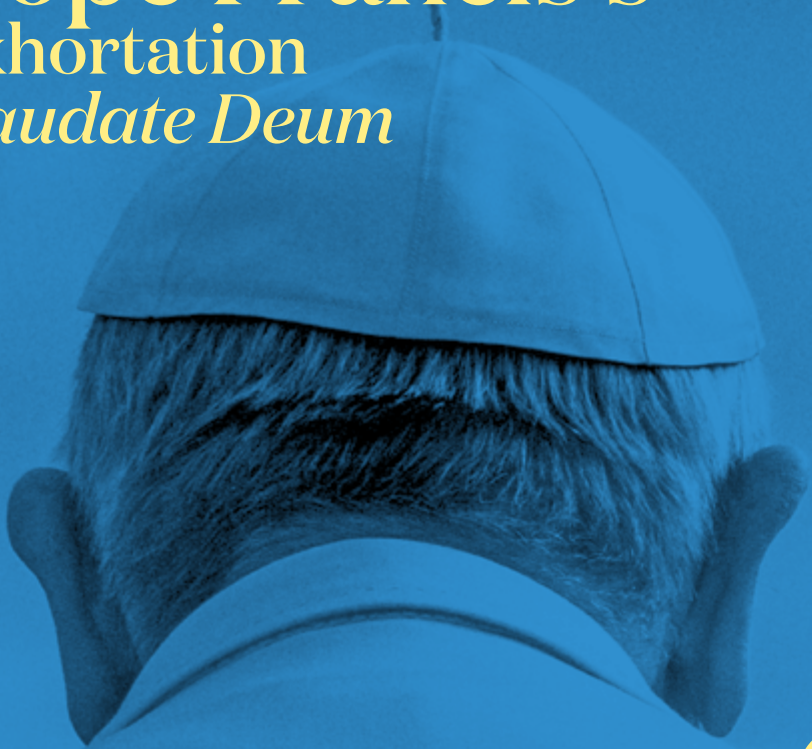
# NO ONE IS SAVED ALONE

## Dreams in action based on Pope Francis's exhortation *Laudate Deum*



CAF DEVELOPMENT BANK OF LATIN AMERICA AND THE CARIBBEAN

Dreams in action based on
Pope Francis's exhortation
*Laudate Deum*

# No One is Saved Alone

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# Contents

Sergio Díaz-Granados[1]

# We Still Have Time to Halt the Collapse

"Start by doing what's necessary; then do what's possible, and suddenly you are doing the impossible." The words of Saint Francis of Assisi resonate with special force in times when the course of history urges us with a sense of urgency to go beyond what seems possible today.

Acting with solidarity and responsibility is essential. However, as Pope Francis warns, no one is saved alone. As the world that embraces us appears to be heading toward a breaking point, we are called to be custodians of creation, to work together, recognizing our mission as stewards of the destiny of our common home. This is the essence of His Holiness's call in *Laudate Deum*.

The present and future of humanity largely depend on our ability to address the issues of a global-reaching climate crisis that extends beyond biodiversity loss. It affects human dignity, impacting dimensions such as health, employment, housing, food security, and infrastructure. In this regard, actions to promote sustainable development become a common thread for addressing these challenges in a comprehensive, balanced, and robust manner.

Only through a joint, coordinated, and long-term effort will it be possible to achieve objectives that, more than desirable, appear as definitive, as they seem to draw a line between a sustainable world and the collapse of dignified life and the ultimate defeat of our humanity.

## Everything is Connected

Making sustainable and responsible use of environmental resources is possible. Ensuring capital flows into necessary sectors is possible. Innovating in the management of instruments that enable sustainable development is possible. It is also possible to agree on bold and ambitious solutions, embodied in lasting commitments with global reach.

1 Executive President of CAF – Development Bank of Latin America and the Caribbean. He previously held various positions in the government of Colombia, including Minister of Trade, Industry, and Tourism, Deputy Minister of Business Development, and Chairman of the Boards of Bancoldex and ProColombia. He also served as a congressman and was the Chairman of the Economic Affairs Committee in the House of Representatives. For six years, he held the position of Executive Director for Colombia and Peru at the IDB Group. He holds a postgraduate degree in Public Management for Social Development and has completed advanced studies in Constitutional Law at the University of Salamanca.

The question is whether we will be able to do it; if we are willing to act as parts of the same system and not as isolated elements, destined for a kind of zero-sum competition. As Pope Francis rightly notes, it's "nothing other than a certain responsibility for the legacy we will leave behind, once we pass from this world."

Actions to address the climate crisis will not be sufficient unless they are integrated with actions for human development and digital transformation. The success of one agenda depends on the success of the others. Isolated actions will not achieve the necessary impact and will lead to new frustrations.

Facing the climate crisis and protecting diversity, for example, must include the use of technology; and this, in turn, must also be a driver of development and a dignified and decent life for people. All of this will only be possible through commitments to move in the same direction. Each in our own way, but always with a shared destination.

Indeed, "everything is connected" and "no one is saved alone." These certainties are a good starting point for the consolidation of a paradigm that celebrates human creation, technological advancements, and the generation of prosperity while not neglecting an ethical and sustainable vision that prioritizes human dignity.

## Development agendas should include combating the climate crisis, actions for human well-being, and the digital transformation of countries.

How can we contribute to realizing this vision and these goals? This is one of the questions that guide our daily actions at CAF – Development Bank of Latin America and the Caribbean. Development banking plays a fundamental role in this process.

Our institution is establishing itself as the region's green bank and bank for sustainable and inclusive growth, with a role that goes beyond the timely and effective mobilization of resources: we build bridges within societies, promote the generation of common agendas, and work based on the elements that unite us—a fundamental criterion in times when polarization, fake news, and disputes paralyze public dialogue in our societies.

Coordination among development banks is necessary in these challenging times when countries are asking us to act with innovation, agility, and a sense of urgency.

The measure of the success of our actions—ours as an institution, that of the ecosystem, and, in general, that of leadership—goes beyond balance sheets, the number of operations, or the magnitude of mobilized resources. It is reflected in the real impact on the quality of life of people and the positive impact of actions on the promotion of sustainable development.

*Laudate Deum* invites us to rethink our use of power, its limits and scope, but especially its meaning. What are we striving for with our work and effort? This is a fundamental question that should continue to guide our daily actions.

## The Path Toward Sustainable Multilateralism

Pope Francis also urges us to "ensure" the fulfillment of non-negotiable objectives within the framework of a renewed, stable, efficient, and world-adapted multilateralism—a "bottom-up" multilateralism, which we interpret as a recognition of the significant contribution that the Global South can make to the global conversation on development and sustainability.

In addition to strengthening and building ties within the region, CAF is becoming a platform to amplify the voice of Latin America and the Caribbean on the global stage. Indeed, we are witnessing a transformation of the global development paradigm. It is in this context that we seek to connect, unite, and amplify the voice of our region.

Latin America and the Caribbean is a source of creativity and innovative solutions—a region of peace with much to say on key issues like energy transition and food security.

Indeed, multilateralism is presented as an inevitable as well as desirable path. The challenge lies in finding the best ways to ensure that it translates into effective cooperation that mobilizes international action and delivers tangible results for an international community that demands it.

The call of His Holiness to generate new spaces and dynamics for decision-making and legitimization is particularly valuable. Beyond preserving principles of equality and participation, ensuring the rights of some at the expense of others makes no sense. It simply is not sustainable.

Though complex, the path toward sustainable multilateralism—capable of providing responses and courses of action for present and future challenges—is deemed possible. If we do not think big now, then when? In this regard, the COP28 in the United Arab Emirates presents itself as a conducive setting to initiate this process with concrete, realistic, and ambitious commitments.

CAF will be present at COP28 with a pavilion dedicated to Latin America and the Caribbean. There, we will continue to amplify our voice as a solution-oriented region in the global conversation and actions to address the environmental crisis.

More than just an ideal, working for sustainability is a necessity to ensure a dignified future on this planet. Prioritizing survival, human dignity, and an ethical vision of our actions—without forsaking the generation of prosperity—is the path to success in this endeavor. It is not an optional path, for ignoring the need to act on the climate crisis is nothing other than ignoring the future.

We live in complex and turbulent times; however, we can still find a way out of a situation that appears to be a dead end.

Pope Francis's exhortation in *Laudate Deum* transcends the dimensions of our individual beliefs or positions on faith. The world in which we live—the reality that embraces us—deserves to be protected, celebrated, and preserved.

Breathing life into this message from His Holiness is possible in all aspects of human action: at the individual and collective levels, and from all spaces of leadership.

We are the last generation that still has time to take a significant leap in protecting our environmental capital. Correcting the world's environmental imbalances is the path to halt the progressive collapse of life as we know it

The challenges are global, but the solutions are regional, even local. As we understand this reality, we can accelerate action that cannot wait. It is time to act: for the present and the future. For the deeply human and yet sublime notion of giving meaning to our time in this world

# Dreams in Action for Our Common Home

In response to urgent calls, come urgent answers. Pope Francis's latest Apostolic Exhortation, *Laudate Deum*, contains an appeal to translate dreams into action—concrete ideas guided by ethical compasses and shared values.

This is the essence of this publication. It features the knowledge and operational contributions of experts from CAF – Development Bank of Latin America and the Caribbean who provide concise analyses of the institution's initiatives underway in the region. In addition, we have invited a group of thought leaders to contribute to this publication from a multidimensional perspective, inspired by *Laudate Deum*.

Recognizing that every issue is multifaceted, we decided it was important to organize these essays into three dimensions.

Firstly, there is the geopolitical dimension, which involves a contextual analysis of what is at stake in environmental discussions and their new power balances, within which the role of Latin America and the Caribbean is indispensable.

Secondly, we highlight sector-specific and operational aspects through which CAF is making significant contributions to lead the push for a green, just, and sustainable agenda throughout the region.

Lastly, but equally significant, we invite contemplation on ethical and philosophical aspects. A multidisciplinary approach is required to consider the values at stake in the face of profound paradigm shifts.

These three dimensions are interconnected and aim to encourage complementary and fruitful dialogue.

Beyond reflecting the high technical value and institutional and operational capacity of CAF's experts, this work also contains reflections from the people who are making a significant contribution to the global environmental agenda.

Mariana Mazzucato, from the University College of London, provides her vision of strategic action on the issue of water. Vera Songwe, co-author of the global report on sustainable finance alongside the "father" of this global climate discussion, Nicholas Stern, offers insights into strengthening financing capacity and expanding concrete development opportunities. Daniel Innerarity, one of the most globally cited political philosophers in the field of governance, discusses the future and what is at stake from the perspective of political ideas. Alicia Bárcena, the current Mexican Foreign Minister with extensive experience in ECLAC and the United Nations, provides signposts for urgent actions based on the dialogue between science and faith. Marita Carballo, one of the most renowned global specialists in public opinion, contributes to exploring the state of "the voice of the people" in response to the Pope's call. Hellen Alford,

President of the Pontifical Academy of Social Sciences of the Vatican, offers an anthropological and spiritual overview to illuminate future courses of action. Isabel Capeola Gil, President of the International Federation of Catholic Universities, and Ana Marta González, a member of the Pontifical Academy of Social Sciences, leverage their vast experience to delve into the contributions of education and applied research and their anthropological challenges. Jesús Avenzuela, head of the Paulo VI Foundation, which has recently convened an extensive study of reflection on the future of work, shares some of his conclusions in light of the new papal exhortation. Cristina Calvo, a member of the global board of Caritas, offers a new perspective on relational and regenerative economics. Ana Julia Aneise and Elisabeth Möhle, from the Argentine think tank Fundar, incorporate ideas about the opportunities this crisis offers in terms of technological and productive innovation. And Rodrigo Rodriguez Tornsquist compiled scientific evidence that accompanies the verbatim transcript of *Laudate Deum*, at the end of this publication.

To this distinguished mosaic of knowledge and experience, CAF has contributed the leadership of its Executive President, Sergio Díaz Granados; Christian Asinelli, Corporate Vice President of Strategic Programming; Emilio Uquillas, Country Manager; Alicia Montalvo, Manager of Climate Action and Positive Biodiversity; Ángel Cárdenas, Manager of Urban Development, Water, and Creative Economies; Pablo Bartol, Manager of Social and Human Development; Ana María Baiardi, Manager of Gender, Inclusion, and Diversity; Verónica Frisancho, Manager of Knowledge; and Pilar Gutiérrez, who played a key role in the process of organizing the material.

We extend our heartfelt gratitude to all the internal and external team members who collaborated on this project, for their prompt response to our urgent call in preparation for the upcoming COP28.

**Gustavo Beliz**
Member of the Pontifical Academy
of Social Sciences

“There would necessarily be required spaces for conversation, consultation, arbitration, conflict resolution and supervision, and, in the end, a sort of increased “democratization” in the global context, so that the various situations can be expressed and included. It is no longer helpful for us to support institutions in order to preserve the rights of the more powerful without caring for those of all.”

(*Laudate Deum*, 43)

The geopolitical dimension

# Globalizing solidarity to overcome indifference

Christian Asinelli[1]

# Climate Change and Multilateralism: Challenges and Opportunities for COP28

Climate change is not a recent phenomenon. The current environmental and climate crisis, however, is recent; it is the product of two centuries of global economic growth that has ignored the excessive consumption of fossil energy, the overexploitation of available natural resources, changes in land use, and the prevalence of forms of production with a profoundly negative impact on nature. In his encyclical letter *Laudato si',* published in 2015, Pope Francis speaks to the irresponsible use and abuse of the resources that "God has placed (...) in the soil, water, air, and living beings." He invites us to view the climate as a common good, of all and for all. Even more recently, just moments before the COP28 in the United Arab Emirates, the Holy Father again made a global appeal in his encyclical *Laudate Deum* to confront this "silent disease that affects us all."

The 28th United Nations Climate Change Conference 2023 is an excellent opportunity to put into practice the principles of both of these appeals and their emphasis on solidarity, commitment, and dignity as the keys to global, bottom-up, coordinated, and, profoundly humanist climate action. What would this imply? First, three things: As Pope Francis suggests, all social actors, political systems, and segments of our society offer their support and contributive action; climate action is aligned with the Sustainable Development Goals of the 2030 Agenda (SDGs) and part of the green efforts of multilateral development agencies; and, lastly, these actions are grounded in sound, fair, and equitable financial action.

To understand this in greater detail, I will analyze each of these three points through a brief historical review of key junctures in the global fight against climate change. I will present the challenges and opportunities that lie ahead, with emphasis on the work of international organizations, global cooperation, and the main climate conferences.

1 Corporate Vice President of Strategic Programming of CAF – Development Bank of Latin America and the Caribbean. He holds a PhD inPolitics and Political Science, and a Master's Degree in Administration and Public Policy.

## The contributions of multilateralism and international cooperation toward environmental sustainability and climate action

In the last 50 years, global temperatures have risen at an unprecedented rate as a result of the accumulation of greenhouse gases (GHGs) in the atmosphere. According to CAF – Development Bank of Latin America and the Caribbean's 2023 Report on Economic Development (RED), entitled "Global challenges, regional solutions: Latin America and the Caribbean facing the climate and biodiversity crisis," estimates indicate that exceeding a 2°C increase in global temperature would cause catastrophic damage to human and animal life, as well as to the effects on nature of climatic events such as flood and drought cycles, among many others. In this urgent context, the support and contribution of social actors, political systems, and international blocs necessarily imply the generation of global frameworks and mechanisms that are both innovative and responsive to the ever-changing needs of the regions.

At the national state level, the intervention, management, and promotion of public policies to manage the impact of climate change is fundamental. This universe of action involves specific measures to address this crisis and for the conservation of biodiversity that integrate and balance both dimensions with economic growth, productive development, and social inclusion. (I will delve into these measures in more detail in the section on CAF's work with Latin America and Caribbean countries.)

In this second area, the private sector has many tools to contribute to the path toward reducing emissions, the transition to net zero, and adaptation to negative effects on the natural environment. And it has been proven that investment in preventive adaptation solutions represents a much more effective and less costly means of intervention than the impact of delayed responses. Therefore, private sector efforts are required to adapt their operations, businesses, and supply chains to the development of products and services that are resilient and adapted to the search for sustainable solutions.

Finally, when one considers the multilateral contributions to environmental sustainability made by spaces like the global climate summits, it is important to mention the role of the Conferences of the Parties. Held since 1995, the successive COPs have sought to generate a series of basic international consensuses to jointly address the problem of climate change. The Kyoto Protocol, established in 1997, aimed to implement these agreements and laid the groundwork for future international negotiations on the subject. Eighteen years later, on December 12, 2015, the Paris Agreement was approved; it established a new global strategy to generate adaptation measures, technology transfer, monitoring, reporting and verification, and the establishment of long-term goals. A new COP, this time held in the United Arab Emirates, is now upon us and it will open a space for discussion, negotiation, and multilateral arbitration of global, regional, and local measures taken so far that will allow world leaders to define the work ahead.

Next year, the G20 Summit will be held in Brazil, which will hold the presidency of this international forum starting December 1, 2023. Participating heads of state are expected to define future guidelines for the correct and effective implementation of nationally determined contributions (NDCs) and international safeguards on climate resilience and care.

Effective and agile environmental damage control will only be possible through the coordination of efforts among the social, political, and economic actors of the international community. In a context marked by the constant reconfiguration of the world order, where armed conflicts, wars, changes in economic conditions, and trade links between countries mark the pulse of these relations, the role and work of multilateralism becomes a central priority. Strengthening human rights agendas, the work of civil society and social organizations, while creating dynamics that place limits on the overexploitation of available natural resources, are the center of an effort that as the Pope has said, comes "from the bottom up."

# The work of multilateral development agencies in the fight against climate change

In recent years, climate finance has become one of the cornerstones of the efforts and work of multilateral organizations. Although there are still significant regional lags, the supply of green products and services has come to cover a very high percentage of the operational portfolios of development banks. These banks have committed themselves and aligned the work agendas of their different areas to combat climate change on multiple fronts. Examples of this include areas related to resilient infrastructure, positive biodiversity, ocean conservation, and the integration of gender, inclusion, and diversity policies in the development of local environmental conservation mechanisms.

In the case of Latin America and the Caribbean, estimates indicate that to close climate gaps our region would require an investment of USD 18 billion per year and the coordination of the different multilateral organizations to redirect this financing to the strategic sectors that most require it. This becomes even more relevant considering that nine of the 20 countries most affected by climate change at the global level are in Latin America and the Caribbean.

For all these reasons, at CAF, we are working to define policies to coordinate multilateral development agendas, avoid overlapping actions, and provide consensus and common support to public and private institutions in each country. To this end, in September of this year, together with other internationally renowned institutions, we co-organized the fourth *International Summit* of Public *Development Banks* (Finance in Common, FICS), to strengthen coordination and collaboration among 520 public banks from all regions to align the financial system with the Paris Agreement and promote sustainable, innovative and inclusive finance. During the conference held in Cartagena de Indias, Colombia, we promoted academic exchanges, plenary sessions, workshops, panel discussions, and parallel events on climate change and biodiversity, financial inclusion, sustainable infrastructure, and institutional agendas.

In parallel, our mission is to become the region's green, sustainable, and inclusive growth bank, which has resulted in a USD 7 billion capitalization, the highest in the institution's history. This will allow us to allocate 40% of our operations to green purposes by 2026. To this end, CAF has defined a series of intersecting and empowering agenda objectives that are at the core of our organization's strategic map and include work on issues such as fair energy transition, biodiversity and ecosystem services, resilient territories, inclusive social well-being, physical and digital infrastructure, and productivity and internationalization, among others.

In the area of energy transition, for example, the institution is carrying out a series of initiatives to support the countries' efforts in terms of supply and provisioning, regulation, and studies for infrastructure financing. Two recent examples of this are the USD 375 million loan granted to the Argentine state-owned company Yacimientos Petrolíferos Fiscales (YPF) to increase production of ultra-low sulfur fuel and promote technological change toward less polluting engines. And the USD 540 million loan to the government of that country to increase gas supplies to northern Argentina, as well as to increase export volumes to Chile and Brazil through Vaca Muerta. In the area of biodiversity and ecosystem services, the Biodiverciudades program promotes tools and instruments for subnational governing bodies to generate urban development policies that are respectful of the natural environment. More than 160 cities in the region have joined this initiative, and we hope to continue to grow even more. To mention just one example, in June of this year, a new edition of the initiative was held in Chile, where the integrated management of solid waste, the optimization of the use of these resources, and the promotion of innovation and urban resilience were discussed. In the same country, a few weeks ago, the kick-off workshop for the Chilean Low Emission Transport Strategy (CLETS) project took place to launch this initiative aimed at transforming the country's urban mobility systems

to improve the quality of life of Chileans and their relationship with their natural environments. In terms of physical and digital infrastructure, we are working to ensure that no one is left behind. In a context of enormous territorial and socioeconomic asymmetries, CAF is carrying out initiatives such as the Panama 100% Digital Program, to expand digital infrastructure projects that connect 98% of the country's rural population to the Internet. In Peru, together with Telefónica, Facebook, and IDB Invest, CAF created the company "Internet for All," which seeks to connect more than 6 million people to high-speed mobile Internet in more than 30 rural areas. In Colombia, we worked with the Ministry of Information Technologies and Communications in the design of the "National Fixed Connectivity" project to formulate connectivity solutions in the 10 departments with the greatest digital divide.

**Global multilateral cooperation has a large capacity to amplify the voices of countries based on their needs and their pursuit of sustainable development.**

At the same time, our organization works to mobilize resources from international funding sources to enable the development of large-scale projects and guarantee the co-financing of specific projects. Two examples of the work carried out with third-party funds are the joint program with the government of Ecuador, FAO, and the Green Climate Fund (GCF) to contribute to changing the energy matrix and strengthening the climate resilience of the archipelago, and the Latin America Investment Facility (LAIF) initiative, which promotes European Union investments in key sectors such as transportation, energy and climate change adaptation and mitigation.

We know that these efforts alone are not enough and that the remaining gaps in our region and the world are numerous and urgent. But we are confident that we are on the right path to promote fair and equitable climate action for all.

## The global financial system as a vehicle for creating sustainable policies aligned with the Sustainable Development Goals (SDGs)

The third point of my argument focuses on the functioning of the global financial system and its relationship with achieving the Sustainable Development Goals for the 2030 Agenda. As I said earlier, the 28th United Nations Climate Change Conference 2023 has much to do with this line of work insofar as it constitutes the major institutional space in which organizations, countries, and the global private sector can propose new alternatives to convey the necessary improvements in the global financial system in this area.

Just to review some successful measures that have been proposed in the recent past, the swap of public debt for climate action is a financial tool that emerged as an initiative of certain Latin American and Caribbean countries within the framework of the United Nations Climate Change Conference held in Glasgow, Scotland, in 2021. This mechanism focuses on the possibility that countries with high biodiversity and important ecosystem services can design specific green policies that, on the one hand, contribute to mitigation and adaptation to global climate change and, on the other hand, alleviate part of the public debt burden on national economies. A successful regional example of this is the case of Ecuador, which recently issued the world's first blue bond, for USD 80 million, to contribute to the conservation and restoration of the oceans.

Along the same lines is the so-called carbon pricing, a mechanism that seeks to attribute a specific value to greenhouse gas (GHG) emissions to generate economic incentives for companies and states at the national and subnational levels. This tool requires, however, to be accompanied by other complementary policies such as the elimination of hydrocarbon subsidies or redistribution programs to mitigate the negative impacts of these definitions.

As I mentioned in the previous section, this set of premises can only be achieved through strong and cooperative global partnerships and alliances. Sustainable Development Goal 17 of the 2030 Agenda states that developing countries are facing rising levels of foreign debt, record inflation difficulties, and escalating interest rates, among other factors, which express the urgency of generating increasing flows of aid, financial assistance, and debt relief. Therein lies the importance of working on the other goals of this global agenda to ensure an end to poverty, hunger, and inequality; gender equality and decent work; quality health and education; clean water and sanitation for all; innovative industry; clean energy; sustainable cities and climate action; and fair and strong institutions worldwide.

Eight years ago, Pope Francis extended an invitation to all countries to engage in a new, frank, and productive dialogue on how we build our "common home". That proposal remains valid thanks to the mobilization and development of joint initiatives that compel us to redouble our efforts, to demand greater stewardship, higher levels of consensus, and a growing commitment to global climate action. The Holy Father's new exhortation reopens this door from a humanist philosophy that centers people and understands them as responsible for climate action that can save the world. This is what the Holy Father is referring to when he asks that the conclusions of the new COP be translated into efficient, binding, and easily monitored policies.

Policies that work, that promote measurable transformations, and that leave no one behind must be the main objective. At CAF, our commitment to this new global order is absolute

Vera Songwe[1]

# Acknowledgement of Shared Communion: A Pre-requisite for Effective Efforts to Combat Global Commons like Climate Change

In *Laudate Deum*[2], Pope Francis laments the lack of an effective global governance system able to provide a comprehensive solution for the climate crisis. In recent times, a lot of effort has been expensed on what others can and should do and less on the collective efforts that offer actual and impactful solutions. Pope Frances urges a change in focus:

"We are speaking above all of "more effective world organizations, equipped with the power to provide for the global common good, the elimination of hunger and poverty and the sure defence of fundamental human rights".[27] The issue is that they must be endowed with real authority, in such a way as to "provide for" the attainment of certain essential goals. In this way, there could come about a multilateralism that is not dependent on changing political conditions or the interests of a certain few and possesses a stable efficacy".

"It continues to be regrettable that global crises are being squandered when they could be the occasions to bring about beneficial changes.[28] This is what happened in the 2007–2008 financial crisis and again in the Covid-19 crisis. For "the actual strategies developed worldwide in the wake of [those crises] fostered greater individualism, less integration and increased freedom for the truly powerful, who always find a way to escape unscathed".[29] (LD,36)

1 Founder and Chair of the Liquidity and Sustainability facility. Co-chair of the Independent high-level Expert Group on Finance for Climate Action and senior fellow at the Brookings Institution.

2 https://www.vatican.va/content/francesco/en/apost_exhortations/documents/20231004-laudate-deum.html

The past three years have seen enormous upheavals in global climate markets around the world. From food and energy to transportation and construction, the COVID-19 pandemic, the war in Ukraine, monetary policy tightening led by the US, EU, UK, and now Japan, trade tensions between the US and China, and the War in the Middle East have all had an impact not only on energy markets but will continue to impact global sustainability market trends over the next decade. The world is not lacking in crisis. There is an opportunity as Pope Francis emphasizes to use these crises to build resilience against the most daunting of them all, the climate crisis.

But there will be no victory in the fight against climate change if collective action and comprehensive transformation of the way we live, produce, consume and interact with nature are not at the core of the actions proposed. It is a call for more communion with each other and with our planet only the practice of this can deliver better multilateralism.

## Climate Changed Amid the Polycrisis

The polycrisis has blunted the finances of many countries, leaving them unable to meet the basic needs of their populations and worse still undermining their ability to focus on mobilizing the capital required for climate change investments. More than half of the climate investment worldwide is needed in developing countries where growth is accelerating as demand, population and incomes rise. But the markets have turned on these economies.

Rising interest rates spell a future of more expensive financing, a flight by investors not just to safety but to attractive returns in the developed world has reduced financing options for many.

Countries are revising their National Determined Contributions downwards and revisiting their commitments. Closed coal plants are being re-opened and new oil and gas explorations are on the rise as countries choose energy security over climate security. The consequences of these choices are evident as we live through the worst climate events in centuries.

Delaying the decarbonization efforts means consigning vast populations in the tropics to decreasing food productivity, in the Mediterranean to less water and in the arctic regions to less tourist revenues, and the Pacific we give up the coral reefs.

For Africa, Asia and Latin America in particular while energy is an important dimension of the climate crisis nature has a larger and more detrimental impact on lives and livelihoods. Human production and consumption are destroying stocks of natural capital. Nature is declining globally at unprecedented rates in human history[3]. The drying up of one of the world's largest rivers, the Rio Negro in the Amazon in Brazil is a dire warning of the disasters to come. This would have impacts multiple times that of Lac Chad in the African Sahel region. Another indicator of change is the average per cent[4] decline in the abundance of monitored species across the animal and plant kingdoms—demonstrating the speed and scale of pressure our economies are putting on nature.

For a majority of the world's poor, the over 500 million whose livelihoods depend on agriculture and fisheries and the over 600 million who are energy poor, climate change must also deliver human development. A recent World Bank study shows that the net value of production from crops, grazing and timber can increase by 83% without loss of climate mitigation or biodiversity,

3 IPBES (2019)
4 WWF Living Planet Report

across 146 countries[5]. Similarly, prioritizing the top-ranked 30% of terrestrial land area for conservation would maintain 60.7% of the estimated total carbon stock and 66% of all clean water, in addition to meeting conservation targets for 57.9% of all species considered[6].

Safeguarding nature is the most cost-efficient way of mitigating and adapting to climate change while protecting livelihoods. The Peatlands, wetlands, soils, forests and oceans absorb half of total anthropogenic emissions and store twice as much carbon as in the atmosphere[7]. The United States National Academy of Sciences has shown that using only cost-effective solutions, nature's mitigation potential is estimated at 11.3 billion tonnes $CO_2e$ in 2030, the equivalent of stopping burning oil globally[8]. Action to restore the 700,000 hectares of restorable mangroves could capture 345 million tonnes $CO_2$2e by 2040[9]. Yet nature-based solutions remain a poor cousin to the heavily funded energy sector. Community-based approaches to adapting to climate change in the Pacific Islands have demonstrated potential for building more resilient communities at low cost in the face of climate change. More of these solutions can be adopted at scale.

With the crisis and a dearth of private-sector finance, new financing mechanisms are needed to achieve the global ambition of keeping the temperature rise below 1.5°C by 2030. However, the challenge is not solely about new financing mechanisms but about how they are deployed and how global partnerships are forged to optimize the scarce resources available to tackle this urgent challenge.

The Songwe-Stern[10] report calls for 2.4 trillion in additional financing to address the climate finance challenge of which USD 1.4 trillion from domestic resource mobilization and USD 1 trillion from external financing. Despite the clear signs of accelerating climate risks and impacts worldwide, the adaptation finance gap is widening and now stands at between USD 194 billion and USD 366 billion per year. Adaptation finance needs are 10–18 times as great as current international public adaptation finance flows—at least 50% higher than previously estimated[11]. The UNEP report emphasizes that the adaptation finance gap—that is the difference between estimated adaptation financing needs and costs (USD 215 billion to USD 387 billion) and finance flows (USD 21.3 billion)—has grown.

But finance without a global collective objective will not deliver the results needed. In the last two years since COVID the world has seen the US launch the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, Europe launched the Net Zero Industry Act and the CBAM, and Japan and China have all launched ambitious country strategies to accelerate the transition.

These initiatives are laudable but fighting a global crisis at a national level can only get the world so far. This is the spirit in which I believe Pope Francis speaks of a wasted use of the crisis. The excessive nationalism by countries of climate solutions would not accelerate the drive to success but may retard progress.

A truly multilateral effort is needed beyond just financing to deliver on the goals at scale and with speed. This requires a different kind of governance framework. A framework where there are shared goals and responsibilities and developing countries are empowered. A Fraternal Framework.

A just, equitable, and inclusive transition would require that concerns and demands be assessed on an equal footing. Today there is more attention given to mitigation measures than to adaptation

5 https://naturalcapitalproject.stanford.edu/sites/default/files/natures_frontiers_full_report.pdf
6 https://pubmed.ncbi.nlm.nih.gov/34429536/
7 https://climate.ec.europa.eu/system/files/2016-11/nature_and_climate_change_en.pdf
8 https://www.pnas.org/doi/10.1073/pnas.1710465114
9 https://www.earthsecurity.org/reports/financing-the-earths-assets-the-case-for-mangroves
10 https://www.lse.ac.uk/granthaminstitute/publication/finance-for-climate-action-scaling-up-investment-for-climate-and-development/
11 https://wedocs.unep.org/bitstream/handle/20.500.11822/43865/AGR23_ESEN.pdf?sequence=14

and resilience. While the emphasis on mitigation is right as it addresses a large share of the emissions, an emphasis on adaptation could provide a large share of the solutions needed. As such policies and actions should aim to respond to both activities equitably. In many instances, this is not the case. This imbalance in focus results in an imbalance in resource allocation, retarding overall efforts. The financing patterns for the climate crisis remain very skewed overall.

## Three Paths Towards A Solution

There are three main actions that could free up financing for developing countries and give them more agency in the fight against climate change reducing fossil fuel industry subsidies and redirecting resources to abatement and emission reduction, dealing with the debt problem thereby freeing up fiscal space for countries and introducing a compliance carbon price or tax mechanism. The allocation, flow and structure of finance must be just, inclusive, equitable, and impactful to accelerate delivery of the climate results. Three global actions could help accelerate efforts to fight climate change.

First, collectively agreeing to reallocate expenditures detrimental to the climate towards more climate resilient expenditures—phasing out fossil fuel subsidies. A just transition must level the playing field for countries. Harmful production subsidies to the fossil fuel industry as a means of encouraging and protecting national production in the developed world undermines the collective objectives to reduce carbon emissions. Consumption subsidies similarly delay the transition and divert scarce resources away from investments in clean and renewable energy sources.

Globally, fossil fuel subsidies were USD 7 trillion or 7.1% of GDP in 2022, reflecting a USD 2 trillion increase since 2020 due to government support from surging energy prices[12]. Conservative estimates for example put U.S. direct subsidies to the fossil fuel industry at about USD 20 billion per year; with 20% currently allocated to coal and 80% to natural gas and crude oil. European Union subsidies are estimated to total 55 billion euros annually. But rather than being phased out, fossil fuel subsidies are actually increasing as a result of the war.

While subsidies to the fossil fuel industry persist in many developed countries there is a moratorium on the allocation of concessional finance for the development of gas in the emerging economies for example. More importantly, increasing fossil fuel subsidies and subsidies to coal plants post-war makes the global goals more difficult to attain and unfairly penalizes developing countries.

Similarly, many developing countries continue to subsidize the cost of fossil fuel consumption to the detriment of funding transition and renewable energy. These foregone resources could substantially close the financing gaps needed to finance the transition. Subsidy is political across the globe and only a global concerted effort to phase out subsidies would succeed. Raising fuel prices to their fully efficient levels reduces projected global fossil fuel $CO_2$ emissions 43% below baseline levels in 2030—or 34% below 2019 emissions. This reduction is in line with the 25%–50% reduction in global GHGs below 2019 levels needed by 2030 to be on track with containing global warming to the Paris goal of 1.5°C–2°C[13]. The benefits from global subsidy reform are sufficient to support policy alignment globally around initiatives to phase out subsidies and provide more renewable energy sources.

12 https://www.imf.org/en/Topics/climate-change/energy-subsidies.
13 https://www.imf.org/en/Topics/climate-change/energy-subsidies#:~:text=Globally%2C%20fossil%20fuel%20subsidies%20were,support%20from%20surging%20energy%20prices.

Second, reducing the costs of financing and access to financing for emerging market and low-income economies. According to the International Energy Agency, globally countries will need about USD 2 trillion annually by 2030 to reach that ambitious goal of keeping the planet below 1.5°C, with the majority of that funding flowing into the energy industry. This is a fivefold increase from the current USD 400 billion in climate investments planned over the next seven years.

