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Conferenza Stampa per la presentazione della Lettera Enciclica «Laudato si'» del Santo Padre Francesco sulla cura della casa comune

Intervento del Card. Peter Kodwo Appiah Turkson

Intervento del Metropolita John (Zizioulas) di Pergamo

Intervento del Prof. John Schellnhuber

Intervento della Prof.ssa Carolyn Woo

Testimonianza della Dott.ssa Valeria Martano

Alle ore 11.00 di questa mattina, nell'Aula Nuova del Sinodo in Vaticano, si è tenuta la Conferenza Stampa di presentazione dell'Enciclica del Santo Padre Francesco « *Laudato si'*, sulla cura della casa comune ».

Sono intervenuti Sua Eminenza il Cardinale Peter Kodwo Appiah Turkson, Presidente del Pontificio Consiglio della Giustizia e della Pace; Sua Eminenza il Metropolita di Pergamo John Zizioulas, in rappresentanza del Patriarcato Ecumenico e della Chiesa Ortodossa; il Prof. Hans Joachim (John) Schellnhuber, Fondatore e Direttore del *Potsdam Institute for Climate Impact Research*; la Prof.ssa Carolyn Woo, CEO e Presidente del *Catholic Relief Services* e già Decano del *Mendoza College of Business, University of Notre Dame (USA)*; e ha portato la sua testimonianza la maestra Valeria Martano, insegnante delle periferie romane.

Riportiamo di seguito i testi degli interventi:

Intervento del Card. Peter Kodwo Appiah Turkson

Testo in lingua italiana

Testo in lingua inglese

Testo in lingua italiana

Eminenze, Eccellenze, signori ospiti, distinti rappresentanti dei “media”, quanti ci seguono alla radio e alla televisione, signore e signori, cari amici,

vi porgo anzitutto un saluto da parte del Pontificio Consiglio della Giustizia e della Pace, onorati di essere stati chiamati ad aiutare il Santo Padre nel suo insegnamento magisteriale nella stesura della Lettera Enciclica *Laudato si'*.

Il più cordiale benvenuto ai presentatori del testo, che sono:

- Sua Eminenza il Metropolita di Pergamo, John Zizioulas, in rappresentanza del Patriarcato Ecumenico e della Chiesa Ortodossa, che ci parlerà della teologia e della spiritualità, con le quali l'Enciclica si apre e si chiude.

- Il prof. John Schellnhuber, fondatore e direttore dell'Istituto di Potsdam per le Ricerche sull'impatto climatico, che qui rappresenta le scienze naturali con le quali l'Enciclica entra in dialogo profondo. Congratulazioni per la sua nomina a membro ordinario della Pontificia Accademia delle Scienze, che pure ha contribuito in modo significativo alla Enciclica.

- La professoressa Carolyn Woo, Presidente dei Servizi di Soccorso cattolici, ed ex-decana del *Mendoza College of Business*, dell'Università *Notre Dame*, che rappresenta i settori dell'economia, della finanza, degli affari e del commercio, le cui risposte alle grandi sfide ambientali sono tanto cruciali.

- La maestra Valeria Martano, romana e insegnante da 20 anni nelle periferie di Roma, testimone del degrado ambientale e umano, ed anche delle «migliori pratiche» che sono un segno di speranza.

La loro presenza e quanto ci diranno, ci ricordano che l'Enciclica *Laudato si'* sulla cura della casa comune, si pone fin dall'inizio in dialogo con tutte le persone, le organizzazioni e le istituzioni che condividono questa stessa preoccupazione. Essi affrontano prospettive diverse, ma che la situazione mondiale ci fa scoprire sempre più intrecciate tra loro e complementari: le ricchezze della fede e della tradizione spirituale, la serietà del lavoro di ricerca scientifica, l'impegno concreto, a vari livelli, per uno sviluppo equo e sostenibile.

Questo tipo di dialogo è stato presente anche nel metodo di redazione che il Santo Padre ha voluto per la redazione dell'Enciclica. Ha fatto affidamento su un'ampia serie di contributi. Alcuni, in particolare quelli di molte Conferenze episcopali di tutti i continenti, sono indicati nelle note. I nomi di altri che hanno partecipato alle diverse fasi di questo lavoro¹, sino a quella, sempre complessa, della traduzione e della stampa, rimangono nell'ombra. Il Signore saprà ricompensare la loro generosità e dedizione.

Come è ormai chiaro a tutti, l'Enciclica prende il nome dall'invocazione di san Francesco d'Assisi: «Laudato si', mi' Signore» che nel *Cantico delle creature* ricorda che la terra, la nostra casa comune, «è anche come una sorella, con la quale condividiamo l'esistenza, e come una madre bella che ci accoglie tra le sua braccia» (n. 1). Il riferimento a san Francesco indica anche l'atteggiamento su cui si fonda tutta l'Enciclica, quello della contemplazione orante, e ci invita a guardare al «poverello di Assisi» come a una fonte di ispirazione. Come afferma l'Enciclica, san Francesco è «l'esempio per eccellenza della cura per ciò che è debole e di una ecologia integrale, vissuta con gioia e autenticità. [...] In lui si riscontra fino a che punto sono inseparabili la preoccupazione per la natura, la giustizia verso i poveri, l'impegno nella società e la pace interiore» (n. 10).

Al centro del percorso della *Laudato si'*, troviamo questo interrogativo: «Che tipo di mondo desideriamo trasmettere a coloro che verranno dopo di noi, ai bambini che ora stanno crescendo?». Papa Francesco prosegue: «Questa domanda riguarda non solo l'ambiente in modo isolato, perché non si può porre la questione in maniera parziale». Questo porta ad interrogarsi sul senso dell'esistenza e sui valori che stanno alla base della vita sociale: «Per quale fine ci troviamo in questa vita? Per quale scopo lavoriamo e lottiamo? Perché questa terra ha bisogno di noi?». Se non ci poniamo queste domande di fondo – dice il Pontefice – «non credo che le

nostre preoccupazioni ecologiche potranno ottenere effetti importanti» (n. 160).

Queste domande nascono da una constatazione: oggi la terra, nostra sorella, maltrattata e saccheggiata, si lamenta; e i suoi gemiti si uniscono a quelli di tutti i poveri e di tutti gli «scartati» del mondo. Papa Francesco invita ad ascoltarli, sollecitando tutti e ciascuno – singoli, famiglie, collettività locali, nazioni e comunità internazionale – a una «conversione ecologica», secondo l'espressione di san Giovanni Paolo II, cioè a «cambiare rotta», assumendo la responsabilità e la bellezza di un impegno per la «cura della casa comune». Lo fa riprendendo le parole del Patriarca ecumenico di Costantinopoli, Bartolomeo, qui rappresentato da Sua Eminenza il Metropolita Giovanni di Pergamo: «Che gli esseri umani distruggano la diversità biologica [...], contribuiscano al cambiamento climatico [...], inquinino le acque, il suolo, l'aria: tutti questi sono peccati» (n. 8).

Allo stesso tempo Papa Francesco riconosce che nel mondo si va diffondendo la sensibilità per l'ambiente e la preoccupazione per i danni che esso sta subendo. In base a questa constatazione, il Papa mantiene uno sguardo di fiduciosa speranza sulla possibilità di invertire la rotta: «L'umanità ha ancora la capacità di collaborare per costruire la nostra casa comune» (n. 13); «l'essere umano è ancora capace di intervenire positivamente» (n. 58); «non tutto è perduto, perché gli esseri umani, capaci di degradarsi fino all'estremo, possono anche superarsi, ritornare a scegliere il bene e rigenerarsi» (n. 205).

Proprio nella chiave del cammino di conversione e di speranza in un futuro rinnovato, Papa Francesco mette al centro dell'Enciclica il concetto di ecologia integrale, come paradigma in grado di articolare le relazioni fondamentali della persona con Dio, con se stessa, con gli altri esseri umani, con il creato. Vale la pena di ascoltare le sue stesse parole, al n. 139:

«Quando parliamo di "ambiente" facciamo riferimento anche a una particolare relazione: quella tra la natura e la società che la abita. Questo ci impedisce di considerare la natura come qualcosa di separato da noi o come una mera cornice della nostra vita. Siamo inclusi in essa, siamo parte di essa e ne siamo compenetrati. Le ragioni per le quali un luogo viene inquinato richiedono un'analisi del funzionamento della società, della sua economia, del suo comportamento, dei suoi modi di comprendere la realtà. Data l'ampiezza dei cambiamenti, non è più possibile trovare una risposta specifica e indipendente per ogni singola parte del problema. È fondamentale cercare soluzioni integrali, che considerino le interazioni dei sistemi naturali tra loro e con i sistemi sociali. Non ci sono due crisi separate, una ambientale e un'altra sociale, bensì una sola e complessa crisi socio-ambientale. Le direttrici per la soluzione richiedono un approccio integrale per combattere la povertà, per restituire la dignità agli esclusi e nello stesso tempo per prendersi cura della natura».

