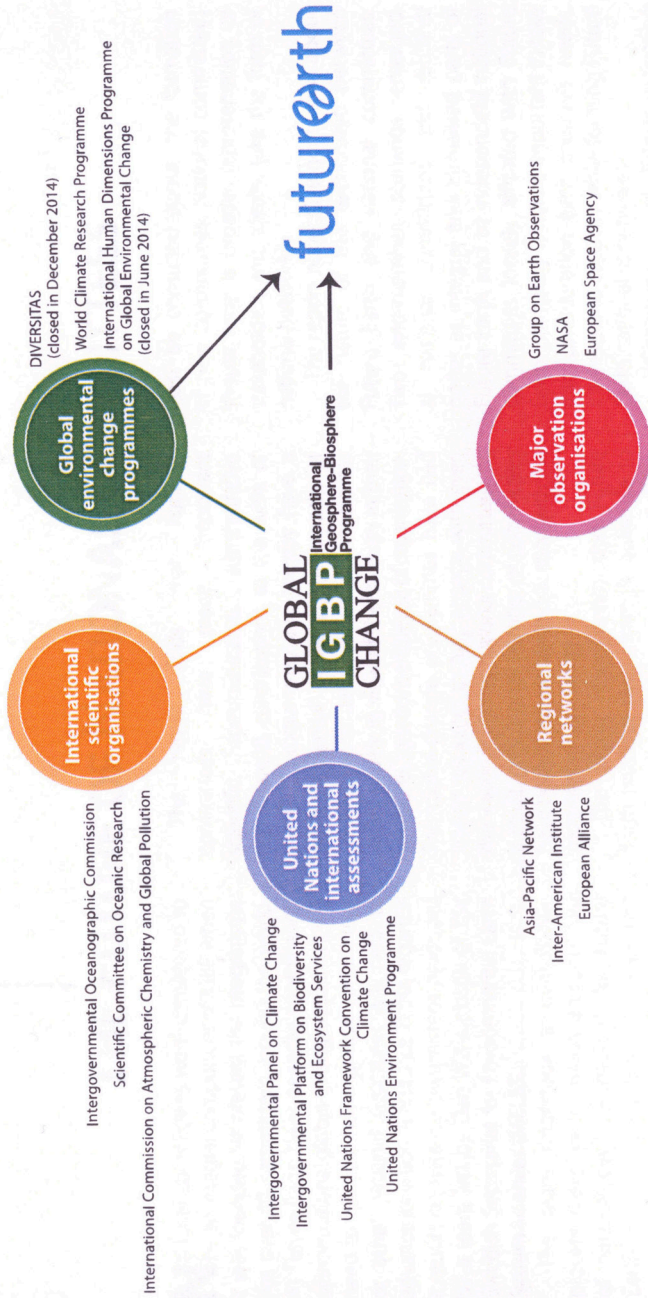


Figure 3. International cooperation of the International Geosphere-Biosphere Programme Global Change – Future Earth as regards global environment change on Earth (IGBP ... 2016)

energy, as well as their results, and the development of adaptation strategies on scales from the global, to the regional and local.

Taking account of the output of world science (including forecasts and projections), the organisational and political/social input of the three Popes (John Paul II, Benedict XVI and Francis) contributed to the dialogue with the faithful at different intellectual, social and geopolitical levels. The Encyclicals involved here encouraged humankind to open their minds, hearts and souls to ongoing, unfavourable environmental and societal change so obstructive in the achievement of the worthy goal that sustainable development represents.