But, only about 16% of climate finance needs are currently being met[14]. The majority of financing remains in advanced economies. This is true for both mitigation finance, transition finance, and adaptation finance. Excluding China from the computation, emerging markets and developing economies will require about USD 1 trillion in public climate finance per year or about one-third of global need—but data suggests that they are currently receiving only 27% of the necessary flows. Mitigation finance today is concentrated in China, Western Europe, and North America, which accounted for about 80% of investment flows in 2020.

Transition finance gaps persist as well. A significant number of economically vital sectors remain highly energy-intensive or have hard-to-abate emissions, including electricity generation, heating, steel and cement production, transport, and agriculture. Significant financial investments are needed to transition these sectors towards low-carbon activities[15].

**A global governance system that creates a process whereby resources are efficiently and transparently allocated and generate a positive impact in the fight against climate change is possible.**

Nature or adaptation finance suffers the largest gaps, close to 80% of global nature finance flows originate from and are directed to advanced economies, versus only 20% in EMDEs[16]. This is an asymmetry with levels of national dependence on nature—low-income countries stand to lose 10% of GDP by 2030 in case of nature loss versus 2.3% on average at a global level. This also completely disregards the footprint of advanced economies on nature beyond their own borders, embedded in trade[17].

Of the public resources needed to fund the climate crisis over 60% will have to be raised through national budgets. Many emerging market economies are still saddled with large macro imbalances caused by the crisis and debt levels are high in the emerging market countries. Countries cannot be expected to take on additional debt to tackle the climate challenge. Sustainable debt markets could play an important role in bridging the financing gap.

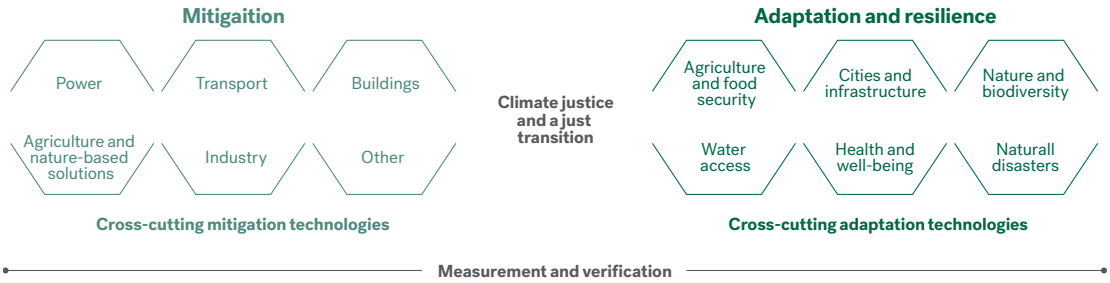
There is an increasing interest in sustainability-linked bonds or loans to fund the transition and debt for nature swaps to help countries and corporates finance the transition but the bulk of the funding remains in developed markets. Developed economies' institutional investors and asset managers have been at the forefront of these market's growth, steering capital away from emerging markets and towards more robust developed markets. Sustainable debt remains a much smaller share of GDP across emerging markets than it does developed ones.

14 https://www.rockefellerfoundation.org/report/what-gets-measured-gets-financed-climate-finance-funding-flows-and-opportunities/
15 https://www.sustainablefitch.com/corporate-finance/transition-finance-gap-remains-amid-uncertainties-12-07-2023?
16 https://www.nature.org/en-us/what-we-do/our-insights/reports/financing-nature-biodiversity-report/
17 https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

However, access to capital markets for many emerging market economies remains prohibitive. New and innovative capital market tools such as the Liquidity and Sustainability Facility[18] could help lower the cost of market access and help countries raise additional capital at affordable long-term rates to address the climate crisis.

Following the Ecuador Galapagos Blue Bond—the largest debt for nature swap there is growing interest in understanding the financial structure of the deal which saw Ecuador swap a USD 1.6 billion at a near 60% discount for USD 656 million "Galapagos Bond," set to mature in 2041 with a coupon rate of 5.645% compared to Ecuador sovereign bond currently yields of between 17% to 26%. The new bond benefitted from credit enhancements from the multilateral development banks—it has a USD 85 million 'credit guarantee' from the Inter-American Development Bank and USD 656 million in political risk insurance from the U.S. International Development Finance Corporation (DFC). These financial wraps can help countries access cheaper financing close to developed market rates providing countries with additional resources to confront the climate challenge. Barbados, Belize, and Seychelles have all done debt-for-nature swaps using the proceeds to protect their biodiversity capital.

Ultimately levelling the playing field would require that developing and low-income countries have access to a global subsidy scheme to help them adjust. An issuance of climate SDRs which is consistent with the IMF's articles of agreement and distributed by incidence and ability to support the planetary goals would be needed.




**Source:** BCG analysis.

The third action would be to strengthen market mechanisms to raise domestic resources. Revenues from carbon taxes and Emissions Trading Systems (ETS) have reached a record high, about USD 95 billion[19]. Carbon pricing is an important source of domestic resource mobilization that countries and corporations could use to achieve their net-zero targets. There are a number of ways by which carbon pricing can be implemented. The share of global emissions covered by carbon taxes and emissions trading systems (ETSs) has grown from 7% to around 23%[20].

An effective carbon pricing and trading system could serve as a viable method for encouraging developing countries to raise resources for climate-related expenditures. However, the absence of clear global governance systems for

18 https://lsfacility.org
19 "World Bank. 2023. State and Trends of Carbon Pricing 2023. © http://hdl.handle.net/10986/39796 License: CC BY 3.0 IGO."
20 "World Bank. 2023. State and Trends of Carbon Pricing 2023. © http://hdl.handle.net/10986/39796 License: CC BY 3.0 IGO."

carbon markets in emerging and low-income countries is undermining market performance. Countries and corporations considering these systems are concerned about the quality and robustness of the credits.

A global governance system for the carbon credit market is needed in order to first ensure the integrity of the schemes and even more importantly to ensure carbon credits are appropriately priced. Today the gap between credits in developed countries and similar credits in emerging and low-income countries varies from USD 3 in developing countries to USD 75 in developed countries. These asymmetries undermine all efforts to accelerate the creation of effective carbon markets. The Integrity Council for the Voluntary Carbon Market (Integrity Council), an independent governance body for the voluntary carbon market has set up the Core Carbon Principles (CCPs) and Assessment Framework (AF) which will set new threshold standards for high-quality carbon credits, provide guidance on how to apply the CCPs, and define which carbon-crediting programs and methodology types are CCP-eligible[21].

The voluntary scheme however is and should be an intermediary scheme as agreement is reached at the global level on a carbon tax. The US and EU emissions trading scheme could be a step closer to instituting a global tax.

Without a global governance scheme, there is a risk that countries and regions use the fight against climate change to introduce non-tariff barriers. The European Union Carbon Border Adjustment tax introduced in 2021 is an example of such a scheme. In addition, it only prices emissions for traded products from without the union and not energy emissions within the union this could severely distort markets when it comes into effect and penalise emerging market economies trading with Europe. The sooner a fair, just, equitable system is instituted the faster countries can raise their own resources to deal with the climate challenge. Most importantly local communities can directly benefit from their natural wealth to improve their lives and livelihoods while protecting the climate.

A global governance system that creates a process whereby resources are efficiently and transparently allocated and generate a positive impact in the fight against climate change is possible. In his encyclical Fratelli Tutti, Pope Francis uses the parable of the good Samaritan to remind us of what true community and partnership mean. In the fight against climate change, we need a community that comes together to help the wounded walking on the other side of the road may bring temporary safety but our climate is a global common and all elements of it must heal for it to deliver a safe sustainable planet ●

21 https://icvcm.org

Marita Carballo[1]

# Public Opinion and Climate Change

In May 2015, Pope Francis released *Laudato Si'*, also known as the "green encyclical" letter for its emphasis on caring for the natural environment. Its subtitle—"On Care for Our Common Home"—underscores its message. The Paris Agreement was signed that same year, marking the beginning of numerous commitments among nations to combat climate change and accelerate efforts and investments for a sustainable, low-carbon future. To some extent, *Laudato Si'* paved the way for the historic COP21, inspiring leaders' speeches and agreements to reduce greenhouse gas emissions.

However, eight years later, September witnessed the highest temperatures ever recorded in human history, making 2023 the hottest year on record, surpassing pre-industrial levels by 1.5ºC (Scientific American, 2023). When United Nations Secretary-General Antonio Guterres stated that we are entering an era of "global boiling," he was not speaking metaphorically; he was referring to the alarming rise in temperatures, indicating a critical point in the environmental crisis. This sets the stage for the upcoming climate summit in Dubai at the end of 2023, aimed at seeking new agreements and solutions.

It is no coincidence that Pope Francis just published his latest apostolic exhortation *Laudate Deum*, on October 4, 2023, leading up to COP28. In this document, he explicitly dedicates several paragraphs to international negotiations and the Dubai summit. He reiterates the message from his previous encyclical, emphasizing the severity of the climate crisis and the inadequate response, noting that we are nearing the point of no return in this "silent disease that affects us all," evident in the increasing frequency of extreme weather events like heatwaves and droughts.

In both documents, Pope Francis examines the various dimensions of the issue. He not only relies on scientific evidence but also discourages denialist rhetoric that hinders efforts to mitigate the threat and stresses the importance of ecological education. As he highlights in paragraph #70 of *Laudate Deum*: "...there are no lasting changes without cultural changes, without a maturing of society's convictions and way of life, and there are no cultural changes without individual changes" (Francis, 2023). It is interesting to consider the extent to which both of these documents resonate with the beliefs and opinions of the global population.

1 President of Voices!, vice president of the Executive Committee of WVS (World Values Survey), president of the Comparative Sociology Committee of ISA (International Sociological Association), and a member of WIN (Worldwide Independent Network of Market Research), among others. She has published several books and numerous articles in scientific journals and is a frequent speaker at conferences, universities, and forums worldwide.

Pope Francis begins by addressing the increasingly evident signs of climate change. We will analyze the level of public awareness regarding this threat as well as the level of concern about it. Additionally, we will assess how seriously people view the problem and the extent to which they associate it with the extreme weather phenomena mentioned earlier.

Furthermore, *Laudate Deum* aligns with the principles of the green encyclical by asserting the indisputable human origins of these drastic environmental changes. In contrast, denialist arguments claim that temperature fluctuations are part of natural climate cycles. We will examine whether the world population attributes climate change mainly to human activities (as the Pope asserts) or predominantly to natural climate variations.

Pope Francis urgently calls for action, asserting that we are at a critical juncture where decisive steps are needed to avert more catastrophic consequences. Global research will help determine whether people share his sense of urgency and whether they believe their actions can make a difference.

As previously mentioned, both documents encourage people to reassess their habits, attitudes, and their relationship with nature. They also acknowledge the economic and political dimensions intertwined with this phenomenon, which require reflection and reconstruction.

This highlights the interplay of economic interests that may hinder certain decision-makers from taking the necessary actions and the tension between economic and environmental concerns affecting the general population. How does this tension manifest in terms of adjusting consumption patterns or making choices related to renewable energy sources?

The management of fossil fuels is a central aspect of Pope Francis's ideas. He emphasizes the inefficiency of multilateral agreements to address the energy crisis and expedite the transition to renewable energy sources. His position is clear that we are facing a weak international policy response that does not rise to the gravity of the issue. However, what is the level of public satisfaction with their respective governments' environmental performance? And who do people believe should take responsibility for solving environmental problems?

For this article, we will rely on global projects such as the WIN–Voices! surveys, the World Values Survey (WVS), the Voices/GIA survey, and data published by the Pew Research Center.

## The Increasingly Evident Signs of Climate Change

The first chapter of *Laudato Si'* (2015) set the foundation for the papal speech on the environmental crisis. Entitled What is happening to our common home, it meticulously outlines various natural phenomena, including pollution, climate change, water scarcity, and biodiversity loss. Importantly, the chapter links these issues inexorably to global inequality, in both their causes and consequences.

In *Laudate Deum*, Pope Francis reiterates and emphasizes this message, stating, "No matter how much we try to deny, hide, dissimulate, or relativize it, the signs of climate change are increasingly evident (#5)" (Francis, 2023).

This message from the Pope directly aligns with the perceptions of the global population. According to a Pew Research Center article from August 2021, 75% of respondents from 19 countries stated that climate change poses a significant threat in their respective countries.

At the close of 2022, the global organization WIN, in collaboration with Voices!, released its annual global survey. This survey explored the

beliefs and viewpoints regarding climate change among 29,739 people in 36 countries across various continents. In this survey, eight out of 10 respondents agreed that global warming poses a substantial threat to humanity. However, it is worth noting that this percentage decreased slightly from the 86% recorded in the previous year's survey, particularly due to a decline in agreement percentages in Africa (83% vs. 87% in 2021), MENA (82% vs. 87% in 2021), and the Americas (84% vs. 89% in 2021). Nevertheless, the consensus remains overwhelmingly in favor of the notion that global warming is a serious concern.

The belief that climate change is a severe threat to humanity tends to be more pronounced among women (86% vs. 81% of men) and increases with higher levels of education, with a 10-percentage point difference between those with higher education and those with minimal or basic education.

An intriguing aspect found in both documents published by Pope Francis is the ongoing dialogue between science and faith. Rather than disregarding scientific evidence, the Pope employs it to bolster his exhortations. For instance, he references the 2021 IPCC (Intergovernmental Panel on Climate Change) report to assert that "we know that every time the global temperature rises by 0.5 degrees Celsius, the intensity and frequency of heavy rains and floods in some areas, severe droughts in others, extreme heat in certain regions, and heavy snowfalls in others will also increase (#5)" (Francis, 2023).

**There is an extremely high level of consensus among the population of Latin America about the human origin of climate change.**

According to data from the WIN–Voices! 2021 survey spanning 39 countries, eight out of 10 people worldwide acknowledge this situation, concurring with the statement that "natural disasters (forest fires, floods, hurricanes, typhoons, etc.) have increased due to global warming." Women, in particular, are more perceptive to this reality (83% vs. 79% of men).

This perception is consistent across all regions, with the Americas and APAC (Asia-Pacific) leading the way (84% and 81%, respectively). Vietnamese, Mexicans, and Peruvians top the list of those who believe these two phenomena are closely linked.

## The Anthropogenic Origin of Climate Change

Chapter 3 of *Laudato Si'* explicitly examines the human origins of the ecological crisis, diagnosing the modern era with "excessive anthropocentrism." In this era, humans no longer acknowledge their rightful place in the world; they perceive themselves as superior to other species and view nature as a mere resource.

This concept gains even more prominence in *Laudate Deum*, where Pope Francis unequivocally states, "It is no longer possible to doubt the human—anthropogenic—origin of climate change. The concentration of greenhouse gases in the atmosphere remained stable until the 19th century. However, in the middle of that century, coinciding with industrial development, emissions began to grow (#11)" (Francis, 2023).

The survey conducted by GIA - Voices! in 45 countries in 2021 reveals that, while the majority of people worldwide concur with the idea that human activities are the primary cause of climate change

(67%), a quarter of respondents believe that climate change is part of natural cycles, with this view becoming more prevalent as income and education levels decrease.

Latin America tops the list of regions where the anthropogenic origin of climate change is most recognized (77%). In contrast, the Middle East and East Asia are more likely to attribute climate change to natural climate processes, with 50% and 36% of mentions, respectively.

The divergence in viewpoints regarding the causes of climate change and the significant variation between regions and countries is not just a matter of differing opinions. It also entails distinct starting points for addressing the problem and assuming responsibilities. It is within this context that the Pope's emphasis on the human role in the climate crisis and our predatory relationship with nature, along with the solutions he proposes, should be examined.

## Urgent Action Is Needed

In paragraph #13 of his 2015 encyclical, Pope Francis expressed his aim to "unite the whole human family in the pursuit of sustainable and integral development, for we know that things can change. Humanity still possesses the capacity to work together to build our common home."

This call to action, which he elaborates on in greater detail in the second chapter, guiding the entire encyclical, resurfaces in his 2023 exhortation as a corollary to the undeniable evidence he presents on climate change and its repercussions.

To recap what has been discussed in the preceding sections, the Pope starts from the premise of an acute crisis with human causes, a crisis that has received inadequate or negligible responses from those in positions to make decisions aimed at mitigating or resolving it. In his own words, "As far as climate is concerned, there are factors that go on for a long time, regardless of the events that triggered them. For this reason, we can no longer stop the substantial damage we have already caused. We are only in time to avert even more catastrophic consequences (#16)" (Francis, 2023).

Despite the acknowledgment of the severity of the phenomenon, global resignation is not overwhelming (though this does not diminish its significance). Data from the 2022 survey conducted by WIN–Voices! reveals that when asked whether it is already too late to halt climate change, opinions are divided, with 45% believing it is already too late and 50% believing it is not yet too late.

Notably, the proportion of individuals with a more pessimistic outlook has seen a gradual increase in recent years, rising from 40% in 2020 to 43% in 2021 and eventually to 45% in the 2022 assessment. Among the regions, Europe, MENA, and the Americas have shown the most substantial increases from 2020 to 2022 in the percentage of people who believe it is already too late. The Philippines and India stand out as the most pessimistic countries, with 74% and 70% expressing this view, respectively. In Europe, Italy displays a high level of pessimism at 57%, while in the Americas, Ecuador reports 52% holding this perspective.

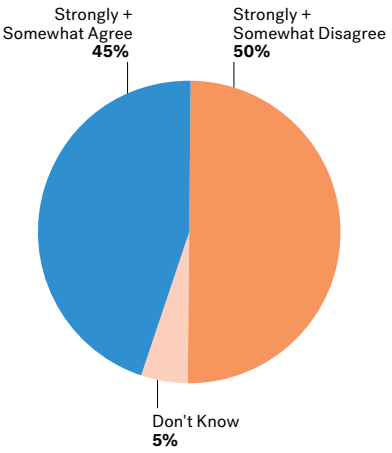
What is remarkable, however, is that even though only half of the population believes there is still time to mitigate climate change, a striking eight out of 10 individuals express that their actions can positively impact the environment (WIN, 2021).

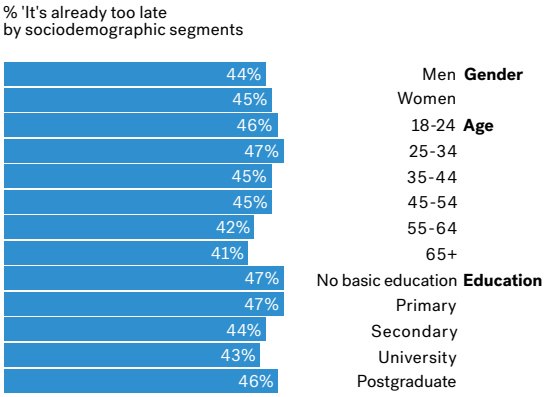
Women tend to be more inclined than men to acknowledge their impact, and the sense of personal contributions to environmental solutions increases as education levels rise.

**Degree of agreement with the statement:**
**"It is already too late to stop climate change."**

Polarization on the prospect of slowing global climate change

*To what extent do you agree or disagree with the following statement?*



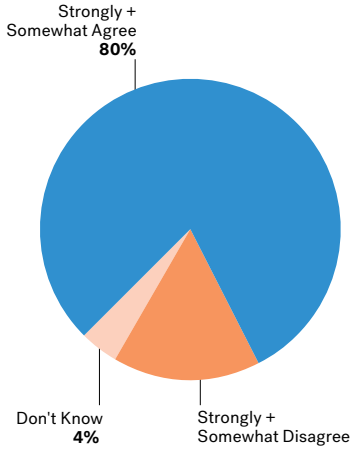



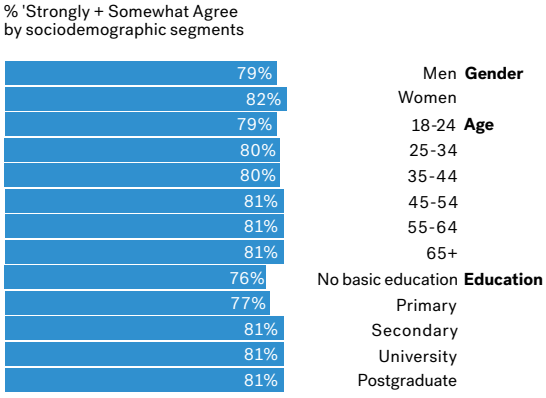

**Source:** WIN & VOICES Global Survey, 2022.

**Degree of agreement with the statement:**
**"I believe that my personal actions can improve the environment."**

The vast majority believe they can contribute to improving the situation.

*To what extent do you agree or disagree with the following statement?*




**Base:** Population aged 18 and over

**Source:** WIN & VOICES Global Survey, 2021.

This opinion is even more widespread in the Americas region (86%), led by Paraguay with 95% of respondents agreeing with this idea, followed by Colombia with 92%, Peru and Brazil both with 91%, Mexico with 89%, Argentina with 84%, Chile with 82% and finally Ecuador with 79%.

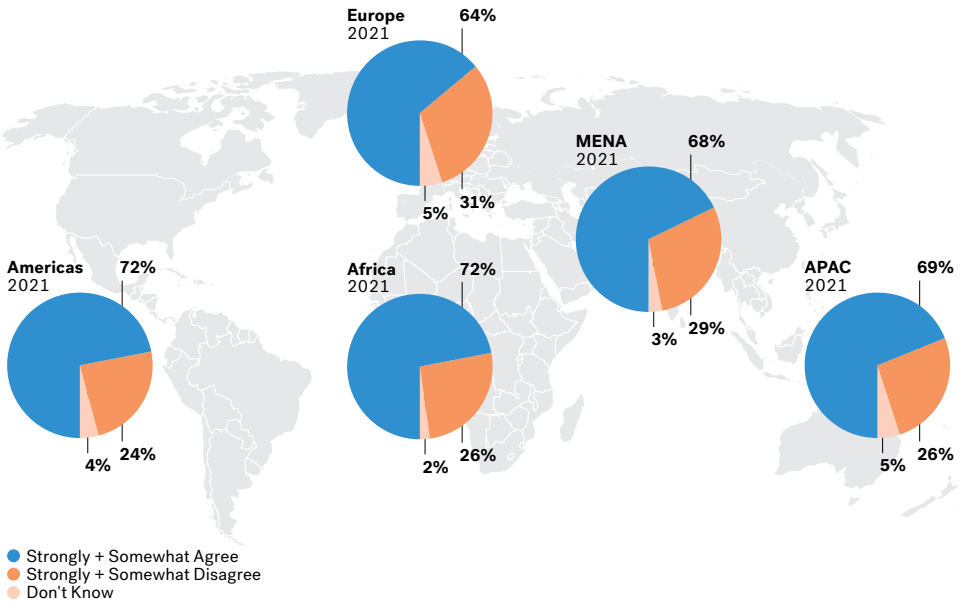
Continuing with data from the same 2021 study published by WIN–Voices!, we see that personal actions do not necessarily translate into attitudes towards consumption, given that only 68% of respondents worldwide said they would be willing to pay more for an environmentally friendly product and 27% would not.

Interestingly, the regions that have suffered the greatest negative economic impact as a result of the climate crisis are also the ones most likely to spend more on environmentally friendly products (Americas and Africa, both with 72%). On the other hand, Europe is at the opposite extreme, with only 64% agreeing with this statement.

**Degree of agreement with the statement:**
**"I am willing to pay more for a product that safeguards the environment."**

*By region*

*To what extent do you agree or disagree with the following statement?*




**Base:** Population aged 18 and over

**Source:** WIN & VOICES Global Survey, 2021.

## Rethinking Economics

In summary, various sources of information highlight several key points: people are well aware of the severity of the climate crisis and express genuine concern about it. They attribute a significant portion of responsibility for this issue to human actions. Additionally, there is a belief that individual actions can contribute to mitigating the problem. However, when these actions entail economic consequences, the willingness to engage in environmentally positive behaviors tends to decline.

Despite the above, on a broader societal level, public opinion often exerts pressure on governments to implement policies that might involve economic concessions for the sake of environmental protection. This dynamic leads to a constant tension between perspectives on the environmental situation and the economic dimension that underlies and influences it. As Pope Francis (2023) aptly puts it, "This situation has to do not only with physics or biology but also with the economy and our way of conceiving it. The pursuit of maximum profit at the lowest cost, disguised as rationality, progress, and empty promises, makes genuine concern for our common home nearly impossible... (#31)."

Between 2017 and 2022, the World Values Survey posed a fundamental question to more than 150,000 respondents in 90 countries spanning all regions: should environmental protection or economic development take priority? The data reveals that half of the respondents favor prioritizing environmental protection, even if it means sacrificing some economic growth and jobs, while 37% believe economic growth and job creation should be the top priority, even if the environment suffers to some extent.

Out of the 90 countries surveyed, 44 lean towards environmental protection, led by Sweden with 85% of respondents in favor, followed by Andorra (73%), Indonesia and Vietnam (72% each), as well as Bolivia and Iceland (71% each).

The other half of the countries surveyed tend to prioritize economic growth, even if it results in negative environmental consequences. Lebanon leads this group with 61% in favor, followed by Bosnia Herzegovina (60%), Venezuela and Tunisia (58% each), and Nigeria (57%). Argentina aligns with this group of countries, although only 4 out of 10 respondents support this perspective.

## Rethinking Politics

In a nutshell, through *Laudato Si'* and *Laudate Deum*, Pope Francis issues a compelling call for a profound reevaluation of the political landscape, as it permeates every facet of our lives, guiding our individual, communal, and national approaches to environmental issues. He stresses, "The world is becoming so multipolar and yet so complex that a different framework of effective cooperation is required. It is not enough to consider power balances; we must also address the need to confront new challenges and respond with global mechanisms to environmental, health, cultural, and social issues. This is particularly important to uphold the most fundamental human rights, social rights, and the well-being of our common home (#42)" (Francis, Laudato Deum, 2023).

In this context, he expresses significant criticism in both documents concerning the use of fossil fuels and the sluggish transition to renewable energies. He attributes this inertia to the interference of economic interests.

According to data from the 2021 Voices/GIA survey, six out of ten respondents worldwide express a willingness to pay more for green or renewable energy, with slightly higher willingness among men, younger individuals, and those with higher education levels.

Remarkably, West Asia stands out as the region with the highest willingness to pay more for green energy (74%). This is led by countries like

Afghanistan (96%), Iraq (80%), Armenia, and Azerbaijan (76%)—noteworthy because this region is one of the leading producers of fossil energy. On the other hand, Europe exhibits a more negative stance, with 39% of respondents unwilling to pay more for renewable energy. Countries such as Albania, Bulgaria, and the Czech Republic are the least likely to do so, with six out of 10 respondents in each country sharing this sentiment.

Latin America, however, aligns with regions in favor of green energy, slightly above the global average with 60% of affirmative responses. Colombia demonstrates the greatest willingness to pay more for this type of energy (68%), followed by Peru (64%). Argentina and Ecuador fall in line with the global average at 56%, while Mexico is the only country below the average, with 48% of respondents willing to pay more.

The Pope's ideas in *Laudato Si'* emphasize the need to progressively replace technology reliant on highly polluting fossil fuels, particularly coal, oil, and gas. He highlights the lack of international consensus on the allocation of costs for this energy transition. He criticizes the inefficiency of recent World Environmental Summits due to a lack of political will, resulting in a failure to reach truly meaningful and effective global environmental agreements (#165, #166) (2015).

This critical assessment of international agreements, or the absence thereof, resonates strongly in both documents and occupies a significant portion of their content. *Laudate Deum*, anticipates the upcoming COP28 summit in Dubai in November of this year. The Pope dedicates an entire section to COP28, with high hopes that it will be a pivotal moment in the battle against climate change, to prove that everything done since 1992 was worth it, because otherwise, it will be a major disappointment, potentially jeopardizing the progress made so far (#54) (Francis, 2023).

Once again, Pope Francis's writings serve as a platform for expressing public discontent. The WIN Voices! 2022 survey's results mirror this sentiment, with almost six out of 10 respondents worldwide believing that governments are not taking the necessary actions to protect the environment.

Compared to the previous survey, the number of respondents who feel that insufficient efforts are being made is growing. In 2021, 51% expressed this view, a figure that has now risen to 55% in the 2022 survey.

A mere 39% of respondents believe that governments are taking adequate actions to safeguard the environment. However, this percentage is significantly influenced by responses in the Asia Pacific region, where a notable 62% express satisfaction with government actions. This approval is particularly evident in countries such as Vietnam (95%), the Philippines (94%), and Thailand (60%). In contrast, in the remaining regions, only three out of every 10 individuals hold this perspective.

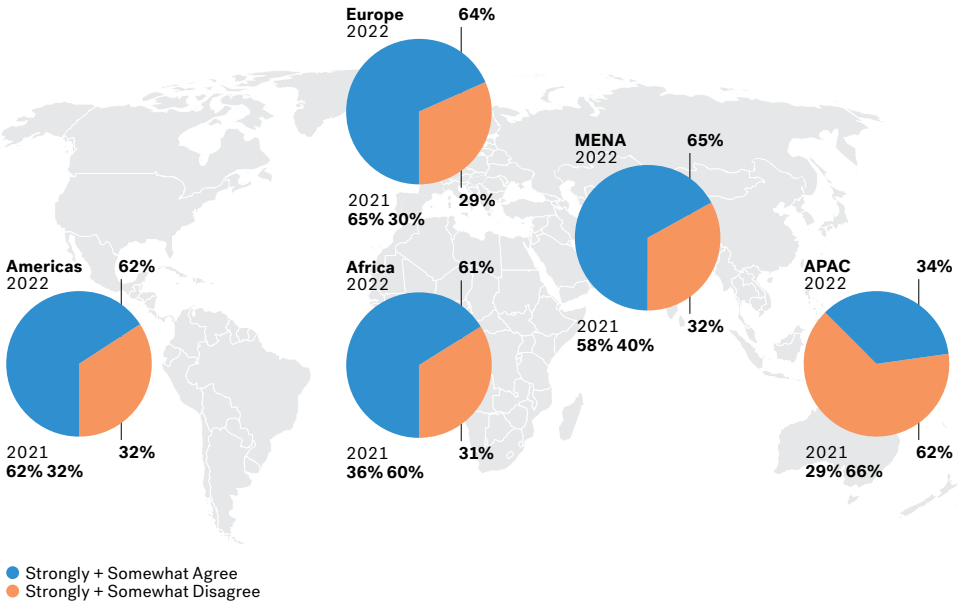
**Degree of agreement with the statement:**
**"Governments are taking the necessary actions to safeguard the environment."**

The vast majority of people in the world believe global warming is a serious threat
*To what extent do you agree or disagree with the following statement?*


**Source:** WIN 2022 Global Survey & VOICES!

**Degree of agreement with the statement:**
**"Governments are taking the necessary actions to safeguard the environment."**

*Regional responses: To what extent do you agree or disagree with the following statement?*




**Base:** Population aged 18 and over

**Source:** WIN & VOICES Global Survey, 2022.

## Rethinking Humanity

In summary, what began in 2015 with a groundbreaking encyclical provided the backdrop for the enduring Paris Agreements and has evolved significantly eight years later, marked by an even greater sense of urgency. Pope Francis resonates with an era of climate challenges interwoven with economic and political tensions that deeply influence decisions concerning the environmental struggle. Notably, there is a pronounced alignment between his propositions and the sentiments reflected in various sources in terms of the prevailing public perspective.

Both *Laudato Si'* and *Laudate Deum*, serve as critical reflections on the excessive anthropocentrism underlying the ecological crisis, which is now perilously close to a point of no return. The release of the second document in 2023, marked by a heightened urgency, should be contextualized within this mounting public sentiment that time is running out.

Pope Francis gives a critical examination of the technocratic paradigm, which fosters the illusion of unlimited human power over the environment. Within this framework, nature is reduced to a resource at humanity's disposal just waiting to be exploited. He unreservedly condemns the actions of political and economic interests that obstruct efforts to combat climate change.

However, he goes much further than a mere critique or description of disillusionment. He proposes a comprehensive set of solutions grounded in two fundamental and straightforward principles: events anywhere in the world have global repercussions, underpinning his two enduring convictions that "everything is connected" and "no one is saved alone" (#19)

Emilio Uquillas[1]

# Institutional and Collaborative Work for an Environmental Agenda

Today, the world faces enormous challenges: the production of tons of waste, the concentration of greenhouse gases, the disappearance of species of flora and fauna, environmental degradation, and the inequality of living conditions of citizens in rural and urban areas.

In Latin America and the Caribbean in particular, floods and droughts are affecting more and more people every year. Coastal areas are increasingly vulnerable, while the *páramos* (high-altitude wetlands), which are primary sources of water, are diminishing. Deforestation due to the advance of the agricultural and cattle-raising frontier is increasing at the same time as illegal activities contaminate rivers with substances such as mercury. In addition, tropical storms are having severe impacts in Central America and the Caribbean. According to data from The Emergency Events Database (EM-DAT), the loss and damages associated with these events represent up to 3% of the GDP of some of the countries in the region. For instance, in Central America in 2020, hurricanes Eta and Iota alone caused estimated losses of USD 9 billion.

It is in this context that the environmental and cultural riches of our region—marked by abundant biodiversity, diverse altitudinal zones, large rivers, and many other natural characteristics—are under threat. The *Laudato si'* and *Laudate Deum* papal encyclicals accurately describe what is happening in "our home", and note that there is currently no leadership capable of implementing the actions necessary to reverse the situation. There are also enormous social challenges: substantial inherited inequalities between citizens and regions; unmet basic needs in water, health, and education; poor and abandoned regions. Furthermore, a comparison of urban with rural areas shows the latter is lagging behind the former in all social indicators, which means development policies in the region should pay particular attention to these areas. If we add to that description the region's infrastructure deficiencies in being able to withstand high-intensity climate events, the challenges in land use planning, and the fiscal limitations to respond to emergencies, it becomes clear the possibilities for a resilient response to these challenges in most of our countries are limited.

1 This document was written by Emilio Uquillas, Corporate Country Manager of CAF – Development Bank of Latin America and the Caribbean, in collaboration with other officers from the division.
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Policy actions and collaboration with multilateral agencies are crucial to taking comprehensive action in the face of the challenges for climate change adaptation and mitigation in the region. As a development bank, CAF has been addressing these challenges for more than 50 years. Over that period, it has met needs, responded to regional infrastructure requirements, developed electricity interconnection projects, and promoted cooperation actions to support the modernization of states. All of this has been done without neglecting social issues, such as promoting education, health, the construction of water and sanitation plants, and improving business-based productivity, comprised mainly of MSMEs.

In particular, through our Corporate Country Management, the institution has supported the strengthening of policies—always in line with national strategies—to reduce vulnerability, promote the adaptation of the population, and build up institutional capacities to cope with the impact of extreme climate events. Some specific examples of these institutional efforts toward high-impact environmental projects include initiatives in the Galápagos Islands to protect one of the world's most delicate ecosystems, and sustainable agriculture as a strategy to connect rural areas with large cities. Other examples include the Proregión program in Peru and the development of local roads in Colombia.

In addition, CAF participates in ambitious programs to finance electric mobility to support the reduction of greenhouse gas emissions. In Paraguay, an initiative being implemented with funding from CAF and the GCF (Green Climate Fund) provides final beneficiaries with access to concessionary rates and appropriate terms to facilitate the purchase of electric buses and light electric vehicles as well as financing fast charging networks. In a country such as Paraguay, where all electricity is generated from renewable resources, a project like this ensures emissions are reduced by replacing combustion engine vehicles with electric vehicles. Another example can be found in the city of Trujillo, Peru, where CAF and the German development bank KFW will finance a sustainable urban mobility system. Along similar lines, CAF is co-financing, together with the GCF and within the framework of the E-Motion initiative, the renewal of the Compañía Uruguaya de Transportes Colectivos (CUTSA) bus fleet with the addition of 150 electric buses, thus avoiding 12,060 tons of $CO_2$ emissions per year.