È questa la cornice al cui interno vanno collocati i diversi temi trattati dall'Enciclica, che nei diversi capitoli vengono ripresi e continuamente arricchiti partendo da prospettive differenti (cf. n. 16). Ad esempio l'intima relazione tra i poveri e la fragilità del pianeta; la convinzione che tutto nel mondo è intimamente connesso: la critica al nuovo paradigma e alle forme di potere che derivano dalla tecnologia; il valore proprio di ogni creatura; il senso umano dell'ecologia; la necessità di dibattiti sinceri e onesti; la grave responsabilità della politica internazionale e locale; la cultura dello scarto e la proposta di un nuovo stile di vita; e l'invito a cercare altri modi di intendere l'economia e il progresso – quest'ultimo è il tema della Professoressa Carolyn Woo (n. 16)

L'Enciclica si articola in sei capitoli, la cui successione delinea un percorso preciso.

Il punto di partenza (cap. I) è costituito da un ascolto spirituale dei migliori risultati scientifici oggi disponibili in materia ambientale, per «lasciarne toccare in profondità e dare una base di concretezza al percorso etico e spirituale che segue». La scienza è lo strumento privilegiato attraverso cui possiamo ascoltare il grido della terra. Si affrontano così questioni estremamente complesse e urgenti, come ci spiegherà il Prof. John Schellnhuber, alcune delle quali – come i cambiamenti climatici e soprattutto le loro cause – sono oggetto di un acceso dibattito in campo scientifico. L'obiettivo dell'Enciclica non è quello di intervenire in questo dibattito, cosa di competenza degli scienziati, e tanto meno di stabilire esattamente in quale misura i cambiamenti climatici siano una conseguenza dell'azione umana. Il Santo Padre lo ricordava già il 15 gennaio scorso nel volo dallo Sri Lanka alle Filippine. Nella prospettiva dell'Enciclica – e della Chiesa – è sufficiente che l'attività umana sia uno dei fattori che spiegano i cambiamenti climatici perché ne derivi una responsabilità morale grave di fare tutto ciò

che è in nostro potere per ridurre il nostro impatto e scongiurarne gli effetti negativi sull'ambiente e sui poveri.

Il passo successivo nel percorso dell'Enciclica (cap. II) è il recupero delle ricchezze della tradizione giudeo-cristiana, anzitutto nel testo biblico e poi nell'elaborazione teologica che si fonda su di essa. Questa rivelazione esplicita la «tremenda responsabilità» dell'essere umano nei confronti della creazione, l'intimo legame fra tutte le creature e il fatto che «l'ambiente è un bene collettivo, patrimonio di tutta l'umanità e responsabilità di tutti» (n. 95).

L'analisi si occupa poi (cap. III) delle «radici della situazione attuale, in modo da coglierne non solo i sintomi ma anche le cause più profonde» (n. 15), in un dialogo con la filosofia e le scienze umane. L'obiettivo è quello di elaborare il profilo di un'ecologia integrale (cap. IV) che, nelle sue diverse dimensioni, comprenda «il posto specifico che l'essere umano occupa in questo mondo e le sue relazioni con la realtà che lo circonda», nelle diverse dimensioni della nostra vita, nell'economia e nella politica, nelle diverse culture, in particolare in quelle più minacciate, e finanche in ogni momento della nostra vita quotidiana.

Su questa base il cap. V affronta la domanda su che cosa possiamo e dobbiamo fare, e propone una serie di prospettive di rinnovamento della politica internazionale, nazionale e locale, dei processi decisionali in ambito pubblico e imprenditoriale, del rapporto tra politica ed economia e di quello tra religioni e scienze. In questo contesto si inseriscono i contributi di tre testimoni romani invitati: l'insegnante Valeria Martano, che intervorrà, il giovane Marco Francioni e l'anziana Giovanna La Vecchia, che saranno disponibili per interviste.

Per Papa Francesco è indispensabile che la costruzione di cammini concreti non venga affrontata in modo ideologico, superficiale o riduzionista. Per questo è indispensabile il dialogo, un termine presente nel titolo di ogni sezione di questo capitolo: «Ci sono discussioni, su questioni relative all'ambiente, nelle quali è difficile raggiungere un consenso. [...] La Chiesa non pretende di definire le questioni scientifiche, né di sostituirsi alla politica, ma [io] invito a un dibattito onesto e trasparente, perché le necessità particolari o le ideologie non ledano il bene comune» (n. 188).

Infine, sulla base della convinzione che «ogni cambiamento ha bisogno di motivazioni e di un cammino educativo», il cap. VI propone «alcune linee di maturazione umana ispirate al tesoro dell'esperienza spirituale cristiana». In questa linea l'Enciclica si chiude offrendo il testo di due preghiere: la prima da condividere con i credenti di altre religioni e la seconda con i cristiani, riprendendo l'atteggiamento di contemplazione orante con cui si era aperta.

L'umanità, nel suo rapporto con l'ambiente, si trova di fronte a sfide cruciali, che richiedono anche l'elaborazione di politiche adeguate, che peraltro figurano nell'agenda internazionale. Certamente la *Laudato si'* potrà e dovrà avere un impatto su questi processi. Tuttavia anche un rapido esame del suo contenuto, come quello che ho appena delineato, mostra che essa ha una natura magisteriale, pastorale e spirituale, la cui portata, ampiezza e profondità non possono essere ridotte all'ambito delle sole politiche ambientali.

Grazie!

1 Questo è quanto lo stesso Papa ha dichiarato sull'aereo nel viaggio verso Manila, ed è quindi già noto: «L'Enciclica: la prima bozza l'ha fatta il cardinale Turkson insieme alla sua équipe. Poi io, con l'aiuto di alcuni, ho preso questa stesura e ci ho lavorato. Con alcuni teologi ho poi redatto una terza bozza: ne ho inviato una copia alla Congregazione per la Dottrina della Fede, una alla Seconda Sezione della Segreteria di Stato e una al Teologo della Casa Pontificia (...) Tre settimane fa ho ricevuto le risposte (...) tutte costruttive. E adesso mi prenderò una intera settimana di marzo per finirla. Credo che alla fine di marzo sarà terminata e andrà ai traduttori. Penso che se il lavoro di traduzione andrà bene (...), a giugno o luglio potrà uscire.» (15 gennaio 2015)

[01050-IT.01]

Testo in lingua inglese

Your Eminences, Your Excellencies, distinguished guests, distinguished representatives of the media, all who are following by radio and television and on internet, ladies and gentlemen, dear friends,

First of all, I greet all of you warmly on behalf of the Pontifical Council for Justice and Peace, which is honoured to have been called to assist the Holy Father in his teaching ministry by helping to prepare the Encyclical Letter *Laudato si'*.

A very cordial welcome to the presenters, who are:

- His Eminence, the Metropolitan of Pergamo, John Zizioulas, representing the Ecumenical Patriarch of the Orthodox Church, who will speak to us of the theology and spirituality with which the Encyclical opens and closes.
- Prof. John Schellnhuber, founder and director of the Postdam Institute for Climate Impact Research. He represents the natural sciences, with which the Encyclical enters into in-depth dialogue. Congratulations on his nomination as a full member of the Pontifical Academy of Sciences which also contributed significantly to the Encyclical.
- Prof. Carolyn Woo, President of Catholic Relief Services and former dean of the Mendoza College of Business at Notre Dame University. She represents the economic, financial, business and commercial sectors whose responses to the major environmental challenges are so crucial.
- The teacher Valeria Martano, from Rome, has taught in the outlying areas of Rome for 20 years. She is a witness of human and environmental degradation as well as such “best practices” as are a sign of hope.

Their presence and what they say will remind us that, from the very beginning, the Encyclical *Laudato si' on care for our common home* brings into dialogue all people, organizations and institutions that share this same concern. They address different perspectives, but the world situation leads us to discover that these perspectives are ever more intertwined and complementary: the riches of faith and of spiritual tradition, the seriousness of scientific research, the concrete efforts at various levels, all for an equitable and sustainable development.

This type of dialogue was also employed as the method of preparation that the Holy Father embraced in the writing of the Encyclical. He relied on a wide range of contributions. Some, in particular those from many Episcopal Conferences from all the continents, are mentioned in the footnotes. Others who participated in the various phases of this work all the way to the complex final phases of translation and publication, remain unnamed. The Lord knows well how to reward their generosity and dedication.

As is already clear to everyone, the Encyclical takes its name from the invocation of St Francis of Assisi: “*Laudato si' mi' Signore*” “Praise be to you, my Lord”, which in the *Canticle of the Creatures* calls to mind that the earth, our common home, “is like a sister with whom we share our life and a beautiful mother who opens her arms to embrace us” (n. 1). The reference to St Francis also indicates the attitude upon which the entire Encyclical is based, that of prayerful contemplation, which invites us to look towards the “poor one of Assisi” as a source of inspiration. As the Encyclical affirms, St Francis is “the example par excellence of care for the vulnerable and of an integral ecology lived out joyfully and authentically. [...] He shows us just how inseparable is the bond between concern for nature, justice for the poor, commitment to society, and interior peace” (n. 10).

Midway through *Laudato si'*, we find this question: what kind of world do we want to leave to those who come after us, to children who are now growing up? The Holy Father continues, “This question does not have to do

with the environment alone and in isolation; the issue cannot be approached piecemeal.” This leads us to ask ourselves about the meaning of existence and its values that are the basis of social life: “What is the purpose of our life in this world? Why are we here? What is the goal of our work and all our efforts? What need does the earth have of us?” “If we do not ask these basic questions” - says the Pope – “it is no longer enough, then, simply to state that we should be concerned for future generations” (n. 160).