## THE ENCYCLICALS OF SAINT JOHN PAUL II

John Paul II devoted considerable attention to the problem of direct and indirect human impact on the Earth's environment in his Encyclicals, indicating its troubling consequences, which even foreshadowed the prospect of irrevocable cataclysmic change. In his first *Redemptor hominis* Encyclical, Pope John Paul II references the teachings of his predecessors, in particular of John XXIII and his *Pacem in terris* Encyclical, as well as the *Populorum progressio* Encyclical of Paul VI. John Paul II noted a strong emphasis on contemporary global social problems in these Encyclicals and expressed hope regarding the achievement of sustainable social development, which would compensate for the weak economic development of low-GDP nations of "the South", as compared with high-GDP nations of "the North". One must at the same time bear in mind that the geographical terminology used by His Holiness in the *Redemptor hominis* Encyclical relates to the nominal boundary between wealth and poverty, present in both highly-developed and developing nations.

John Paul II notes that the aspect of "nature," which the Greeks dubbed "the Cosmos" in an attempt to order the visible world, encompasses its animate and inanimate natural components: plants, animals, rocks, which were not to be utilised in an arbitrary fashion, but only with a view to the meeting of concrete economic needs. The consumption of natural resources, especially non-renewable ones, should therefore be limited for the purpose of securing the life of future generations. At the same time, The Pope also references the phenomenon of lowering quality of life in industrialised zones, which carries with it profound consequences for the life and health of their inhabitants.

In the *Laborem exercens* Encyclical, John Paul II refers to the 90<sup>th</sup> anniversary of Leo XIII's 1891 encyclical *Rerum nova rum*, specifically with reference to "private ownership and universal destination of goods". He then reinterprets the teaching of the Church regarding the right to private property, indicating at the same time the universal destination of goods and the relevance of the flow of goods to the fulfilment of humankind's needs. In this context he references the intentions of the divine Creator, who created the world, and humanity within it, and gave human beings possession of the world, that with their work they might subjugate it for their own needs, and take

pleasure in the fruits it bore. This therefore is seen to justify the universal destination of goods. In this context, however, John Paul II also recognises that human labour and the Earth are complementary and cooperating factors.

More than once in his Encyclicals, John Paul II raises the question of ecology, describing the relation between humankind and nature, with particular reference to the quantitative and qualitative degradation of the human race's natural environment.

In this context, the Pope also explains the fundamental meaning of the family, to be understood as the natural environment of every human being, creating the main category of human ecology. The Pope also highlights the grave importance of the duties of the nation, respecting the defence of collective resources, in the shape of the natural and human environment. According to His Holiness, the protection of these resources cannot be guaranteed by economic mechanisms alone, nor measures taken to protect collective resources.

## **POPE BENEDICT XVI'S ENCYCLICAL**

The most discursive of the three Encyclicals of Pope Benedict XVI *Caritas in veritate* "On Integral Human Development in Charity and Truth" was released in 2009 and is directed not only towards the faithful, but to all people of good will. It is made up of six main parts (Benedict XVI 2009):

- The Message of *Populorum progressio* (on universal development);
- Human development in our time;
- Fraternity, economic development and civil society;
- The development of people, rights and duties, and the environment;
- The cooperation of the human family;
- The development of peoples and technology.

Bearing in mind the title of this publication, the fourth part of the encyclical, subtitled "The development of people, rights and duties, and the environment," deserves particular attention. Here, Benedict XVI mentions the direction of economic development, particularly with respect to international fund-based entrepreneurship. The Pope connects the subject of economic development to human attitudes towards an increasingly impoverished environment, which is becoming incrementally less able to support future generations. In the opinion of Pope Benedict, people regard the environment from a cultural and legal perspective. However, sustainable development projects must take future generations into account, and must therefore be characterised by inter-generational stability and justice, while also assuming an interdisciplinary approach, linking ecology, law, economics, politics and culture.

In the *Caritas in veritate* Encyclical, Benedict XVI includes natural resources and non-renewable energy sources within his definition of the natural world. In this context he mentions new technologies, and alternative energy sources. Benedict's message is particularly relevant to less-developed countries, which are exploiting their energy

reserves at a faster rate, and selling their natural resources. In the opinion of The Pope, a well-planned, strategic redistribution of energy reserves is therefore necessary. At the same time, a new way of life is called for, including a more peaceful society, and the brokering of international treaties regulating the situation of high-risk regions, whose number is increasing rapidly. Benedict XVI is thus discussing ideas of sustainable development and increased environmental collection of environmental data with a view to climate change being examined closely.