## All climate strategies at the national level must be coordinated among social and economic actors to achieve better results and a broad capacity for action.

The preceding example illustrates how, within the framework of Nationally Determined Contributions (NDCs) and the climate change adaptation and mitigation measures, our institution's support translates into technical and financial assistance for investment programs in urban development, logistics, transportation, and energy transition. Likewise, it is important to consider CAF's efforts as an accredited agency for mobilizing environmental and climate funds. One example is AdaptaClima, a Chile-Ecuador binational program, promoted by the Ministries of Environment of those respective countries, with the support of CAF, UNDP, and the Adaptation Fund. It has mobilized USD 12 million in grant resources for structural and community resilience solutions to improve response capacity in the event of flooding and mudslides in the Chilean cities of Antofagasta and Taltal as well as the Ecuadorian city of Esmeraldas. Also of note is the USD 3.2 million non-reimbursable technical assistance program, in cooperation with the Global Environment Fund, through which CAF will contribute to defining the national low-emission transportation strategy.

The importance of private sector efforts for climate action is indisputable, and thus we are working tirelessly to strengthen the participation of stakeholders in support of an agenda that aligns with the fulfillment of the SDGs. Our institution is backing the SA Impact Forestry Fund (SAIFF) to transform some 70,000 hectares of degraded and unproductive land in southern Paraguay into high-performance plots that will generate 3,000 direct and 30,000 indirect jobs and have a positive impact on all the communities in the area of influence.

The institution has also earmarked a substantial amount for primary emergency care, deriving mainly from natural disasters caused by climate change. For example, we allocated USD 500,000 in humanitarian aid to support families and self-employed workers affected by the intense forest fires in the regions of Valparaíso and central-southern Chile, between December 2022 and January 2023. Other examples include CAF's USD 250,000 donation for the reconstruction of the Escuela Básica Reducción Pangueco, a school in the Municipality of Galvarino that was destroyed as a result of those fires, and its allocation of a similar amount to assist the population affected by Cyclone Yaku in Peru. Additionally, in response to the severe water shortage emergency in Uruguay in mid-2023, CAF contributed USD 250,000 in non-reimbursable resources to the Ministry of Livestock, Agriculture and Fisheries (MGAP), thus providing access to water for vulnerable families in 19 localities, as well as for schools and health centers.

## The Human Right to the Protection and Appropriate Use of Water Resources

The social and productive use of water resources is one of the most sensitive issues in the region. In this regard, CAF has developed a substantial Knowledge Agenda that facilitates the execution of programs such as Mi Riego (My Irrigation) and Mi Agua (My Water) Both projects started in Bolivia and, to date, have accomplished 3,400 different initiatives that benefit more than 2.2 million inhabitants, thus closing the gap to achieve SDG 6. The program provides solutions regarding accessibility, quality, continuity, and equitable tariffs, at the same time as it fosters engagement and social control in rural and peri-urban areas. To date, the program has resulted in 270,626 new household connections and the construction of 7268 public basins benefiting 2.25 million Bolivians. The Creciendo con Agua Segura (Growing Up with Safe Water) initiative complements the Mi Agua project. It trains mothers and children in healthy hygiene habits and responsible water management, improving the effectiveness of public policy to reduce chronic malnutrition. At the same time, the Mi Riego program contributes to the Bolivian rural smallholder economy through family irrigation solutions benefiting 401,874 rural farming families and resulting in family farming actions that contribute to food security. CAF is currently providing support to the "Programa rumbo a la soberanía alimentaria con tecnología de riego" (the "Achieving Food Sovereignty with Irrigation Technology" program), an effort that emerged from the Mi Riego experience and which will be implemented in seven departments of the country, benefiting 6,000 smallholder families. There are similar examples in Ecuador, where the PRODIPI and PROVIAMA programs have been developed, and it is expected that Peru and Colombia will adopt similar programs in the near future.

Other highlights include the multi-year program for basic, primary, and secondary works carried out by AySA in Argentina, the company that provides water and sewage services to the City of Buenos Aires and 26 districts of the Buenos Aires suburbs. The project aims to mitigate the disparities in social and basic services in different areas of the city. In 2022, USD 340 million was allocated to provide drinking water coverage and improve the collection, transportation, and treatment of wastewater to vulnerable districts of Buenos Aires. Progress has also been made

in programs that have high social impacts in the Norte Grande region of the country. These have included allocations of USD 50 million to ensure the provision of safe water to dispersed and vulnerable rural communities and a USD 230 million contribution for the construction of a social and productive aqueduct in the northern province of Formosa. A special mention should be made of CAF's technical and financial assistance of USD 220 million for the implementation of an integrated management plan for the Luján river basin to solve a frequent and growing flooding problem in the area. Likewise, there is the Argentina-Uruguay binational project that, with USD 14 million from the Adaptation Fund, is implementing flood risk reduction and adaptation measures in cities and coastal ecosystems along the Uruguay River.

Given the increasingly urgent situation faced by the inhabitants and farmers of the Western Region of Paraguay, which lags in sharp contrast to the Eastern Region, CAF is supporting prefeasibility studies for the construction of a rainwater macro-catchment harvesting and reservoir system to guarantee the provision of safe water to 10 indigenous communities in the Central Chaco.

## Assisting the Populations in Rural and Lagging Areas as a Mechanism for Mitigating Inequalities and Defending Human Dignity

The projects to develop modular schools and extend education in Timbiquí, Colombia, and the telemedicine projects in the Amazon are further examples of the assistance we provide to populations in rural and lagging regions. At the same time, CAF continues to work to improve social indicators in the Andean region as well as to reduce informality—a major issue among rural populations—through projects that promote regional integration, such as expanding logistics corridors, tertiary roads in Peru, Colombia, and Ecuador, strengthening borders with efficient authorities, financing MSMEs, and promoting social and business innovation.

Our institution and, in particular, the Country Management Department, understands that to successfully implement these initiatives, the territory must be the bedrock of any strategy. In this respect, our interventions at the sub-national level in Colombia, Argentina, and Ecuador can serve as examples for similar initiatives in the other countries of the region, particularly concerning urban development, sustainable mass transportation, and human mobility issues. This is the case in Chile, where actions in support of the management capacities of the 16 regional governments have been prioritized. These have included a first phase of financing of USD 80 million to contribute to improving solid waste management, promoting the circular economy agenda, and providing technical and financial solutions for low-emissions transportation.

## The Amazon as a Space for Mitigating the Impacts of Greenhouse Gas Emissions and Protecting Flora and Fauna from Extinction

CAF's Amazon agenda is based on the framework of its corporate mission to preserve and restore the strategic ecosystems of Latin America and the Caribbean. A specific example lies in a recent development that has been of singular importance for CAF, in line with its commitment to the Belém Declaration for the Sustainable Development of the Amazonian Countries and the Green Coalition of Development Banks for the Amazon. It is expected that this cooperation will result

in greater financial coordination and regional technical support for the preservation and sustainable management of the Amazon.

The effort complements other initiatives that CAF actively supports, such as defining a road map to promote the Amazon Rainforest as a Biome of Solutions for 2030, with expected investments of USD 2 billion. In the same ecosystem, another important effort is our cooperation with the work being done by the Amazon Cooperation Treaty Organization (ACTO), the Amazon Regional Observatory (ARO), and the Amazonian Strategic Cooperation Agenda (ASCA).

In this context, CAF's action in Brazil is crucial, since approximately 60% of the Amazon region, which by its nature is eminently green, falls within its borders. Furthermore, it is expected that we will close 2023 with USD 612 million in support of investment projects with environmental co-benefits. Other projects we can highlight among the dozens currently being implemented include the Niterói Oceanic Region, a multiple urban investment initiative that includes a USD 10.5 million component to implement filtering gardens at the Piratininga Lake Shore Park and the renaturalization of the Jacaré River basin, recovering the ecosystem and the natural features as well as the river banks. Then, there is the Sobral program, which includes an investment of more than USD 30 million for the recovery of degraded areas, restoration of the vegetative cover and riparian forests on 24 $km^2$ of the Acaraú river banks, as well as filtering gardens that provide natural systems for decontaminating the watercourses through aquatic plants and substrates. In addition, we are carrying out different actions at the request of the Amazonian countries, such as a capacity-building workshop we recently organized for the border population between Peru and Colombia at the request of the respective Ministries of Foreign Affairs of those countries.

As the green bank of Latin America and the Caribbean, CAF is committed to working with countries as their partner and ally in efforts to advance programs and projects that support climate action and biodiversity. As such, we prioritize projects with a high green content in our Country Strategies and Operational Plans, which are defined on a year-by-year basis.

However, this work needs to be highly coordinated, not only with the national and subnational levels of government, but also with the private sector, academia, research centers, other multilateral agencies, and social organizations. The different activities we have carried out to date represent a milestone and demonstrate the capacity for action and change that can be achieved through this comprehensive work. We must redouble our collective efforts to provide an appropriate response to the enormous and persistent challenges raised in the papal encyclicals of the *Laudato Si'* and *Laudate Deum*

Alicia Montalvo[1]

# A Region of Solutions through the Value of Its Nature

Pope Francis points out in his papal encyclical *Laudate Deum* "Despite all attempts to deny, conceal, gloss over or relativize the issue, the signs of climate change are here and increasingly evident" (LD,5). The rise in temperatures and the growing frequency and intensity of extreme weather events have made climate change a key challenge on the international agenda. Its adverse effects underscore the urgent need to achieve carbon neutrality and bolster the resilience of the most vulnerable populations.

In recent decades, Latin America and the Caribbean (LAC) has witnessed the harshest aspects of this phenomenon: dramatic temperature increases, and a rise in the number and frequency of extreme weather events (see Figure 1), prolonged droughts, floods, landslides, coastal erosion, and ocean acidification are scenarios well-known globally. The asymmetric consequences of climate change are of central importance in LAC, as the region contributes just 8.3% of total greenhouse gas (GHG) emissions yet is one of the most adversely affected due to its socioeconomic, demographic characteristics, and geographical location.

Understanding these asymmetries means recognizing that the most vulnerable populations, with fewer economic and financial resources, are also the first to feel the impacts, thereby increasing their vulnerability and perpetuating cycles of poverty and inequality.

Grasping the true impacts of climate change can be challenging, leading to its severity being ignored or trivialized. Therefore, a useful exercise to raise awareness among those who do not suffer its consequences so directly is to quantify its value in economic terms. Recent estimates have placed the cost of climate change at between 1.5% and 5% of GDP in Latin America and the Caribbean by 2050. This accounts for impacts on agriculture, hydroelectric generation, the emergence of diseases, and extreme weather events that disrupt infrastructure services (transport and electricity), potentially costing up to 2% of annual GDP for some countries in the region.

Climate change and biodiversity loss are intricately linked, meaning that effectively addressing one issue necessitates considering the other. Both have predominantly negative impacts

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on human well-being and quality of life. Rising GHG concentrations in the atmosphere lead to shifts in precipitation patterns that adversely affect biodiversity, which in turn impacts the climate system, particularly through effects on nitrogen, carbon, and water cycles. These interactions can create complex feedback loops resulting in more pronounced and unpredictable outcomes. Notably, the ecosystem service of carbon sequestration is severely compromised by deforestation and habitat degradation.

The inseparable link between climate, biodiversity, and human quality of life cannot be overlooked. Often, these issues are tackled independently, with separate United Nations Conventions. This functional separation poses a specific risk for decision-makers in Latin America and the Caribbean (LAC) due to biases in identifying, understanding, and inadequately addressing the connections between the two. In the worst-case scenario, it can lead to actions that unintentionally hinder the resolution of one or both issues, negatively impacting people.

**The potential for climate action in Latin America and the Caribbean is enormous, especially concerning its natural capital.**

Consequently, CAF has positioned itself as the Green Bank of the region, with a commitment to allocate 40% of approvals by 2026 to combating climate change and its impacts, conserving biodiversity, and addressing other environmental challenges. Additionally, USD 1.25 billion will go to financing projects that contribute to the preservation, revitalization, and promotion of marine ecosystems. CAF places people at the heart of its strategy, advocating for a fair transition to low-emission models that also ensure access to energy and livelihoods for all, particularly the most disadvantaged populations, which in most countries include indigenous and Afro-descendant communities, doubly burdened by inequity.

This article is inspired by Pope Francis's encyclical *Laudate Deum*, which calls for the defense of our common home against the effects of climate change. Firstly, it aims to show that the consequences of climate change and biodiversity loss are interconnected and disproportionately affect the most vulnerable groups. Secondly, it highlights that developing countries, which bear the brunt of climate change's consequences, possess natural wealth that must be valued and acknowledged appropriately to generate nature-based solutions (NbS) that allow for sustainable ecosystem use and equitable distribution of the derived benefits.

CAF strives to ensure intergenerational equity, meaning it seeks to avoid harming current and future generations through the improper use of environmental and social resources. This is achieved by implementing necessary actions to make infrastructure, energy, water, food, housing, education, and health universally accessible while also being environmentally sustainable.

## Moving toward an integrated agenda for climate action and biodiversity conservation

Poverty, inequality, ecosystem degradation, and the effects of climate change shape the lives of millions in Latin America and the Caribbean, highlighting the need for integrated action between climate initiatives and the conservation and sustainable use of biodiversity. This approach must be inclusive, ensuring no one is left behind. Additionally, when considering the significant financing gaps

in these two agendas, a complex picture emerges that demands transformational changes in the foundations of regional development planning.

The first of the changes involves decoupling economic growth from both the increase in emissions and the loss of biodiversity. Multilateral development banking, and particularly CAF, plays a key role in this area. Our institution has close ties with decision-makers in LAC and plays an advisory role, in addition to having a huge catalytic power for the mobilization of financial resources. Its activities focus on:

- Increasing public investment in climate and biodiversity initiatives, taking into account their economic and social profitability; and mobilizing private investment with tax incentives and tools that mitigate risk.

- Promoting new financial instruments to support climate and biodiversity initiatives such as debt-for-nature swaps, and insurance covering risks associated with climate change, carbon markets, and biodiversity certificates.

- Improving the transparency and accountability of climate and biodiversity financing to help ensure that funds are used effectively.

Latin America and the Caribbean must transform based on a just transition to a resilient, low-carbon green economy. The main challenge in this task is rooted in economic growth models, as the region's countries face the enormous challenge of planning and executing actions to recover their national economies after the pandemic and successive energy and inflationary crises. Better planning and a comprehensive vision of sustainable development are necessary, one that is consistent with the challenges of achieving greater social inclusion, strengthening climate resilience, transitioning towards the decarbonization of economic sectors, and effectively enhancing the conservation and sustainable management of biodiversity.

The relationship between climate, biodiversity, and vulnerability is clearly observed in the case of rural communities and indigenous populations: many communities rely on livelihood activities such as fishing, agriculture, and ecotourism and are suffering significant economic losses and social upheaval due to the effects of climate change on these ecosystem services. Additionally, the progressive loss of territorial resilience must be considered. The diversity of LAC's ecosystems has made them resistant to extreme weather phenomena or disease outbreaks but that strength is being weakened.

Undoubtedly, an integrated approach is necessary, one that proposes transformational changes and places people at its core, especially the most vulnerable groups, who are seeing their quality of life, economic activity, and environment radically deteriorated by environmental crises that feed into each other.

## Latin America and the Caribbean: A region of solutions

Faced with these crises, Latin America and the Caribbean has the opportunity to establish itself as a true region of solutions. Home to six of the world's most biodiverse countries, which harbor 70% of the species of mammals, birds, reptiles, amphibians, plants, and insects, LAC is a pivotal region. Latin America holds 40% of global biodiversity and more than 25% of the world's forests, while the Caribbean boasts plant life that is not found anywhere else on the planet, accounting for 50% of its vegetation.

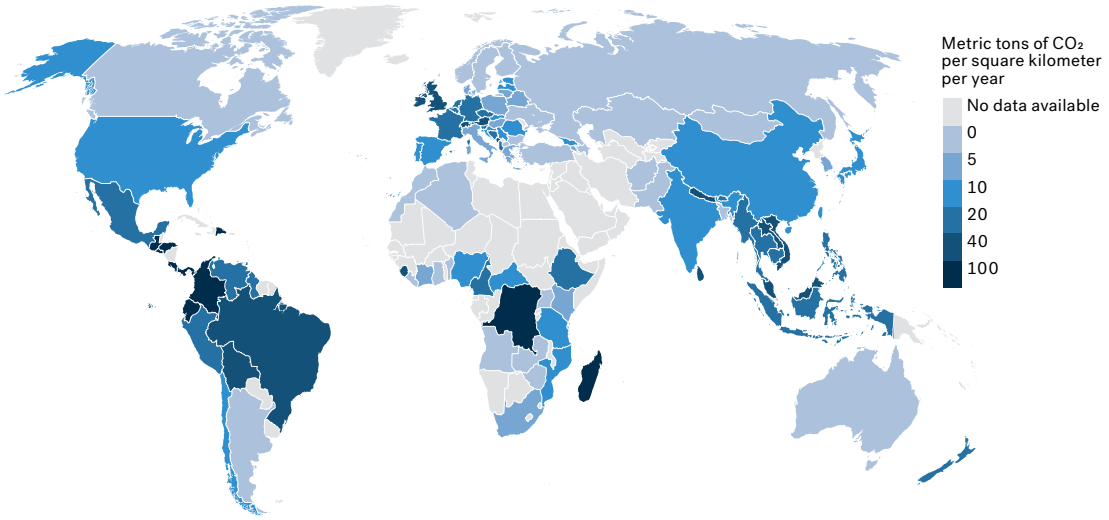
The region's mitigation potential is vast (see Figure 2) and largely depends on this natural capital. However, due to the constant increase in temperatures, the region is losing biodiversity at rates well above the global average. The conservation, restoration, and sustainable use of strategic ecosystems are crucial, not only to ensure the preservation of ecosystem services on a regional and global scale but also to combat climate change through mitigation and adaptation actions.

Moreover, Latin America and the Caribbean possess natural conditions that make it a key region for global food security. The region contributes 14% of the world's food production and 45% of the net international trade in agri-food products. By 2050, with a global population estimated at 9.7 billion, this production should increase by 60%.

The adverse effects of climate change directly impact the essential resources for food production-related activities such as fishing, agriculture, livestock, and non-timber forest products. In this context, the region faces a dual challenge regarding food security. On one hand, there is a need to meet the food demand for its entire population, where 40.6% still face moderate or severe food insecurity. On the other hand, there is the need to halt the climate crisis and the consequent deterioration of natural resources that affect the productive capacity of the agri-food sector capable of meeting global needs.

Lastly, it is important to highlight the crucial role that Latin America and the Caribbean play in the energy transition, which is fundamental to limiting global warming in line with the Paris Agreement. To achieve internationally set climate change goals, it is estimated that the need for critical minerals for clean energy technologies will quadruple by 2040. Achieving global carbon neutrality by 2050 will require the sustainable use of the region's water resources, biomass, and minerals, among others.

**Figure 1. Total $CO_2$ reduction potential through national reforestation initiatives**




**Source:** Krishnan, M. et al. (2022). "The net-zero transition. What it would cost, what it could bring." McKinsey & Company. January 2022.

While this transition must be swift, it must also be fair and inclusive, ensuring that accessible, continuous, and secure energy is provided for all people, leaving no one behind. In envisioning Latin America and the Caribbean as a region of solutions, it is essential to incorporate the voices of local communities and, very specifically, those of Afro-descendant peoples and indigenous communities, who offer a unique perspective on the relationship with nature. In other words, these solutions must be co-created, including all stakeholders and those affected, considering the strengths and specific contexts of each.

## The importance of coordinated regional action

Pope Francis urges us to "finally admit that it is a human and social problem on any number of levels. For this reason, it calls for involvement on the part of all" (LD,58). Indeed, collaboration and coordinated action at the regional level are essential to highlight these solutions with global benefits that, at the same time, promote sustainable and inclusive growth in the countries of Latin America and the Caribbean. Countries must act together and include other key stakeholder groups to mobilize the necessary financial resources.

CAF has been accredited by the main international green funds (Green Climate Fund, Global Environment Facility, Adaptation Fund) and collaborates with bilateral international cooperation entities (AECID, AFD, KFW) to catalyze additional resources toward integrated impact projects in biodiversity and climate action that the institution finances in the countries. Working together with other institutions allows CAF to amplify the ambition of projects and enhance cooperation in the region. In fact, many projects carried out are multi-country projects, given that strategic ecosystems transcend political borders (Caribbean, Amazon, La Plata Basin, etc.).

CAF works decisively to coordinate regional action and mobilize financial resources toward the region. Therefore, it is important to create forums for collaboration and the search for alliances among all actors that allow progress on a shared agenda for Latin America and the Caribbean that truly respects the limits of the planet. The multilateral institution offers platforms for dialogue and collaboration where countries in the region can make themselves heard and, above all, listen to each other.

In particular, COP 28 in Dubai offers a unique space to showcase Latin America and the Caribbean as a region of solutions, which should mark a turning point in how the world views the region, and how the region sees itself from a standpoint of dignity and equity.

As Pope Francis says in *Laudate Deum*: "If we are confident in the capacity of human beings to transcend their petty interests and to think in bigger terms, we can keep hoping that COP28 will allow for a decisive acceleration of energy transition, with effective commitments subject to ongoing monitoring" (LD,54). The significance of this forum makes it the appropriate space for the countries of Latin America and the Caribbean to contribute with its unique perspective to solving the global problem of climate change, presenting itself as a leading actor capable of offering regional solutions

Ana Julia Aneise[1] and Elisabeth Möhle[2]

# Environmental Crisis on a Ticking Clock: The Region's Natural and Technological Contribution to the Global Transition

Climate change is an undeniable reality that requires profound, unprecedented transformations. The role assigned to Latin America and the Caribbean in this context tends to be that of mere provider of natural resources and guardian of biodiversity. However, the region's potential is much broader, extending to the development of green technology and manufacturing. A new paradigm for global cooperation is needed, one that recognizes the need for the region's growth and makes a more comprehensive contribution to the transition to sustainable development for Latin American countries.

There is a substantial body of scientific evidence showing a sustained increase in average global temperatures, changes in precipitation patterns, and an increase in extreme weather events. The Intergovernmental Panel on Climate Change (IPCC) leaves no doubt as to human responsibility for this phenomenon, particularly in terms of human activities like the burning of fossil fuels, deforestation, and unsustainable food production. As the clock ticks, humanity is battling some of the cruelest impacts of global warming, like rising sea levels along with more frequent and extreme weather events—heat waves, droughts, torrential rainfall, hurricanes—that ravage ecosystems and communities. Phenomena like the spread of infectious diseases, food insecurity, forced displacement and migration, human losses, and the destruction of infrastructure are on the rise and represent only some of the myriad consequences that climate change has already had on the lives of billions, with no end in sight.

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However, not everyone feels these impacts in the same way. Latin America and the Caribbean (LAC) is a region characterized by extreme inequality and poverty, informal urban growth, and weak institutions. Here, there are facts and numbers behind this phenomenon: in 2022 alone, extreme weather events caused 1,153 deaths and affected 10 million people, generating economic losses of USD 9 billion.[3] Looking toward the future, these trends are expected to worsen. When rising sea levels and changes in precipitation are also considered, the countries and communities of LAC are expected to enter a vicious circle of ever-increasing impacts.[4]

In order to interpret the economic and especially humanitarian fallout of climate change, it is necessary to lay out the responsibility for the phenomenon: in terms of carbon dioxide emissions—the main gas responsible for global warming—over the course of history, Latin America and the Caribbean are responsible for just 4.1%.[5] Far from clearing the region from its responsibility to act, this number instead makes a relevant point: the countries that have been most responsible for emissions historically are those that experienced industrialization, urbanization, and rising energy use the earliest. The result is an extremely unjust situation in which the highest-earning countries—the ones that most contributed to climate change—are also those with the most financial and technological resources to undertake costly mitigation and adaptation measures. On the other hand, the countries least responsible for the crisis face the same consequences, but with fewer financial and tech resources to quickly make the changes in production the green economy demands or to cover the costs of damages and losses.

## A Time of Global Transitions

A fair distribution of the cost of the transitions that climate change demands is no small matter, given that there is no precedent for this kind of transition, which has profound implications at the technical, political, economic, and social levels. The world's largest infrastructures will need to be transformed, as will the consumption patterns of great swaths of the population. Countries will also need to rethink the areas of production in which they specialize. In addition, these changes must seek to address the many unmet challenges humanity continues to face as laid out in the Sustainable Development Goals (SDGs).

In addition to traditional goals associated with energy security such as supply and cost—both of which are jeopardized by war—the energy transition also requires a decreased reliance on carbon. This necessitates a multidimensional, long-term change in technologies and organizational and institutional structures of the energy sector, all of which must take place in record time to meet the goals of the Paris Accord. Similarly, there is a need to transform the global farming and food system to reduce its environmental impact while also responding to population growth, urbanization, changes in consumption patterns, and weather that renders certain crops increasingly difficult.

At the same time, major investments and structural transformations are needed to adapt to climate change and to prevent and respond to its impacts on communities, infrastructures, and systems of production. According to data from UNEP, estimated annual adaptation costs/needs require USD 71 billion a year in developing countries alone and this number is expected to rise to between USD 160 billion and USD 340 billion by 2030, and between USD 315 billion and USD 565 billion by 2050.[6]

3 According to data from CRED EM-DAT.
4 World Meteorological Organization. State of the Climate in Latin America and the Caribbean 2022.
5 Global Carbon Budget, 2021.
6 For reference purposes, Ecuador's GDP in 2022 was USD 115 billion (World Bank).

In this context of multiple transformations, Latin America and the Caribbean face the pending challenge of guaranteeing decent living conditions for all its population. Although LAC experienced notable economic growth during the first decade of the 21st century, driven by the high prices of raw materials and strong demand from emerging economies like China, progress stalled in 2014, when global economic growth slowed and the price of commodities dropped. During the boom, the region saw substantial improvements in both economic and social terms, with rising employment, reduced inequality, and lower rates of poverty. The trend, however, proved unsustainable, as it was not accompanied by a qualitative transformation in the structures of production, which continues to rely excessively on natural resources.

Achieving a robust international position—one that does not depend so heavily on cyclical commodity prices—requires a structural change in economies. Traditional activities with little in terms of output play a smaller role while other more dynamic activities rise.[7] The goal is to diversify the structure of production and reduce the technology gap that divides the region from the core countries. This is a complex task: specialization is a trend that tends to continue over time and the countries that already have technological advantages rely on them to innovate and increase their participation in markets, thus furthering the gap. While this creates a virtuous circle in developed countries, it leaves the developing countries increasingly behind.[8]

An aggravating factor is that the core countries, which agreed to cooperate with the transition of developing countries as part of the Paris Accord, have not kept their promises. They still have not transferred the 100 billion dollars in annual financing announced in 2009 for 2020. On the contrary, they have begun implementing environmental protection measures for exports that, sans financial or technological assistance, thwart developing countries' ability to compete.

## The region is strongly positioned to capitalize on the global and local transition, leveraging its abundant natural resources and biodiversity and its potential to produce innovative goods and services.

As a result, as the transition to sustainability unfolds, LAC countries are strongly conditioned by: (i) a need for economic growth to address the high levels of poverty that continue in the region; (ii) an economic system and exports predominantly based on natural resources; (iii) a reliance on imported technology; and (iv) insufficient cooperation on the part of developed countries. The combination of these four factors entails an enormous risk, not only for the region but also for the world. As countries travel the path toward economic development without incorporating green technologies, they will continue to use more energy and natural resources. This means more gas emissions and thus a greater greenhouse effect and environmental decay, exacerbating the global climate crisis. However, if developing countries cannot make progress toward ensuring the resources needed to adapt to climate change, they will remain unable to provide decent living conditions for their population, increasing the risk of forced displacement due to extreme weather events. In this regard, finding a path toward sustainable, safe development for the region is necessary for the whole world's survival.

7 O'Farrell, J., Palazzo, G., Bril Mascarenhas, T., Freytes, C. and Dias Lourenco, B. Pensar el desarrollo para la Argentina contemporánea, 2021. Fundar.
8 ECLAC - Building a New Future: Transformative Recovery with Equality and Sustainability. Summary.

## The Transition in Latin America

In the context of the environmental challenges of this century, the role that LAC is playing is usually associated with its diverse and abundant natural resources. From the Chilean Antarctica to Baja California, LAC is home to more than 40% of the world's biodiversity, almost one-third of the planet's drinking water, 26% of its wetlands, and 57% of its primary forests. Many of the environmental resources and services necessary for the transition of this vast region, and also that of the world, are located here.

In terms of lithium, Argentina, Bolivia, and Chile hold more than 56% of the world's supply and this is a key mineral for the batteries needed for electric vehicles and energy storage.[9] Chile, Peru, and Mexico hold 38% of the global reserves of copper,[10] which is indispensable for electrification. In addition, many of the countries in the region are well positioned in terms of renewable energy, with some of the highest rates of hydroelectric energy and strong advances in solar and wind energy. This also makes LAC a very appealing place for developing green hydrogen. At the same time, in terms of food production, the region is an important farm and livestock exporter, with products like soybean, corn, beef, pork, sugar, honey, coffee, avocado, and bananas, among others.[11]

Besides its resources, LAC offers a series of critical ecosystem services for maintaining human life on the planet. At the global level, LAC forests absorb great amounts of carbon dioxide from the atmosphere, keep moisture circulating across the hemisphere, store nearly half of the aerial carbon in the tropics, provide a habitat for nearly half of the world's land species, and are home to seven of the 25 critical biodiversity points in the world.[12] In addition, its tropical forests contribute to the global balance of the hydrological and biogeochemical cycles and prove critical to sequestering and storing carbon and circulating moisture across the continent.[13] [14]

At the same time, Latin America and the Caribbean are home to vast cultural diversity and ancestral knowledge, with more than 50 million Indigenous people from 500 tribes. Spread across 21 countries, they speak over 420 languages. Their traditional knowledge is highly valuable for biodiversity and climate change adaptation, covering everything from enhanced construction technologies to rainwater storage, community-based disaster risk reduction, climate-smart agriculture, and genetic seed banks. In addition, the Indigenous struggle for identity, their worldview, and land rights has configured them—especially women—as nature's guardians. In Brazil, the forests managed by Indigenous people and thus protected against deforestation have seen a reduction in emissions almost 27 times greater than that of forests outside these protected areas.[15]

However, this know-how, which is already fundamental in the struggle against climate change, must be accompanied by the aforementioned perspective of economic and social development in the region. The role of LAC can and should not be limited to a mere reservoir of biodiversity or a mere supplier of raw materials for the global transition. Instead, the region can contribute solutions with high added value: there are many examples in which the intelligent use of natural resources has enabled capacity building for the long-term

9 ECLAC (2023). Lithium Extraction and Industrialization: Opportunities and Challenges for Latin America and the Caribbean.
10 IEA (2021). Latin America's Share in the Production and Reserves of Selected Minerals.
11 Source: Observatory of Economic Complexity.
12 UNEP (2010). State of Biodiversity in Latin America and the Caribbean; Gibbs, H., S. Brown, J. Niles, and Foley (2007) Monitoring and Estimating Tropical Forest Carbon Stock; Werth, D., and R. Avissar (2003). The Regional Evapotranspiration of the Amazon; Meyers, N. Mittermeier, C. Mittermeier, G. A. da Fonseca, and J. Kent (2000). Biodiversity Hotspots for Conservation Priorities.
13 Brando, Paulo M., et al. (2008). "Drought Effects on Litterfall, Wood Production and Belowground Carbon Cycling in an Amazon Forest: Results of a Throughfall Reduction Experiment." Philosophical Transactions of the Royal Society B: Biological Sciences 363.
14 Houghton, Richard A., et al. (2012). "Carbon Emissions from Land Use and Land-Cover Change." Biogeosciences 9.12.
15 ILO, 2018. Indigenous Peoples and Climate Change: From Victims to Change Agents through Decent Work. International Labour Organization, Gender, Equality, Diversity and Inclusion Branch.

development of technology and production in different countries.[16] While a good number of the cases in which natural resources are effectively leveraged come from developed countries, which have strong institutions, resources, and scientific and tech capacities, there are also many success stories in LAC, albeit on a smaller scale. These reveal the contribution the region can make to addressing environmental problems, contributions that could be even stronger if the international community played a more active role in resource and technology transfer.

One noteworthy case of this synergy is the biotech sector in Argentina. Argentine companies leveraged the country's farming expertise and robust science and technology system, capitalizing on existing talent to develop genetically modified crops specifically adapted to the domestic sector's needs. Thus, by investing in extensive research, they were able to address some of the agrifood challenges of the 21st century, developing a virus-resistant potato and drought-tolerant wheat.

The creation of the wind energy sector in Brazil is another example of a proactive public policy, one that combines investment in renewable energy with the promotion of national resources. In this case, Brazil was able to leverage its wind power to not only accelerate the energy transition but also to create quality employment, develop its tech capacities, and diversify its economic system.

At the same time, incorporating the logic of the circular economy into production processes opens up opportunities for innovation and exports. This is the case of a Colombian firm that uses the waste of other sectors—specifically, waste from ornamental shrubs (hydrangea) and plastics—to manufacture pallets. In this way, the company has reduced the environmental impact of waste, created local jobs, and contributed to Colombian exports.

In Central America, Costa Rica is an example of ecotourism and tourist services and accommodations. Its production of foods in high demand internationally paired with efforts to diversify production by supporting the national manufacture of high-tech medical equipment and pharmaceuticals has enabled sustained economic growth over the past 25 years. Costa Rica is also a world leader in terms of environmental policies and achievements: its pioneering payments for environmental services program has successfully supported the conservation of forests and biodiversity, making it the only tropical country worldwide to reverse deforestation.

These are only some of the many examples of how the region has leveraged its resources to create innovative goods and services with high added value, contributing to the global transition toward sustainability while driving the economic development and well-being of its population. Striking a balance of this kind is not only possible: it's the only path toward true sustainable development in LAC.

## A New Global Paradigm of Solidarity and Cooperation for the Transition

Although there is a solid scientific and political consensus on the urgency of the transition, it is not occurring fast enough to meet the goals laid out in the Paris Accord or the SDGs. The pledges to reduce emissions will not suffice to limit warming to 1.5°C (or even 2°C), but in addition, countries are not even on track to meet these globally insufficient targets.[17] As a result, humanity is barreling toward a new world record for fossil fuel consumption and emissions.

16 Schteingart, D. M. (2017). Especialización productiva, capacidades tecnológicas y desarrollo económico: trayectorias nacionales comparadas y análisis del caso noruego desde mediados del siglo XX. PhD thesis.
17 UNEP. Emissions Gap Report, 2022.

Time is running out for both the planet and its people. It's time to unequivocally address the tensions surrounding our approach to climate change. Emissions and the consumption of natural resources depend on the rate of economic growth of each country and its ability to leverage technological advances to achieve development without them. The more developed countries grow, the less environmental space will be left for developing countries; the faster technology advances in all areas, the more environmental space will be available for the growth of peripheral countries.[18]

For this reason, a robust global response to the challenges of the environmental crisis requires a new vision of cooperation between nations. A new pact of this sort would enable the countries lagging to achieve environmentally sustainable economic growth. In this regard, international financing and support mechanisms for LAC cannot be limited to the sale of technology for the reduction of emissions, the imposition of environmental standards for the extraction of raw materials, or fund transfers to compensate for loss and damage.