These questions arise from an observation: today the earth, our sister, mistreated and abused, is lamenting; and its groans join those of all the world’s forsaken and “discarded”. Pope Francis invites us to listen to them, urging each and every one – individuals, families, local communities, nations and the international community – to an “ecological conversion” according to the expression of St John Paul II, that is, to “change direction” by taking on the beauty and responsibility of the task of “caring for our common home”. He does this using the words of the Ecumenical Patriarch of Constantinople, Bartholomew, represented here today by His Eminence, the Metropolitan John Zizioulas: “Human beings ... destroy the biological diversity [...] by causing changes in its climate, [...], contaminate the earth’s waters, its land, its air, and its life – these are sins (n.8).

At the same time, Pope Francis acknowledges that environmental awareness is growing nowadays, along with concern for the damage that is being done. Based on this observation, the Pope keeps a hopeful outlook on the possibility of reversing the trend: “Humanity still has the ability to work together in building our common home” (n. 13). “Men and women are still capable of intervening positively” (n. 58). “All is not lost. Human beings, while capable of the worst, are also capable of rising above themselves, choosing again what is good, and making a new start” (n. 205).

At the heart of the process of conversion and of hope in a renewed future, Pope Francis puts the concept of integral ecology at the centre of the Encyclical as a paradigm able to articulate the fundamental relationships of the person with God, with him/herself, with other human beings, with creation. It is worth listening to his words in n. 139:

“When we speak of the “environment”, what we really mean is a relationship existing between nature and the society which lives in it. Nature cannot be regarded as something separate from ourselves or as a mere setting in which we live. We are part of nature, included in it and thus in constant interaction with it. Getting to the reasons why a given area is polluted requires a study of the workings of society, its economy, its behaviour patterns, the ways it grasps reality, and so forth. Given the scale of change, it is no longer possible to find a specific, discrete answer for each part of the problem. It is essential to seek comprehensive solutions that consider the interactions within natural systems themselves and with social systems. We are not faced with two separate crises, one environmental and the other social, but rather one complex crisis that is both social and environmental. Strategies for a solution demand an integrated approach to combating poverty, restoring dignity to the underprivileged, and at the same time protecting nature”.

The various issues treated in the Encyclical are placed within this framework. In the different chapters, they are picked up and continuously enriched starting from different perspectives (cf. n. 16):

- * the intimate relationship between the poor and the fragility of the planet;
- * the conviction that everything in the world is intimately connected;
- * the critique of the new paradigm and the forms of power that arise from technology;
- * the value proper to each creature; the human meaning of ecology;
- * the need for forthright and honest debates;
- * the serious responsibility of international and local policy;
- * the throwaway culture and the proposal for a new style of life; and
- * the invitation to search for other ways of understanding economy and progress – this last point being the topic of Prof. Carolyn Woo.

The encyclical is divided into six chapters, the sequence of which outlines a precise itinerary.

The starting point (ch. I) is a spiritual listening to the results of the best scientific research on environmental

matters available today, by “letting them touch us deeply and provide a concrete foundation for the ethical and spiritual itinerary that follows”. Science is the best tool by which we can listen to the cry of the earth. Extremely complex and urgent issues are addressed, as Prof. John Schellnhuber will explain, some of which – such as climate changes and above all their causes – are the subject of heated debate. The aim of the Encyclical is not to intervene in this debate, which is the responsibility of scientists, and even less to establish exactly in which ways the climate changes are a consequence of human action. The Holy Father reminded us of this last January 15 on his flight from Sri Lanka to the Philippines. In the perspective of the Encyclical – and of the Church – it is sufficient to say that human activity is one of the factors that explains climate change. We therefore have a serious moral responsibility to do everything in our power to reduce our impact and avoid the negative effects on the environment and on the poor.

The next step in the Encyclical (ch. II) is a review of the riches of Judaeo-Christian tradition, above all in the biblical texts and then in theological reflection upon it. This expresses the “tremendous responsibility” of human beings for creation, the intimate link between all creatures, and the fact that “the natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone” (n. 95).

The analysis then deals (ch. III) with “the roots of the present situation, so as to consider not only its symptoms but also its deepest causes” (n. 15). Here the dialogue is between philosophy and the human sciences. The aim is to develop an integral ecology (ch. IV), which in its diverse dimensions comprehends “our unique place as human beings in this world and our relationship to our surroundings”, in the varied aspects of our life, in economy and politics, in various cultures, in particular those most threatened, and in every moment of our daily lives.

On this basis, chapter V addresses the question about what we can and must do. A series of perspectives are proposed for the renewal of international, national and local politics, of decision-making processes in the public and business sectors, of the relationship between politics and economy and that between religion and science. At this Conference, we welcome three Roman witnesses of environmental and social degradation: a teacher Valeria Martano who will speak, accompanied by a young man Marco Francioni and an older woman Giovanna La Vecchia. All three are available to be interviewed afterwards.

For Pope Francis it is imperative that practical proposals not be developed in an ideological, superficial or reductionist way. For this, dialogue is essential, a term present in the title of every section of this chapter: “There are certain environmental issues where it is not easy to achieve a broad consensus. [...] the Church does not presume to settle scientific questions or to replace politics. But I am concerned to encourage an honest and open debate, so that particular interests or ideologies will not prejudice the common good” (n. 188).

Finally, based on the conviction that “change is impossible without motivation and a process of education, chapter VI proposes “some inspired guidelines for human development to be found in the treasure of Christian spiritual experience” (n. 15). Along this line, the Encyclical offers two prayers, the first to be shared with believers of other religions and the second among Christians. The Encyclical concludes, as it opened, in a spirit of prayerful contemplation.

In its relationship with the environment, humanity is faced with a crucial challenge that requires the development of adequate policies which, moreover, are currently being discussed on the global agenda. Certainly *Laudato si'* can and must have an impact on important and urgent decisions to be made in this area. However, the magisterial, pastoral and spiritual dimensions of the document must not be put in second place. Its value, breadth and depth cannot be reduced to the mere scope of determining environmental policies.

Thank you!

1 This is what the Pope himself said on the plane flying to Manila and so is already known: «Cardinal Turkson and his team prepared the first draft. Then, with some help, I took it and worked on it, then with a few

theologians I made a third draft and sent a copy to the Congregation for the Doctrine of the Faith, to the second section of the Secretariat of State, and to the Theologian of the Papal Household (...) Three weeks ago, I got their responses back, (...) all of them constructive. Now I will take a week of March, an entire week, to complete it. I believe that by the end of March it will be finished and sent out for translation. I think that if the work of translation goes well (...) then it can come out in June or July.» (15.01.2015)

[01050-EN.01]

Intervento del Metropolita John (Zizioulas) di Pergamo

Introduction

I should like to begin by expressing my deep gratitude for the honour to be invited to take part in this event of launching the new Encyclical of His Holiness Pope Francis' *Laudato Si'*. I am also honoured by the fact that His All-Holiness, the Ecumenical Patriarch Bartholomew, has asked me to convey to you his personal joy and satisfaction for the issuing of the Encyclical. As some of you may already know, the Ecumenical Patriarchate has been the first one in the Christian world to draw the attention of the world community to the seriousness of the ecological problem and the duty of the Church to voice its concern and try to contribute with all the spiritual means at its disposal towards the protection of our natural environment. Thus, back already in the year 1989, Ecumenical Patriarch Dimitrios issued an Encyclical to the faithful Christians and to all people of good will, in which he underlined the seriousness of the ecological problem and its theological and spiritual dimensions. This was followed by a series of activities, such as international conferences of religious leaders and scientific experts, as well as seminars for young people, Church ministers etc. under the auspices of the present Ecumenical Patriarch Bartholomew, aiming at the promotion of an ecological consciousness among the Christians in particular and more widely in the community of men and women.

The issuing of the Encyclical *Laudato Si'* is, therefore, an occasion of great joy and satisfaction for the Orthodox. On behalf of them I should like to express our deep gratitude to His Holiness for raising his authoritative voice to draw the attention of the world to the urgent need to protect God's creation from the damage we humans inflict on it with our behavior towards nature. This Encyclical comes at a critical moment in human history and will undoubtedly have a worldwide effect on people's consciousness.

Those who read the Encyclical will be impressed by the depth and the thoroughness with which the ecological problem is treated and its seriousness is brought out, together with concrete suggestions and proposals on how to act in order to face its consequences. There is in its pages food for thought for all: the scientist, the economist, the sociologist and above all the faithful of the Church. My own comments will be limited to the richness of theological thought and spirituality of the Encyclical. Time and space prevent me from doing full justice to the treatment of these aspects. I shall limit myself to the following points:

- a) The theological significance of ecology;
- b) The spiritual dimension of the ecological problem; and
- c) The ecumenical significance of the Encyclical.

1. Theology and Ecology

What does ecology have to do with theology? In the traditional manuals of theology, there is hardly any place for ecology and the same is true for the academic curricula of the theological schools, Catholic, Orthodox and Protestant. The Encyclical devotes a whole chapter (ch. 2) to show the profound ecological implications of the Christian doctrine of creation. It points out that according to the Bible "human life is grounded in three fundamental and closely intertwined relationships with God, with our neighbor and **with the earth itself**" (par. 66). This third relationship, i.e. with the earth, has been very often ignored by Christian theology to such an extent

that the American historian Lynn White, in a now famous article in the periodical *Scientist* (1967), would accuse Christian theology for being responsible for the modern ecological crisis. For it is true that in Christian theology the human being has been so exalted above material creation as to allow humans to treat it as material for the satisfaction of their needs and desires. The human being has been de-naturalized and in its abuse and misuse of the biblical command to the first human couple – “increase and multiply and subdue the earth” (Gen. 1.28) – humanity was encouraged to exploit the material creation unrestrictedly with no respect for its integrity and even sacredness.