## POPE FRANCIS'S ENCYCLICAL

Pope Francis's latest *Laudato Si'* Encyclical "On Care for our Common Home" (published in 2015) has six main Chapters, whose English-language titles are:

- What is Happening to our Common Home?
- The Gospel of Creation
- The Human Roots of the Ecological Crisis
- Integral Ecology
- Lines of Approach and Action
- Ecological Education and Spirituality

In his Encyclicals, Pope Francis, following the example of his predecessors, references contemporary problems and changes troubling the world, underlining in particular the necessity to preserve the Earth's climate, and to curtail air and water pollution, noting that such pollution leads to the loss of biodiversity of aquatic and land-based ecosystems. He also touches upon the problem of fair and equal utilisation of natural resources and energy sources, in addition mentioning the importance of regional cooperation in the area of natural conservation.

In the *Laudato Si'* encyclical, Francis conducts an in-depth analysis of the current ecological crisis, underlining its causes and negative consequences. He suggests the problem might be solved by joint action, and greater solidarity with less-developed countries, calling for a change in habits with respect to moderation in the utilisation of natural resources. He postulates the above with the aim of efforts to curtail changes to the earth's climate being redoubled. Though he does not ignore the climate change observable on Earth, he illustrates a deep causal connection between the current economic circumstances of the world and vast social inequality.

From a place of care for our common home (Planet Earth), and with his characteristic sensitivity, simplicity, and shrewdness, Pope Francis analyses global processes, phenomena, and interactions, in search of an objective understanding of the causes of our problems, for the purpose of finding their most pragmatic and effective solutions. He proposes approaching these problems using the criteria of what is known as integral ecology, a term particularly relevant to our increasingly globalised world.

The Encyclical of Pope Francis does indeed enrich the global discourse on the topic of the Earth's natural environment, particularly with reference to the value of renewable



and non-renewable common resources – air, water, soil and the biosphere. The Pope indicates that the economic and ecological situations remain closely linked with global climate change, which in turn impacts upon hydrological, geomorphological, and soil changes. Pope Francis quotes scientific research showing the necessity to protect Earth – our common home – in order to care for humanity, which cannot reject sustainable development. For this reason he reviews the main causes and effects of the current ecological crisis, sketching the directions in which future dialogue and action may be taken with the aim of finding a correct strategy for action.

The problem of the Earth's aquatic resources, contained in the second point of chapter one, has been discussed against the backdrop of the capacity of sources of water such as rivers and lakes, which supply humanity with the essential resource. The quantity and quality of drinking water available to the world is a key factor for humankind, nature, and development alike, particularly in the arid and semi-arid regions of Africa, Asia, and Australia; but also in some Mediterranean regions, and even California (Gromiec 2015).

Water draws its significance from its necessity to human life, and that of the entirety of animate nature, as well as considerations relating to the smooth running of the economy.

Pope Francis's *Laudato Si'* Encyclical is the first such wide-ranging Papal expression on ecological topics. As such, it has been a source of great interest, and has gained great respect from both society at large and scholarly circles. Its contents revolve around the subject matter of global warming, overexploitation of the Earth's resources, and increasing air, soil, forest, and water pollution.

The Title of the Encyclical – “On Care for our Common Home” – references God as the Creator of the entire Universe, and of humankind within it. This raises the important question of whether and in what way governmental organisations, NGOs and scientists will react to its publication. The work of Marek Gancarczyk (2015) seems to have understood the Papal appeal for a global ecological conversion.