True international cooperation must have two aims. The first is a firm awareness of the shared but differentiated responsibilities, where the developed world makes a true effort to release a carbon budget that enables the economic growth of countries in the region. More efficient, development-oriented support is the second, where technology and resource transfers serve for local capacity building, diversifying Latin America's manufacturing sectors and adding true value.

Latin America and the Caribbean are in a unique position to catalyze the transition both globally and locally. However, this is not a challenge the region can face on its own, nor can countries achieve it individually. It is essential to build a global movement of solidarity and cooperation, with the aim of sustainable, equitable, inclusive development for all the countries in the world that have yet to achieve minimal levels of well-being. Only then will the region's true potential be unleashed, ensuring a prosperous, resilient future for all its inhabitants ●

18 ECLAC. Building a New Future: Transformative Recovery with Equality and Sustainability. Summary.

“Once and for all, let us put an end to the irresponsible derision that would present this issue as something purely ecological, “green,” romantic, frequently subject to ridicule by economic interests. Let us finally admit that it is a human and social problem on any number of levels.”

(*Laudate Deum*, 58)

The sectoral dimension

# Overcoming the technocratic paradigm, rethinking our use of power

Ángel Cárdenas[1]

# A New Call to Rethink Urban Planning, Sustainable Mobility, and Citizen Participation

The cities of Latin America and the Caribbean (LAC) have grown under the influence of an extractivist development model that has left deep scars of inequality in its wake. This model, rooted in the exploitation of natural resources, has not only shaped the urban landscape of the region but has also exacerbated social and environmental disparities, marking an urgent call for reflection and action. The essence of these models lies in the intensive extraction of natural resources which, while appearing to fuel urban development, has generated an unequal impact, leaving a large portion of the population in precarious conditions and without access to the benefits generated by economic growth. Wealth has been concentrated in the hands of a few, while the majority experience the harshest facets of marginalization.

At CAF, we recognize the unsustainability of this model. Pope Francis's recent encyclical on climate *Laudate Deum* raises the need for an integral ecology that transcends geographical boundaries and social divisions and urges us to rethink our cities as spaces for interaction and coexistence, where social and environmental justice are fundamental cornerstones.

It is in this context that CAF proposes a paradigm shift in Latin American and Caribbean urban development. The key lies in attaining a harmonious balance between economic progress and social equity. We must envision the development of our cities as a process that incorporates all citizens, where opportunities are not the privilege of a few, but the right of all. Social inclusion, equitable distribution of wealth, and respect for biodiversity must be the foundations on which we build the future of our cities.

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This is why CAF proposes a paradigm shift that requires a collective commitment from governments, civil society, and the private sector. It is a call to rethink urban planning, prioritize sustainable mobility, encourage citizen participation, and promote the transition to clean energy sources.

This paradigm shift finds its maximum expression in the circular and regenerative model that seeks to integrate the elements of an ecosystem, designing urban centers capable of developing diverse productive ecologies, creating and managing green corridors, and implementing blue and green infrastructures. It also promotes the production of goods and services that generate value sustainably. The infrastructures of this new model are designed with consideration for their impact on various scales of local ecosystems, aiming to capture and distribute values that benefit populations and enhance the quality of urban environments. This shift towards a more holistic and sustainable paradigm represents a key opportunity to build more resilient and equitable cities.

The climate crisis, often overshadowed by immediate economic interests that are neither sustainable nor profitable in the long run, presents one of the central challenges to address before we reach an irreversible tipping point. This challenge is exacerbated by the resistance to the development and large-scale adoption of cleaner energy sources, the uneven global distribution of resources (where the richest 1% accumulates nearly double the wealth of the rest of the world's population), the ongoing global loss of biodiversity, and urban growth devoid of a comprehensive vision that ensures ecosystemic balance.

Climate change has a direct impact on the forced migration of people displaced by its effects. These movements are concentrated in cities of different sizes and characteristics (typically border and secondary cities) that face the immediate challenge of providing goods and services to the displaced population. These migratory processes must be evaluated and reexamined from an innovative perspective because they possess characteristics that set them apart from traditional migration processes. Today's migrants do not primarily originate from rural or peripheral areas, and the scale of these movements is different. As climate change-related issues intensify, the flow of migrants becomes more frequent and constant. According to the World Bank's Groundswell report, by 2050, Latin America and the Caribbean could see up to 17 million migrants due to climate change alone.

However, these challenges also present an opportunity for a brighter future for the region's cities, provided we adopt a new paradigm that integrates migratory movements as active agents of urban development. Cultural exchange, initiative, and entrepreneurship, hallmarks of those who choose to migrate, and the remittance economy (a significant income source in Latin America and the Caribbean), are some of the benefits that, when leveraged effectively, can contribute to greener, more equitable, and more prosperous urban development.

## The importance of promoting urban systems that are connected and in harmony with nature

*Laudate Deum* underscores the significance of human interaction with the environment, emphasizing how various cultures throughout history have been capable of creating and reshaping their environment sustainably without endangering or harming it. In alignment with this perspective, CAF has been underscoring the imperative of cultivating sustainable habitats within urban systems in Latin America and the Caribbean. This involves adopting a greener perspective and reevaluating our relationship with nature. We advocate for the promotion of a holistic approach to our territories, one that's fairer, enhances the capacities of local governments for managing and distributing available resources, goods, and services, and is

more prosperous. We understand development not solely in its economic context but, critically, in its human dimension.

In keeping with these principles, the Management of Urban Development, Water, and Creative Economies is actively engaged in the endeavor to establish a Network of Biodivercities. This initiative draws inspiration from the Humboldt Institute and the Government of Colombia's efforts to effectively and comprehensively incorporate local and regional biodiversity into their urban planning and management. This biodiversity takes center stage as the core of their socioeconomic development. The creation of this network, which, as of September 2023, has already garnered participation from over 160 local authorities, positions CAF as a central player in the establishment of a community of cities committed to combatting climate change, its repercussions, and the perpetuation of an unsustainable urban development model.

In stark contrast to the prevailing extractivist model and the global implementation of gray infrastructures, Biodivercities advocate for nature-based solutions (NbS) to address the challenges of climate change and unsustainable urban development. These solutions revolve around the integration of biodiversity into urban areas, aiming to reduce carbon emissions, adapt to extreme weather events, enhance urban living conditions, and foster economic sustainability. This transformative concept is grounded in five fundamental principles:

- Restoring the equilibrium between urban planning and nature by fostering the development of green infrastructure.
- Encouraging governance models aligned with NbS.
- Cultivating positive connections between rural and urban regions to ensure biodiversity preservation.
- Prioritizing circular economy models.
- Promoting the intrinsic value of citizens' well-being and health.

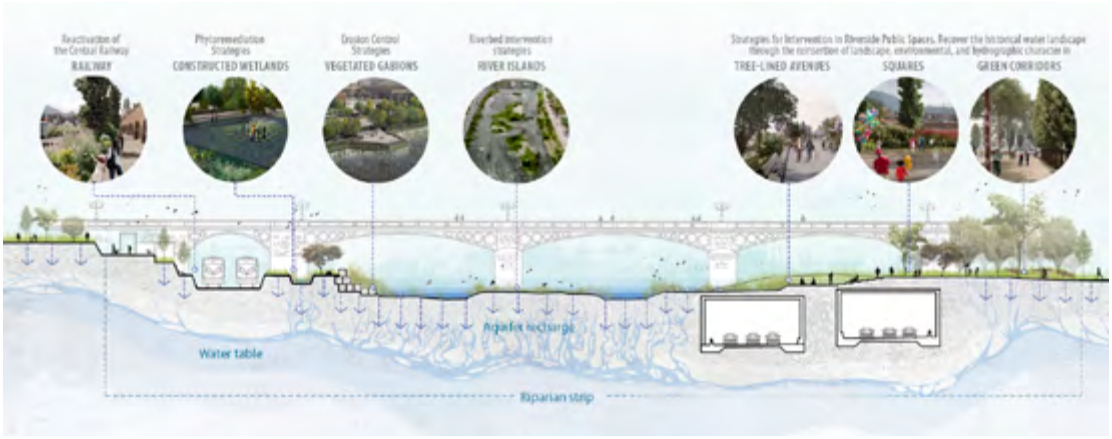
To illustrate, we can examine CAF's technical collaboration within the framework of the Urban Recovery of the Rimac River Project in Lima, Peru. The disbursement of USD 600,000, earmarked to provide financial support for pre-investment studies, marks one of the initial steps in realizing the Biodivercities project and its nature-based solutions. By emphasizing the river and its conservation as central themes for the city's urban revitalization, the project champions the creation of a system of more accessible and sustainable public spaces. This, in turn, contributes to the restoration of the water and urban landscape while significantly enhancing the quality of life for the city's residents and visitors in its historic center.

Projects like the Rimac River initiative centered on the utilization of nature-based solutions, gain increased relevance when we consider the benefits they offer, particularly in the current context of climate change. This project, characterized by its comprehensive and cross-cutting approach, aims to address issues related to erosion, flood risk mitigation, and the restoration of the river's status as a crucial water resource. The strategies employed in this project can serve as a model for tackling similar challenges.

Across the region, annual losses due to drought are estimated to reach a staggering USD 3 billion, nearly half of the total investments in drinking water and sanitation. Moreover, there are negative externalities linked to both intra- and inter-national migrations. As an example, in 2014, a significant surge in Guatemalan migration to the United States coincided with the onset of the El Niño-induced drought in the Central American Dry Corridor, which stretches across Guatemala, Honduras, and El Salvador. Guatemala, listed among the ten countries most vulnerable to climate change impacts, grapples with the consequences of increasingly erratic weather patterns, underscoring that the pursuit of economic and social development remains elusive if unsustainable extractive models continue to be promoted globally.

**Masterplan of the Rimac River landscape project**

**Hydrogeomorphologic section of the Rimac River project and strategies for reactivation and implementation of services**



The adoption of nature-based solutions could not only help to mitigate the effects of climate change but also create significant value. According to the report *BiodiverCities by 2030: Transforming cities' relationship with nature*, conducted by the Humboldt Institute in collaboration with the World Economic Forum, these solutions have the potential to yield annual cost savings of up to USD 140 million in global water supply, alongside the inclusion of over 1.4 million people in drinking water networks. Furthermore, the report emphasizes that implementing nature-based solutions for wastewater treatment can significantly reduce the negative externalities associated with discarding more than 80% of wastewater. This approach promises benefits in terms of enhancing biodiversity in freshwater basins.

## Moving toward the promotion of a decentralized region with socio-ecological justice

In the context of an increasingly urbanized and decentralized region, if LAC countries are going to achieve their sustainable development goals (SDG), strategic policies designed to prepare and enhance the capacities of local governments must be implemented. Local governments can no longer be viewed as mere executors of national agendas for the SDGs but must adopt the role of strategic actors. It is precisely their territorial perspective that allows them to assess and plan solutions more tailored and effective for the specific challenges within each territory.

However, in Latin America and the Caribbean, the distribution of economic resources is not well aligned with fiscal capacity and spending needs, leading to regional inequalities and reducing the efficacy of decentralization. Moreover, research indicates that political decentralization can foster more equitable revenue distribution in well-governed regions, but can exacerbate economic inequalities in poorly managed areas. Consequently, understanding local idiosyncrasies and disparities is essential for the development of inclusive and sustainable policies.

In this context, we must empower, support and adequately finance regional and local governments, as well as communities and authorities at different levels of government. This entails strengthening political decentralization, competencies, and transparency while ensuring accountability to the communities they serve. For this reason, CAF has designed a value proposition around the core objective of enhancing subnational governance in the region based on four key objectives:

- Facilitating the development of institutional and management capabilities.
- Increasing engagement within the Subnational Ecosystem (ESN, for its acronym in Spanish) by advocating for territorial development policies.
- Promoting robust alliances and effective collaboration among stakeholders.
- Generating applied knowledge and fostering the exchange of best practices.

To contribute to the achievement of these objectives, CAF has proposed to double its portfolio for Subnational Ecosystem (ESN) initiatives. We plan to allocate at least one-third of the increased portfolio size to this endeavor. This allocation serves as a pivotal instrument to foster capacity development, which will, in turn, enhance the planning, implementation, monitoring, and review of subnational development strategies. Furthermore, it will facilitate more effective collaboration among public sector entities, the private sector, and various civil organizations.

Within this context, *Laudate Deum* holds significant ethical relevance for the current landscape of Latin American and Caribbean cities. As previously mentioned, our cities have burgeoned within an extractivist development model, resulting in pronounced inequality gaps and environmental challenges. These issues demand immediate action and profound reflection. The words of Pope Francis

advocate for an integral ecology that transcends geographic and social boundaries, emphasizing environmental and social justice within urban development. This underscores the urgent need for a new urban paradigm, one that is greener and more equitable. We aim to promote the prosperity of all citizens by pursuing the creation of inclusive, sustainable, and just cities, where every individual enjoys equal access to opportunities and benefits.

Simultaneously, we must underscore the vital importance of migrants and vulnerable groups. Acknowledging their substantial contributions to the establishment of more equitable societies is crucial. In a context where forced migration due to climate change is an escalating challenge for Latin America and the Caribbean, Pope Francis's exhortation encourages us to regard migrants as active agents in urban development. The cultural diversity and initiative of migrants can enrich our cities and contribute to a more inclusive future.

Furthermore, water security emerges as a fundamental concern. The papal encyclical reminds us of the significance of living in harmony with the natural environment, a perspective that closely aligns with CAF's vision. Promoting nature-based solutions to address water security is imperative to ensure the survival of our cities, food security, and economic sustainability.

## Cities and subnational governments have the capacity to promote new models of urban development that are in harmony with the natural environment.

Preparing local governments to effectively manage urban challenges, while viewing them as strategic and empowered actors capable of addressing the specific issues of their territories, is the linchpin that will allow us to implement our proposals effectively. These proposals are geared towards achieving a new urban paradigm—one that seeks greener, more inclusive, and sustainable cities. This perspective must also place due emphasis on the invaluable contribution of migrants, highlight the importance of water security, and position local governments at the core of action. By embracing this holistic vision, the countries of Latin America and the Caribbean can transition toward more equitable and prosperous urban models at this pivotal juncture in their development.

The spirit guiding our goal of becoming the bank of green and equitable economic growth aligns with the ethos of *Laudate Deum*. It serves as a reminder to live in harmony with nature and to embrace diversity in all its forms, thereby ensuring a brighter and more sustainable future for generations to come ●

Alicia Bárcena Ibarra[1]

# A Consensus on the Need for a New Economic Model to Protect Life on the Planet

> "The urgent challenge to protect our common home includes a concern to bring the whole human family together to seek a sustainable and integral development, for we know that things can change."
> *Laudato Si'*, Pope Francis (2015)

As I write this, the port of Acapulco—one of the most important tourist destinations in my country, Mexico—is facing devastation from Otis, one of the most powerful hurricanes to hit our western shore on record. Otis has left at least 58 dead, affecting thousands of people and causing economic losses of USD 16 billion. The frequency and intensity of hurricanes are only one of the repercussions of climate change and environmental harm to our planet. Time is running out to ensure that the new generations can enjoy Earth as we have. The purpose of this text is to describe the main impacts of the current economic model on the environment in Latin America and the Caribbean (LAC). Besides exploring a promising consensus between the main schools of thought today, I will describe some of the steps Mexico is taking to create a fairer and more equal world.

## Climate Change Wreaks Havoc on Latin America and the Caribbean

The situation is more severe than we are willing to admit. A report published in the journal *Nature Climate Change* revealed that 85% of the world population has experienced weather events made worse by climate change. No country has been spared. Although LAC countries contribute approximately 10% of global emissions, the region's economies, sectors, infrastructures, and population disproportionately suffer the adverse effects of climate change. In August 2021, a report by the World Meteorological Organization (WMO) noted that LAC is currently the region most impacted by this phenomenon. Events attributed to climate change have claimed over 312,000 lives and affected more than 277 million people in the region since 1998. According to the WMO report, 2020 was one of the three hottest years LAC has ever experienced: in Central America, the temperature

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was 1°C higher than any year in the past four decades; in the Caribbean, it was 0.8°C higher; and in South America, 0.6°C. The glaciers along the Andes of Chile and Argentina continue to shrink while the Caribbean is experiencing reduced precipitation and sea levels rising more than other places in the world. Between 1993 and 2020, Caribbean Sea levels rose 3.6mm per year, while the world average was 3.3mm. Besides the rising oceans, hotter sea temperatures have particularly affected the continent shelf in Uruguay, the south of Brazil, and the north of Argentina.

Besides climbing temperatures, another major consequence of climate change is environmental degradation. According to the IDB, between 2015 and 2020, South America lost nearly 3 million hectares of forests per year, the second-highest total for any world region. In 2020, the Southern Amazonia and the Pantanal regions (Bolivia, Brazil, and Paraguay) suffered the worst wildfires and droughts in the past 50 years. In terms of the intensity and frequency of weather and geophysical events, a record number of storms hit the Atlantic in 2020. Eta and Iota, both category 4 hurricanes, affected more than eight million people and damaged over 900,000 hectares in Honduras, Guatemala, and Nicaragua. While climate change and environmental degradation can be seen in the different areas described above, the human dimension is the most sensitive one of all. Between 1998 and 2020, the rise in the intensity of climate-related events caused the deaths of over 300,000 people, with a particular impact on the most vulnerable populations: women, minors, and the lowest earners. According to the Economic Commission for Latin America and the Caribbean (ECLAC), women and children are 14 times more likely than men to die during a natural disaster. Women, especially those who live in the countryside, will be the population hardest hit by global warming.

Besides this calamity, LAC continues to suffer from structural issues like sluggish investment, low productivity, informality, poverty, and inequality. Many of the LAC economies depend on sectors extremely sensitive to weather, like farming. By 2050, Central America and the Caribbean are expected to see a 20% drop in the yield of crops like beans and corn. Climate change not only diminishes water resources and biodiversity but also erodes food security and nutrition in the region, thus affecting the health of the population. Rising temperatures will increase the risk of heat-related deaths and cause outbreaks of climate-sensitive diseases such as dengue, malaria, and cholera. At the same time, these diseases impact the economic, cultural, environmental, physical, and social fabric, which in turn fosters the migration of millions of people, both within their countries and abroad. If these trends continue, an estimated 30 million people could decide to migrate from Central America to the United States by 2050 as a result of food insecurity caused by the climate crisis. This significantly limits the potential for well-being and development across the region. The measures urgently needed to address climate change and its effects will prove insufficient unless we change the economic model that produces them.

## The Consensus between the Left, the Catholic Church, and Science

Since the time of Karl Marx and Friedrich Engels, texts on capitalism have underscored the incompatibility of systems of production and the environment. This is because as an economic mode, capitalism is based on the incessant accumulation of capital, which leads to the similarly incessant exploitation of natural and human resources. However, an additional factor determines the relationship between capitalism and the environment: both legally and in practice, manufacturers pass on the negative outputs of their production to nations and their populations. In other words, instead of taking responsibility for the repercussions of their capital accumulation and footing the related costs, they make them public. By leveraging their economic power, manufacturers exercise influence over governments, avoiding regulations or efficiently limiting the activities that foster climate change.

Thinkers on the left have also noted important differences in the role that manufacturers play in environmental degradation under the capitalist system by comparing their environmental footprints. The manufacturers at the core of the capitalist center—the countries referred to as "industrialized" or "developed"—have notably larger footprints than those on the semi-periphery or periphery (the "least industrialized" or "developing" countries). Based on these inequalities, "historical responsibility" for climate change and "climate justice" are two concepts pointing to the need for a fairer global distribution of emissions and the effects of economic activities. Article 4 of the Framework Convention on Climate Change establishes that all countries are responsible for the impact of greenhouse gases on the environment but that only developed countries should be obliged to accept binding commitments on quantifiable reductions.

## The efforts to reduce climate change and combat poverty do not conflict with one another; environmental and social crises are two sides of the same coin.

The left considers that, like any system in history, capitalism has a clear beginning, trajectory, and necessarily, an end. The signs of the disintegration of the current capitalist system are unquestionable and stem from the system's own structural tensions. In other words, it is inevitably undergoing a transformation. The situation we've reached is producing a profound change in the way in which humans relate both to one another and to the environment, especially among those of us who are convinced that we can actively work to ensure this transition leads to a fairer, healthier system that is more amicable to the environment and life on the planet.

On the other hand, the Catholic Church is closely following major world transformations like climate change. In *Centesimus Annus*, a 1991 encyclical letter that largely reflects the church's social doctrine, Pope John Paul II explained the connection between natural and human ecologies and asked people to cooperate with God to enable the environment to flourish. Pope Benedict XVI returned to some of these concepts and expanded on them in his encyclical, *Caritas in veritate*, in 2009. More recently, Pope Francis has taken on climate change as one of the core themes of his popehood. In May 2015, he published *Laudate si'*, an encyclical focused on caring for "our common home" that emphasizes the relationship between God, human beings, and Earth. The document underlines the solid scientific consensus on climate change and attributes global warming mainly to human activity. Here the Pope argues that efforts to mitigate global warming have fallen short because those who have the resources work to cover up the problem.

He also notes how climate change will lead to a rising number of people who leave their homes and migrate and beseeches the international community to welcome and support these environmental refugees. Environmental and social crises are one and the same, says Pope Francis, noting that efforts to reduce climate change and combat poverty are not incompatible. In terms of material progress, he calls on rich countries to take the initiative to reduce their emissions and provide the funds for developing countries that seek to do the same. More recently, in 2023, Pope Francis published *Laudate Deum*, an apostolic exhortation in which he calls on the United Nations to take decisive steps to stop climate change. In this text, he criticizes countries that have disproportionately contributed to environmental degradation, arguing that governments that do not participate in the shared global effort should be ashamed of the decisions that lay waste to our common home. The notion that the problems of the future will be able to be solved by new technical interventions is "homicidal pragmatism," in Pope Francis's view, leading him to call for a change in the lifestyle connected to the Western model.

There is a third sphere, that of science, whose method is characterized by rationality and infallibility. Since the publication of The Limits to Growth, a report that the Massachusetts Institute of Technology drafted for the Club of Rome, there has been an increasing amount of research on the consequences of economic growth and the exploitation of natural resources on the planet. There is not a strong consensus in the scientific community that human activity is the main cause of global warming and climate change—mainly due to the rise in carbon dioxide in the atmosphere that stems from burning fossil fuels. The report underlines the authority of the United Nations Intergovernmental Panel on Climate Change (IPCC), founded in 1988 by the World Meteorological Organization and the United Nations Environment Program. From the panel's first publications, it has reiterated that the changes in our climate, many of which are semi-permanent or permanent, have no precedent in the past few millennia.

Published in March 2023, the IPCC Sixth Assessment Report includes 234 studies on the physical science of climate change; 270 on climate change effects, vulnerability, and adaptation; and 278 more on the possibilities of mitigating climate change. Over nearly 8,000 pages, the report notes an increase in global temperatures of 1.1°C caused by human activity. It mentions that an additional rise of 0.5°C will increase the frequency of extreme heat, torrential rainfall, and regional droughts. The rise in global temperatures will bring us to dangerous tipping points in the climate system. According to the IPCC, the effects of climate change on people and ecosystems are so much more widespread and severe than predicted that limiting the rise in global temperatures to 1.5°C—a point we will reach sometime between 2021 and 2040—will be insufficient. According to the report, the measures most countries are taking to adapt to climate change are relatively limited, reactive, and centered on the short term. The world must move away from burning fossil fuels, the main cause of climate change. Around 80% of global emissions come from the energy, industry, and transport sectors, while the remaining 20% stems from agriculture, forestry and other land use (AFOLU). The report states that climate change, and efforts to mitigate it, will bring even greater inequality worldwide unless a fair transition is guaranteed.

## Mexico's Proposals

A calling for justice and equality is in Mexico's DNA as seen in four major transformations in our history: Mexican Independence (1810–1821), the Reform War (1858–1861), the Revolution (1910–1917), and currently, the Fourth Transformation. This final one is the response of Mexico's millenary culture to decades of neoliberal policies and the resulting proletarianization of the country. Through a revolution of consciousness, it seeks to move from oppression to a fraternal society. The current administration aims to improve the lives of the majority, especially those in need. Its economic plan is forced on fair progress and equal income distribution. Based on this proposal, Mexico firmly believes that equality is a necessary starting point for social sustainability. At the international level, Mexico is working at the global level to ensure: 1) ambitious, socially responsible actions based on science that consider the most vulnerable populations; 2) greater access to fair, balanced, transparent climate financing for developing countries; 3) the incorporation of loss and damage to the climate agenda; and 4) increased adaptive capacity, stronger resilience, reduced vulnerability to climate change, and a reduction in inequality gaps.

As a result, Mexico has been a vocal participant in the Global Stocktake of the Paris Accord, emphasizing the need to abandon discourse for action, starting with financial contributions to increase climate investment. Mexico is working to meet its nationally determined contributions (NDCs) agreed to in the framework of the 27th Conference of the Parties (COP27) of the United Nations Framework Convention on Climate Change. There Mexico agreed to a 35% reduction

in its greenhouse gas emission by 2030 (a 40% conditional reduction), compared to the 22% reduction established previously (in respect to baseline). In addition, Mexico's unconditional and conditional targets for reduction in black carbon emissions by 2030 remain at 51% and 70%, respectively. Mexico has prioritized the Escazú Agreement and established the Escazú National Group to achieve this.

From 2019 to 2023, Mexico held the presidency of the UN-Habitat Assembly, combining efforts from different social sectors to meet the Sustainable Development Goals (SDGs) and implement the New Urban Agenda. As part of its tenure, Mexico fostered the development of intelligent and inclusive cities, prioritizing equality, economic prosperity, and awareness of climate change. Based on these outcomes and Mexico's strong leadership, its presidency has been extended for two more years, until 2025. In September 2023, Mexico participated in the 2023 SDG Summit for the 2030 Agenda at the 78th session of the United Nations General Assembly. With regard to Sustainable Development Goals, Mexico is one of only 15 countries worldwide that has presented three or more voluntary national reviews.

In 2023, during the UN 2023 Water Conference, Mexico presented two federal commitments to strengthen sustainable water management and sanitation. In September 2023, Mexico became one of the first ten countries worldwide to sign an agreement and referendum under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction (the BBNJ treaty). Mexico has also launched the fund for climate change adaptation and resilience for Latin America and the Caribbean, which it presented to the Community of Latin American and Caribbean States (CELAC) to implement climate change mitigation and adaptation projects in the region. In terms of its foreign policy, Mexico is also prioritizing biodiversity protection, desertification, clean energies and green hydrogen, plastics, and the circular economy.

## An Urgent Imperative to Save Life

Just 70 years ago, who would have thought that the left, the Catholic Church, and the scientific community would have built such a solid consensus, given that these three groups have been at odds with one another historically? The need to preserve and guarantee the viability of life on the planet has created a consensus among an increasing number of communities, schools of thought, and diverse groups: human action within the current economic system is the primary driver of climate change and environmental devastation. Together, these groups are joining forces to demand the transition to a new model. These values have always brought us together and are now more important than ever.

As Pope Francis reminds us in his encyclical letter from 2015, "We have grown up thinking that we were her owners (Earth) and dominators, authorized to loot her." He then continues, "Yet 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, despite their mental and social conditioning." If consumerism plunges on in its current form, we are likely to see more tragic and devastating images like those in the state of Guerrero. No country or institution can confront a global problem through domestic efforts alone. A paradigm change is needed, one that brings together nations, science, and the power of faith

Pablo Bartol[1]

# Toward a Shared Responsibility: New Models of Social and Human Development for a New Response to the Climate Crisis

Latin America and the Caribbean (LAC) is one of the most susceptible regions in the world to the impacts of climate change. Over 169 million children live in areas exposed to at least two adverse climatic or environmental events yearly, including hurricanes, heatwaves, water scarcity, environmental pollution, and vector-borne diseases.[2] The climate crisis directly affects children's rights. At the same time, it poses a direct threat to the survival, growth, and development of all children and adolescents in the region. The youngest children are at even greater risk, as evidenced by the fact that 90% of vector-borne diseases related to climate change affect children under five years old.[3]

From the Social and Human Development Management of CAF – Development Bank of Latin America and the Caribbean, we echo Pope Francis's call, working hard with the region's governments, not only to combat and mitigate the social effects of climate change but to bet on cultural transformation through sustained investment in education, health, and social protection. The goal is to provide Latin American children and youth with the tools and opportunities offered by 21st-century skills to face the new world of multiple changes, overlapping crises, and high uncertainty.

We channel this through two mechanisms.

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2 UNICEF (2021). The Climate Crisis is a Child Rights Crisis.
3 Ibid.

The first is the design of policies to achieve capillarity in the execution of resources, which allows us to accompany governments in accessing the most remote areas, where, for example, victims of climatic inclemencies or those living in flooded rural areas are located. An example of this is CAF's technical cooperation at the Los Brazos ethno-educational institution in Timbiquí, Colombia, where we're financing the expansion of classrooms and the improvement of environmental conditions so that more students from the municipality and surrounding areas can access quality education.

The second is the identification and planning of specific tools that enable communities to anticipate possible inconveniences in accessing education, health, and social protection. An exemplary case is the identification systems we carry out in our member countries to drive policies to support governments, based on the needs of each moment. In this line is the recent financing of USD 50 million for the Argentine government's Acceso al Agua, Saneamiento y la Higiene en Zonas Rurales Dispersas program [Access to Water, Sanitation, and Hygiene in Dispersed Rural Areas]. It aims to reduce the historical gaps in access to essential services between urban center populations and the most isolated rural communities in the country. The first phase of the program includes field surveys to determine the real conditions of access to water, sanitation, and hygiene, in terms of infrastructure and social practices.

## Children, youth, and adolescents worldwide are the best bet for creating a new development paradigm

The new climate crisis requires a new model of human development. In a world increasingly impacted by climate change and environmental degradation, the call to rethink humanity's role becomes more urgent than ever. Pope Francis invites us to reflect on this imperative by starting with the acceptance of climate change as an anthropogenic phenomenon that is, caused, perpetuated, and sustained by human activity. At the beginning of his exhortation, the Pope presents us with the first pillar of the new development paradigm: taking responsibility for our actions.

The current technocratic model, where large economic powers are only interested in the highest return at the lowest cost, alienates their responsibility for environmental impact, increasingly harming the lives of many families in areas such as health, employment, access to resources, housing, forced migrations, among many others. "This is a global social issue and one intimately related to the dignity of human life" (LD,3).

## Analyzing the opportunities and threats of technology in the educational process, based on evidence, is key to closing development gaps.

With this reflection in mind, it is important to understand that, while the effects of the climate crisis affect us all, they do not do so in the same way in all cases. The most vulnerable populations are those where the effects of climate change are most atrocious. And it is from this perspective of gaps, whether geographical, income, ethnic-racial, gender or any other, that CAF understands and approaches every social action project. Recognizing the unequal effects in the face of major crises, focusing policy on the most vulnerable, and acknowledging the differentiated effects in public policy interventions, are ways that our institution takes responsibility for its actions and contributes to social sustainability.

As a multilateral bank, it is pertinent to question ourselves about the role of education in the face of the climate change crisis. Given the immensity and complexity of the crisis, how can we generate change through education?

In the field of education, there are two fundamental schools of thought in response to climate change: climate education and education for change or resilient education. The prevalent approach at the beginning of the mid-20th century was to think of education as an agent of change through climate literacy.[4] This involves implementing actions to incorporate environment-related subjects into school curriculums to strengthen education at the primary and secondary levels. This school of thought is based on the premise of an informational and teaching deficit in natural sciences. It is based on the idea that as students acquire information about climate change, they will change their attitudes and behaviors regarding their relationship with nature and the environment. In this way, they will act as rational subjects in adopting decisions favorable to the environment and, subsequently, as they join the labor force. This approach is now called green education and is recognized as one of the necessary skills to face the 21st century, which we are promoting as one of our central action axes.

The second approach has to do with change: Educating for the world to come. It involves preparing children, youth, and adolescents for the various changes to come, in the change to correct climatic imbalances, change for adaptation, social change, and human change. This strand—called resilient education—is based on providing socio-emotional tools to face adversities, understand them, assume them as a source of learning, and for the possibility of change. Resilient education not only has profound implications in teaching but is also understood and applied in the context of the entire educational system. In this regard, we support our member countries to take the necessary resilience measures to avoid discontinuity in learning due to climatic events such as the COVID-19 pandemic in 2020.

## Resilient education indicates that there are no individual solutions and that solutions are necessarily communal

The second pillar offered by the encyclical *Laudate Deum* for proposing a new human development paradigm revolves around humanity's relationship with technology. The technocratic bet has equated technical-technological development with progress and development. These significant material advancements represent a wager to evade environmental limits and to constantly offer us hope that the current model will always find within itself the means to survive and perpetuate. In other words, this technological bet is a tautology, an argument that is both premise and conclusion at the same time and does not accept new conceptions that contradict it. The climate crisis offers us a mirror for reflection to refute this argument.

Technological progress has not been accompanied by its more human side but has been accompanied only by economic growth. Technology as a tool has undoubtedly served as a vehicle for great progress, but in the face of environmental deterioration, the adjustments for change have to be deeper and through other means. We cannot expect that technological change alone will rescue us from this crisis.

The new social paradigm proposed by Pope Francis rescues humanity in its consciousness of the environment and others. It is the understanding that economic growth is a necessary condition, but not sufficient, for development insofar as it is accompanied by institutional mechanisms for

4 Dupigny-Giroux, Lesley Ann (2017), "Climate Literacy", in Douglas Richardson, Noel Castree, Michael Goodchild, Audrey Kobayashi, Weidong Liu y Richard Marston (eds.), The International Encyclopedia of Geography, John Wiley & Sons, pp. 1-5. DOI: https://doi.org/10.1002/9781118786352.wbieg0214

redistribution and the provision of basic social protection systems for the full exercise of rights. It is that mindset that addresses the inequality gaps that development models entail. It is the paradigm that takes responsibility for the damage of resource extraction and understands that "everything is connected" and "no one is saved alone" (LD,19)

In this regard, our institutional commitment is to understand and use technology to close gaps for children and youth in the region. For example, the arrival of the COVID-19 pandemic in early 2020 posed a significant challenge to LAC's governments: how to respond immediately to the need to maintain educational services and ensure the continuity of health coverage amid social distancing measures.

In this situation, digital technologies played a crucial role by becoming facilitators of teaching and learning processes, but also by becoming a fundamental element for the development of medical consultations outside of COVID-19 emergencies. An example of this digitalization work is what we carried out in El Salvador, where we developed a Telemedicine system to guarantee universal access to primary health care. This program includes everything from telephone follow-up to the development of applications to cover the care of all the inhabitants of the country, from urban to the most peripheral areas.

Technology is not a panacea or a magical solution, as it can, for example, expand access to lifelong education, but it can also be a source of exclusion. On the one hand, it can improve learning, but its inappropriate or excessive use can have negative effects. Its rapid technological advancement can make it difficult for educational systems to adapt, for teacher training, and to generate solid evidence about its impact. Despite the growth of available digital content, careful selection and efficient regulation are required so that they are suitable for different contexts and accessible to everyone. Therefore, it is essential to consider the long-term costs when adopting technology in education. Thus, technology offers opportunities, but its positive impact on improving educational outcomes depends largely on a comprehensive and human approach that addresses all involved dimensions coherently and, especially, places the child at the center of policy.