This attitude to creation did not only lead to a misuse of the biblical doctrine but at the same time contradicted fundamental principles of Christian faith. One of them is the faith in **the Incarnation of Christ**. In assuming human nature, the Son of God took over material creation in its entirety. Christ came to save **the whole** creation through the Incarnation, not only humanity; for according to St. Paul (Rom. 8.23) “the whole creation groans in travail and is suffering” awaiting its salvation through humanity.

The other fundamental principle of Christian faith that has important ecological implications relates to the very heart of the Church, which is **the Holy Eucharist**. In the celebration of the Eucharist, the Church offers to God the material world in the form of the bread and the wine. In this Sacrament space, time and matter are sanctified; they are lifted up to the Creator with thankfulness as His gifts to us; creation is solemnly declared as God’s gift, and human beings instead of proprietors of creation act as its **priests**, who lift it up to the holiness of the divine life. This brings to mind the moving words of St. Francis of Assisi with which the Encyclical opens: “Praise be to you, my Lord, through our Sister, Mother Earth.” As St. Gregory Palamas and other Greek Fathers would put it, the whole of creation is permeated by God’s presence through His divine energies; everything declares God’s glory, as the Psalmist says, and the human being leads this cosmic chorus of glorification to the Creator as the priest of creation. This way of understanding the place and mission of humanity in creation is common to both Eastern and Western Christian tradition, and is of particular importance for the cultivation of an ecological ethos.

2. The Spiritual Dimension

As it emerges clearly from the Encyclical, the ecological crisis is essentially a **spiritual problem**. The proper relationship between humanity and the earth or its natural environment has been broken with the Fall both outwardly and within us, and this rupture is **sin**. The Church must now introduce in its teaching about sin the sin against the environment, the **ecological sin**. Repentance must be extended to cover also the damage we do to nature both as individuals and as societies. This must be brought to the conscience of every Christian who cares for his or her salvation.

The rupture of the proper relationship between humanity and nature is due to the rise of **individualism** in our culture. The pursuit of individual happiness has been made into an ideal in our time. Ecological sin is due to human greed which blinds men and women to the point of ignoring and disregarding the basic truth that the happiness of the individual depends on its relationship with the rest of human beings. There is a **social** dimension in ecology which the Encyclical brings out with clarity. The ecological crisis goes hand in hand with the spread of social injustice. We cannot face successfully the one without dealing with the other.

Ecological sin is a sin not only against God but also against our neighbor. And it is a sin not only against the other of our own time but also – and this is serious – against the **future generations**. By destroying our planet in order to satisfy our greed for happiness, we bequeath to the future generations a world damaged beyond repair with all the negative consequences that this will have for their lives. We must act, therefore, responsibly towards our children and those who will succeed us in this life.

All this calls for what we may describe as an **ecological asceticism**. It is noteworthy that the great figures of the Christian ascetical tradition were all sensitive towards the suffering of all creatures. The equivalent of a St. Francis of Assisi is abundantly present in the monastic tradition of the East. There are accounts of the lives of the desert saints which present the ascetic as weeping for the suffering or death of every creature and as leading a peaceful and friendly co-existence even with the beasts. This is not romanticism. It springs from a loving heart and the conviction that between the natural world and ourselves there is an organic unity and

interdependence that makes us share a common fate just as we have the same Creator.

Asceticism is an unpleasant idea in our present culture, which measures happiness and progress with the increase of capital and consumption. It would be unrealistic to expect our societies to adopt asceticism in the way St. Francis and the Desert Fathers of the East experienced it. But the spirit and the ethos of asceticism can and must be adopted if our planet is to survive. Restraint in the consumption of natural resources is a realistic attitude and ways must be found to put a limit to the immense waste of natural materials. Technology and science must devote their efforts to such a task. There is a great deal of inspiration and help that can be drawn from the Encyclical itself in this respect.

Finally, spirituality must penetrate our ecological ethos through **prayer**. The Encyclical offers some beautiful examples of how to pray for the protection of God's creation. From the prayers cited at the end of the Encyclical, I find the following extract moving:

O God, bring healing to our lives,
 that we may protect the world and not prey on it
 that we may sow beauty, not pollution and destruction.
 Touch the hearts
 of those who look only for gain
 at the expense of the poor of the earth.
 Teach us to discover the worth of each thing,
 to be filled with awe and contemplation,
 to recognize that we are profoundly united
 with every creature
 as we journey towards your infinite light.

At this point I should like to mention that the Ecumenical Patriarchate decided as early as 1989 to devote the 1st of September of each year to praying for the environment. This date is according to the Orthodox liturgical calendar, going back to the Byzantine times, the first day of the ecclesiastical year. The liturgical service of the day includes prayers for creation and the Ecumenical Patriarchate commissioned a contemporary hymnographer from Mount Athos to compose special hymns for that day. The 1st of September each year is now devoted by the Orthodox to the environment. Might this not become a date for such prayer for all Christians? This would mark a step towards further closeness among them.

This brings me to my last comment on the Papal Encyclical, namely its ecumenical significance.

3. The Ecumenical Significance of the Encyclical

There are in my view three dimensions to ecumenism. The first we may call **ecumenism in time**, an expression frequently used by one of the greatest Orthodox theologians of the last century, the late Fr. Georges Florovsky. By this we mean the effort of the divided Christians to unite on the basis of their common Tradition, the teaching of the Bible and the Church Fathers. This is the object of the theological dialogues which are taking place in the Ecumenical Movement of our time and it seems to be the predominant form of ecumenism.

At the same time an **ecumenism in space** is also practiced through various international institutions, such as the World Council of Churches and similar ecumenical bodies which bring together the divided Christians so that the different cultural contexts in which they live may be taken into consideration in the search for unity. This has brought together Christians from Asia, America, Europe, Latin America etc – an expression of the universality of the Christian Church.

To these two dimensions which have dominated the ecumenical scene for the last hundred years we must add, I think, a third one which is usually neglected, namely what I would call an **existential ecumenism**. By that I mean the effort to face together the most profound existential problems that preoccupy humanity **in its entirety** – not simply in particular places or classes of people. Ecology is without doubt the most obvious candidate in this

case.

I believe that the significance of the Papal Encyclical *Laudato Si'* is not limited to the subject of ecology as such. I see in it an important ecumenical dimension in that it brings the divided Christians before a common task which they must face together. We live at a time when fundamental existential problems overwhelm our traditional divisions and relativize them almost to the point of extinction. Look, for example, at what is happening today in the Middle East: do those who persecute the Christians ask them to which Church or Confession they belong? Christian unity in such cases is *de facto* realized by persecution and blood – an ecumenism of martyrdom.

The threat posed to us by the ecological crisis similarly bypasses or transcends our traditional divisions. The danger facing our common home, the planet in which we live, is described in the Encyclical in a way leaving no doubt about the existential risk we are confronted with. This risk is common to all of us regardless of our ecclesiastical or confessional identities. Equally common must be our effort to prevent the catastrophic consequences of the present situation. Pope Francis' Encyclical is a call to unity – unity in prayer for the environment, in the same Gospel of creation, in the conversion of our hearts and our lifestyles to respect and love everyone and everything given to us by God. We are thankful for that.

[01052-EN.01] [Original text: English]

Intervento del Prof. John Schellnhuber

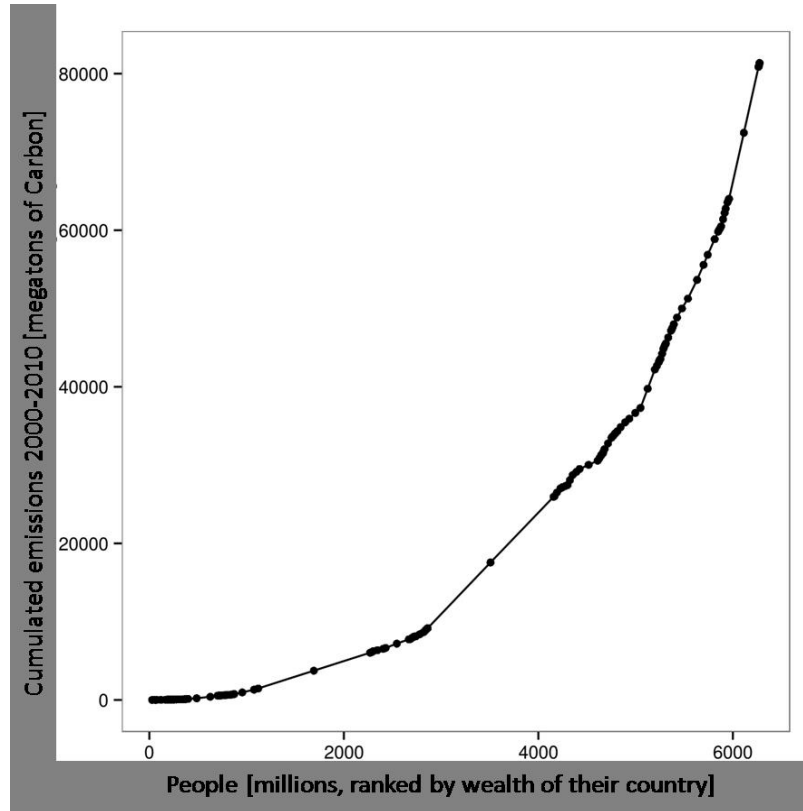
Laudato si', the Papal Encyclical [1], is compiled at a crucial moment in the history of humanity: today.