The Priority in this area must be the emissions of harmful chemicals such as methane, oxides of sulphur, NO<sub>2</sub>, particulates and carbon dioxide into the atmosphere as bi-products of the process of burning coal and other fossil fuels. It must be underlined that an optimal level of CO<sub>2</sub> in the Earth's atmosphere is a necessary factor for the existence of life, while too great an amount may lead to an increase in air temperature constituting an excessive burden on the natural environment.

The burning of coal, oil and gas (but also wood) allows for the production of heat or electrical energy – but The Pope appeals to mankind to use clean combustion techniques, and low-emission methods, because the impact of these on the environment is relatively low.

The fact that global and regional climates are experiencing a warming effect raises no academic doubts. The majority of scientists believe this occurs as a result of human activity. However, this does not mean that all the mechanisms impacting upon our climate have been identified, and therefore it remains an open question, necessitating much costly research within various scientific disciplines.

Pope Francis has criticised the use of unsustainable energy sources, particularly coal. Moreover, he shows ways of making better energy choices that do not overburden the environment.

Amongst such sources of energy he enumerates: atomic energy, geothermal energy, biofuels, hydropower, and biogas. In the Encyclical *Laudato Si'*, he touches upon the problem of respect for the environment, and within it humankind, regarding this as respect for a gift from God, which, if withheld, risks turning the gift against us. In many regions of the world, economic decay is progressing rapaciously, while the degradation of many elements of the biotic and abiotic environment is on the verge of reaching a stage in which natural renewal looks compromised.

Pope Francis's loud defence of nature, and the common home, describes the place of ecology and the deep meaning of the subject only when it encompasses the greatness and exceptionalism of humankind, as Jaklewicz (2015) notes. The Pope clearly articulates that, in protecting nature, we must never forget about human nature and human rights.

The first of the six Encyclicals constitutes a type of diagnosis of the ecological situation, on the global scale, which has now become a firmly established fact, backed by scientific evidence.

In summarising the Papal document the need is to underline how the Holy Father touches upon key issues of the modern world. The main assumption of the Encyclical in question is the thesis that all the world's problems are intimately connected – the global ecological and economic crises, global warming, fundamentalism, etc. The solution of these problems thus requires common thought and action, and this is a direct causal factor underpinning the “integral ecology” concept.

## INTERNATIONAL UNDERSTANDINGS AND JOINT ACTIONS

Both science and practice have become more and more influenced by assessments of the state of the Earth's environment and of its global development, that have been appearing since the late 1980s. The said assessments have assumed a variety of forms – as reports, agendas, resolutions, declarations or appeals, associated with the activity of governments, international organisations and NGOs. They often represented key aspects of world conferences making reference to scientific programmes, or were the fruits of partnerly activity, or even reflected the voice of the Catholic Church expressed through Papal Encyclicals (Tab. 1).

In the Declarations adopted at the Rio Earth Summit in 1992, and in the related UN agencies, *Agenda 21* and the Millennium Goals have seen key future significance assigned to the global environment and its appropriate development. Particular attention has been paid in this context to forms of cooperation, especially among groups in society, with a view to objectives of overriding importance being achieved (*Swedish...1988, Overview... 1998, Human... 1999, Przyszłość... 2012, Newman 2016*).

NGOs have been assigned priority status in matters of the management and use of the Earth's natural resources (especially the non-renewable ones), with the aim being to offer local communities incentives and motivations to pursue measures that will protect the environment or indeed assist in its regeneration. Emphasis has also been placed on direct dialogue between UN structures and NGOs.