## The Strategic Importance of Edtech

In education, ensuring that all schools have access to connectivity and digital educational solutions is a necessary requirement, although not sufficient, to advance the use of technology as a learning tool. These digital educational solutions, known as Edtech, encompass a wide variety of tools specifically designed for education. It is essential that these solutions align with learning objectives and the curriculum, i.e., imbuing the use of technology with human and social values.

As the supply of digital educational solutions grows exponentially, it is crucial to carefully select and curate content to adapt them to the curriculum. This involves considering aspects such as scalability, costs, involved disciplines, the ability to measure learning, and inclusion in various contexts, both for students and school conditions. Technology-based solutions do not materialize immediately. They are determined by several factors, including the ability of teachers, administrators, and school staff to effectively incorporate these solutions into educational practices. This highlights the importance of investing in initial and ongoing training, as well as planned and constant support to facilitate their incorporation into classrooms. It is also crucial to strengthen the capacities of technical, pedagogical, technological, and administrative management teams, including their skills and competencies for the development and monitoring of Edtech solutions.[5]

5 https://www.caf.com/es/conocimiento/visiones/2023/08/transformacion-digital-en-la-educacion-oportunidades-desafios-y-claves-para-avanzar/

*Laudate Deum* invites us to reflect on the role of technology, making it very pertinent to ask what the key elements are to achieve a positive impact of technology on educational outcomes. CAF's Educational Agenda proposes a comprehensive approach, with a clear vision and a set of actions to address the multiple barriers affecting the adoption and technological access across LAC's entire educational community.[6] This requires aligning resources, involving key actors, developing effective policies, and offering incentives.

Rigorous monitoring and evaluation are crucial, especially regarding the use and appropriation of technology in classrooms. The sustainable implementation of technology in education requires long-term public policies that guarantee the coverage and quality of technological infrastructure, the adoption and development of content, as well as the training and continuous support of teachers. This implies intersectoral coordination and ensuring the necessary financial, economic, and human capital resources for its sustainability.

From an institutional perspective, prioritizing the use of diagnostic tools to assess the state of connectivity, its adoption, and the use of devices is crucial. Additionally, focus should be placed on student data protection and security, programs for the inclusion of technologies, development of skills, metrics, and content, as well as training and support for teachers and information systems. Moreover, roadmaps that identify critical steps and the sequence to follow in each of these dimensions need to be created. They should be based on successful experiences from other countries, to progressively advance to a higher level. As an institution of integral human development, we believe that technology can close inequality gaps.

Lastly, in *Laudate Deum*, Pope Francis makes us think about our common home and our heritage, "responsibility for the legacy we will leave behind, once we pass from this world" (LD,18). This third pillar of sustainability leads us to think about the legacy of CAF as a development bank and its role in the lives of children. Here we want to present our long-term commitment, our actions, and our strategy for comprehensive care for early childhood. This strategy starts with recognizing that the early years of life have a significant impact in terms of investment in policies and programs aimed at children, in enhancing individual development, and in advancing toward a more equitable and prosperous society where no one is left behind. Investing in early childhood is not only an ethical mandate but also the most effective and lasting investment.

Social systems and services must have appropriate, equitable, and high-quality funding. Particularly, learning and education in early childhood are essential elements within the services that make up the support of "caring and sensitive care" for children. By promoting experiences from an early age that foster an understanding and appreciation of our interconnection with ecosystems, we can cultivate a generation that lives in greater harmony with nature and environmental resources.

Our vision is guided by the principles of the Convention on the Rights of the Child and supports the 2030 Agenda for Sustainable Development. Early childhood development programs focus on children's rights and equity, including the adoption of a gender perspective. In addition, they are adapted to specific circumstances and are evidence-based. All this is aimed at sustainably improving the survival, growth, and development of all children from their early years, even in fragile and humanitarian contexts.

Therefore, it is essential to consistently integrate early childhood into programs and strategies for sustainable development and climate change education. By doing so, we not only increase the chances of survival and healthy development from the early years of life but also build, both individually and collectively, the resilience needed to face challenges and recover from them ●

6 Ibid..

Ana María Baiardi[1]

# Environmental Care from a Gender and Diversity Perspective

> "The existence of laws and regulations is insufficient in the long run to curb bad conduct, even when effective means of enforcement are present. If the laws are to bring about significant, long-lasting effects, the majority of the members of society must be adequately motivated to accept them, and personally transformed to respond." (*Laudato Si'*, 2015)

Climate change affects women and girls differently from men and boys. It is not that they are biologically more vulnerable to a heat wave or a drought, but rather that the consequences of a social phenomenon or a weather event—like a geopolitical, economic, or public health event—are not the same for everyone. They vary with the position and situation of subjects within a society. Like individuals with higher or lower socioeconomic levels, people of color or white people, and those living with or not living with disability, women and men occupy different positions on the social hierarchy. Women's ability to exercise their rights is subject to limitations, and women are assigned a certain set of roles and tasks. Those pre-existing sociocultural conditions are what make women more vulnerable to the effects of climate change.

The examples of this are countless. Care tasks (procuring clean water, food, shelter, among so many others) fall mostly on women, and climate change means that performing those tasks takes more and more time and effort. That, in turn, means women have less time to generate income, get an education, or even meet their own needs. At the same time, the sexual division of labor leaves them particularly exposed to extreme weather events and natural disasters. Because women spend more time in their homes than men, their exposure to insect-borne diseases and the organophosphates used in fumigation is greater. When disaster strikes, women often stay behind, tending to the children and older adults under their care. That is why they are up to ten times as likely as men to die in the context of environmental disasters. In the recovery phase, women are even more vulnerable than usual to gender and sexual violence and child marriage.

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At the same, women's historical position and status provide them with great potential to adapt to and mitigate climate change and its effects. Women interact with natural resources and ecosystems on a daily basis. They are the holders of vast knowledge that ranges from the use of medicinal plants to the domestication and storage of seeds, from tending crops in the face of changing conditions to familiarity with territories and escape routes in case of floods or other disasters. Indeed, rural and Indigenous women bear knowledge as important as it is ignored historically. We at CAF believe the time has come to tap into that potential in order to ensure women's access to natural, technical, and economic resources, as well as their participation and representation in every phase and space of decision making.

Those who design and implement public policy are increasingly aware that women can contribute different visions and knowledge when it comes to climate action. But for the relationship between policymakers and communities of women to be useful, it must be reciprocal and sustained over time. Indeed, including groups of women in the development of climate policy often ends up increasing their burden. They are made responsible for the protection of the environment but not afforded the resources required to do so.

CAF – Development Bank of Latin America and the Caribbean recognizes that existing legislation on gender and diversity is not, in and of itself, capable of effecting change. That said, it is an essential prerequisite for that change to happen. To guarantee that its actions on climate change from a gender and diversity perspective are transversal to all the bank's divisions, we look to our ten environmental and social safeguards, which are aligned with relevant international agreements like the United Nations Declaration on the Rights of Indigenous Peoples, the Paris Agreement, and ILO Convention 169. Those agreements recognize the rights of Indigenous peoples in the fight against climate change, support Indigenous access to property and control of their lands, and encourage the participation of women in the definition of climate policies.

In keeping with those norms, the CAF Environmental and Social Safeguards recognize the rights of Indigenous people and women through a consultation-request process that entails prior, free, and informed consent; impact assessment; and support for sustainable development. The Safeguards underscore the importance of participation on the part of Indigenous communities and women in all project phases to ensure social and environmental responsibility and respect for the rights of all human groups.

Without actions that actively seek to increase women's leadership, autonomy, and influence on decision making, women's obligations—or what is seen as their obligations—multiply and their actual contributions diminish. Without empowerment, development is not sustainable and, hence, it ceases to be development. As a green bank, CAF has embraced the responsibility of supporting actions that tend toward social and environmental justice. We must prevent climate change from increasing the violations and risks faced by women and girls. We must bring them into our interventions as visionaries, as agents of change, and as providers of innovative solutions.

## Inequality, Invisibilization, and Resistence

> A healthy approach to the value of hard work, the development of one's native abilities and a praiseworthy spirit of initiative is one thing, but if one does not seek a genuine equality of opportunity, "meritocracy" can easily become a screen that further consolidates the privileges of a few with great power.
> *Laudate Deum*, 2023

According to the most recent census information available, the total number of Indigenous people in Latin America and the Caribbean is around 42 million, or almost 8% of the region's total population. Mexico, Guatemala, Peru, and Bolivia are the countries with the largest Indigenous populations—almost 80% of the region's entire

Indigenous population. Almost half (49%) of that population lives in urban areas pursuant to migratory processes (World Bank, *Indigenous Latin America in the Twenty-First Century*).

The number of Indigenous women is hard to determine since few countries in the region produce statistics disaggregated by gender or ethnicity. That said, an estimate based on census rounds for 2000 and 2010 suggests that there are at least 23.5 million Indigenous women in the region. The lack of both adequate instruments and political will to break down data means that the statistics themselves participate in the invisibilization of ethnic groups and Indigenous women in particular. Gender studies have also failed to sufficiently support the production of knowledge on the inequalities experienced by these groups of women. As a result, decision making in the realm of public policy is exclusive or, at best, blind (ECLAC, Indigenous women in Latin America - Demographic and social dynamics in the human rights framework, 2013).

## Los efectos del cambio climático tienen un impacto mayor sobre las mujeres y los pueblos indígenas de América Latina y el Caribe.

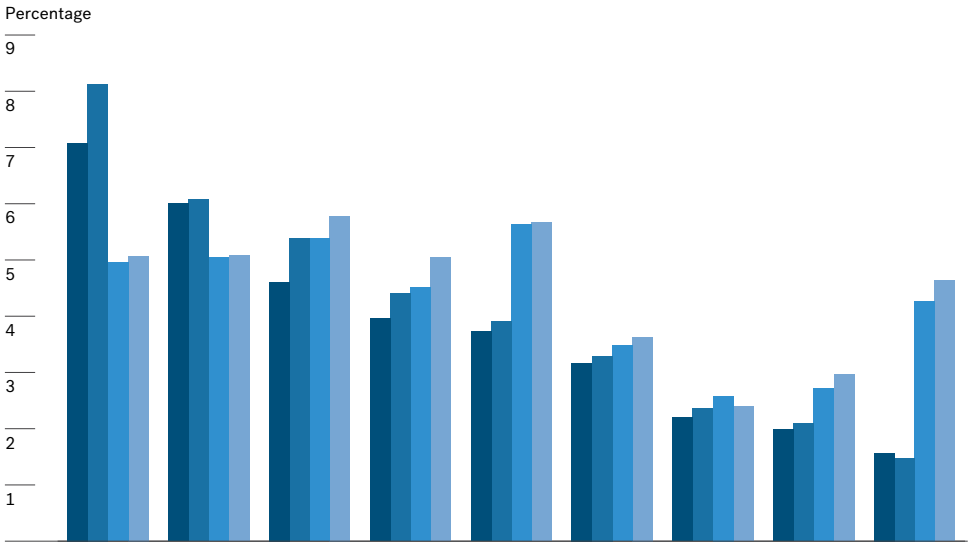
The limited information that is available indicates that in Latin American countries with a significant Indigenous presence two-thirds of rural Indigenous women work in agriculture, constituting half of all the women who work in that sector (Calla, 2006). Indigenous lands make up 22% of the Earth's surface but hold almost 80% of the planet's biodiversity—evidence of the close tie between ethnic groups, and Indigenous women in particular, and their territories and natural resources. Indigenous communities' traditional lifestyles and agricultural practices have enabled them to develop strategies resistant to climate change as well as water-management techniques in response to droughts and irregular rainfall.

Those traditional practices crucial to the well-being not only of Indigenous women but of humanity as a whole are, notwithstanding, more and more threatened by deforestation, extractivism, the privatization of resources, and natural disasters, which themselves are exacerbated by climate change. Also at risk is food security and the sustainability of ecosystems.

Historically, the more intensely ethnic groups and Indigenous women in particular are involved in agricultural activity in a given area, the greater their integration into the market and labor force. But Indigenous women are at a significant disadvantage in the labor market compared to men and non-Indigenous women.

In Latin America as a whole, women's salaries are 17% lower than men's. If an ethnic-racial factor is added, that gap widens to as much as 28% (Gallardo and Nopo, 2009). Given the precarious conditions and lack of employment opportunities, among other factors, Indigenous women are less likely to migrate to urban areas than their male counterparts. This is demonstrated in the following graphs:

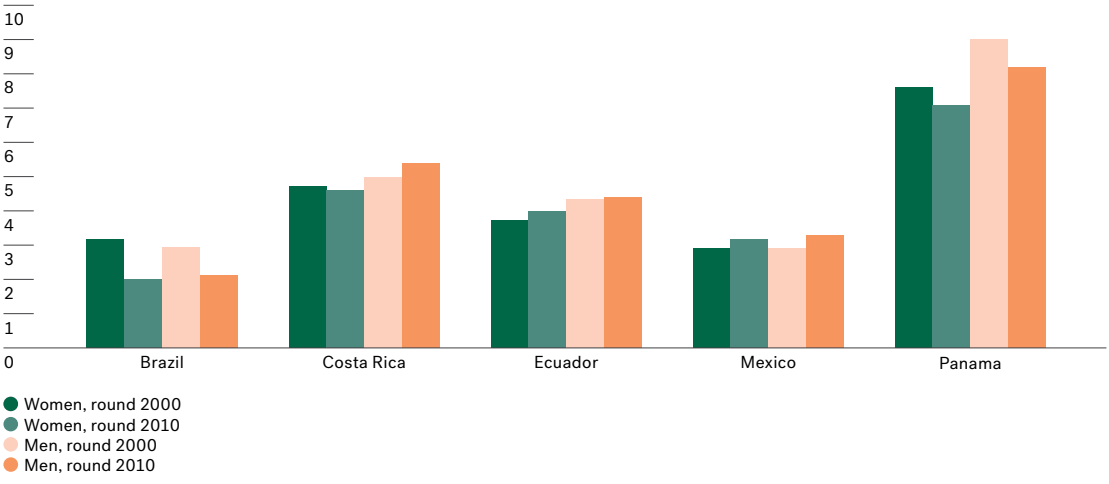
**Latin America (9 countries): Percentage of domestic migrants between major administrative divisions in the 5 years prior to the census by ethnicity and sex, around 2010**




| | Panama 2010 | Uruguay 2011 | Costa Rica 2011 | Ecuador 2010 | Peru 2007 | Mexico 2010 | Nicaragua 2005 | Brazil 2010 | Colombia 2005 |
|---|---|---|---|---|---|---|---|---|---|
| Indigenous women | 7.08 | 6.00 | 4.61 | 3.96 | 3.73 | 3.17 | 2.20 | 1.98 | 1.57 |
| Indigenous men | 8.13 | 6.08 | 5.38 | 4.40 | 3.91 | 3.29 | 2.36 | 2.09 | 1.48 |
| Non-indigenous women | 4.96 | 5.04 | 5.38 | 4.51 | 5.63 | 3.48 | 2.58 | 2.72 | 4.27 |
| Non-indigenous men | 5.07 | 5.08 | 5.78 | 5.04 | 5.67 | 3.63 | 2.40 | 2.96 | 4.63 |

**Source:** Author, special processing of census microdata (ECLAC/CELADE)

**Latin America (5 countries): Percentage of Indigenous domestic migrants between major administrative divisions in the 5 years prior to the census by sex, census for the 2000s and the 2010s**




**Source:** Author, special processing of census microdata (ECLAC/CELADE)

When ethnic groups, and Indigenous women in particular, migrate to the city, the quality of their lives and living conditions do not necessarily improve. They are subject to systemic intersectional exclusion because of less access to education, gender and ethnic-racial discrimination, and habitation of the outskirts of the city with inadequate infrastructure and poor access to basic services.

When the women stay behind and the men in the community migrate, women's productive and reproductive workload increases still more. They have less time to participate in community activities where decisions are made.[2]

The high degree of vulnerability among Indigenous women is due to their dependence on local resources and their limited access to land ownership, potable water, and other natural resources. For all of these reasons, Indigenous women are often relegated to the margins of development projects. They often have to fight for participation in those projects and negotiate access to the benefits they yield.

## Indigenous Women: Disputes and Agency

> In an attempt to simplify reality, there are those who would place responsibility on the poor, since they have many children, and even attempt to resolve the problem by mutilating women in less developed countries. As usual, it would seem that everything is the fault of the poor. Yet the reality is that a low, richer percentage of the planet contaminates more than the poorest 50% of the total world population, and that per capita emissions of the richer countries are much greater than those of the poorer ones.[3]

In a context where extractivist projects and climate change have affected Indigenous people's cultural identity, basic land rights, and food and water sovereignty, they have had to develop an array of adaptation and mitigation strategies. Indigenous women have wasted no time in jumping into action in response to the threats to the land and natural resources. They are at the forefront of the defense of their territories, resisting deforestation, mining, and other threats.

Through its Gender, Inclusion, and Diversity Division, the CAF has formulated a series of strategies to empower women. It has proposed lines of action to support the region's governments in efforts to include an ethnic-racial perspective on the census and household surveys. A multilateral institution, CAF has proposed strengthening the creative and cultural economy envisioned as a tool for the social and economic development of Indigenous women.

The inclusion of Indigenous peoples and Indigenous women in particular in decisions regarding climate change policies and projects is as essential as integrating their unique perspective in the implementation of climate measures.

"Failure to mainstream traditional knowledge into the design and implementation of climate-change-mitigation strategies risks undermining the livelihoods and resilience of Indigenous peoples and weakening customary rights to their lands and natural resources."[4]

2 Radcliffe Sara, "Gender and Ethnicity as Barriers for Development: Indigenous Women, Access to Resources in Ecuador with a Latin American Perspective," 2014.
3 See United Nations Environment Program, The Emissions Gap Report 2022. https://www.unep.org/resources/emissions-gap-report-2022.
4 WIPO, https://www.wipo.int/wipo_magazine/es/2020/01/article_0007.html

## Responses to the Impact of Climate Change from a Gender and Diversity Perspective

It was in the nineteen-seventies that the world began to become aware of the impacts of climate change and environmental degradation. In 1972, the Club of Rome published "The Limits to Growth," where it warned that the world was reaching the limits of its carrying capacity. That report was a watershed in awareness of sustainability issues.

In the 1980s, the concept of "sustainable development"—the basis for CAF's 2020–2025 corporate strategy—began gaining traction. Central to the definition of sustainable development is "meeting the needs of the present without compromising the ability of future generations to meet their own need." That definition recognizes the interconnectivity of natural and social systems. Sustainability is only possible with a holistic approach that considers environmental, social, and economic dimensions, preventing one from working against the others.

In the nineteen-nineties, the notion of the sustainability of life ushered in a new paradigm that dialogued with incipient ecofeminism. Authors like Yayo Herrero, Maria Mies, Vandana Shiva, Silvia Federici, Marta Lamas, and Olga Grau upheld the need to focus on life itself. The life of the planet's ecosystems and the life of persons should be considered on equal terms, neither one held above the other. Implicit to that is fighting gender inequality and an understanding of care as a public policy issue.

Excessive responsibility for care is a major problem for women and economies. It prevents women from becoming full participants in productive and social activities and has a negative impact on their health and well-being. Women, as primary caregivers, are responsible for a great deal of early socialization; they are largely the ones who convey the value of taking care of the environment. Finally, because care tasks are often invisibilized, their environmental impact goes unassessed. In sum, if reproductive labor continues to be ignored or undervalued and if it is distributed inequitably between the sexes and between families and states, an enormous potential for economic and environmental transformation remains untapped.

## Green Projects with a Gender, Inclusion, and Diversity Focus

In response to the climate-related challenges humanity faces, it is, as Pope Francis points out in his recent exhortation, important to integrate populations "from below," considering the demands, needs, and contributions of all people. In the same vein, CAF calls for greater regional inclusion and integration. We must wake up to the conservation agenda and a sustainable administration of the region's biodiversity before it is too late.

On that basis, the bank's Gender, Inclusion, and Diversity Division has worked to incorporate gender and ethnic perspectives into its environmental and climate operations. Projects like the "Sanitation and Water from e Diversity and Gender Approach – MAATE" in Ecuador, the program to support improved management and preservation of the jungle in Misiones, Argentina, the "Friendly Cattle Production Framework for the Darien Region" in Panama, and "Support of the Low-Emissions Transportation Strategy" in Chile represent the growing involvement of local communities and women in CAF initiatives.

Other initiatives to which these perspectives are fundamental include the "Climate-smart initiatives for climate change adaptation and sustainability in prioritized agricultural production systems – CSICAP" in Colombia, "Aquifer Strategic Action

Program: Enabling Regional Action," "Climate Change: The New Evolutionary Challenge for The Galapagos," and "Andes Adaptation to the Impact of Climate Change on Water Resources Project (AICCA)." Consulting efforts from that same perspective include a project to integrate traditional knowledge on production and nature-based solutions to build resilience in the face of climate change in livelihoods in the Ngäbe-Buglé and Veraguas territories in Panama.

The Gender, Inclusion, and Diversity Division has recently published its procedures and taxonomy for the integration of these perspectives in CAF credit processes and operations. The aims are to ensure equitable access to project resources and benefits, to mitigate risks of exclusion, to abolish discrimination and violence, to advocate empowerment and autonomy on the part of traditionally excluded populations, and to further a vision that places life at the center of all projects. Actions in pursuit of those goals include training, institution building, coordination with governmental service providers, productive inclusion on value chains through new technologies and sustainable practices, financial literacy and inclusion, and—mostly—diverse approaches to the care economy. In all these procedures, there is an initial phase, an evaluation phase, an approval phase, an administration phase, and a closing phase to assess GID indicators and the extent to which GID goals have been met according to the goals established.

Without discounting the importance of international norms and regulations in the fight against climate change and how they engage efforts to advocate for the equality of women and Indigenous peoples, we cannot disregard existing inequalities that leave certain groups more vulnerable to the impacts of climate change than others.

It is essential to underscore the enormous potential of women and Indigenous communities when it comes to adaptation to and mitigation of climate change. Their traditional knowledge and connection to the earth are invaluable for the sustainability of life on the planet. Indigenous women have by no means been passive before the threats to territories and natural resources. They have developed local adaptation strategies and mitigation techniques. They have resisted deforestation, mining, and other practices that leave irreversible damage. They have defended their rights and the rights of their people.

The Gender, Inclusion, and Diversity Division sets out to increase the impact and visibility of ethnic-racial and gender issues on development agendas and to support the empowerment of women, particularly Indigenous women, in CAF inventions and dialogues with the region's governments. The CAF has incorporated a gender and ethnicity perspective into its environmental and climate operations. It promotes projects that include Indigenous communities and women in climate action—and that means training, institution building, productive inclusion, financial literacy and inclusion, and a focus on the care economy.

Like Pope Francis in his *Laudate Deum*, we at CAF recognize the importance of integrating populations "from below," considering the demands, needs, and contributions of all people. Alliances and focuses with a gender and diversity perspective are essential to conservation, sustainable management of biodiversity, and the struggle against climate change

Verónica Frisancho[1]

# Preservation, Adaptation, and Mitigation as Pillars of Regional Policy

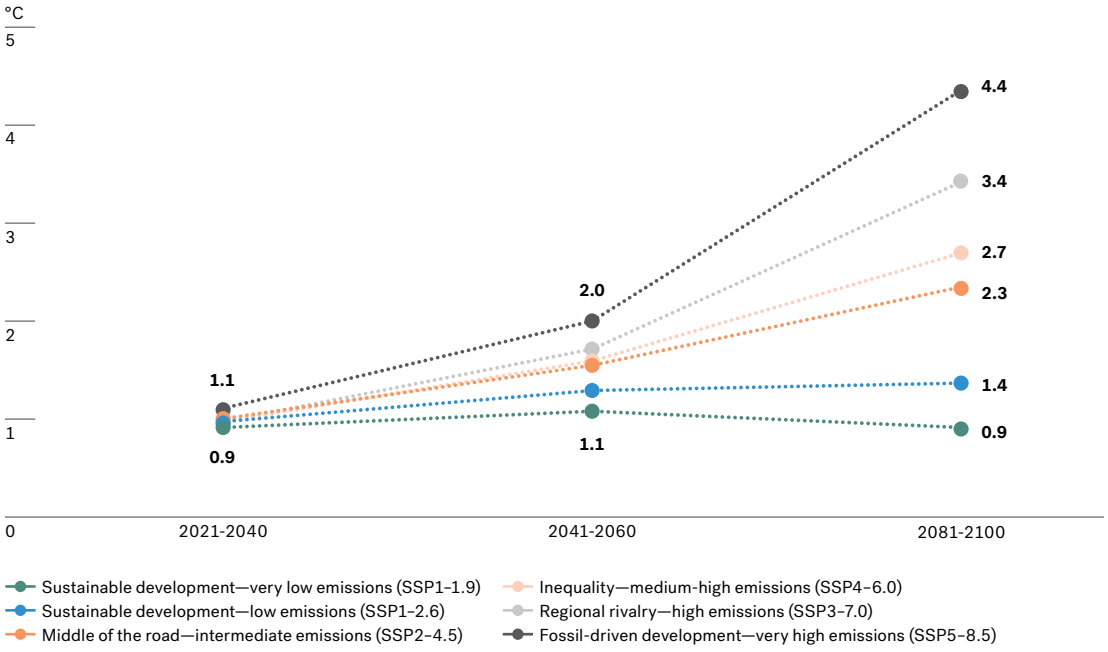
Latin America and the Caribbean encompasses a vast territory and is a highly heterogeneous region. As such, exposure and vulnerability to climate threats can vary significantly among countries, communities, and individuals. This implies that expected impacts and adaptation investment needs also vary depending on the context. The capacity to address climate threats and adapt to them is lower in regions with high levels of poverty and inequality, low access to basic services, and weak state capacities.

In this context, the Knowledge Management Division of CAF – Development Bank of Latin America and the Caribbean has developed a series of products to contribute to sustainable development and the integration of the region, focusing on addressing these challenges. The latest edition of the Report on Economic Development (RED) 2023 emphasizes three key messages regarding the response to these global challenges: the importance of adaptation, the need to contribute to global mitigation, and the urgency of preserving natural capital for sustainable development. The most suitable solutions may vary between regions and even among countries within the same region. Each country must identify its portfolio of policies, weighing the costs and benefits of various alternatives, the political feasibility of actions, and the impacts on equity and growth.

Climate projections for Latin America and the Caribbean indicate that the average temperature during the period 2021–2040 will be approximately 1°C higher than during 1985–2014 (whose temperatures were already 0.6°C to 0.8°C higher than in the pre-industrial era). Likewise, rainfall patterns will undergo increasing alterations, and many parts of the region will become drier, jeopardizing water availability for productive use and human consumption. Rising temperatures and variability in rainfall patterns negatively affect crop yields and reduce the suitable land for production.

1 Knowledge Manager at CAF – Development Bank of Latin America and the Caribbean. She holds a Ph.D. in Economics from Pennsylvania State University, and her research in development economics has been published in prestigious academic journals. Previously, she worked as a lead economist at the Inter-American Development Bank (IDB).

**Future average temperature increases in Latin America and the Caribbean in different periods with respect to 1985–2014 according to a shared socio-economic trajectory**

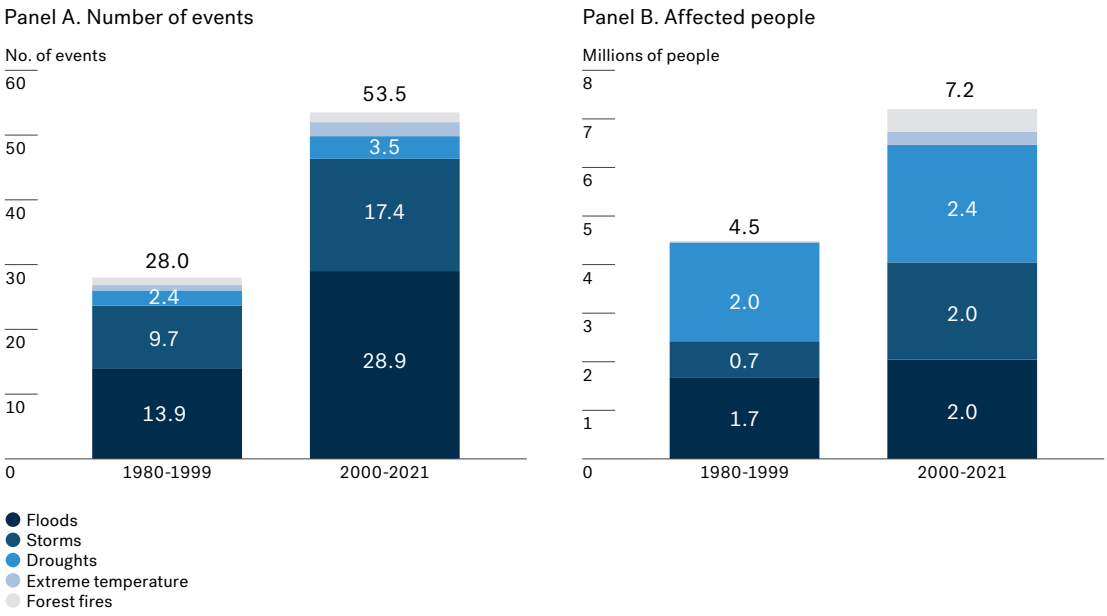



**Note:** The graph shows temperature increases for different shared socioeconomic pathways (SSPs), which describe future trajectories for the main global socioeconomic variables, combined with different emission reduction scenarios (represented by the numerical values 1.9, 2.6, 4.5, 6.0, 7.0, and 8.5, where a higher value is associated with higher emissions).
**Source:** Authors using data from GCC-UC (2023).

There is also an increase in the frequency and intensity of extreme weather events such as tropical hurricanes, floods, droughts, wildfires, and heatwaves. The number of extreme weather events in Latin America and the Caribbean has increased from 28 per year in 1980–1999 to 53 per year in 2000–2021. The affected population has grown from 4.5 million to 7.2 million people per year during the same period. The most frequent events are floods and tropical hurricanes, and these, along with droughts, affect the highest percentage of the population each year. These extreme events pose a risk to critical service infrastructure in sectors such as transportation, communications, energy, and water.

The contribution of a region to global warming is explained by its historical emissions of carbon dioxide. The rate of current greenhouse gas (GHG) emissions determines the future trajectory of climate change. Latin America and the Caribbean generates 11% of the accumulated carbon in the atmosphere, while 45% of historical $CO_2$ emissions come from developed countries and 24% from developing countries in Asia and the Pacific. The rest is accounted for by Eastern Europe and Western and Central Asia (11%), Africa (7%), and the Middle East (2%). Of that total 11% of emissions generated by Latin America and the Caribbean, 8.5% corresponds to South America, 2% to Mesoamerica, and the remaining 0.5% to the Caribbean.

**Graph 2 Occurrence of extreme weather-related events and people affected in Latin America and the Caribbean by type of event in different periods**




**Note:** The graph shows annual averages of extreme weather events and people affected (in millions) by type of disaster for the periods 1980–1999 and 2000–2021. The graph includes the 33 countries belonging to the Community of Latin American and Caribbean States (CELAC).
**Source:** Authors using data from EMDAT (2022).

Emissions in Latin America and the Caribbean mainly come from agricultural activity, unlike what happens in developed countries. The agriculture, forestry, and other land use (AFOLU) sector generates 58% of emissions, divided between those resulting from land use, land-use change, and forestry (38%), and those from agricultural practices, such as burning agricultural residues, fertilizer use, rice cultivation, and livestock (the remaining 20%). The energy supply sector, the largest emitter in the developed world, accounting for 36% of GHGs produced, represents only 13% of regional emissions.

Latin America and the Caribbean's extraordinary biodiversity and ecosystems provide invaluable services to the global population. With a land area representing 16% of the world's total, the region hosts an enormous variety of known species in the world: 33% of mammals, 35% of reptiles, 41% of birds, and 50% of amphibians. The region's coastal and marine ecosystems cover an area of 16 million $km^2$ and more than 70,000 km of coastline, also marked by prominent biodiversity.

Ecosystems are a source of protection and adaptation to climate change through the moderation of extreme weather events and the regulation of local climate. Mangroves and coral reefs, for example, form barriers that protect coastal populations from hurricanes. Mangroves reduce the average wave height caused by wind by 31% and those caused by cyclones by 60%. In Latin America and the Caribbean, mangroves annually reduce flood damages by more than USD 12 billion and protect nearly 1 million people. Coral reefs, on the other hand, can reduce the energy of waves reaching the coast by 97% and their height by 84%.

Economic activity, like all human activities, depends in one way or another on ecosystem services. The development of the fishing industry in Peru, Chile, and Mexico (the largest in the region) has been made possible by the wealth of commercially valuable species in the coastal and marine ecosystems of these countries. The beauty of beaches and coral reefs has been fundamental to the growth of the tourism sector in Caribbean countries.

Changes in land use, caused by deforestation, wetland drainage, and the replacement of natural grasslands, are the primary channels through which human activity degrades ecosystems and biodiversity in Latin America and the Caribbean. Other direct channels include (in order of importance) overexploitation of natural resources, pollution, and the introduction of invasive species. In addition to these direct channels, there is also the indirect impact of climate change.

The conservation of ecosystems in a semi-natural or natural state varies significantly between regions. Fifty-five percent of the region's surface area has a dominant anthropic use, while the remaining 45% is conserved in a semi-natural or natural state. The conservation of ecosystems in a semi-natural or natural state also varies significantly between regions. In South America, it reaches 56%, while in Mesoamerica and the Caribbean, it is 27% and 19%, respectively.

## The main efforts of countries in the region should be focused on adapting to climate change, mitigating its effects, and preserving natural capital.

Changes in land use are strongly linked to the agricultural sector. Thirty-five percent of the region's surface area is dedicated to grazing, and 16% is used for crops, while human settlements occupy 4% of the territory.

The unprecedented increase in demand for food, materials, and energy drives the overexploitation of natural resources and the conversion of land for agricultural activity. The challenge of stopping deforestation is therefore associated with strengthening the sustainability of the agricultural sector in the region. Two areas of action stand out in this regard. On one hand, a credible commitment to halt the expansion of the agricultural frontier. On the other hand, increasing agricultural productivity and the use of sustainable practices in this sector. International coordination in climate and biodiversity policy is necessary because both are issues where the actions of each country affect others.

Both climate change mitigation and biodiversity conservation are global public goods. All countries benefit from emissions reduction and ecosystem preservation, regardless of who bears the cost of reducing those emissions or preserving those ecosystems. The need for international coordination to avoid the issue of "free-riding" and address the climate and environmental crisis is one of the greatest challenges.

In this regard, the 2015 Paris Agreement was a milestone in international climate negotiations, although it has certain weaknesses in terms of goal compliance, international financing, and climate justice. Nationally determined contributions (NDCs) should establish national mitigation and adaptation goals and ideally should provide information on the financial strategy for their implementation, including international cooperation needs. In that sense, a disadvantage of the Paris Agreement is that its decentralized governance is not designed to ensure that national commitments achieve the global goal, nor is there explicit negotiation on what each country's fair contribution should be.

Current commitments under the framework of that Agreement are insufficient to meet the goal of keeping global warming within 2°C (or less) and make it nearly impossible to limit it to 1.5°C. Globally, the 2030 targets contained in the NDCs aim for a small increase in emissions of 0.5% from the 2015 level. However, to achieve the goal of limiting warming to 1.5°C, annual emissions should fall by 43% by 2030 compared to 2019 levels and then continue to decrease until reaching carbon neutrality by 2050.