We are faced with the great challenge of limiting global warming to below 2°C while fostering development for the poorest. But we are also experiencing a special window of opportunity because the knowledge about the Earth system has never been greater. Moreover, we have the technical and economic solutions at hand to overcome the challenges we are confronted with.

The urgency to act on these pressing issues that is expressed in the Encyclical mirrors the scientific findings which have accumulated into an overwhelming body of evidence. The science is clear: global warming is driven by greenhouse-gas emissions which are the result of burning fossil fuels. **If we fail to strongly reduce these emissions and to bend the warming curve, we, our neighbors and children will be exposed to intolerable risks.** The scientific consensus as represented by the Intergovernmental Panel on Climate Change (IPCC) has been continuously reaffirmed by the most eminent scientific academies, including the Pontifical Academy of Sciences and the Pontifical Academy of Social Sciences which have congregated several times over the past years to address the topics of climate change and global sustainability ([2]–[5]). As any further delay to mitigation measures may jeopardize climate stability and thus our future, it is time to form alliances, find common ground and act together as humankind -- but also to take on individual responsibility and change what is in our power to change.

What we have done

The large-scale production of fossil fuel energy which was initiated by the Industrial Revolution and accelerated in the 20th century has led to great human development – for a minority. For the very few, it has even generated extreme wealth. On the other side of this development stand the poor and the poorest of the poor. The structural violence of this development predetermines their lives. Sources of fossil fuel energy are private goods, owned by corporations or controlled by governments. Access to energy thus largely depends on the financial resources of the individual. **It follows that the deployment of fossil fuel energy and the connected technological advances have led to unprecedented disparities and to wasteful over-usage of resources. The carbon history of humankind is one of exploitation.**



[Figure 1:

Distribution of global carbon emissions over the world population (grouped in countries and ranked by their wealth). The left part of the curve is "flat", indicating that the bottom billion contributes virtually nothing to global warming. Also, the lower income groups contribute little to global emissions on average. The right part of the curve is "steep", indicating how much more the lifestyle of the average individual in rich countries contributes to the total global problem.

Data sources: CDIAC for emissions and Penn World Tables 8.0 for GDP and population. Not for all countries was the necessary data available, hence the difference to the actual world population number of more than seven billion people.]

But not only were the poor excluded from participating in human progress, now they are forced to cope with the dreadful byproduct: climate change. This constitutes an unacceptable double-inequality: the poor are responsible for a tiny share of global emissions (Figure 1), yet they have to bear the greatest consequences. **Contrary to what some have claimed, it is not the mass of poor people that destroys the planet, but the consumption of the rich.** Global warming is the consequence of this development of a few and will affect everyone, but brings devastation especially to the weakest in society. As has been pointed out in the Encyclical, it is not possible to address climate change and poverty consecutively, in either order. It is indispensable to confront them *simultaneously*, as human development is deeply intertwined with the services the Earth provides. If these services are under threat through manmade environmental destruction, the poor will be the first to suffer. They live in exposed areas and have no resources to adapt to a changing climate. Furthermore, some climate impacts will disproportionately affect many of the developing countries.

Presently, the disparities are engrained so deeply that the poor remain voiceless, well-aware of the changes to their environment, but without any knowledge about the underlying causes. They are continuously kept from forming an opinion on climate change because they lack a formal education, yet their need for a life of dignity has been repeatedly misused as an excuse for inaction on climate change. Hitherto, dignity has remained impossible to attain for the many who live in their own and foreign waste, without access to clean water, exposed to environmental hazards and without the power to shape their own future. The unnecessary hardship the poor have had to experience in a world of abundance can no longer be accepted.

Already, we have not only violated the moral boundaries of our global civil society, but are also leaving the safe operating space of our planet by crossing planetary guardrails [6]. The continuation on this development pathway will not bring prosperity for all, but may end in disaster for most. But it is not an inevitable fate to which humanity has to succumb. As climate change is human-made, it is also in our hands to turn the trend around. Although the Earth system is characterized by great complexities and further research is needed in many areas, the scientific knowledge on climate change impacts is already so profound that it will be impossible to refer to ignorance as a justification for our inaction.

What we have learned

"If the Lord Almighty had consulted me before embarking on the Creation, I would have recommended something simpler" stated Alonso X of Castile in the 13th century. Were this advice taken, we would have been deprived of the exquisite joy that lies in the admiration of the complexity surrounding us – nature itself. Even the most abstract-minded mathematician recognizes the awe-provoking mystery behind the fact that a very simple-looking equation can wonderfully unfold into a beautiful picture of intricacy. The Earth's climate (in keen competition with the human brain) constitutes perhaps one of the most breathtaking manifestations of this complexity [1, No.20]. We live in an age that grants us the privilege of building on centuries of tradition in natural sciences fueled by human curiosity – this enables us more than ever before to assess the causes of climatic change.

I have had the honor to elaborate on that subject in a contribution to a workshop of the Pontifical Academies of Sciences *Sustainable Humanity, Sustainable Nature: Our Responsibility* last year [7]. It states that "The climate system is a most delicate fabric of interwoven planetary components (such as the atmosphere, the oceans, the cryosphere, the soils, and the ecosystems) that interact through intricate physical, chemical, geological and biological processes (such as advection, upwelling, sedimentation, oxidization, photosynthesis, and evapotranspiration). [...] We eventually become aware of the fact that even slightly pulling one single string might have the potential to tear apart the entire fabric."

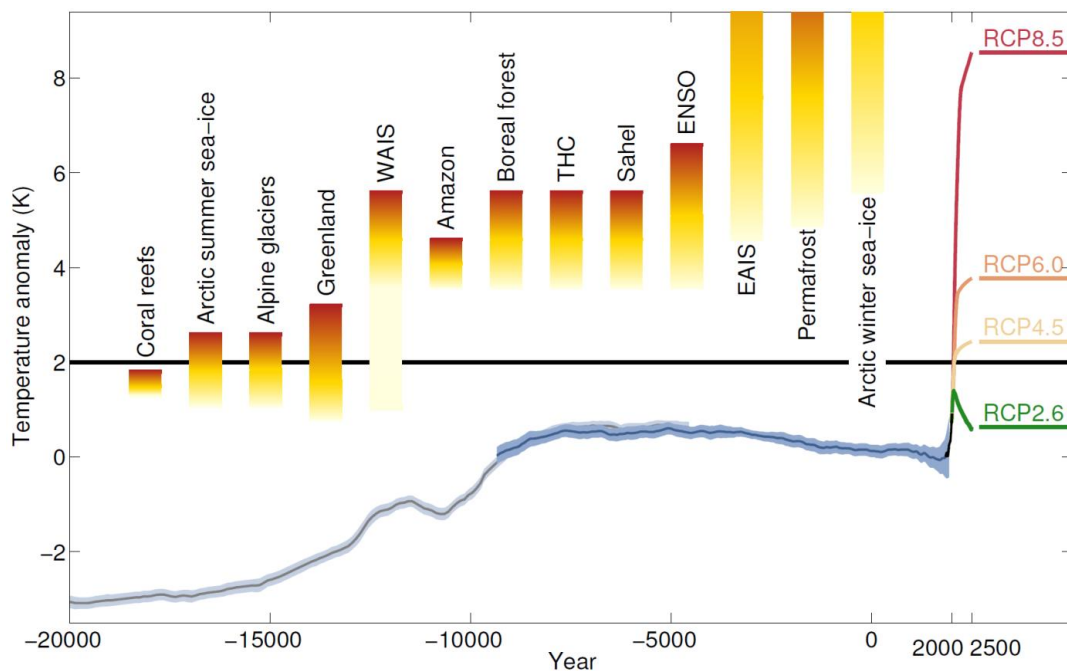
This fabric constitutes the parachute for our daily flight in the environment surrounding us, shaken by the mighty forces of nature – and yet a small, privileged group of mankind has been pulling strings ever more strongly since the start of the Industrial Revolution in the 18th century. And as a result, we are already starting to tailspin. For instance, after a "decade of weather extremes" [8] it is now clear that local heat records happen about five times more often than they would in an unchanged climate – that is with an intact parachute [9]. At the same time, although still too far away to be directly visible to most of us (but not to all!), major turbulence is approaching inexorably: almost 20 cm of global mean sea-level rise since 1880, for example, is starting to impact entire societies, washing away the ground they live on or degrading the soil on which they grow their food through salt-water intrusion.

Sea-level rise distinctly illustrates many dilemmas often involved also with other climate change impacts. Rising gauges, for example, are on the one hand caused by the *expansion* of sea water as it warms, on the other hand by the extra *amount* of water in our ocean basins stemming from melting glaciers and ice caps. Since most of the Earth's ice – inherited from many ice ages over countless millennia – is located near the poles on Greenland and the Antarctic continent, its loss by melting reduces the gravitational pull and sets the water free to float more towards the Equator. This is the region on the globe where most of those people are living who do *not* have the means to purchase reserve parachutes in the form of uphill estates. Another dilemma lies in the long time span between cause and effect – the already damaged fabric will silently but inexorably unravel more and more until the consequences can no longer be ignored. Ice flow changes that are happening now, for instance, in a large ice basin in West Antarctica ([10], [11]) seem to have been triggered by warm ocean waters bathing the floating tongues of the glaciers. But the resulting speed-up of the ice flow – once initiated – can likely not be halted due to nonlinearities in the underlying dynamics. This means that ultimately about 1.2 meters of sea-level rise – in addition to all the anticipated contributions stemming from human interference with the climate system – have to be expected from that single source over the centuries to come.