The goals and tasks inherent to the last (2015) UN Declaration extend across the period to 2030, and are concerned with development in a variety of different areas and directions, in the overall context of the Anthropocene – the term and concept arrived at as a holistic way of taking up an anthropocentrist approach, in the 1990s (the Anthroposphere) in the Chinese science literature. The term Anthropocene was formally introduced in 2000 by Nobel laureate and former IGBP vice-chair P. Crutzen and an ecologist E. Stoermer (who had been using the term since the eighties) in IGBP's *Global Change* magazine and is used by various scientists i.e.: P. M. Vitousek, W. Steffen, J. Zalasiewicz, A. J. Kettner, J. P. M. Syvitski (IGBP... 2016). Urbanisation and joint action between civil society, the private sector and local authorities are a clear impulse for both new legislation and new action seeking to address challenges on the road to sustainable development relating to energy, industry, innovation and infrastructure. Among the goals is the limiting of differences between consumption and production. There is a related need for openness to key components underpinning the Earth's future development that take the form of modern technologies both real and virtual (knowledge-based). Implementing and monitoring action is of course also essential.

Given the listing of relevant issues achieved by the UN (*Przyszłość...* 2012) and Pope Francis (2015), as well as Newman (2016) and Stefanowicz (2017), it is possible to pose questions in regard to the future of civilisation, and changes in the Anthropocene context. The questions concern the possibility of immediate action in areas like:

- the retention of phases of civilisational development without fuller limitations on global warming, by way of adaptation strategies;
- the reversal of warming trends on Earth;
- the ultimate re-achievement of levels of greenhouse gases present in the pre-industrial era.

## **FINAL REMARKS**

The Encyclicals mentioned above are an example of the loud voice of the Catholic Church, directed not only at practising Catholics, but also at humanity as a whole. In this context, they become an important inspiration for global thought and action, as well as interdisciplinary, or even trans-disciplinary, projects and studies. In spite of differences in the problems accented, the Encyclicals mentioned above contain many similarities with respect to global problems, as well as directions in which humankind might go

in order to solve them, in a global, polemical context. The reflections contained within them go a long way in confirming the veracity of the positions taken with respect to environmental issues as presented before the UN and other international organisations, with care for the common good of humankind as a major motivating factor.

The similarity between the Encyclicals discussed here is also manifested in their inclusion of contemporary scholarship from the disciplines of geography, biology, medicine and the social sciences. The Popes cited above use knowledge from differing disciplines as a barometer for the global socio-politico-economic climate. They build their position with respect to such matters using economic, technical, medical and biological data.

The differences between them become apparent in the manner in which they accentuate the problems, and the detail in which they interpret the processes of natural degradation; as well as the dangers of irreversible threats to the conservation of natural riches, and the importance of following rules set out to achieve a curtailment in the use of non-renewables. All the Encyclicals “call upon” human beings to take the action necessary to ensure the cessation of processes which all reduce the chances of future generations having a successful existence.

The Papal Encyclicals of the three Popes discussed herereference community consciousness, justice and empathy within society, in the context of access to the Earth’s goods and renewable and non-renewable resources. Attempts at inculcating the idea of humankind’s sustainable development are a factor essential to the accomplishment of this goal. In the Encyclicals, the respective importance of environmental, social, economic and political questions is highlighted equally. The Encyclicals are likewise clear in accentuating the importance of environmental, social, economic and political issues. They all focus on nature, the utilisation of energy and resources, and become all the more meaningful in the light of tangible climate change, water pollution and reduction of biodiversity. Drawing attention to such global problems may inspire scientific research and economic initiatives. They should certainly be studied carefully in order for their deep ethical and moral implications to be fully appreciated. In this sense, the *Laudato Si*’ Encyclical is a decisive step in the direction of halting the world’s problems.

Popes John Paul II, Benedict XVI, and Francis look to the future in their teaching, and indicate the necessity for targeted economic, social and political action, while suggesting concrete solutions, with a view to ecological awareness being raised, and notions of justice, social equality and empathy effectively instilled.

Following on from the appeal included in the *Laudato Si*’ Encyclical of 2015, a further overall question arising concerns the ability of the international community to take effective institutional, geopolitical and economic action seeking the achievement of a sustainable future for the Earth, and therefore in fact rescuing civilisation from oblivion.

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