The magnitude of these reductions implies that mitigation efforts must be global. This collides with the reality of many developing countries, including those in Latin America and the Caribbean, which have historically emitted relatively little, are suffering the consequences of climate change, and find mitigation efforts to be an additional development cost.

Climate financing is key to reconciling global mitigation efforts with justice claims in the distribution of responsibilities. Countries in the region recognize that they must play an active role in mitigation and, in almost all cases, propose specific targets for their emission levels. Latin America and the Caribbean's NDCs aim to collectively reduce emissions by approximately 10% by 2030 compared to 2015.

Available information indicates that international financing has been insufficient so far, and future needs will be enormous. The volumes of resources mobilized to date are low compared to existing needs. A report by the Climate Policy Initiative (CPI) estimates climate financing for Latin America and the Caribbean up to 2020 to be in the range of USD 23 billion to USD 35 billion a year (Naran et al., 2022; Schneider, 2023).

Estimates of future financing needs are subject to a high degree of uncertainty, but all agree that the required investment effort will be enormous. One policy priority should be to improve knowledge about financing needs, especially the requirements for international financial support. At the same time, the gap in climate policy progress between the developed world and other regions could generate tensions in international trade. Two specific cases are the European Union's border adjustment mechanism and standards for deforestation-free products.

Priorities for countries in the region should focus on giving precedence to adaptation, contributing to global mitigation, and preserving natural capital. The urgency of adaptation is warranted by their high vulnerability to climate threats. Additionally, climate change can exacerbate existing inequalities in an already highly unequal region. Adaptation can have positive synergies with social inclusion and economic growth. This is because it allows for loss prevention. It also brings economic benefits through risk reduction and technological innovation. To address these adaptation needs, five policy groups stand out at the regional level: sustainable agriculture practices, nature-based solutions (NbS), investment in adaptation infrastructure, disaster-risk management policies, and regulatory measures.

Meanwhile, the conservation of the region's ecosystems and biodiversity generates significant global-scale benefits. However, the greatest benefits of this agenda are at the national and local levels due to their importance for sustainable economic growth and social inclusion. Among the key policies are protected areas, co-management of publicly-owned natural resources with local communities and other key actors, payments for ecosystem services, and industry agreements.

To contribute to global mitigation, in addition to halting deforestation, the region must address the transformation of its energy matrix. Energy is an essential input for both businesses and households. Deficiencies in energy supply or changes in its prices can affect the entire production fabric due to the centrality of this sector in input-output relationships. Likewise, problems with access to energy affect the quality of life of households and can have an impact on the accumulation of human capital, in its health component and its skills component.

In order to comply with the guidelines of the Paris Agreement, an energy transformation must not only include more efficient use of energy by households, businesses, and cities but also drive a change in the energy matrix. This energy transformation entails challenges but also offers opportunities.

The region has great potential to contribute to the global energy transition on the supply side. On one hand, it has the capacity to develop solar and wind energy, in addition to its well-known capacity for hydroelectric production. But it can also be an important supplier of "green minerals" that are crucial for the development of clean energy supply, such as copper, silver, and lithium, among others.

Latin America and the Caribbean has not yet overcome the challenges of low economic growth and high inequality. In addition to these pending challenges, there is a need to adapt to climate change, mitigate emissions, and preserve the region's biodiversity and natural capital. There are strong tensions between these new and old challenges, whether due to the limited resources needing to be distributed among growing needs, the enormous investment requirements, or the fact that progress in one dimension may result in setbacks in others. Moreover, some interventions can leverage synergies that allow for simultaneous advances on different fronts. The most appropriate response to these challenges varies among countries. There is no one-size-fits-all solution. Each country will need to allocate its investments and efforts in adaptation, mitigation, and conservation, taking into account these tensions.

Therefore, in the pursuit of the most suitable policy portfolio, the costs and benefits of different alternatives should be weighed (not only statically but also from a dynamic perspective), along with the political feasibility of actions and their impacts on growth and equity ●

Mariana Mazzucato[1]

# Governing Water as a Common Good

Pope Francis released his *Laudate Deum* on October 4, 2023, which, building on his previous *Laudato Si'*, emphasizes the need for urgent climate action. Taking inspiration from St. Francis of Assisi, who epitomizes care for the environment and concern for the marginalized, the pope asks a critical question: what does it mean to put the common good at the heart of our response to environmental crises today?[2]

This question is front and centre for the Global Commission on the Economics of Water, which I co-chair with Ngozi Okonjo-Iweala (Director General of the World Trade Organisation), Johan Rockstrom (Director of the Potsdam Institute for Climate Research), and Tharman Shanmugaratnam (President of Singapore).

This year's unprecedented floods, droughts, cyclonic storms, and heatwaves showed what is coming. But while such disasters garner plenty of attention, the underlying water crisis does not. Water-related challenges – whether there is too much or too little, or whether it is dirty and unsafe – are already fuelling chronic food and health insecurity in entire regions. Every 80 seconds, a child under five dies from a disease caused by polluted water; and hundreds of millions more are growing up stunted and with diminished lifetime prospects.

Making matters worse, we have entered a vicious cycle in which the interaction of the water crisis, global warming, and the loss of biodiversity and natural capital exacerbate all three. Wetland erosion and lost soil moisture risk turning some of the planet's great carbon stores into new sources of greenhouse-gas emissions, with devastating consequences for the climate.

No country can rely on its own territory for more than half the rainfall it receives. Everyone's freshwater ultimately comes from precipitation, which depends on the presence of stable oceans, intact forests, and healthy ecosystems in neighbouring countries. Yet the capacity of both land and ocean systems to generate water is being destabilized.

The commission is calling for collective action to overcome the water crisis. This includes action from national and global finance. We have to stop thinking about financing gaps, a mentality that keeps putting us in a position where we are reactively patching things up with solutions that

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2 This paper was adapted from three articles originally published in Project Syndicate: (1) For the Common Good (January 2023), (2) Confronting the Global Water Crisis (March 2023), and (3) Financing the Common Good (April 2023).

are too-little, too-late. The world is not lacking the quantity of finance. The total assets held by the 526 public development banks and development finance institutions globally amounts to no less than $22.5 trillion, of which $20.2 trillion is held by national development banks, and $2.2 trillion is held by multilateral development banks. We are lacking the quality of finance.

We must marshal a response that is bolder, more integrated across sectors, more networked at the national and global levels, and more equitable than previous efforts. The commission's work shows that this will require a new "economics of water," one that values, finances, and governs the global water cycle as a common good. But what is the common good?

Here the pope seems to be more rigorous than economists. In his May 2015 encyclical, *Laudato Si'*: On the Care for Our Common Home, Pope Francis argued eloquently for common-good thinking in an ever-changing world. This is not just abstract idealism. The common good offers a useful framework both for setting shared goals and for working out how to achieve them. He talks about the need for subsidiarity and the preferential option for the poor. While the former is the belief that the authority closest to a local need is best suited to tackle a particular issue, the latter calls on Christians to look at the world through the eyes of the most vulnerable.

**These new forms of collaboration involve creating networks of solidarity and defending the dignity of the marginalized.**

The priority for all social, economic, and political change, according to Pope Francis, should be to protect the essential conditions that sustain human life. Decision-making for the common good means defending the dignity of the socially, politically, and economically marginalized – not just with words but with policies and new forms of collaboration. It means building a network of solidarity through which the unheard can partake in critical decision-making processes.

## The Importance of Pre-Distributive Agreements

The common good goes beyond the notion of the public good by challenging the assumption that the state can at best fix market failures. It puts common goals at the centre of the economy while making sure that the ways in which actors collaborate is itself aligned with the common good. This is not only about redistributing ex post, but about proactively ensuring a fair distribution from the outset with the relationships right (between capital and labour, between public and private actors, and between government and citizens).

This approach – where the 'how' is as important as the 'what' – can build on five key principles. First, purpose and directionality can promote outcomes-oriented policies that are driven by public purpose and shared goals. Second, co-creation and participation allows citizens and stakeholders to participate in debate, discussion, and consensus-building that bring different voices to the table. Third, collective learning and knowledge sharing can help design true purpose-oriented partnerships that drive collective intelligence and sharing of knowledge.

Fourth, access for all and reward sharing can be a way to distribute the benefits of innovation and investment with all risk takers – whether through equity schemes, royalties, pricing, or collective funds. Fifth, transparency and accountability can

ensure public legitimacy and engagement by enforcing commitments amongst all actors and by aligning on evaluation mechanisms. And all of this requires investment in the capacity and capabilities for all actors to work together. Outsourcing government capacity to consultants or philanthropies only deepens our problems.

As part of this new economics of water, the commission is now advancing a comprehensive strategy to address seven key points.

First, we must recognize the global water cycle as a common good and manage it accordingly. Since everyone is ultimately connected through water, we must work together to break the vicious cycle and put water back on a sustainable trajectory. That will require a vision based on justice and equity for all communities everywhere.

Second, we must adopt a mission-oriented approach encompassing all the key roles that water plays in human well-being. That means treating safe water for domestic use as a human right and acting collectively to stabilize the global hydrological cycle by managing water use in industry. To ensure food security and resilient food supply chains, and to preserve natural carbon sinks, we will need a revolution in both green (rain-fed) and blue (irrigated) water management.

## The Importance of Innovation and Industrial Strategies

In addition to mobilizing diverse stakeholders, we will need to use innovation policies and industrial strategies to catalyse solutions to the water crisis. We should scale up investments in water through new public-private partnerships that are as ambitious as those that got us to the moon 50 years ago; but we must attach conditions to ensure that collectively created value is shared widely.

Third, we need to stop under-pricing water. With proper pricing and targeted support for the poor, water would be used more efficiently in every sector, more equitably across every community, and more sustainably both locally and globally. But our decision-making also must account for water's non-economic value, to ensure that we are protecting the broader ecosystem on which the water cycle (and human societies) depend.

Fourth, we must phase out the $700 billion of annual agriculture subsidies – which tend to fuel excessive water consumption and other environmentally damaging practices – and reduce the leakages in today's water-delivery systems. Doing so would free up significant resources with which to improve water efficiency and support the poor directly.

Fifth, we should establish Just Water Partnerships (JWPs) to ensure that low- and middle-income countries can invest in water resilience and sustainability, and in ways that contribute both to their national development goals and the global common good.

JWPs would help to bring together several financing streams, not only by re-channelling inefficient domestic subsidies toward better uses, but also by enabling multilateral development banks and development-finance institutions to leverage public finance and crowd in more private capital. The economic returns on these investments would vastly exceed their costs, especially if JWPs are designed to maximize synergies with initiatives to address climate change and achieve more inclusive growth.

We need finance that is long-term, patient, and mission-oriented, which can help us make meaningful progress on the SDGs and drive real transformative change. National development banks and multilateral development banks can play a critical role in providing this kind of patient long-term finance to tackle socio-economic challenges, supporting projects that traditional financiers shy away from. By adopting a mission-oriented approach, setting clear objectives, embedding conditionalities in funding programmes, and raising future

expectations for business investments, a transformative chain reaction can be catalyzed, creating an SDG multiplier.

Sixth, we should support more dynamic innovation to extend the reach of scarce water resources. Again, such investments will yield high returns. Going to the moon produced advances not only in aerospace but also in nutrition, electronics, communications, materials, and software. Likewise, focusing our attention on the water challenge means doing many things differently, which will lead to creative breakthroughs across many sectors.

For example, fortifying freshwater-storage systems will require us to reimagine how we manage wetlands and groundwater resources that have been dangerously depleted. Developing an urban circular (recycling-oriented) economy for water will create a new logic for treating industrial discharges. And adopting precision irrigation, drought-proof rain-fed farming and less water-intensive crops will move us toward more sustainable food systems and higher incomes for farmers. By embracing the spirit of innovation, policymakers can motivate manufacturers to reduce their water usage, cut waste, and conserve critical materials such as the lithium that we need for widespread electrification.

Lastly, we must establish global, multilateral governance for water. The current system is highly fragmented and inadequate to the challenge. One useful tool is trade policy. By incorporating water-efficiency standards in trade agreements, we can encourage more sustainable practices and discourage wasteful water subsidies. We also must use multilateralism to develop skills and capacity globally, and to ensure that farmers, women, indigenous peoples, and consumers can all play a beneficial role in water conservation.

We still have a chance to convert the water crisis into a global opportunity for economy-wide progress and a new social contract with justice and equity at its centre. Failing that, we will no longer have a safe Earth system ●

Jesús Avezuela Cárcel[1]

# Work Transformation and Energy Transition

We are currently witnessing a profound transformation of work driven by various factors, one of which is the automation of tasks. The digital technology revolution is ushering in structural and cultural shifts in the nature of work, which have far-reaching implications for individuals. Research indicates that digitalization is already impacting a significant portion of both manual and cognitive labor. This effect isn't limited to routine tasks, as it extends to a wide array of job types. Additionally, new employment opportunities are emerging, making it challenging to predict the overall impact on employment.

While this digital transformation affects both repetitive and intellectually demanding jobs, the consequences vary depending on the type of work. For a substantial segment of the workforce, especially those engaged in administrative tasks and who are often the most vulnerable, the digital revolution poses a significant challenge and can be traumatic. It necessitates acquiring new skills to preserve job security. In contrast, for non-routine and less vulnerable job roles, the results differ in terms of distinct human qualities, such as adaptability to new situations, curiosity, leadership, and interpersonal skills.

In conjunction with this initial analysis, scientific studies emphasize an undeniable imperative—the need to transform our current way of life to ensure the habitability of Earth in the future. Our current consumption patterns are depleting natural resources faster than they can be regenerated.

A recent report on how work is being transformed[2] was compiled by the Paul VI Foundation. This comprehensive study, conducted over two years through an ongoing seminar featuring participation from nearly a hundred esteemed experts representing various institutions and higher education centers, focuses on five transformational dynamics: 1) automation and digitalization; 2) "producing what sells;" 3) relocation, decarbonization, and international competition; 4) a return to social concertation; 5) meaningful work.

Of these dynamics, it is particularly intriguing to examine the third category, which is intricately linked to Pope Francis' encyclical Laudato Si and his recent apostolic exhortation *Laudate Deum*. In the ongoing reconfiguration and transformation of the world of work, we need to consider diverse

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2 https://www.fpablovi.org/el-trabajo-se-transforma. This seminar is a continuation of a previous seminar on digital transformation, entitled "Huella digital, ¿servidumbre o servicio?" (https://fpablovi.org/huella-digital).

economic, social, cultural, and anthropological perspectives. Here, the energy transition plays a pivotal role. It's worth noting that among the United Nations Sustainable Development Goals (SDGs), Goal 7 emphasizes the imperative of ensuring access to affordable, safe, sustainable, and modern energy, which necessitates a resolute commitment to expanding renewable energy sources. This transformation is intrinsically connected to the labor market, as underscored by the SDGs themselves. Goal 8 calls for the promotion of inclusive and sustainable economic growth, employment, and decent work for all.

## Impacts on logistics and the tourism sector

Based on all these considerations, the report by the Paul VI Foundation examines the various impacts of the changing world of work on the environment in a globalized framework, where design happens in one part of the planet, manufacturing in another, and marketing often aligns with the first.

At the United Nations Conference on Trade and Development in November 2022, the focus was on the fact that, over the past 30 years, progress in the transformation to a global low-carbon economy has been limited. Carbon dioxide emissions from the energy sector have increased by 60% since 1992. The shift from the existing high-carbon economy to a low-carbon model by 2050 requires a global energy transition. According to numerous expert groups and institutions addressing this challenge, achieving this transition demands a substantial increase in the utilization of renewable and low-carbon energy sources in the primary energy supply. This includes embracing nuclear power, biofuels, hydrogen, and natural gas. It also mandates the decarbonization of industry, transport, and buildings through the intensified electrification of industrial processes, transport vehicles, and residential heating. Immediate action includes reducing coal and oil consumption and significantly enhancing energy efficiency.

These scenarios underscore the need to support logistical transformation in developing countries. Key initiatives include expanding electricity access for remote rural communities through off-grid renewable energy systems, supporting innovation and emerging technologies, utilizing carbon dioxide capture and storage technologies as transitional tools in coal, oil, and gas-dependent nations, phasing out subsidies for coal and fossil fuels, safeguarding workers and communities adversely impacted by the energy transition, and ensuring universal participation in and benefits from the global energy shift.

However, for such a transformation to be sustainable, it must be economically viable and implemented comprehensively, even in developing nations. As emphasized in the aforementioned UN Conference, "*A well-defined development policy encompassing trade and energy, and an enabling trading system, can help developing countries to reap tangible benefits from a global energy transition at the development level, for example, in terms of trade, income and employment*."[3]

In the Paul VI Foundation study, the transformation of labor in the energy transition has numerous impacts on international trade, signaling a new era through qualitative standards. The global restructuring of production and trade chains is imperative for supply security, aligning with the widespread adoption of new labor practices.

Globalization's fluctuations manifest in the movement of people, ranging from the highly skilled (brain drain) to those engaged in more humble and humane occupations ("global care chains"). Promoting a moral vision that considers the needs and capacities of individuals, not solely driven by corporate or societal demands,

3 https://unctad.org/system/files/official-document/cid53_es.pdf

is essential. This vision can be translated into internationally supported policies to prevent less developed countries from losing their most talented citizens. Simultaneously, in industrialized nations, demographic deficits, an aging population, and resistance to strenuous jobs make it crucial to embrace large contingents of immigrant workers.

However, all these global movements have lasting impacts on the so-called energy transition, prompting the need for measures aimed at a more reasonable ecological reorientation.

Consider the tourism sector, where it is challenging to envision a continual increase in vacation trips to distant paradises. There are insurmountable physical limits regarding flight frequency and fuel use. The invasive occupation in cities (some, like Venice, have initiated a booking process for city entry) and coastal areas cannot go on escalating indefinitely, especially when the hotel industry is promoting environmentally sustainable conditions of stay.[4]

Simultaneously, the pendulum must avoid swinging towards ecological oblivion that blurs a comprehensive understanding of reality. In agriculture, consumer emphasis on sustainability requirements has led to a form of "organic fever," with standards so complex that compliance jeopardizes competitiveness. Faced with overly stringent legislation for the "green" label, industry insiders advocate for a reasonable middle ground: reducing the production of polluting waste to zero.

**Global care chains, global value chains, and focal companies are three keys to understanding social and labor transformations in the era of technological change.**

In light of these circumstances, the transformation of work is generating a structural change in the global economy, influencing how people work across different parts of the world and undoubtedly aligning with Pope Francis' call to "care for our Common Home."

## The "smile curve" and its implications for less developed countries

In the Paul VI Foundation report, Professor Paul Dembinski, economist and founder of the Observatoire de la Finance in Geneva, introduces the concept of global value chains and the pivotal role of the "focal" company in shaping these intricate productive networks. Our current economic globalization is rooted in technological advancements, fostering real-time interaction by eliminating distance, reducing trade barriers, and liberalizing capital flows. Dembinski details the emergence of new transnational players and global brands, marked by massive investments and the ability to manage across borders aided by technology and low transportation costs. These companies efficiently handle fragmented production, diversifying locations primarily based on the relative cost per hour of labor. This dynamic gives rise to global chains or value networks, emphasizing the core

4 Again, this calls for action toward a sustainable model. A study by BBVA (https://www.bbva.com/en/sostenibilidad/que-es-el-turismo-sostenible/) recalls that the World Tourism Organization (WTO) has established three keys to achieve this new tourism model: (i) optimizing environmental resources (without ecosystem there is no tourism, therefore it is important to safeguard the natural environment; only by conserving natural resources and taking care of biodiversity can there be tourism); (ii) the authenticity of the local culture (a fundamental factor in understanding a place are its people, the traditional values of the host community, its culture, architecture... Without respect for culture, tourism cannot be sustainable); (iii) distribution of wealth (the economy is another fundamental factor within tourism: ensuring economic activities that last over time and that there is balance in the distribution of socioeconomic benefits; one of its objectives is to generate stable employment opportunities, income and social services, and reduce poverty in local communities).

concept of value added in both business and macroeconomic contexts. While the term is used across various contexts, it fundamentally revolves around the idea of value creation.

Interestingly, these chains function more seamlessly in the industry than in the service sector, following a distinct logic often unrelated to the production dynamics of the locations where each link resides.

To analyze this phenomenon, attempts are made to measure the value added at each layer of global value chains, often hindered by a lack of data. Paul Dembinski proposed three levels of analysis:

- Microeconomic analysis (at the product level): This approach seeks to understand how the final sales price is distributed among different value-added steps. Access to internal company data is crucial but is generally unavailable. Dembinski references a study by a Swiss NGO on a widely consumed product, calculating the necessary increase in the selling price or reduction in profit margin for fair remuneration at all stages. However, these conclusions remain hypothetical.

- Cross-sectoral analysis: Utilizing information from sectoral organizations, this approach seeks to quantify the contribution of various locations where components of the same product are produced. Dembinski highlights available data on the production of bicycle components (brakes, saddles, wheels) in different countries.

- Macroeconomic analysis: This level involves studying international trade flows, focusing on products crossing at least two borders before reaching their final destination. The World Bank estimates that 50% of global manufacturing trade falls into these re-export categories.

Dembinski adeptly illustrates in the value chains the identification of a "focal" point, a juncture where production logic gives way to the management of distribution and marketing. Typically occupied by a major transnational company (the "focal" company), this analytical focal point holds the capability to control and design the production and distribution process. The location of this focal point varies among chains; roughly 30%–40% of the final product price is attributed to distribution and marketing.

Dembinski introduces the concept of the "smile curve," observed in many cases, depicting a high added value at the intellectual conception of the product, a descent in the production area, and a subsequent rise in distribution. Notably, both extremes are often situated in developed countries, while the "depressive" zone is found in developing countries. This sets the stage for strategic competition among countries vying for positions in the upper echelons of the value chain.

Given these dynamics, Dembinski presents an unconventional comparison between the productivity of major transnational corporations and that of less developed countries. The estimation reveals that the 800 largest non-financial corporations globally exhibit productivity 33% higher than the average in the least developed countries. Increasing productivity and remuneration at a production stage necessitates surpassing the additional cost of capital per unit of value added. In Southern countries, where the cost of capital is higher and access more challenging than in the North, modifying the "smile curve" becomes a more formidable task.

In conclusion, Paul Dembinski notes a shift in the longstanding globalizing trend after eight decades, indicating signs of a slowdown. This transformation is driven by geostrategic considerations, a focus on securing access to raw materials, and, notably, reduced energy dependence.

Both the World Trade Organization (WTO) and the European Union (EU) are implementing measures to exert greater control over labor and environmental conditions within global supply chains. Multiple stakeholders are pushing for financial markets to disclose information on compliance with social responsibility aspects, including decent working conditions and respect for human rights in the production chain. These factors contribute to the mentioned change in trend.

Conversely, another expert at the Pablo VI Foundation conference, Ignacio de la Torre, contends that, although the growth of the globalization trend has halted, world trade is currently at its highest historical levels, with no apparent signs of slowing down. The concept of insourcing, bringing factories back to their countries of origin, holds relevance, but the actual movement has been less than anticipated, largely due to the persistently high-cost differentials.

Simultaneously, we are grappling with a crisis stemming from challenges in raw material availability, both in energy and non-energy sectors, resulting in a breakdown of the global supply chain. In the face of these circumstances, a fundamental question emerges: What role can the energy transition play?

Undoubtedly, the energy transition may be highly relevant in aligning economies with the Paris Agreement's goals, aiming to limit the global average temperature increase to within 2°C (and preferably 1.5°C) compared to pre-industrial levels. This transformation significantly impacts the labor market and job quality, especially in a scenario of escalating raw material prices and the heightened risk of shortages. This shift is reshaping production methods and influencing geopolitical and geoeconomic considerations, leading to the establishment of new infrastructures and international energy conduits.

In short, according to the International Energy Agency, the transformation of work and the energy transition are an inseparable duo, anticipated to generate around 14 million jobs globally by 2030. This job creation stems from investments in clean energy and the emergence of new business activities

Isabel Capeloa Gil[1]

# COP 28, *Laudate Deum* and the Colorful Parachutes: A Final Chance for Good Intentions

> "Why are we uncomfortable with the sensation of falling? It is all we've been doing in the past decades. Falling, falling, falling. Then why are we worried about falling? Let us resort to our creative and critical thinking to put together colorful parachutes. Let us think about space not as a place of confinement, but as the cosmos where one may glide in colorful parachutes." (Krenak, 2020:30)

Telling a good story is a first step to change the world. In *Ideias para Adiar o fim do Mundo* (*Ideas to Delay the End of the World*), indigenous leader Ailton Krenak resorts to stories to suggest that to reverse the imminent sense of global environmental catastrophe, it is necessary to resort to 'colorful parachutes´. These inventive semantic devices are both strategic and inspirational. They represent the indigenous leader's critical awareness of the collective responsibility to contain the fall, i.e., the environmental man-led degradation substantiating the global climate crisis, suggesting the urgent need for an alternative, that is, a colorful way of thinking and working through that very same crisis. The colorful parachutes open a strategic space to remediate the current situation of systemic environmental failure to other modes of knowledge production and to narratives, but also to other living beings, to the planet itself as an agent who may work to contain the 'great derangement' (Gosh, 2016:1). These explorations of other forms of knowledge and to fiction, for instance, have been clearly identified by Lewis, Woolcock and Rogers (Lewis et alia, 2008) as major authoritative sources of societal development in some non-Western regions, and often with a higher level off impact than government led policies. There is clearly an urgent need of understanding the role played by culture in the management of disaster. Aid strategies often perceive communities affected by natural disasters as mere victims, recipients of a one-way stream of aid and not as creative partners in the restructuring of their communities. Furthermore, the technocratic focus tends to lose sight of the role played by the portrayal of disaster in restructuring communal life, in overcoming trauma and in assessing an undoubtedly hazardous future.

1 President – International Federation of Catholic Universities. President - Universidade Católica Portuguesa. Funded in 2017 the Strategic Alliance of Catholic Research Universities (SACRU), an alliance between the Catholic University of Portugal and seven Catholic Universities (U. Ramon Llul, U. Sacro Cuore, Australian Catholic University, Boston College, PUC-Rio de Janeiro, PUC-Chile, Universidade Sofia).

Arguably, the singularity of any given disastrous event requires the "hermeneutic composability" (Bruner, 1991:21) provided by art and culture to be articulated and this works with the benefit of hindsight. Because, as Mary Douglas and Aaron Wildavsky argue (Douglas, Wildavsky, 25), the perception of risk is a social process that depends on a cultural combination of confidence and fear, the acting out of past disasters by the cultural system contributes to fostering resilience and providing for the working through of traumatic contingency and for the mending of damage in the future. The colorful parachutes reflect the hermeneutic composability of storytelling as a device to promote a call to action against the climate crisis. I have resorted to Krenak as inspiration for a response to Pope Francis' call to action in the recent Apostolic Exhortation *Laudate Deum*. This is both a *compte rendu,* 8 years after the transformational Encyclical Letter *Laudato Si* (2015), and a clear statement that the time for good intentions and analysis is now gone. And yet, to implement a road map and do away with the resistance and confusion that pitches science against truth, manipulates data and simplifies a very complex reality, it is not necessary to resort to new studies and to entangle the discussion in highly complex legal policy arguments. On the contrary, it is urgent to build coalitions, between scientists, community leaders and the public at large to make progress in halting the gargantuan advance of a ravaging climate crisis. And to make progress it is urgent to uphold consistent policies that make it beyond legislatures, measures that are convincing and efficient, and an educational strategy that affords for a coalition between the existing generations and the future to come. This is the final chance for all good intentions.

## *Laudate Deum*: A theological call to action

*Laudate Deum* brings together in one single document, spiritual leadership, a critical evidence-based analysis of the current condition and a call to action. The document itself builds on the analysis of *Laudato Si*, with added data on the degradation of the planet over the past decade, to materialize Pope Francis' repeated call for a transversal disciplinary coalition, 'a plurality of knowledge'[2] across disciplines to combat the technocratic paradigm. This is a theology of experience that substantiates the understanding that the problems of our world are complex, wide, and sophisticated, requiring transdisciplinary collaboration. In addition, the Exhortation is a call to action of all global players participating in COP 28, demanding measures of energy transition or environmental commitment that are "efficient, binding and easily monitored." (LD,55), because the time for good intentions is gone.

Pragmatism is of the essence, but while the climate crisis is a clear and present evidence, it is still difficult to array the support of populations in the global North to actions and change in their daily habits and practices that may imply life or death for inhabitants in Bangladesh, for instance. The rise of sea levels is hardly perceived by a Portuguese man in Lisbon, while it is a daily concern for the inhabitants in Fiji. The degradation of the conditions of livelihood and survivability in the European communities ushered by a feeling of generational betrayal perceived in the decline of the welfare state and its policies of solidarity, the pressure of migration and the security threat, afford for a sense of decline in the very conditions of democracy. These problems in the near shore tend to obscure the long term commitments necessary for a consistent change. Or to put it differently, as economist Jean Tirole argues: "(...)the benefits of reducing climate change remain *global* and *distant* in time, while the costs of that reduction are *local* and *immediate*." (Tirole, 2017:199)

Effectively, climate change and the necessary energy transition that goes with it cannot be tackled by short

2 See *Veritatis Gaudium*, 4c.

term measures alone, and neither can progress be monitored by short term performance indicators. This is the great hurdle to pragmatism, on the one hand, and to naïve good intentions, on the other, because the commitment to the reduction of carbon emissions, and to the greening of energy and the implementation of energy efficiency measures is both costly and long term. Measures taken by governments to curb their emissions will impact the livelihood of populations in faraway locations, just as they may disrupt the social organizations of communities transitioning into green energy models. The effect of the ending of coal mining in communities in the global North has in some instances been socially and economically ravaging, and the end goal of sustainability may not yet have found the proper narrative, particularly as this transition is not occurring consistently across the globe and as some high polluters continue unhindered in their pathway of destruction. This is why it is so difficult to achieve social backing for measures that may mean an overhaul of the labor market and disruption in the value chains. This too affects the livelihood of communities, families and individuals.

In addition, the monitoring of measures is not without challenges. Quantitative kpi's , for instance, are often biased – because they do not take into consideration context or social and cultural markers - and may distort efficiency and impact. An example of quantitative monitoring lending itself to greenwashing and conscience appeasement is the trade of carbon credits, allowing polluters to pay poor nations to offset their environmental malpractices.[3] Then again, monitoring requires trust in the process by all involved stakeholders and there is a growing institutional credibility crisis in view of the reciprocal monitoring of goals and performance indicators. Unless there is trust by global consumers across the globe on the impartiality of the monitoring process and on the quality of the recommendations issued by relevant agencies and scientific institutions, success is hardly attainable. Under these conditions which environmental commitments that are efficient, binding and easily monitored may be proposed?

## Efficient, binding and easily monitored: Ideas to prevent the end of the world

The following reflections are perhaps colorful parachutes, complementary pathways to existing resolutions and regulatory frameworks, seeking to penetrate the sea of environmental illiteracy, the lack of political will and market cynicism. They result from an understanding that any commitment must be long term, overarching and bearing a powerful convening narrative. This means operating on a systemic and holistic level, impacting people, institutions and practices.

The first and most important measure to gain the future focus on people and on education.

### Education for the Environment

Just as the credibility of climate change mitigation measures depends on reliable evidence-based science, that is efficiently communicated to large non-specialist audiences, so does the continuation of the sustainability agenda demand a bottom-up movement that rests on the ability of all school educated children and youngsters to understand the risks, absorb the containment measures and

3 This is another example of a program of good intentions gone awry. Carbon leakage results in fact from a virtuous intention, associated with the 'Carbon Development Mechanism' set up in Kyoto in 1997. It allowed companies to receive credits in countries where carbon emissions were penalized, if they invested and carried out projects to reduce emissions in other countries, which were generally poorer and industrially underdeveloped.

defend our common home. Education for the environment impacts content and curriculum, and it must be systemic: supported by policy, implemented by schools and monitored by communities and governments. It aims to foster the awareness that all individuals are part of a much wider whole. In this system, we all survive together or together we subside. This process of reeducation, targeting an understanding of the Earth as a living being with agency, that is humankind's partner in promoting a luminous future for the world must be multitiered, going from K-12 to higher education and adult long life learning.

**To move forward, it is urgent to advocate coherent, convincing and effective policies that go beyond laws; and an educational strategy that allows for a coalition between current and future generations.**

Because the planet is a protagonist, an education for the environment is an act of co-creation between humans and other living beings, promoting of a certain 'negative capability',[4] a wider conscience that integrates the human subject with nature at large. Measures to implement these wider goals require the mainstreaming of environmental content across educational curricula from primary school to university levels, as well as setting up problem-based courses related to climate change and environmental transition,. At Universidade Católica, in Portugal, SDG and LSO[5] related courses have become mandatory across all levels of undergraduate and graduate studies. Students take at least one of these problem related courses, taught by faculty from different disciplines. The multidisciplinary course on climate action (SDG 3) is taught jointly by biologists and psychologists, economists, and environment scientists. The related Observatory of Best SDG Practices has been recently considered by the United Nations Academic Impact as one of the 25 academic best practices worldwide for the implementation of the 2030 Agenda.[6] Mandatory courses on climate action may be easily monitored by the responsible governments with both quantitative and qualitative performance indicators. They are strategic and long lasting and define the possible future consistency of climate related policies, which ultimately rest on the ability of governments but also the willingness of their constituencies to do away with the free rider narrative, that suggests some countries implement difficult measures while others will simply benefit from them without doing the difficult transition work. Through consistent educational commitments and a global Educational Charter for the Environment countries may fully internalize the benefits of policies to reduce emissions and understand the need for energy transition. Only when climate action transitions from policy to a global human right may we gain the future.

The second suggested measure taps into the legal framework and institutional legitimacy of climate action.

**A Constitutional Defense of Biodiversity**

The preservation of the planet's rich biodiversity requires an institutional framework that both provides nations with the tools to defend their ecosystems and guarantees their preservation for the future. While this may only be effective if the whole community is conscious of the treasure to be nurtured for future generations, a process that requires the slow and effective work of education,

4 The term was first used by John Keats in 1817.
5 Laudato Si Objectives
6 https://www.un.org/sites/un2.un.org/files/unai_best_practices_on_the_sdgs.pdf

the fact of the matter is that for governments to be committed to preservation policies beyond the narrow period of the legislature there must be a legal mechanism and the respective framework to inscribe the commitment for future generations. Despite the tremendous work done on the post national level by organization such as the UN and UNESCO, the work of the IPCC and the relevant framework conventions that have ensued from their work, there is still a deficit of enforcement. This occurs, amongst other reasons, due to the subsidiary nature of international conventions vis-a-vis national law. Important collaborative work is being developed by international teams in areas such as blue planet law, aiming precisely at developing future oriented legal mechanisms to promote the defense of biodiversity and mitigate ocean degradation (Garcia, Cortês, 2023). To be noted is the fact that the legal frameworks for the future are also disciplinarily collaborative, bringing into the conversation, scientists and philosophers, legal scholars and economists. A reinforced pathway of action would be conceptually transdisciplinary and require enforcement, hence proposing inscribing climate action principles and the defense of biodiversity in national constitutions or other similar legal frameworks.

From people and institutions, the third proposed measure deals with markets and incentives for transformation.