The West Antarctic ice sheet is – due to the mentioned nonlinearity – a classic example of a tipping element in

the Earth System [12]. But there are many more: from the ice sheets and glaciers, to permafrost in the vastness of Siberia and northern North America, to monsoon systems, the Jet Stream and the El Niño–Southern Oscillation pattern, and to biological systems like coral reefs or the Amazon rainforest. What they all have in common is that fundamental changes of state, caused by a relatively small external disturbance, are possible due to the complexity of the associated nonlinear system. Although the respective dynamics of those elements is beginning to be better understood, our ability as human beings to intuitively grasp nonlinearities is surprisingly limited: in our everyday experience, cause and effect are usually closely connected in time, space and extent. This, however, is not the case with the tipping elements: **Climate change, caused by this tiny molecule of CO₂, can trigger sudden, irreversible and large-scale disruptions in the above-named interwoven physical and ecological systems.** It is therefore of utmost importance for the scientific community to clearly communicate the risks involved with altering our climate – crossing certain thresholds may turn tiny holes in the fabric into long, ever increasing ladders.

The visualization of those risks in Figure 2 aims at making these sometimes dry scientific results come to life: it illustrates a crucial reasoning behind the well-known 2°C guardrail. While for many millennia, human civilization has had the privilege to relish a largely stable Earth temperature (in blue), we are now on track to abandon this climate paradise, as can be seen by the sharp increase in temperature (in black). Depending on the choices we make today, in our future we may follow the green path, respecting the 2°C guardrail, or – if we continue with business as usual – greenhouse gas emissions will lead us along the red path, past 4°C by the end of this century and with even higher warming levels in store after that.



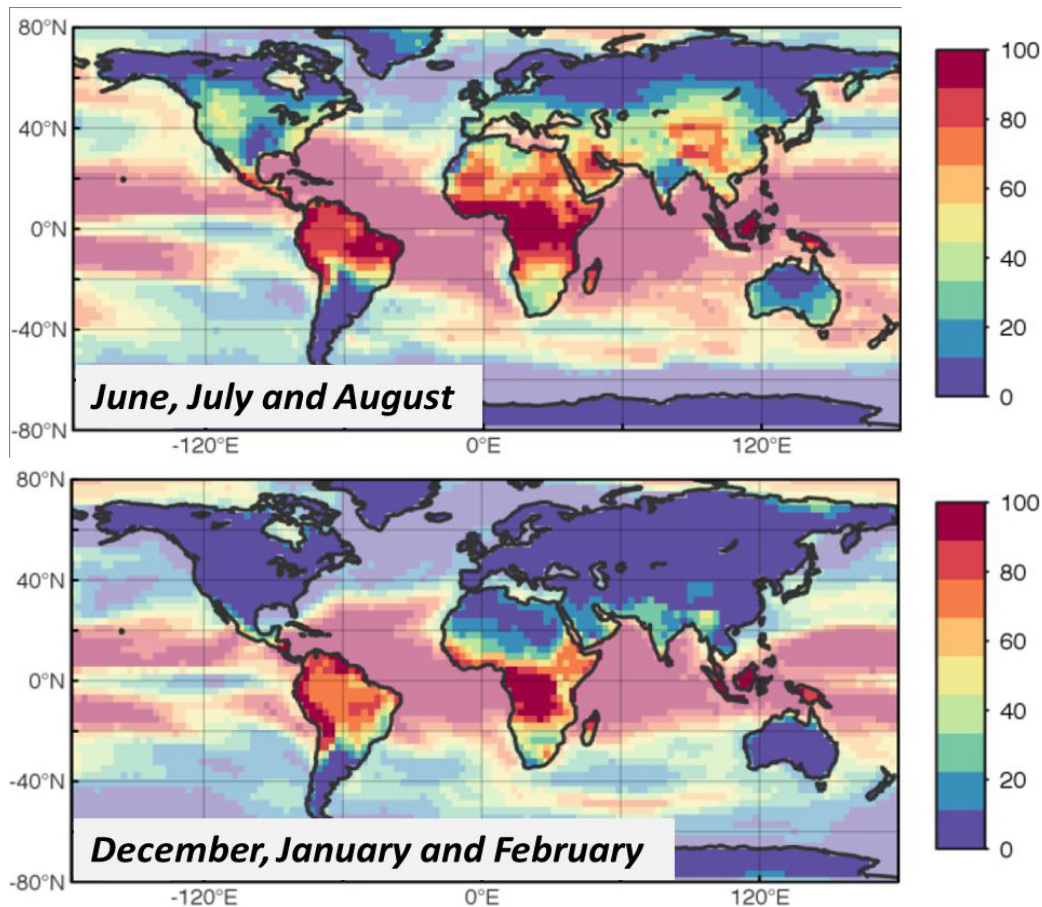
[Figure 2:

Global-mean surface temperature evolution from the Last Glacial maximum through the Holocene, based on paleoclimatic proxy data ([13], [14]) (light gray), instrumental measurements since 1750 AD (HadCRUT data, black) and different global warming scenarios for the future (see [15] for the latter). Threshold ranges for crossing various tipping points where major subsystems of the climate system are destabilized have been added from refs. ([15]–[20]).]

What difference does it make? This question is often asked with the notion that a doubling of temperature increase would mean a simple doubling in the severity of the consequences. And it reveals the linear thinking that is so natural to most of us. However, this assumption is completely misleading. **The complexity of nature gives rise to temperature thresholds which – if crossed – leave the associated tipping element in a fundamentally different state.** Those thresholds are visualized in Figure 2 for a number of climatic elements. The coral reefs, for example, are at risk of long-term degradation [16] and the Greenland ice sheet may melt down in the end [20], even if the 2°C guardrail is respected. But the further the temperature rises, the higher is the risk of crossing the tipping point for each element, and the more climatic elements are in danger. The consequences such as the

collapse of the “lung of the Earth”, the Amazon rainforest, would be disastrous, not to mention a complete disintegration of the West Antarctic and Greenland ice sheets, associated with about 3.3 and 7 meters of sea-level rise, respectively. As has been addressed also in the Encyclical [1, No. 34], technological advances would not be able to keep up in providing solutions to manage changes of this scale.

The difference between 2 and 4 °C global warming is reflected in these tipping elements. But even without explicitly considering these potential large-scale, non-linear changes, **it is indisputable that a 4 °C warmer world has to be avoided ([21]–[23]).** For instance, **heat extremes, which are virtually absent today and almost certainly never occurred since the rise of human civilization (and not even since the formation of key ecosystems), would become normal in central West Africa following the red path – this is the scenario for business as usual.** Such a drastic change would again strike most heavily those who have not eaten from the fruit of fossil fuel burning to any noteworthy extent: the poor.



[Figure 3:

Regional distribution of the frequency of extremely hot months (“5 σ -months”) in a 4 °C world (June, July and August between 2080 and 2100). The color coding indicates the percentage of months which are hotter than today by five standard deviations (5 σ) – those heat extremes would be virtually absent without climate change. On one end of the color scale is dark blue (0%-10% of all months are hotter by five σ); on the other end dark red (90%-100% of all months are hotter by 5 σ). This shows clearly that 5 σ -months become the new “climate normal” in the tropical land regions ([24]–[26].]

What we need to do

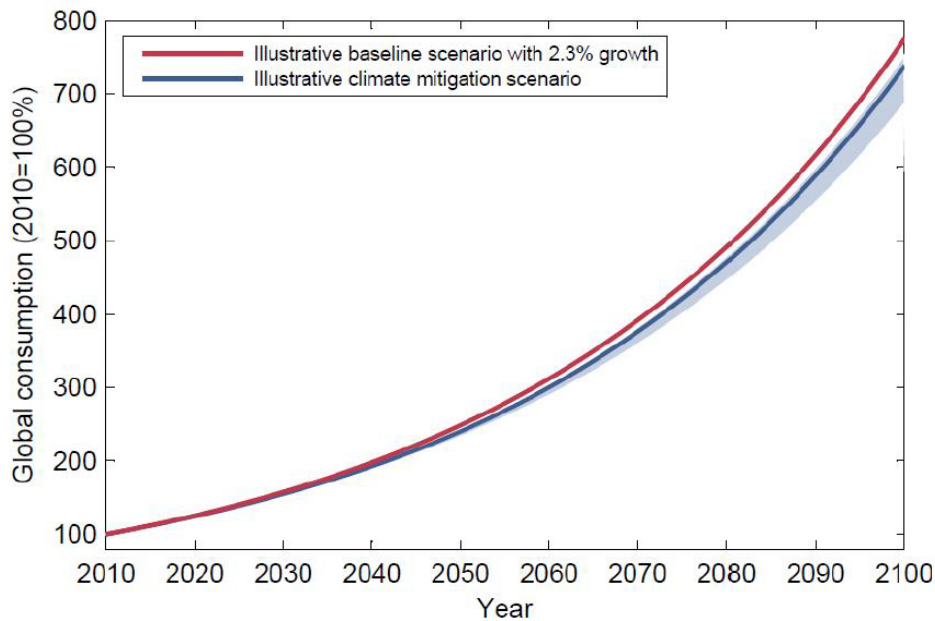
The long-term perspective illustrated through the tipping thresholds in Figure 2 reveals a far-reaching insight: Although the poor are the first to suffer and will be most fundamentally affected, all of mankind are ultimately reliant on the same parachute, irrespective of the temporary short-term benefits for a handful. This parachute – a stable climate – being destroyed by the few, is *our common good*. **The Encyclical confirms this assessment which scientists and moral philosophers have claimed in the context of climate policy: “The climate is a global commons of all and for all” [1, No. 20].** The atmosphere is a global good because of its limited disposal space for