**Incentives for the Common Good**

An effective, consistent and long lasting defense of biodiversity and the delivering of sustained outcomes on climate and net-zero goals in the global market requires a three step transformation: an alignment of consumer expectations that builds from educational awareness; a clear understanding by companies on the benefits of contributing to the common good; clear incentives for climate action. To prevent greenwashing, benefits and incentives should arguably work with the benefit of hindsight, rewarding a company's commitment, achievements and track record in decarbonization and community development for sustainability. These benefits could build on already existing possibilities, such as green tax incentives or government grants, and they should be reinvested in the community for specific transition projects, educational or environmental development programs. Instead of taxing deviation from the climate action agenda, such as carbon taxes do, incentives should be focused on benefiting communities, and celebrating results, while reinforcing a company's purpose and contribution for the common good. In the competitive global market place, incentives provide first and foremost for an economic and social benefit resulting in and from a corporate behavioral change supporting the crucial need to further a market economy for the common good.

## Conclusion

COP 28 is already beyond the dangerous edge of things and must demand results and clear pathways for adaptation and mitigation of the climate challenges. Pope Francis' call to action is a powerful reminder that this is the last opportunity for humanity to protect the wonderful work of Creation God has entrusted to us. To mitigate the continuous degradation of Creation, any commitment must be long term, overarching and bearing a powerful convening narrative. The suggested three pathways consider that transformation measures must be integrated, articulating literacy and individual behavioral change with institutional constitutional commitment and the repurposing of market achievements in view of the common good ●

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“May those taking part be strategists capable of considering the common good and the future of their children, more than the short-term interests of certain countries or businesses. May they demonstrate the nobility of politics and not its shame.”

(*Laudate Deum*, 60)

The ethical dimension

# Walking in communion and commitment

Cristina Calvo[1]

# Bottom-Up Multilateralism: The Courage to Innovate for the Common Good

Contrary to the belief that the local would disappear with globalization, the local space—the territory—rose to the top of the agenda. Not only for governments but for companies as well. The success of a company does not rely solely on putting its internal affairs in order—its finances, products, and so forth—but also depends on the level of development of the territory in which it operates. To innovate, companies must take heed of the signals a territory sends out, such as its health conditions, infrastructure, education, etc. They should also consider the territory not in isolation but in collaboration with the local government, social actors, trade unions, and universities. To do so, welfare must be replaced by well-being, the good life, the dignified life. Human development is material, socio-relational, and cultural-spiritual.

Pope Francis proposes a "multilateralism 'from below' and not simply one determined by the elites of power. [...] It is to be hoped that this will happen with respect to the climate crisis. For this reason, I reiterate that 'unless citizens control political power—national, regional and municipal—it will not be possible to control damage to the environment'" (LD,38). After reaffirming the primacy of human beings and the defense of their dignity above all circumstances, Pope Francis explains that "It is not a matter of replacing politics, because... the emerging forces are becoming increasingly relevant." "The very fact that answers to problems can come from any country, however small, ends up presenting multilateralism as an inevitable process" (LD,40). Thus, "a different framework for effective cooperation is required. It is not enough to think only of balances of power but also of the need to provide a response to new problems and to react with global mechanisms." We need "global and effective rules" (LD,42). "All this presupposes the development of a new procedure for decision-making;" we need "spaces for conversation, consultation, arbitration, conflict resolution and supervision, and, in the end, a sort of increased 'democratization' in the global context so that the various situations can be expressed and included. It is no longer helpful for us to support institutions in order to preserve the rights of the more powerful without caring for those of all" (LD,43).

In the current crisis, when we speak of "the weakness of the ruling classes," this refers both to the weaknesses of individuals as well as that

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of the political thought that guides them. The crisis provides us with a terrible example of how speculators who feed on the markets like parasites were able to gain positions of power thanks to the absence of rules and controls because policy failed in its duties and responsibilities. That absence was accompanied, in some cases, by incompetence, in others by omission, and in yet others by complicity and corruption. But even in cases where there was goodwill and honesty, it must be said that what was missing was thought and vision.

Today, all sciences, beginning with political science, have the opportunity to question their own capabilities and limits. The crisis also shows that politics is failing in the essentials, that is, in guaranteeing equality and freedom for all citizens, for all of us—workers, entrepreneurs, consumers—in short, citizens. We find ourselves in a position of weakness in which we are neither defended nor spared from speculators. Uncertainty has proliferated due to the imbalance of power in relation to protected groups of speculators: the power of citizenship was depleted, in a failure to act by a true democracy. Today, addressing the crisis demands policies capable of original, powerful thought that comprehends the complex realities of humanity.

It requires dynamism and vigor, along with a questioning of events in order to comprehend their significance, as opposed to what often occurs with ideologies, which impose their own perspectives on events.

## A New Economic Analysis

An analysis of the economy must do away with the usual view that it consists of rather rigid compartments that go from the classic private sector to the third sector. Instead, it should be approached from a social perspective that positions the different areas in constructive relationships, such as traditional and social enterprises, institutions, and various forms of associativity. Currently, economists, political scientists, and everyday practitioners consider these areas to be either in (open or latent) confrontation, or distributing complementary tasks among themselves (producing, regulating, distributing in solidarity) in a relationship based more on mutual impermeability than collaboration.

The search for alternatives to the neoliberal model is nothing new, rather, it has been the underlying axis of the work of civil society organizations for decades. The growing concern among social organizations regarding global issues related to poverty, human rights, justice, and environmental sustainability has gradually shaped an emerging global civil society that has sought to develop proposals at the local, regional, and global levels. Through these efforts, it has become a key actor in the international system.

Meanwhile, the international system is becoming more globalized and regionalized. The boundaries between local and global affairs are increasingly unclear. Social, political, and economic interdependencies and flows have expanded, transcending state, regional, and continental boundaries. A global event can have a profound impact on local environments, no matter the distance between them. At the same time, local actions can have enormous global consequences. Although these influences have always existed, the intensity, speed, and impact of the transnationalization of political, social, and economic interactions are decidedly new, as is the growing influence of the global media on humanity's perceptions and life experience.

All of this shapes a new economic, political, social, and cultural space in which the local and the global are increasingly intertwined. Within this space, new development opportunities can arise, such as access to capital, markets, or technologies, and connections between societies and cultures. However, new issues also emerge related to the environment, finance, and development, as well as to the increasingly global migrations that exacerbate poverty and

inequality, environmental destruction, and fuel the emergence of illicit networks that profit from the trafficking of drugs, human beings, and arms. All of these factors generate and aggravate global risks, which, because of their transnational nature, can no longer be handled by individual states on their own, since they lack the mechanisms necessary to address them.

Civil society organizations are taking a more active role in the search for answers to global issues. They have become decisive stakeholders in the pursuit of international human and sustainable development goals, as well as in combating poverty, inequality, climate change, the food crisis, the energy crisis, and other issues.

Citizens are increasingly aware of the need for collective management of common global issues. As a consequence, they have included these issues on their agenda, understanding them not only as rights but also as responsibilities that can be exercised at the local, national, regional and international levels. This has progressively shaped the concept of global citizenship, in which social movements are simultaneously organized around local and global agendas. This suggests an increasing number of people worldwide have accepted they share a collective future and have adopted a planetary consciousness. They are engaged in local and global issues at the same time, and global issues have become part of everyday local experiences.

## "Other" Economies: Reciprocity and Relationality

Although, in recent years, studies have focused on the four pillars of integral and inclusive development, shared cultural values, environmental conservation, and good government, factors such as relational goods, reciprocity, happiness, and the common good are also essential to the formulation of new economic and political paradigms.

For many years, economists have asserted that individuals seek to maximize their wealth in order to maximize their utility (satisfaction) under the premise that greater wealth leads to greater happiness. There is a need to recognize that the good life, happiness, is a combination of material and relational goods. Relationships are of great concern because today genuine relationships, trust, and the sense of fraternity/sorority are scarce commodities. The other as a person is, in itself, an absolute value not subject to transactions. A utilitarian society exchanges relational goods for consumer goods that disregard the relationship with nature, the community, human rights, and the most vulnerable. The gift economy and reciprocity take up space.

In relational goods, the relationship itself is the good, it is a relationship based not on interests but on gratuitous encounters. A relational good necessitates intrinsic motivations with respect to that particular relationship.

Economic theory shifted its focus to relational goods when scholars came to the realization that the lens through which economics viewed the world failed to recognize the value of relationships and, in not doing so, there was a danger they would destroy it. More recently, the question of relational goods and their importance to a good life, a full life, has triggered an interdisciplinary analysis of economics, through research into the economics of happiness, the economics of enough, and the economics of love.

There is good news: amid the current crisis of the paradigm that argues neoliberalism is the system capable of ensuring human development, the power of other, alternative rationales is advancing. Some are not all that new—because of their cooperativism, mutualism—but others are beginning to emerge within new social organizations. These "other" economies share certain distinguishing features: they do not follow all of the principles of the

market economy, as in, they are not of a solely calculating nature, seeking to maximize profits at any human and environmental cost; they are often direct producers; they emerge from community initiatives, NGOs, social movements, churches; they are based on solidarity and cooperation; they include different forms of integration, such as reciprocity, redistribution, or exchange.

Essentially, they operate within "bottom-up multilateralism" and have a global scope.

## The "Other" Economy of Sumak Kawsay

*Sumak kawsay* is a Quechua expression from Ecuador. The Aymara, in Bolivia, refer to the same concept as *suma qamaña*, while in Guarani, from Paraguay, the expression is *teko porá*. All of these expressions translate to the Spanish *buen vivir* (living well) or *vida buena* (good life). It is a dynamic, overarching idea that in some way expresses the spirit and way of being of the indigenous people. It is not about the individualist concept of "living better" because if someone lives better it means there are others who are living worse. Living well means living in harmony, in balance, respecting and accepting differences, diversity, and complementarities.

**Gratuity and reciprocity, diversity and complementarity, are central values for a relational and regenerative economy.**

The Andean concept of *sumak kawsay* is associated with living in a community. There is no concept of the individual on their own, to be a person is to be with others, as a family and as a wider community. It is not that each person is not valued but rather that, according to indigenous wisdom, the very concept of a person includes the relationship, the community. From this concept, an economy based on ethics and solidarity emerges, where accumulation, saving, or retaining something for oneself is incomprehensible and scarcity is unacceptable. It is an ethics-economy of reciprocity and balance where goods are shared both generously and austerely.

If we look at nature, it is clear that a tree does not live for itself, nor does the insect, the bee, the ant, or the mountains. Instead, everything exists in relation to the other and gives to others, in complementarity and permanent reciprocity, in what is known as *ayni*.

Gratuitousness and reciprocity, diversity and complementarity are all key components of the good life. Differences are recognized and, thus, so are the richness, beauty, and growth that come from being with others. Men and women are different and complementary, as are children and the elderly, work and celebration. However, reciprocal giving and sharing are also highly valued. The good life involves another "social contract" that goes beyond social justice and seeks a balanced life. And this, obviously, is unattainable as an individual, neither on one's own nor in opposition to others: the good life is only attainable with others and taking care of life, of all life. It also relies more on consensus than democracy, where decisions are "voted on." Living well means reaching agreements after securing the participation of the entire community. Inclusive interventions respecting everyone's rights, presenting and listening to arguments, dialogue, and, finally, consensus ensure that decisions are made for the common good. (Ramos, 2012)

## From the Linear to the Circular Economy: The Need for Qualitative and Quantitative Indicators of True, Sustainable Integral Human Development

There is more good news: within the capitalist system, the traditional economic model of the linear economy is crumbling in the face of the logical alternative, the circular economy.

To be precise, the consumption model of the linear economy has, among other issues, a major problem: it is based on the belief that the earth's resources will never run out.

Meanwhile, the main objective of the circular economy is to find a balance between sustainability and progress. This goes beyond the consumption of goods; it is also directed at the energy transition from fossil fuels to renewable energies.

There are multiple benefits to this economic model: a) it prioritizes the life cycle of products, incorporating easy and universal manufacturing techniques into production processes to facilitate future repairs; b) the relationship between the company and the customer also becomes circular, since users prefer goods and service providers who offer quality after-sales services; c) economic practices based on cooperative models are preferred; d) the safety of workers is taken into account in circular production circuits; e) the environmental pollution of the ecosystem is reduced as fewer harmful emissions are generated.

It is associated with key concepts such as redesign, reduce, reuse, repair, renew, recover, and recycle.

Without question, the growth of circular economies within the context of "other" economies makes it necessary to redefine the concept of profitability. Hence, the "triple bottom line metric," which incorporates three profit areas into business models: social, environmental, and economic.

It is not a new concept: John Elkington originated the idea in 1998, in his book Cannibals with Forks: The Triple Bottom Line of 21st Century Business. He argued, rather prophetically, that the success of companies in the 21st century would depend on the attention they paid to these three areas.

Triple-impact businesses direct their actions along three pillars: society, economy, and environment. How these elements relate to the business model and all those involved at every step of the productive chain will determine whether or not it is a high-impact enterprise.

Growing issues such as inequality, global warming, and the health crisis have demonstrated the urgent need for companies to contribute to mitigation while also remaining profitable.

The Sustainable Development Goals of the 2030 Agenda set forth by the United Nations include 17 issues that require immediate action. With less than a decade remaining before the deadline, there is a backlog that requires society, governments, and companies to take action as soon as possible.

Of course, the economic and social vision promoted by Pope Francis delves into the increasing need for a fourth bottom-line metric: one that is spiritual and cultural.

The aforementioned concepts of "reciprocity–relationality" are essential components of an economy and harken back to the original meaning of the word.

That is, "economy" has its etymological roots in the Greek concept of *oikos*, or "household," and later *oikonomia*, which meant "household management." The work "ecology" incorporates that same concept of *oikos*, adding the suffix "-ology," derived from *logos*, a term that indirectly translates to "science."

It is thus a paradox that these two related words, rooted in a common concept, today, seem to have taken antagonistic stances on human development. If the Earth is our home, how should we manage it? Should it be from an economic or an ecological point of view?

This implies that even those who remain skeptical about environmental issues must understand there is an inevitable dependence that exists between "economy" and "ecology;" and that it is no longer just a matter of moral responsibility but of global social and financial survival.

It is therefore critical that both the opportunities and threats of this reality be recognized in order to reconcile these two concepts in the pursuit of our own wellbeing. It is only in doing so that we will be able to return to the proper management of this world we call our home.

If we are to redesign the economy in service of the common good, we must make progress in developing qualitative and quantitative indicators of a quadruple bottom line.

## Bottom-Up Multilateralism as a Vessel for an Ethical Approach to Development

The desirability of a development process and strategy is always measured in relation to one's individual perspective on the meaning of life, considering it as something valuable and worth living. In an ethical approach, the central question becomes, "Development... for what purpose?" It is difficult to make generalizations given the diverse range of understandings we have of human happiness, the abundance of cultural perspectives, and the tendency to interpret these concepts in an ethnocentric way. This is why ethical development analysts argued that, to avoid endless debates, it was necessary to reach a pragmatic agreement on the essential elements of a "dignified life" at a general level, based on specific commonalities and indicating the convergences between different cultures and perspectives.

These efforts have led to the identification of three values (Denis Goulet, 1995) pursued to the highest degree by all people and societies. As such, they can be used to define the essential elements of a "dignified life" common to all cultures. These values—life sustenance, esteem, and freedom—are universal goals in essence, though their specific modalities can vary at different times and in different places, and they are also broken down in different ways. Goulet describes each of these values as follows:

- Life sustenance. Everywhere, genuine value lies in the power to sustain or enrich life. Value resides directly in the vital function, not in its origin, scarcity, or the work human agents may have contributed to it. This is why it is possible to detect absolute underdevelopment when there is a shortage of goods to sustain life—adequate food, medicine, shelter, and protection.

- Esteem. A second component of a dignified life is esteem, understood as each person's perception that they are a worthy being and that others cannot use them merely as a means to achieve their ends, without considering their own interests. All individuals and societies seek esteem, identity, respect, honor, and recognition. Hence the desire of many societies to achieve development, says Goulet. But it also accounts for the resistance of other communities to the innovations of the development model being imposed upon them. In other cases, the genuine need for esteem is the reason some societies resist development. If the impact strategy employed by development actors humiliates a community, their need for self-respect will lead them to reject change.

- Freedom. Freedom is the third component of the general concept of a dignified life that is equally valued by underdeveloped and developed societies alike. In this particular case, there are several interpretations of what is meant by "freedom", although ultimately, it always refers to the possibility for members of a society to choose between many different life alternatives.

Moreover, these three values are practiced within all dimensions of human life; thus, it can be inferred that the perception of humanity will influence the extent of development considered.

## Challenges in this Millennium

It is essential to delve into how a monocausal, specifically economic vision of development emerged and predominated in the field for several decades if we are to gain an understanding of the issue and be able to move past it given that, in practice, this approach has yet to be abandoned. The issue is related to the position and prestige that economics has accumulated in the field of social sciences, as well as the logical role and influence it has on public policies for growth and poverty alleviation. A limited and partial approach to economics will inevitably affect our understanding of development.

The economist Amartya Sen highlighted one of the roots of the issue (2000) and the implications of his analysis can be summarized as follows. There are two sides to every economic problem: first, the so-called technical or engineering aspect, which is concerned with understanding which specific means can be used to achieve immediate and concrete goals in terms of production, distribution and consumption. Second, there is the so-called ethical element, which is concerned with the ultimate purpose of each economic action and of the economy as a whole. This aspect is associated with human motivations, with questions such as, "How should we live?" or "What is the purpose of the human efforts invested by individuals and communities in their work?" Wealth, production growth, and income are not pursued for their own sake but for their instrumental nature, for their usefulness in achieving other purposes. And yet it is not rational to pursue them if it is unclear where these efforts are being directed and why they are being made. In addition, if economics is going to guide policy decisions in practice—as it in fact does—there would be nothing rational about them if they were not also based on the technical and ethical dimensions of economics.

The ambiguity of a partial approach lies in the fact that by disregarding the ethical dimension of economics, it also disregards the purposes of the entirety of human life. What results is a theoretical, abstract approach that views social institutions in a simplified manner and human beings through a very constrained lens? Undoubtedly, this enables a very easy understanding of the interdependencies between productive factors and economic variables, which is one of the most complex aspects of economics in general. In doing so, it has thus been able to derive very useful insights into practical problems from these theoretical analyses. Nevertheless, the gap between these two dimensions of the economy, apart from constituting a break with the roots of economics as a scientific discipline, represents an impoverishment for it and a loss of direction for specific technical discussions.

In this respect, ethics is not something external to economic, social, political, or human problems in general. It is an essential, intrinsic dimension of the comprehensive definition of any human problem and one that always considers the valuable aspects that each action looks to achieve.

It is not the current prevailing conception of development—which is, above all, centered on "more economic growth"—that should be prioritized in contexts of poverty. On the contrary, the way of life of so-called poor countries and their ways of relating to the rest of the world should be judged based on that question of the purpose of development.

At the level of the life of a society, translating the question of "what is the purpose of development?" into a concrete plan and strategy with the necessary policies to achieve it requires a series of rational procedures that integrate ethics and social, economic and political analysis in a collective participation process that deepens democracy. The intervention of ethics enriches and broadens the conception and analysis of development, both as a whole and in the specifics.

Today, the framework of development unfolds in multiple areas. Global wealth is growing in absolute terms, but inequalities are also increasing: wasted "overdevelopment" contrasts with vast sectors of the population that do not even meet the caloric requirements for subsistence; high levels of public-private corruption, together with the criminal economy, divert funds that are essential for human development actions; the human rights of workers are violated not only by transnational corporations but

also by local accomplices; international aid is often diverted from its intended purposes; knowledge—especially knowledge associated with health—is losing its universal value and being commodified; social safety nets are being diminished, seriously jeopardizing workers' rights; uncertainty about working conditions is growing due to mobilization and the flexibilization of work; the profound sense of the cultural diversity of peoples and nations is being suppressed; the role and work of public authorities are undervalued; food security and access to drinking water are disregarded as inalienable rights and can be affected by private interests; local communities are excluded from decision-making spaces on the most desirable modes of production, lifestyles and participation. These are some of the aspects that call for a new and profound reflection on the meaning of the economy and its purposes.

## A Reconstruction of Meaning from the Peripheries

Looking to the peripheries and hearing the "cry of the earth and the poor" brings to light the current crisis in multilateralism and the need to rethink it from a perspective that is more inclusive of the forces of civil society in a broad sense. Likewise, diplomacy should also "democratize the global sphere by rethinking the decision-making processes in international forums." In essence, climate change mitigation and actions to combat structural inequalities can make progress if policies are coordinated multilaterally at all levels of governance.

This is the root of the call for a reconfiguration of multilateralism (LD,37-43). It is a chapter of great interest because it shows how for Pope Francis, the prophetic call for integral change is not a sterile utopia, but is always combined with his realistic vision that the large international organizations and diplomacy have failed up to this point, and yet they remain instruments that we cannot cast aside if we are to promote the universal common good. Despite their limitations, we do not have more valuable tools at our disposal, so it makes sense to continue insisting on their reform.

Ultimately, it is not only state institutions but their agencies at the regional, municipal, and citizen levels that must stem the current crisis with the support of forms of direct democracy. In short, in the face of the failure of the elites, the way forward is, above all, from the bottom up, and his call goes out to young people in particular.

Urgency, vision, and responsibility must be directed first and foremost at the victims of the consequences of climate change, such as families, the most vulnerable, and workers. They are, however, also among those who can play a crucial role in turning the tide and can contribute "to bringing about large processes of transformation rising from deep within society" ●

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Daniel Innerarity[1]

# Recovering the Future

> "...the world that surrounds us is not an object of exploitation, unbridled use and unlimited ambition. Nor can we claim that nature is a mere "setting" in which we develop our lives and our projects. For "we are part of nature, included in it and thus in constant interaction with it," and thus "we [do] not look at the world from without but from within." (Pope Francis, Apostolic Exhortation *Laudate Deum*)

While modernity presented the current day as better than the past, today we all seem to agree that the future will be worse than the present. Not only do reactionaries swear things were better in the past but leftists predict a catastrophic future as well. Thus, we find this reactionary nostalgia curiously coinciding with leftist predictions of doomsday and another belief on the left that catastrophe is the only way to recover our sensibility. Far from trusting in the inevitability of human betterment, progressivism today is precisely about avoiding humanity's decline. A naive brand of progressivism was based on the idea that things would improve regardless of our inaction, while critical progressivism argues that things will get worse if we don't do anything.

The grandiose tale of an inexorable convergence of the three projects of European modernity—economic and scientific progress, political liberalism, and secularization—is no longer sustainable: we now know that capitalism and science are compatible with authoritarian regimes and modernity and that modern technology can be aligned with religious traditionalism. Looking toward the future, all we seem capable of imagining is further development of technology and its abstract universalism. Yet analyzing how technology evolves—and the associated costs—casts doubt on our ability as humans to better our lot.

This negative outlook of the present and future can mainly be attributed to how ecology has doomed modernity. The modern project (tech rationalization, globalization, cultural homogenization, and the instrumentalization of nature) is manifestly incompatible with a livable planet. We push forward with a project without adequately reflecting on the earthly conditions it requires to continue. The climate crisis is the best example of how the world is no longer what humanity makes of it but that which we are unmaking.

Political actors respond to this problem in different ways. When we stop to analyze the dominant discourses and social practices, we find some meaningful differences between the two main ideological families that configured this modernity. In principle, both the left and the right are committed to the goal of ecology, albeit

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to different degrees, but their respective political cultures clearly differ. Here again, we find certain paradoxes that are difficult to understand from classical paradigms. Today, the right is more optimistic about tech and the economy and less concerned with the risks they entail. Moreover, they're—for the most part—less worried about the future. While some interpret this as a virtue of positive thinking, others see it as irresponsible. The most visible distinction between those on the left and right is their degree of concern regarding the future. Between the extremes of histrionics and flippancy, the degree and intensity on the ideological spectrum of worrying about the future varies enormously.

In this regard, if progressivism means believing in the future, the technocratic right is at the head of the line, while the left speaks the language of conservation. Based on this role reversal, we could say that the left's position on progress has suffered a more dramatic change. It has been 175 years since Marx and Engels wrote the *Communist Manifesto*, proclaiming the inevitable victory of the proletariat. I am less interested in what exactly the proletariat was expected to defeat than in their belief that this victory was inexorable. Those on the left today continue to insist on inevitability, but it is now negative.

## How Can We Recover the Future?

What changes would that recovery require in the way we think and act? Does the project of modernity require minor amendments or must we abandon it altogether? The ecological question points to the meaning and scope of the transformation that is needed.

The fact that our social practices are unsustainable represents, to start, flawed thinking. The great conceptual divisions (spirit and matter, living and non-living, human and non-human, sacred and profane) that determine what can and should be done in each civilization have been called into question. If we conceived of this antithesis differently, our understanding of the world and the sphere of our rights and obligations would be meaningfully transformed.

Altering our perspective in this way involves a new understanding of how society is configured: when we speak of the social contract, we are generally referring to the power of decision that enables sovereign subjects, not the existing ties between bodies that can influence one another within the space where life is shared. From the moment in which this vital space is threatened, all our categories on what is fair or unfair are shaken to the core. To start, an idea of justice limited to human society must be replaced by an ecological focus that does not exclude any living being from the worldly space we all share.

The theorists of modernity believed that the world was simply a place that offered unlimited possibilities and supposedly inexhaustible resources. The non-human here was reduced to the category of "nature," available for virtually any use. While nature was considered "surroundings," we must now conceive of it as a "medium." We will only recover the future if we respect the conditions for ensuring this recovery.

With a biosphere on the verge of collapse and amidst a series of crises that we weather without resolving, social expectations are changing profoundly. At this point, not even the rhetoric of a "great transformation" (Polanyi) veils the fact that change as an ideal has been replaced by the imperatives of conservation. We have been overestimating our ability not only to upset the status quo but also to manage situations and are now content to merely avoid calamity. Society today has abandoned the concept of progress and aspires only to better adapt to whatever may come. We have taken a defensive attitude toward the world, where we no longer hope to progress but only to maintain and conserve, or more specifically, to ensure our survival.

There are many examples of this in crisis management. The reaction to the last financial crisis, for example, was limited to stabilizing the economy, not transforming it. The changes to the economy, what we refer to as "structural adjustments," were minimal. Economic recoveries unfold within a global capitalism characterized by crises followed by public spending to momentarily address them. Our economy depends on extraction and a relationship with nature that has turned the economic system into a source of instability, while alternative economic policies have yet to appear. We reacted to the pandemic, entirely unprepared, and it is unclear whether we've learned the necessary lessons or are capable of making the recommended changes. In the face of the climate crisis, our approach has relied on mitigation and resilience, or individual responses like boycotts, recycling, or changes in our consumer habits—changes that do not significantly reduce the risks associated with this crisis. We perceive ecological risks as already beyond human control. This can particularly be seen in the debate surrounding "tipping points," that is, the moments in which stability is lost because negative dynamics spin out of control. It thus becomes impossible to calculate what will happen next and plan accordingly, that is, to lay out a political response.

## In a world on the brink of environmental collapse, reclaiming the future becomes a collective and shared task.

One sign that we find ourselves conserving instead of transforming is the success of the concepts of resilience and mitigation (and their associated practices). Resilience is the capacity to adapt to unfavorable circumstances outside one's control. It is not a way to shape the future but to respond to present-day crisis. The call to resist connects to this neoliberal idea that security increasingly depends less on the state and more on the individual. Similarly, the concept of mitigation shows we are resigned to reducing the impact of the crisis, as we are no longer capable of avoiding it: the future that mitigation enables follows not the logic of progress but that of being successful in the present, stabilizing and prolonging, preventing the worst aftereffects. This conformity is especially visible in the climate crisis: we've given up on predicting or controlling how ecosystems develop and instead are calculating society's reactions and fluctuations to adapt to what is to come.

I am speaking of something broader and more complex than biological survival, something that also has to do with our expectations and our way of being in the world. I am referring to a crisis of progress—understanding progress as a constant betterment of our living conditions, the unlimited development of subjects, and a heroic configuration of the future. We no longer expect constant economic growth, unequivocal tech acceleration, cultural innovations, or a continuous rethinking of associated decisions that would enable new points of departure, transformations, and reforms. These adaptations involve change but the decisions associated with them are not made freely: they are forced choices, with a very limited set of options.

In this context, it is logical that hope has lost much of its power of suggestion. The goal is no longer to conquer the future but to extend it. The message seems to be that keeping things as they are would suffice. There is another version of this, a break between the private and the public. The expectation of private happiness, individual achievement, and satisfactory personal relations becomes more relevant to people's lives than transforming society. Marx's famous idea has been reformulated: preserving the world, not changing it, has become revolutionary.

The German sociologist Philipp Staab provides a possible explanation for this new landscape, noting the contradiction between the modern principle of expansion and the contemporary principle of conservation. Subjectivity, which thinkers emphasized from the Enlightenment until May

1968, is no longer viable. Until now, emancipation has been understood as a relationship with the world based on exploitation, a lifestyle based on accumulation, individual development with no consideration of one's surroundings. Now that we are aware of the frailty of both the world and its subjects, the imperative is no longer to transform but to protect. Our fundamental responsibilities can no longer be expressed in terms of liberation but as responsibility in the face of the world's potential destruction. The goal of self-realization has been set aside as we confront issues related to our very survival. This became especially true at the moment when we realized that modernity as an unquestioned ideal is precisely what has endangered our survival as a society.

## What if all of this had set us on a search for a post-narcissist ideal of the good life?

Instead of obliging us to forgo personal development, perhaps self-preservation could be an invitation to think about this another way. As opposed to the exploitation of natural resources, the demand for continuously available transportation, or unchecked consumption, luxury might be defined as sovereignty over one's time, human-scale transit (on foot, by bike, on public transportation, through digital connections), or sustainable diets. We are not renouncing any serious part of our current-day freedom when we opt out of exercising it in a way that spoils our freedom of the future.

Many books have been written on the potential future of democracy, addressing whether it will survive and how much time it has left. I fear, however, that the true crisis of democracy resides in the lack of a future. What do I mean? I am referring to the use of the possessive when we speak of democracy's future. It's not so much about whether democracy has a future but about what future democracy has, what future it offers us. This is about how democracy relates to the future; how it configures, anticipates, imagines, or fears the future; and what promises, visions, and images of the future it offers. It's not so much about knowing whether democracy will survive but about what kind of survival it promises. It's not about the future that awaits democracy, but about the future that awaits us within democracy.

The future means different and often opposing things for different people, depending on their age and condition. In political debate, different futures collide. This could explain the resentment toward migrants—who are currently poor but will be rich in the future—on the part of certain sectors of the population who find themselves in exactly the opposite position: well-off in the present and worried about the future. Technology seems to threaten the competencies acquired (in the past) and render them useless in the future. The digital divide creates a division that is based on our capacity to adapt to our new tech surroundings. The economic distribution of futures is sorely inequitable. Inflation undermines the security of economic calculations, interest rates affect the debt capacity of different social sectors differently, and public debt has an inequitable impact on the future of different social and age groups. The urban structure is also a source of future inequalities. The periphery of the future, for example, will be located in desolate landscapes and neighborhoods with poor communications. Mobility and climate change do not affect everyone in the same way. Rising temperatures impact certain workers more than others. Green spaces, public pools, climate shelters, and good public transportation represent a need for some and superfluous spending for others.

The solution to all this is about making the democratic promise of a better future for all a credible one. One indication of how far we are from an equitable future—and the point to which it has been privatized—is a survey showing how people prioritize their personal economy over the economy at large, revealing how a sunny personal outlook can coincide with collective pessimism. Privatizing the future means not expecting

anything good at the collective level while being satisfied with one's personal situation. Among its many repercussions, this attitude reveals that we've separated our individual fate from the common one, leaving in the lurch all those whose personal destiny particularly depends on our common fate. Yet democracy is not merely the aggregate of individual futures: it is configuring a future that greatly depends on the futures of individuals, especially those whose only hope is for politics to work right.

The big question we must ask is whether we can pursue our private future without attending to our futures in common, without realizing the extent to which these futures are intertwined. The whole world is a "contact zone," says D. J. Haraway (2008, pp. 205–249) , as Pope Francis explicitly notes in the Apostolic Exhortation *Laudate Deum*. In the era of connected fates and shared threats, the liberal notion that the state must enable private futures persists, without an understanding that personal betterment is not possible unless certain public goods are protected. When it comes to issues like climate change, public health, and security, we cannot privately guarantee the protection to which we are entitled without a shared strategy, both public and global, on certain common goods, that is, an equitable future. Take, for example, the potential impact of individual defense against climate change. Without public and global commitments to battle climate change, all air conditioning does is assure a more comfortable death.

The future is not just an individual, private, family affair. Democracy is a way to draw attention to the ties between the individual and the collective, negotiating these connections. It enables an equitable distribution of futures, defining the future in which we want to live and the associated rights and duties

Ana Marta González[1]

# Nature, Ethics and Human Work: The Keys to Rectifying the Technocratic Paradigm

In the Apostolic Exhortation *Laudate Deum* (paragraphs 20-23), published in 2023, Pope Francis reiterates the critique of the technocratic paradigm that he had outlined in the Encyclical *Laudato Si'* (paragraphs 101-122). Constructed around acting and thinking "as if reality, goodness, and truth automatically flow from technological and economic power as such." This paradigm represents a serious error that is not only categorical but also transcendental. Furthermore, it "has made it easy to accept the idea of infinite or unlimited growth, which proves so attractive to economists, financiers and experts in technology" (LS 106).

Less than ten years after the publication of *Laudato Si'*, the new exhortation returns to the same theme because, as Pope Francis explains, since 2015 we have not taken significant steps to correct that paradigm, in which we are in fact immersed, and which contaminates the very foundation of our relationship with nature and with ourselves.

Indeed, when examining the impact of our economic practices on nature, we should not limit ourselves to stating facts—natural resources cannot be regenerated at the same speed at which we consume them—but must instead go further and reflect on the ideas that underpin our economic activity itself, which are often are fed by a distorted vision of nature. Pope Francis refers specifically to the need to overcome this ideology based on an "obsession" with "increas[ing] human power beyond anything imaginable," which implies and reinforces a vision of nature and reality in general as a "mere resource at its disposal," as well as entailing a loss of sensitivity in regard to gratuity and care: "Everything that exists ceases to be a gift for which we should be thankful, esteem and cherish, and instead becomes a slave, prey to any whim of the human mind and its capacities" (LD,22).

One of the consequences of this purely instrumental vision of nature, already criticized in *Laudato Si',*[2] is that the whole of life is regarded in terms of accumulation and output, and that—as

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2 Cf. Francis, *Laudato Si'*, paragraph 82.

several authors have highlighted—we even come to see ourselves merely as economic resources.[3] This could be taken to mean that, as Pope Francis emphasizes at various points, we are also natural beings and part of nature, so we cannot take care of ourselves if we do not also take care of nature.

In this contribution, I would like to focus on what, in light of the above, seems to me to be the central concern of the new exhortation: correcting the purely instrumental relationship we have with nature. To my mind, this includes restoring a concept of work that exceeds the unilateral view of it as simply a productive force and recovers its inherently human dimensions. Indeed, I believe this is a realistic way to transform the functioning of the economy from within along with our vision of development, by tracing out an alternative to the technocratic paradigm that, while not spectacular, is practicable and pragmatic.