greenhouse gas emissions. Presently, the upper-middle classes worldwide are rapidly depleting this scarce resource by emitting greenhouse gases in vast amounts. In contrast to the limited disposal space in the atmosphere, fossil fuels, especially coal, are abundant. Hence limiting the increase of global mean temperature to 2°C requires confining the amount of carbon still to be released into the atmosphere to 1000 gigatons of CO₂ (or less). Whereas restricting the use of the atmosphere as a carbon dump is absolutely necessary to avoid intolerable damage and suffering for the many, it will devalue the assets and the property titles of today's owners of coal, oil and gas. Almost 80 % of coal has to remain underground in a climate-change mitigation scenario compared to a business-as-usual case. Hence, climate policy implies shifting property rights for using the atmosphere from fossil fuel owners to a novel owner – humankind as a whole [27].

It is understandable that there are claims for compensation for the devaluation of the assets in the fossil fuel sector. However, the devaluation of these assets is by no means an illegitimate expropriation because it serves the common good – the avoidance of catastrophic climate risks. The Encyclical draws attention to the principle of “the social obligation of private property”. This goes back to St. Thomas Aquinas and has been further developed by the social teaching of the Catholic Church, in particular by this Encyclical “Laudato si” of Pope Francis [1, No. 20, 93-95, 156-158]. It maintains that private property, in general, and in natural resource endowments, in particular, is ethically justifiable only if it serves the common good. Moreover, the upcoming devaluation of fossil resources could be viewed as an act of ‘creative destruction,’ instigating a new integral industrial revolution that would bring enormous economic opportunities – possibly also to those who have so far not participated in human progress. The transformation of the way we produce our energy may well cause a greater transformation of society as a whole.

International negotiations over national emission reduction goals, national carbon prices or even a global price, implicitly or explicitly allocate rights for use of carbon space in the atmosphere to nation states, firms and consumers. “Laudato si” does not provide technical guidance on how to allocate user rights for the atmosphere. However, Pope Francis highlights the ethical dimension of the climate problem and provides fundamental principles to be applied for solutions: the preferential option for the poor, inter- and intragenerational justice, common but differentiated responsibility, orientation to the common good. The Encyclical argues for a global governance structure for the whole spectrum of the planetary commons [1, No. 174]. Putting a price on CO₂ emissions – either in the form of emissions cap & trade systems like the one in Europe or the one that China plans to set up, or through national CO₂ taxes – is an effective instrument to protect the common good.

Figure 4 shows that a mitigation pathway is economically feasible, without significant consumption losses, compared to a business-as-usual scenario. Further, a strong, legally binding target and an adequate CO₂ price would provide businesses with more predictable frameworks to operate in – something that even major oil companies recently called for – and give incentives to invest in clean technologies. This would significantly accelerate innovation in the fields of renewable energy production, distribution and storage and at the same time bring down production costs and retail prices. To spur the build-up of new energy systems in the developing world, to support them in their mitigation efforts as well as in adaptation measures to build climate resilience, financial instruments such as the Green Climate Fund are indispensable. Controlling efficient use of the funding for the benefit of the poor of course is a challenge. Yet insurance systems, for instance, which enable subsistence farmers to economically survive climate-related yield failures and other disasters, illustrate how much can already be done today. Moreover, a variety of solutions have emerged from the scientific discourse, including, for example, international monitoring of national emissions reductions or the establishment of a global ‘climate bank’ to manage the emissions allowance.



[Figure 4:

“The cost of saving the planet”. The blue mitigation path shows the median reduction of consumption and its uncertainty range as estimated by IPCC, illustrated here relative to a baseline example (red) with 2.3% annual growth. The nearly 8-fold increase in global consumption by the year 2100 in the baseline case is reached 2 years later in the case that includes the median climate mitigation costs. Note that these cost estimates do not consider damages from climate change, which would likely turn out to be a much greater burden than the mitigation costs, nor does it include co-benefits or side effects of mitigation]

Technologically, the deployment of clean energy for all is feasible [28]: this energy, in fact, is available in abundance. All we have to do is develop the means to properly harvest it and responsibly manage our consumption. While we have been working decade after decade on developing an incredibly expensive fusion reactor, we are already blessed with one that works perfectly well and is free to all of us: the Sun. Photovoltaics, wind and energy from biomass are ultimately all powered by sunlight. These new technologies could unfold potential in poor countries where no grid exists to distribute electricity produced by centralized power plants and where settlements may be too distantly located from one another to make such a system feasible. Just like the evolving use of mobile phones without the previous establishment of landlines, developing countries could leapfrog the fossil episode and enter the age of decentralized renewable energy production without detour.

The care for our planet therefore does not have to evolve into a tragedy of the commons. It may well turn into a story of a great transformation in which the opportunity was seized to overcome the profound inequalities. These disparities arose from the geological coincidence of regional fossil fuel distribution controlled by the few and the concomitant exploitation. Today, the implications of our actions and the pathways are clear. It is solely a question of what future we choose to believe in and to pursue [29].

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Intervento della Prof.ssa Carolyn Woo

Laudato Si' – Be Praised

Reflections for the Business Audience

Dr. Woo notes that her presentation was prepared in close collaboration with Dr Anthony Annett, *Climate Change and Sustainable Development Advisor, UN Sustainable Development Solutions Network, Earth Institute, Columbia University; and Religions for Peace*, who is therefore to be considered as the co-author of this contribution.

1. The encyclical draws its name from St. Francis' Canticle of the Creatures reminding us that **earth is our common home and that our bodies are made of her elements**, we breathe her air and draw nourishment from her gifts.
2. The framing question asked by Pope Francis in his encyclical is a simple one: “**what kind of world do we want to leave to those who come after us, to children who are now growing up**”? This question surely resonates with everyone in the world. It resonates with me as a mother. And it resonates with me as one who draws on business as a partner to eliminate poverty and as an educator of business practitioners. It is from the perspective of business that I speak today.
3. The questions Pope Francis poses to the readers, “**What is the purpose of our life in this world? Why are we**

here? What is the goal of our work and all our efforts?" are not different from the mission and vision statements that businesses formulate to define their purpose and to gain legitimacy from society, commitment from employees and support by customers.

4. The message of this encyclical to the business world is a **profoundly hopeful** one as it sees the potential of business as a force for good whose actions can serve to mitigate and stop the cumulative, compounding, irreversible catastrophic effects of climate change driven by human actions.

5. The encyclical affirms that **business is a noble vocation**, geared toward improving the world. As the pope says, "it can be a source of prosperity...**especially if it sees the creation of jobs as an essential part of its service to the common good**". Pope Francis also calls for an economy that favours "productive diversity and business creativity". He specifically mentions the important role played by small businesses, the importance of diversified production, the need to restrain monopolistic elements that constrain economic freedom, and the need for good governance and the rule of law. So there is a positive role for business, but business must put the common good first.

6. Lest there is the temptation to dismiss the encyclical as ungrounded in evidence, note the extensive work and consultation by the Pontifical Academies of Sciences and Social Sciences, and Pope Francis' urging that **"science is the best tool by which we can listen to the cry of the earth."**

7. One of the principal themes in this great encyclical is that **all life on this planet is connected, bound together**. Human life is grounded in three fundamental and intertwined relationships : with God, our neighbour and the earth. When one of these relationships is damaged, then the others are damaged too. So there is a connection between how we treat the planet and how we treat the poor. As Pope Francis puts it, we do not have two separate crises, social and economic, but "one complex crisis which is both social and environmental".

8. **Yet we have not treated our common home well**—this is a key message of the encyclical. When it comes to the earth, we should think of ourselves as stewards rather than owners — tenants of God, as it were. The encyclical refers to the concept of the "global commons," i.e. the tangible and intangible assets that belong to all of human kind across all generations for human flourishing. Examples of these include water, air, biodiversity, culture, genetic materials. The encyclical speaks of the loss of biodiversity that forever changes our eco-system and reminds us that diverse species are not just exploitable resources by humans; they have an inherent value in and of themselves: ".....each creature has its own purpose. None is superfluous." And the pope has rightly noted that business interests have too often been unkind to these ecosystems.

9. The correct response, according to Pope Francis, is a true **"ecological conversion"** involving business as a part of the solution.

10. What does that mean in practice? Gleaning from the encyclical, it means adopting the **virtues of solidarity and sustainability, oriented toward the common good and the true development of all peoples**. This has a number of practical dimensions.

11. First, over-reliance on market forces or technology deployment overlooks integral human development and social inclusion and "masks the deepest problems of the global system." Markets can support human flourishing, but we must avoid excessive reliance on its "invisible force" or be swayed by "magical conceptions" of it. **The market alone cannot solve environmental problems. Likewise, technology can bring great benefits, but also great costs as it allows those with knowledge and resources to dominate humanity and the entire world.** So business must focus on the creative elements of technology, but always linked to humility and service.

12. Second, we are also reminded that **jobcreation is possibly the greatest responsibility entrusted to business** — it is a sacred trust, and must always be prioritized. The right to work is fundamental — it not only provides income security and a decent standard of living, but also dignity, meaning, and fulfilment. This is an idea that business should warmly embrace.

13. Third, Pope Francis speaks forcefully of the **dangers of short-term thinking and a selfish mindset**. He denounces what he calls a “misguided anthropocentrism” — which leads people to elevate selfishness and short-termism to a virtue. If something doesn’t serve your immediate self-interest, it is deemed irrelevant. And short-term profit is seen as the only yardstick of success. But this is ultimately self-defeating. As the pope says, “to stop investing in people, in order to gain short-term financial gain, is bad business for society”. And I would add: “bad business for business too”!

14. This is especially problematic when it comes to the **financial sector**. Pope Francis is emphatic on this point: he condemns what he calls the “absolute power of the financial system”, and notices that “finance overwhelms” the real economy. Given our experience of the global financial crisis, I think the vast majority of economists would agree with this assessment. And business should agree too — they also suffer from the uncertainty and lack of confidence brought about by financial instability.

15. Fourth, in line with what Pope Francis says in this encyclical, **businesses are realizing that they need to account for all costs involved in production, not just “a fraction of the costs involved”**. He notes that both politics and business have been slow to respond to environmental challenges, but I think this is changing. Working against the pressures of short term profits, a movement in the business sector has emerged over the last decades for the **adoption of the triple bottom line** which adds the advancement of people and care for the planet as equally important objectives to challenge the primacy of short term profits. Various stock indices, regulatory bodies, consultancies, measurement approaches and reporting protocols have sprung up to provide incentives, targets, guidelines and expertise for implementing the triple bottom line. Correspondingly, we now have means to estimate the cost of an organization's carbon emission and provide incentives for its reduction. More businesses need to be actively engaged in the kinds of “environmental impact assessments” called for by the encyclical. The Pope's message adds urgency for widespread, deep and focused adoption of these practices.

16. Fifth, the encyclical is asking business to embrace the idea of **sustainable development** — to act on our concern for the environment and for future generations. He is critical of using economic growth as the sole yardstick of economic success. As he puts it, there can be no “infinite or unlimited growth.” Here, the scientists and economists would agree, as this kind of unbounded growth runs into important “planetary boundaries” — not only climate change, but also issues like ocean acidification, chemical pollution, ozone depletion, land use constraints, depletion of water resources, and loss of biodiversity. By embracing sustainability, business can help pay the “ecological debt” that Pope Francis claims exists between developed and developing countries.

17. Sixth, business should not shy away from any of this. **Investing in sustainability is another “win-win” opportunity for business**. As Pope Francis says, “efforts to promote a sustainable use of natural resources are not a waste of money, but rather an investment capable of providing other economic benefits in the medium term”. He goes on to say that “more diversified and innovative forms of production which impact less on the environment can prove very profitable”. This is not just conjecture — it is borne out by solid analysis and research. Numerous studies have provided estimates of astronomical costs associated with coastal disasters as water level rises, drought and storms that devastate agricultural production, or loss in productivity due to growing days of extreme heat and health crises due to pollution.

18. Seventh, a human-centered approach based on the principles of **inclusive development** can create better economic growth and better economic conditions — growth that benefits the many, not just the few; growth that strengthens local communities and builds resilience; growth that increases substantive freedoms and aids human flourishing. This is not just a dream or empty ideal but serve as operational goals of the global community including the UN's Sustainable Development Goals (to be released in September 2015) and the World Bank's top priorities for the elimination of extreme poverty and reduction of income inequality.

19. Eighth, in addition, **business can play a role to assist customers to become responsible consumers**. Design and production that minimizes waste by utilizing renewable energy sources, improving efficiencies, enabling recycling, reclamation and re-use provides new opportunities for businesses as these enable consumers to do their part.

20. Today, more and more consumers and investors are holding business to a higher standard. **They want business to be ethical and to practice sustainability.** And it is the job of business to listen to the people they serve. **But Pope Francis also makes a point about authenticity, warning against reducing this important responsibility to mere “marketing and image-enhancing measures”.** The virtues of sustainability need to be incorporated into core business practice and measurable outcomes.

21. Let me make one final point. This encyclical certainly affirms the important role that business will need to play, but Pope Francis is clear that we need **partnerships between public and private sectors** — as he puts it, “politics and economics in dialogue for human fulfilment.” Since both public and private sectors have the same goal, and are integrated into the same interconnected web of life, they need to work together in harmony. Sometimes that means business being more accepting of stronger forms of regulation, especially in the financial sector. It also means business getting fully on board with the new Sustainable Development Goals and the need to take action to combat climate change.

22. At the end of the day, **business is a human enterprise** and must strive for **true human development and the common good.** In the years ahead, the challenges will be large. How can we develop the technologies so that we can move to a zero-carbon economy? How can we boost living standards of the developing world in a sustainable way and give all people the ability to live the lives God intended them to live? How can we make sure all have access to nutrition, energy, healthcare and education? These are huge challenges, but we must face up to them. The answer lies with all working together — governments, international institutions, businesses, NGOs, and religions. It lies in forthright and honest debate and dialogue. But it begins in the call to ecological conversation outlined so clearly in this great encyclical.

23. **“What kind of world do we want to leave to our children?”** If we stay focused on that question, we are on the right path.

[01051-EN.01] [Original text: English]

Testimonianza della Dott.ssa Valeria Martano

La periferia di Roma è l'orizzonte mio, come di tante donne: con le difficoltà della vita quotidiana. Il papa scrive nell'enciclica: “l'ambiente umano e l'ambiente naturale si degradano insieme”. Lo vediamo ogni giorno, tanto che non ce ne accorgiamo più: dal verde che non c'è, all'inquinamento, al calore eccessivo, che in questa stagione fa soffrire gli anziani. Nelle periferie vive un mondo di gente sola, con la crisi della famiglia, delle comunità e delle reti sociali. Per deboli e poveri, la solitudine è una povertà in più. Nelle città cresce la separazione tra mondo dei ricchi e dei poveri, pur in un tempo globale che pretende di essere “connesso”.

Le grandi metropoli –e Roma– stanno assumendo il volto di città polarizzate, dove a una periferia anonima si affiancano comunità di privilegiati e un centro- vetrina turistico e d'affari. La città si scompone come casa comune. Non si salva la natura avendo una casa con un giardino in un compound protetto: la città è una casa comune, come rivela l'inquinamento e la crescita di malattie da inquinamento. La periferia di Roma è fatta di quartieri-isole, poveri di luoghi di incontro, spesso abbandonati dal punto di vista urbanistico. La gente vive tra il posto di lavoro –se c'è - e i centri commerciali: s'impoverisce il tessuto umano, vera rete di protezione per i deboli. La difficoltà degli spostamenti sottrae tempo alla famiglia. I gemiti di sorella terra si uniscono ai gemiti di tanti affaticati nel vivere.

L'ecologia urbana, messa in pericolo dall'inquinamento, dai pochi servizi, dall'individualismo pervasivo, rappresenta una sfida per noi cristiani. Nelle periferie si vive male, si accumulano rabbia e senso di esclusione. A troppi è negata la dignità di una casa, (come ai rom), e spesso si assiste alla distruzione delle abitazioni precarie senza l'offerta di un'alternativa. Gli anziani sono “espulsi” dal tessuto sociale, collocati in istituzioni periferiche. Da un mondo brutto, i giovani si ritirano nel virtuale. Si sperimenta la cosiddetta “morte del prossimo”. L'isolamento modella alcuni individui soli, depressi o aggressivi: vediamo la violenza in alcuni

quartieri. Ma ci si può aiutare a vivere meglio se si esce dalla rassegnazione all'individualismo o dall'orgoglio solitario! Ci sono tante risorse umane, talvolta disperse!

Da anni, con la Comunità di Sant'Egidio, lavoriamo per sottrarre all'inquinamento umano spazi di "bellezza" e umanità. A partire dai deboli -bambini, anziani, disabili - si ricostruisce un tessuto umano. Nelle Scuole della pace si promuove l'integrazione dei bambini italiani e immigrati, togliendo terreno all'inaccoglienza. Attorno ai deboli, si può rinnovare il volto delle periferie, scoprendo energie che rinnovano l'ecologia umana.

L'enciclica ci chiama a praticare il bene comune: la città e l'ambiente sono la casa comune. Viviamo spesso itinerari umani, frammentati e contraddittori. Ognuno cerca di salvarsi nel proprio angolo. Ognuno persegue il proprio interesse. Ma c'è una "salvezza comunitaria", che parte dall'inclusione dei deboli, preziosa risorsa di ecologia integrale. "E' questo – ha detto papa Francesco- il tipo di mondo desideriamo trasmettere a coloro che verranno dopo di noi, ai bambini che stanno crescendo". A tutti, allora, è chiesta una conversione alla costruzione responsabile della casa comune.

[01049-IT.01] [Testo originale: Italiano]

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