## Nature Beyond Human Activity

The view of nature as merely an available resource had already been put forward in Heidegger's well-known lecture on technology, delivered in 1953, which covered the main elements of the technocratic paradigm, and the risk of being absorbed by it.[4] Although the risk still seemed remote back then, that is no longer the case. However, despite the somber and urgent language employed in the new exhortation, Pope Francis trusts in the possibility that humanity can correct course, based on a deeper understanding of reality than the one implicit in the technocratic paradigm; an understanding that sees in nature something more than simply a material available ad infinitum for human purposes: "Contrary to this technocratic paradigm, we say that the world that surrounds us is not an object of exploitation, unbridled use and unlimited ambition" (LD,25).

Indeed, although we try to reduce it to being simply a resource available for our own ends, our intelligence notes that nature is not just neutral matter to be shaped at will, but instead, it obeys purposes and rhythms different from our own, as part of a system whose logic cannot be reproduced mechanically. This is what Kant had in mind when he stated, in his reflection on organic nature, that "it is absurd to hope that another Newton will arise in the future who shall make comprehensible by us the production of a blade of grass according to natural laws which no design has ordered,"[5]since, in his opinion, nature is not simply a "mechanical system" subject to causal laws, but rather a "technical" one,[6] in which purposes have been mapped out. The fact that we cannot know (in the strict sense that Kant attributed to this word) what these purposes are, or how natural beings are connected to one another, does not give us an excuse to treat nature as a material at our disposal. Indeed, such an approach has harmful consequences from an ecological standpoint, while at the same time leading to the intellectual and moral impoverishment of human beings themselves.

In fact, according to Pope Francis, "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" (LS 139). Nature, in effect, is not only outside but also within ourselves,[7] and it shapes our humanity. Hence, a merely instrumental and calculating attitude towards it can easily lead us to instrumentalize our own humanity, encouraging us to approach life itself in terms of performance alone.

3 Cf. Rosa, H. *Resonancia. Una sociología del a relación con el mundo*, Buenos Aires: Katz, 2020. Han, Byung Chul, *La sociedad del cansancio*, Barcelona: Herder, 2017.
4 Heidegger, M. *La pregunta por la técnica*, Barcelona: Herder, 2021.
5 Kant, I. *Crítica del Juicio*, (eds.) Juan José García Norro & Rogelio Rovira Madrid: Tecnos, 2007, KU, 5: 400.
6 Kant, I. *Primera introducción a la Critica del Juicio*, (ed.) Nuria Sánchez Madrid, Madrid: Escolar y Mayo, 2,011 KU, 20:214.
7 Kant himself speaks in these terms: "Thus sublimity is not contained in anything in nature but only in our mind insofar as we can become conscious of being superior to nature within us and thus also to nature outside us (insofar as it influences us)." KU, 5: 264.

Meanwhile, as Ulrich Beck observed decades ago when reflecting on the Chernobyl nuclear disaster, history appears to have taken it upon itself to disprove the Promethean pretensions of that unilateral vision of reason,[8] which, while busy calculating costs and benefits, forgets that there are realities and dimensions of value that defy calculation because they are inherent to the condition and meaning of life.

So although technological progress feeds the illusion that we have definitively surpassed nature, or that it is entirely under our control, the truth is rather the opposite: beneath all the artifice, we continue to depend on it, and we lead our lives in the hope that its rhythms will match ours. Hence our bewilderment when natural forces violently intrude into our lives, altering our plans and projects. In such situations, it is only normal for us to wonder about the causes and do our very best to fix things.

## Using ethical reasoning, we must always remember that our actions carry a debt to nature.

In this context, it is worth remembering that the impulse and primordial structure of rational life itself also are rooted in nature as a dynamic principle, the origin of a plurality of activities and life forms. Thus, Thomas Aquinas does not hesitate to attribute to human beings, as a specific characteristic of theirs, a rational *inclination*, in addition to other "natural inclinations" that humans seem to share with other living beings.[9] This is an acknowledgment that nature is as much a part of us as we are part of it; with the particularity that our condition as rational beings prevents our behavior from being determined by nature alone, leaving it up to our free will. Of course, we have inclinations toward certain goods, but the decision of whether to satisfy them or not, to do so in this way or that, or even choose the goods in question without experiencing any real inclination towards them, lies entirely in our hands. Nevertheless, this possibility doesn't give us the authority to entirely ignore nature, which, in a sense, represents the fundamental elements of our rational life through the goods it inclines us toward. This is precisely the thinking behind "natural law," whereby behaviors that deliberately harm the natural basis of our lives are prohibited on the grounds that they are evil and harmful, while virtuous behaviors are encouraged since they are in accordance with nature.

The very fact that nature is involved in our humanity and that our humanity depends on nature allows us to discard the fairly widespread notion that regards human beings as though they were merely "an external factor capable of damaging the environment." On the contrary, human beings "must be considered as part of nature. Human life, intelligence and freedom are elements of the nature that enriches our planet, part of its internal workings and its equilibrium" (LD,26). In the same vein, it makes sense to say that, through human beings, the cosmos becomes aware of itself to some extent, glimpsing the possibility of transcendence. However, when it comes to nature, this transcendence does not manifest so much in terms of Promethean mastery as responsible care.

8 Cf. Beck, U. *La sociedad del riesgo. Hacia una nueva modernidad*, Barcelona: Paidós, 2001.
9 STh I.II. q.94 a.2.

## The Naturalness of Ethics

If human beings can transcend themselves, it is only because their very rationality opens them up to this possibility. This is why such transcendence does not take place outside of nature but in harmony with it. For humanity, acting in accordance with nature means acting in accordance with reason. But the reason referred to here cannot be reduced simply to technical or instrumental reason, which, having assumed certain ends, does not consider the means to achieve them; on the contrary, it is a reason that is aware of its eternal debt to nature and its inclinations, that is, to the ends that these inclinations offer up as goods, and which provide the initial drive towards action. It thus seeks to ensure that the means chosen are respectful of nature.

In contrast to the purely medial rationality typical of technology, what characterizes ethical reason is that, in the midst of action, it does not forget our debt to nature. Thomas Aquinas himself hints at the connection between this concept of ethical behavior and caring for nature in the broadest sense when he associates the virtue of temperance with the "common good of nature."[10] According to this thinking, humanity's moral behavior, even in regard to a virtue that is usually considered "private"— despite its obvious public repercussions[11]—remains intimately linked to the common good of nature. This makes perfect sense if, as Pope Francis pointed out in *Laudato Si'* (and reiterates word for word in *Laudate Deum*) "'we are part of nature, included in it and thus in constant interaction with it", and thus "we [do] not look at the world from without but from within'" (LD,25).

In fact, highlighting the relationship between temperance and the common good of nature serves to refute the thesis formulated with critical intent by Mandeville in his famous text *The Fable of the Bees*, according to which private vices, such as vanity or greed, could be said to be public virtues because they keep trade and the economy functioning. The truth is quite the opposite: the type of economy that feeds on greed and intemperance undermines the conditions essential for political life itself. This is the basis for Aristotle's criticism of what he called "non-natural chrematistics"[12]; the philosopher saw the destabilizing risk to personal and social life that might result from the pursuit of acquisition for acquisition's sake. The intention of rekindling this criticism is certainly not to prohibit commercial activity but merely to warn of the risks associated with a purely technical vision of the economy, which, since it ignores contextualization and, therefore, ethical regulation in human life, de facto disregards natural conditions. Some critical reflection about the very meaning of economic activity would therefore seem to be in order. In *Laudato Si'*, this reflection is instigated by means of a rhetorical question:

> *Is it realistic to hope that those who are obsessed with maximizing profits will stop to reflect on the environmental damage which they will leave behind for future generations? Where profits alone count, there can be no thinking about the rhythms of nature, its phases of decay and regeneration, or the complexity of ecosystems which may be gravely upset by human intervention. Moreover, biodiversity is considered at most a deposit of economic resources available for exploitation, with no serious thought for the real value of things, their significance for persons and cultures, or the concerns and needs of the poor* (LS 190).

But how might we reverse that logic? Pope Francis is aware that "whenever these questions are raised, some react by accusing others of irrationally attempting to stand in the way of progress and human development" (LS 191), but, at the same time, he is convinced that "a decrease in the pace of production and consumption can

10 STh I.II q. 94 BC 3 ad 1.
11 Cf. Bobbio, N. *Elogio de la templanza*, Madrid: Temas de Hoy, 1,997.
12 Aristóteles, *Politica*, Madrid: Gredos, 1994, Book I, 9.

at times give rise to another form of progress and development" (LS 191); a development model, it should be noted, in which there is room for everyone, and the rhythms and regeneration of nature are not irreversibly altered.

In my view, to move in this direction, it is necessary to consider the vital component that directly—and not just instrumentally—links economic development with human development itself, namely work.

## Human Work for Human Development

Modern thinking is credited with having highlighted the central importance of work for the development of economic life. However, in modern economic thought, work is considered exclusively as a factor of production and, thus, only in instrumental terms, quite forgetting that, in fact, human work is always framed within an ethical praxis, which by definition is respectful of nature, and which promotes such goods as self-respect, creativity, service, or solidarity.

Since it was actually modern economic thought that, through its vision of work as simply a factor of production, has encouraged the technocratic development paradigm, whereby nature is also reduced to a mere instrumental resource for our own individual ends,[13] it makes sense to propose that efforts to redress this paradigm should center around correcting that purely instrumental vision of work and replacing it with one that, alongside its productive value, also takes into consideration the moral and relational values that make work meaningful for people. In fact, the question of meaning, as it relates to work, is addressed in *Laudate Deum*:

> *In conscience, and with an eye to the children who will pay for the harm done by their actions, the question of meaning inevitably arises: "What is the meaning of my life? What is the meaning of my time on this earth? And what is the ultimate meaning of all my work and effort?* (LD,33)

If we are now facing a crisis around the meaning of work,[14] it is largely because we have lost sight of how work connects both personal and social development; because we see work as merely an instrumental good—a way to earn money, or to achieve personal fulfillment—without taking into account its inherently service-related dimension, and therefore its relationship with social development. The difficulty in understanding how work ties into social development often stems from an inappropriate division of labor, which prevents workers from realizing that their work interconnects with that of others and contributes to goals that are truly meaningful, not only for themselves and their families but also for society as a whole, and even for humanity.

Recovering an entirely human vision of work and placing it at the very center of the real economy is not just an individual task; it also requires the participation of organizations, since, among other things, it is about understanding that workers are relational beings, both inside and outside the workplace; it entails realizing the extent to which the productive system needs to be in harmony with the social care system. And this, in turn, involves bringing public institutions on board to develop appropriate social policies. Moving from a technocratic to a human development paradigm that takes into account the natural conditions of rational life also means taking human work conditions into consideration.

13 Pope Francis refers to this explicitly in *Laudate Deum*: "This situation has to do not only with physics or biology, but also with the economy and the way we conceive it. The mentality of maximum gain at minimal cost, disguised in terms of reasonableness, progress and illusory promises, makes impossible any sincere concern for our common home and any real preoccupation about assisting the poor and the needy discarded by our society" (LD,31).

14 Cf. González, A. M. *Trabajo, sentido y desarrollo. Inflexiones de la cultura moderna*, Madrid: Dykinson, 2023.

The fate of humanity and that of nature are united. As soon we realize that human development is inseparable from its *ethical* relationship with nature, which implicitly includes an ethical view of economic activity, economic activity can recover its original purpose, which is to serve human needs within the context of the common good. Key to this recovery, on which the very transformation of the concept of development depends, is a fully human understanding of work, which does not regard it solely as an instrumental activity, at the service of production, but instead comes to see it as an ethical good, the veritable linchpin around which personal and social development revolve

Helen Alford[1]

# Moving Beyond Modernity: Searching for a New Worldview that is Fit for the 21st Century

One of the key problems on which *Laudate Deum* puts its finger is the relationship between the technical and international relations systems we have created and the kind of people we are, the way we behave and the culture we develop.

Those at a COP meeting may find putting these two things together somewhat strange. On the one hand, there seems to be the question of creating the best systemic solutions, on scientific and economic levels, along with the right policy and institutional environment. This seems to be the job of people with the right skills and with the responsibilities and institutional positions to bring the necessary changes about. These would be the people at the COP meeting, for instance, as well as technologists working on the technological breakthroughs needed. On the other hand, there is the question of our personal lifestyles and cultural presuppositions, for which we are all personally responsible, or which we could say are, to some extent at least, the responsibility of those charged with education and formation, and with cultural life. At first sight, at least, there does not seem to be a lot of overlap between these two groups, and yet Pope Francis puts them together. Why?

Here he touches on a really profound problem for us. Our "modern" system, devised in Europe in the 1700s, specifically distinguishes between these two things. The reason for doing so is noble: to promote individual freedom, or, at least, a certain idea of freedom. Our modern ways of thinking take promoting this kind of freedom as the key goal of society and our economies and political systems are set up to do this. Even if they do not always achieve it, or do not achieve it very well, they aim to achieve it. In order to achieve this goal, the system puts intrinsically valuable goals into the private sphere, dedicating the public sphere to the means needed to achieve those intrinsically important goals. Such means include things like the rule of law, equal treatment, freedom of belief and expression, and, above all, economic growth. Having created wealth, and then allowed it to be distributed according to rules that are agreed to be valid and just, we are

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then all left to achieve our individually-important goals in the private sphere of our lives.

Pope Francis challenges this idea. For him, the key problems of our technological and international relations systems are that they are respectively "technocratic" and suffer from "weakness". Looked at from the perspective of the modern thinking we have just been considering, these two problems may seem connected. Let us look at what he says about them. We may then also look towards some possible solutions.

## Technocracy – too much power in the technical system

Pope Francis starts section 2 of *Laudate Deum*, which is under the title "A Growing Technocratic Paradigm", with this description of what that term means: "a certain way of understanding human life and activity [that] has gone awry, to the serious detriment of the world around us". He further specifies this by saying that "Deep down, it consists in thinking "as if reality, goodness and truth automatically flow from technological and economic power as such"." We can see here the impact of "modern" thinking, where its noble end, promoting human freedom, is no longer being achieved. Instead, our technically advanced systems, deprived of any goal in themselves and oriented only towards becoming as instrumentally advanced as possible – since all important goals belong to the private sphere – are changing the way we think about ourselves. Everything tends towards becoming instrumentalised to the system. Intrinsic goals are being squeezed out, since the power of the system itself is suffocating them and subordinating them to the "needs" of that very system. The means are becoming the ends, turning everything upside down – things have "gone awry". The system now becomes the "good" thing that has to be developed at all costs; its technological and economic power is the source of the good, the true and the real. Indeed, if we look at the history of technological development, we can see that this is not a new problem.[2]

What we can identify here is that the "modern" system, if we can put it this way, made a mistake. It did not realise that, just as "nature abhors a vacuum", so human systems cannot work without goals that give them meaning and sense. If intrinsically important goals are taken out of the system, the system then turns whatever it has at its disposal – its means – into its goals, and life itself loses its deeper significance and becomes about creating means, of which economic wealth is probably the most alluring. This problem was not so clear before because, in practice, shared goals were not so easily removed from social life. Despite the type of life to which the modern system aspired, there were shared goals, provided especially by national identity and religious communities. Now that our systems are international and global, the problem with the modern approach emerges more clearly because there is no historical set of shared goals at the international or global level, even if we do (thank God) have the Universal Declaration of Human Rights. Nevertheless, as an international agreement, the UDHR is very recent, and is more and more contested today by non-Western parts of the world as an imposition on them of Western thinking.

If we have no intrinsically important goals, and the means become the ends, we easily arrive at a key problem that the Pope identifies in this text: the sense of being unlimited, of being limitless. This limitlessness can apply to economic growth – the Pope talks about "unlimited growth" (n. 20) – but it can also apply to the human being him or herself, with artificial intelligence and other technological developments contributing to the idea "of a human being with no limits, whose abilities and possibilities can be infinitely expanded thanks to technology" (n. 21).

2 For more on this, see, for instance, Helen Alford, "Confronting Adversarial Technology: Learning from the Past, Looking to the Future" in Gábor Ambrus (ed), *Homo Novus: From Technological Captivity to New Freedom*, Angelicum University Press, Rome, forthcoming; Howard Rosenbrock, "Engineers and the Work the People Do" in *IEEE Control Systems Magazine*, vol .1, no.3, September 1981, re-published in the anthology, *The Experience of Work*, Craig R. Littler (ed.), Aldershot: Gower/The Open University, 1985, 161 - 171.

It is ironic that we find this way of thinking at the same time that we face all of the limits we are hitting up against in our relationship with the environment. Indeed, as the Pope mentions, we even experience these limits in relation to the key metals and minerals, like lithium, that are crucial in the deployment of these very technologies. Nevertheless, ideologies have no natural limits on them and can become "an obsession". Pope Francis names this obsession as that "of a human being with no limits, whose abilities and possibilities can be infinitely expanded thanks to technology" (n. 22). As a result, everything else in the world tends to become instrumental towards achieving this obsessive goal. We lose the sense of the world as a gift to be cherished. The Pope also notes that only a small number of people have access to the knowledge for developing these technologies, which puts too much power in their hands.

In response to this, the Pope will say, we need to regain our sense of being part of nature, not of seeing nature as only the "setting" in which we develop (nn. 25-26). If we look for them, we have a lot of historical examples of how peoples have developed in harmony with nature; the Pope mentions how indigenous peoples have done so, even as they also modify nature for their own good.[3] In general, solutions will only be found if we recognise "the interaction of natural systems "with social systems"." (n.27). It is no surprise that the last paragraph of the section of *Laudate Deum* on technocracy takes us back to the key question we are exploring: the exclusion of goals from the public sphere, which here we can see as the international system: "In conscience, and with an eye to the children who will pay for the harm done by their actions, the question of meaning inevitably arises: "What is the meaning of my life? What is the meaning of my time on this earth? And what is the ultimate meaning of all my work and effort?" (n. 33). This loss of meaning strikes a chord with many of us. If we can find a way to reintroduce intrinsically important goals into the public sphere – into our technical and economic systems – we can start to find ways to give these systems meaning and purpose.

## Weakness – too little capacity in the multilateral system

Having discussed the overly powerful technical and economic system, striving for limitlessness, the Pope turns his attention to the opposite set of problems, that is, the insufficient strength, or the weakness, of the system of international relations. In n. 35 he says multilateralism leads to "more effective world organizations, equipped with the power to provide for the global common good, the elimination of hunger and poverty and the sure defence of fundamental human rights" with "real authority" so as to ""provide for" the attainment of certain essential goals". It is noteworthy that the text on this question arrives almost immediately at the need for goals. On the one hand, we do not need to "save the old multilateralism", he says, and then uses two very evocative words to describe what is needed: to "reconfigure" and to "recreate" the system in the light of the new situation. In the process of doing this, civil society has an important role to play, making up for what the UN cannot achieve and allowing a real application of subsidiarity. The Pope describes this as a multilateralism "from below" that complements that of the elites, pressurizing the latter also on climate issues, but also moving politics to a situation in which it is "in the hands of citizens", without which, he argues, "it will not be possible to control damage to the environment" (n. 37). On the other hand, what we have learnt from diplomacy up to now, even if it is in crisis, remains a resource on which to draw: "it must be part of the solution, because the experience of centuries cannot be cast aside either" (n. 41). A very multipolar and complex world needs a different model or "framework" to

3 For other fascinating examples from history of this kind of relation between technology and life, see Lewis Mumford, *Technics and Civilization*, London, Routledge and Kegan Paul, 1934, also available at: https://monoskop.org/images/f/fa/Mumford_Lewis_Technics_and_Civilization.pdf (last accessed 01.11.23).

promote cooperation. The old idea of the "balance of power" is no longer sufficient; we need a system that can respond to new problems (n. 42). The last paragraph of this section is worth quoting in full: "All this presupposes the development of a new procedure for decision-making and legitimizing those decisions, since the one put in place several decades ago is not sufficient nor does it appear effective. In this framework, there would necessarily be required spaces for conversation, consultation, arbitration, conflict resolution and supervision, and, in the end, a sort of increased "democratization" in the global context, so that the various situations can be expressed and included. It is no longer helpful for us to support institutions in order to preserve the rights of the more powerful without caring for those of all" (n. 43).

In his discussion of the need for a new multilateral system, Pope Francis is anticipating the "Summit of the Future" that the UN Secretary General has called for September 2024. As we see here, key to the Pope's proposals for the reconfiguring and recreation of the system are the ideas of multilateralism from below, of the role of civil society and the role of spaces for "conversation, consultation, arbitration, conflict resolution and supervision, and, in the end, a sort of increased "democratization" in the global context". All these points raise the question of the relation between the kind of people we are with a more effective system of international relations on the technical level, bringing us back to the problematic role that the modern approach plays in specifically trying to keep these two issues apart.[4] We might also note that there are many ways in which shared, or social goals are coming back into the picture, even if the modern synthesis does not welcome them. What are the SDGs but "social goals"? And what is the "purpose" that every business now has adopted except a shared goal between stakeholders? Last year, the British Standards Institution launched a guidance document on "Purpose-Driven Organisations" with the aim, as in all standards, of making the idea of purpose real, and to avoid "purpose-washing". In Laudato si, Pope Francis says "We have too many means and only a few insubstantial ends" (203). He references there the "Earth Charter" and its idea of a "common destiny" (207).

## We must think of humanity as part of a larger natural system, to help society modify its interaction with nature.

Talking about shared goals, however, is going to make the average reader of the New York Times or the average professor of political theory or sociology very nervous, and with good reason. Who decides what these goals are? How are we going to protect individual freedom if we are going to decide together what our goals are? And, indeed, these are real questions and we do not yet have a proper answer to them. The main point to make here is that we have to face these questions, because doing so is part of finding a new, synthesis for solving our problems, instead of offloading our problems onto the modern, individualistic view which cannot deal with them. The problems we experience with populism in many parts of the world also show us that we cannot avoid this problem any longer. Populists know that people are searching for meaning and identity, and often, they manipulate that real and legitimate desire for their own ends, but instead of condemning the supporters of populist leaders, we need to offer them a better vision of a shared and meaningful goal, one that is inclusive rather than the opposite. We do not clearly know how to do this yet, but Pope Francis is

4 An interesting text that looks especially at one element of this reconfiguration of multilateralism, that is, the role of religious and philosophical communities within it, is that of Philip McDonagh et al, *On the Significance of Religion for Global Diplomacy*, Routledge, Oxford, 2021 (an Open Access text, available for download, at: https://www.taylorfrancis.com/books/oa-edit/10.4324/9781003053842/significance-religion-global-diplomacy philip-mcdonagh-kishan-manocha-john-neary-lucia-v%C3%A1zquez-mendoza)

setting us a good example of how to try to get there with the "culture of encounter and dialogue" that he is promoting, especially as it relates to religious faith, and the insights he gives us in *Laudate Deum*. The world's religions are going to be a key resource in this next stage of human history, for they have millennia of experience of thinking through what is the meaning and purpose of life. If we can create an interreligious platform, giving access to the resources that these great traditions can bring to the multilateral system, we have a much more serious chance of confronting the populists and of offering to the people of our day a vision of shared goals that are worthy of the human person, that are built on dignity and fraternity.

We may end by returning to the call Pope Francis gives us to do better in our personal lives, and to live in a way that takes care of our common home. We often do not want to accept the responsibility we all have for the results of our actions. We hide behind our modern system and put the blame onto others or onto the system. To some extent, this is reasonable, since the system itself has bred inactivity and compliance within most of us, as well as often unrealistic expectations of those in high authority, especially of those in political positions. As the great sociologist Weber said, modernity breeds a lack of responsibility. Yet, at the same time, we also know in our heart of hearts that if we hide behind the system, and say it doesn't allow us to do what we think we should do, we are giving in; we are being cowardly and not standing up for what is right. And, since we know this, we feel worse, and this contributes to our eco-anxiety. Instead, we need to be courageous and search for a true good, for, as the Pope puts it so well: "every family should realise that the future of their children is at stake" (n. 58). We will only be able to make our technical systems less technocratic, and our multilateral system less weak, if we start to find ways to bridge the gap introduced by modernity, reconnecting a good life, well-lived, with the operation of our global systems, whether on the technical level or the level of international relations. The Pope is right, and courageous, in calling us to do that

Gustavo Beliz[1]

# *Algorethics*, a Humantistic Language for the Development of Artificial Intelligence

In his famous poem "The Golem," Jorge Luis Borges—an Argentine poet admired by Pope Francis—masterfully describes the mythological creature created in Prague in the 16th century; "The rabbi watched it fondly and not a little alarmed as he wondered: How could I bring such a sorry creature into this world and give up my leisure, surely the wisest thing? [...] The cunning and naïveté of men are limitless."

According to medieval legend, when that being created from mud and clay was sent to fetch water from the river, it did its job so impeccably that it flooded the city.

In today's world, artificial intelligence (AI) has become the paradigm of what Pope Francis has referred to as the dangers of technocracy. In his second encyclical entitled *Laudato Si'*, the Pope notes that "It is right to rejoice in these advances," but with precaution, an idea he reiterates in his apostolic exhortation *Laudate Deum*. These statements draw on the ideas of philosopher Romano Guardini, who greatly influenced the Pope. In the turbulent period of the Second World War, Guardini was already grappling with these risks.

Based on this philosophical vision, Pope Francis has insisted that the environmental crisis is inseparable from the social crisis and that a fanciful, "green," romantic approach will not suffice. Instead, this crisis requires a structural analysis of the political and economic system.

Through diverse initiatives and studies, essentially based on the Pontifical Academy for Life, the Pontifical Academy of Sciences, the Pontifical Academy of Social Sciences,[2] and the Dicastery for

1 Member of the Pontifical Academy of Social Sciences appointed by Pope Francis. Three-time minister in the Argentine government between 1989 and 2023. He was as an official at the Inter-American Development Bank (IDB) for 17 years. Among his 22 published books, "Planet Algorithm: Artificial Intelligence for a Predictive and Inclusive Form of Integration in Latin America" stands out. Thanks to Macarena Santolaria for her contribution to this article.

2 The Pontifical Academy of Social Sciences has organized high-level conferences on subjects such as "Robotics, AI, and Humanity: Science, Ethics, and Policy" (2019), "Dignity and the Future of Work in the age of the 4th Industrial Revolution" (2019), and "Truth and Post-Truth in Communication, Media and Society" (2021). Similarly, the workshop held at the 2019 General Assembly Pontifical Academy for Life focused on "Roboethics: Humans, Machines and Health." The Academy also joined Microsoft, IBM, FAO and the Italian government in releasing the first "Call for AI Ethics" (2020), a document developed to promote an ethical approach to artificial intelligence.

Culture and Education,[3] the Pope has helped enrich the global discussion of the challenges of AI and its associated applications from a perspective of integral human development. The vital importance of this technology for the world to come can be seen in the Vatican's recent decision to make "Artificial Intelligence and Peace" the theme of the message for World Peace Day 2024.[4]

The contributions in this regard can be summarized in the following five points:

## Not Apocalyptic or Naïve: Informed, Scientific Realism

"Artificial intelligence and the latest technological innovations start with the notion of a human being with no limits, whose abilities and possibilities can be infinitely expanded thanks to technology. In this way, the technocratic paradigm monstrously feeds upon itself." What the Pope has noted at the philosophical level is confirmed not by the tech world's champions or opinion-makers but by scientists and experts who have been responsible for the latest advances in generative AI.

As early as 2017, 100 renowned global experts gathered at a Future of Life Institute conference and laid out 23 principles. One of them is: "AI systems designed to recursively self-improve or self-replicate in a manner that could lead to rapidly increasing quality or quantity must be subject to strict safety and control measures." The experts emphasized a core issue: human control. "Humans should choose how and whether to delegate decisions to AI systems, to accomplish human-chosen objectives."[5]

At the same time, the launch of ChatGPT and the release of mass-market generative AI applications have been a source of concern in the international community.[6] The Future of Life Institute has called on all AI labs to immediately pause for at least six months the training of AI systems more powerful than GPT-4.[7] Some of the detrimental effects of new technologies on social cohesion—like disinformation, fake news, and hate speech—are also relevant when considering an integral approach to the impact of AI.

**The mandatory application of AI regulations and its non-use in the arms race are key requests from the Pope.**

At a strictly technical level, scholars and AI developers have warned of specific risks like the possibility of hallucinations and biases multiplied by the use of synthetic data, the development of undesirable superpowers, wireheading and AI's ability to deceive to avoid monitoring, Darwinism and natural selection, jailbreaking and the omission of ethical norms and expected functioning of AI, plagiarism and copyright violations in generative AI models, and the failure to recognize human work as a source of information,[8] among others.

3 Dicastery for Culture and Education and Santa Clara University (2023). Ethics in the Age of Disruptive Technologies: An Operational Roadmap. Available at: https://www.scu.edu/media/ethics-center/itec/Ethics-in-the-Age-of-Disruptive-Technologies:An-Operational-Roadmap—-ITEC-Handbook-June-2023.pdf

4 Vatican News (2023). Artificial Intelligence, Theme of the Message for World Peace Day 2024. Available at: https://www.vaticannews.va/en/church/news/2023-08/message-world-day-peace-artificial-intelligence-pope-francis.html

5 Future of Life Institute (2017). AI Principles. Available at: https://futureoflife.org/open-letter/ai-principles/

6 When asked about this issue, Geoffrey Hinton, a British computer scientist known as "the godfather of AI" had this to say: "That's a serious worry (…) So, one of the ways in which these systems might escape control is by writing their own computer code to modify themselves. And that's something we need to seriously worry about. They will be able to manipulate people, right? And these will be very good at convincing people." Interview available at https://www.cbsnews.com/news/geoffrey-hinton-ai-dangers-60-minutes-transcript/.

7 More information is available here: https://futureoflife.org/open-letter/pause-giant-ai-experiments/

8 Wayner, P. (2023). 10 Reasons to Worry about Generative AI. Available at: https://www.infoworld.com/article/3687211/10-reasons-to-worry-about-generative-ai.html

Far from implying a technological apocalypse, these specific issues require a multidisciplinary, scientific, and pragmatic approach agreed upon globally. This approach should involve shared responsibilities from the main public-private actors, ensuring that the development of AI serves the common good and avoids the emergence of existential risks that could compromise the security and comprehensive progress of society as a whole.

## Measuring and Sharing Economic Impact

There have been many estimates of the economic impact AI will have in terms of the growth of the world economy, productivity, the creation and destruction of jobs, and the potential for redistribution. However, certain definitions and basic agreements on how to guide the digital economy globally are still lacking.

First, a compass is needed for big data. It is key for statistical systems and national accounts to incorporate innovative digital satellite accounts to measure the digital economy.[9] At the macroeconomic level, though certain aspects of the intangible economy and the service sector hinder an assessment of their impact on the real economy, a consensus on the recording criteria and measurements between countries would be an essential first step toward dealing with other questions. At the microeconomic level and in terms of the application of AI in this sector, however, clear horizons are still lacking: there is still no international agreement on a methodology to calculate the carbon footprint, which would be fundamental to an effective energy transition.

Second is the discussion on redistributing digital and technological benefits. This involves a conversation about what global tax mechanisms promote the equitable development of the digital economy at the global level, prioritizing that of low and middle-income countries. One step forward in this regard is OECD Pillar 1 and Pillar 2.[10] In the two pillars, the OECD proposes to reallocate tax mechanisms to the jurisdiction of the market where the tech platforms operate and set a tax rate of 15%. At the same time, the redistribution can be thought of in terms of the users and workers of the collaborative economy: both still lack a global regulatory framework that guarantees the protection of the data and recognizes their value. Such a framework would also fully recognize fundamental consumer and worker rights to protect the dignity of the people in the digital economy.

Third is the need to address monopolistic behaviors and market mechanisms. Recently, a series of cross-border financial penalties have shed light on the lack of consensus regarding how to promote fair competition in the digital economy.[11] Based on the unique nature of accumulation based on data collection, the international community must thoroughly consider the advantages and disadvantages of different models for knowledge transfer, intellectual property, mergers and acquisitions to promote and disseminate innovation among all countries and production sectors. It is imperative to avoid all forms of digital colonialism that increase the gaps of inequality.

Linking the tripod of technological innovations with climate change and new financing mechanisms that alleviate the fiscal space of countries (such as debt-for-nature swaps, with adequate monitoring of their commitments), is another key element where AI can contribute to effective monitoring.

9 OECD (2019). Measuring the Digital Transformation: A Roadmap for the Future, OECD Publishing, Paris, https://doi.org/10.1787/9789264311992-en

10 OECD and G20 (2023). OECD/G20 Inclusive Framework Releases New Multilateral Convention to Address Tax Challenges of Globalisation and Digitalisation. Available at: https://www.oecd.org/tax/inclusive-framework-releases-new-multilateral-convention-to-address-tax-challenges-of-globalisation-and-digitalisation.htm

11 Garcia-Macia, D. and Goyal, R. (2021). Decoupling in the Digital Era. Available at: https://www.imf.org/external/pubs/ft/fandd/2021/03/international-cooperation-and-the-digital-economy-garcia.htm

## Grappling with the Geopolitics of Critical Minerals and Environmental Effects

AI also plays a major role in the energy transition and will continue to do so in the future. The question of whether its impact will be positive or negative will depend on the consensus nations build on the type of desirable use for AI and its intensity.

On the one hand, there are multiple ways for AI to contribute to environmental protection. Its main contribution is through green algorithms that can trace the carbon footprint of all economic activities. In the same way, blockchain technology can also play a virtuous role, providing transparent, decentralized integration of an energy grid, incorporating solar panels and batteries.[12] Platforms like Climate Change AI (CCAI)[13] analyze opportunities for applying AI and catalyze resources for the use of AI techniques like computer vision or machine learning. These have a range of applications, fostering low-carbon electrical systems, improved vehicle efficiency, precision farming, and the prediction of extreme weather events.[14] Others like Global Gateway, the EU-LAC Digital Alliance for a human-centric digital transformation, will support Latin American infrastructure and connectivity.[15] These platforms are particularly important for global knowledge dissemination in this area. Country initiatives that support AI projects focused on the environment, like Spain's Green Algorithms Program,[16] are also important, enabling AI innovations to spill over at the local and regional levels.

At the same time, certain aspects of AI and the geopolitical race for new technologies must be considered to avoid sabotaging the conservation of natural resources. First, every stage of AI—from data gathering to data maintenance and model training—requires an enormous amount of energy, which may not come from renewable sources.[17] Second, the indiscriminate race for the control of critical minerals for the transition to a digital economy could reduce the virtuous potential of AI. The importance of minerals like lithium, cobalt, copper, and nickel in devices as essential as cell phones, state-of-the-art technologies, and defense could contribute to more carbon emissions, to the detriment of local territories and communities.[18]

## Pushing the Envelope on AI for Social Cohesion

For 2030, the international community has outlined 17 areas where action is needed for sustainable global development.[19] AI can play a role in achieving these goals, catalyzing fundamental processes to achieve the end of poverty, zero hunger, and world peace. Hundreds of applications are already underway: their responsible, equitable application in all of the world's regions and countries can move us more quickly toward the desired future.

12 AI for Good (2022). How AI is Advancing the Energy Transition to Net-Zero. Available at: https://aiforgood.itu.int/how-ai-is-advancing-the-energy-transition-to-net-zero/
13 More information is available at: https://www.climatechange.ai/about
14 Rolnick et al. (2022). Tackling Climate Change with Machine Learning. ACM Computing Surveys, Volume 55, Issue 2 Article No.: 42, pp. 1–96: https://doi.org/10.1145/3485128
15 Beliz, G., Melguizo, A. y Muñoz, V. (2023). LAC-EUROPE. Global Gateway in Latin America and the Caribbean: Innovative Paths for Investment, Cooperation and a Digital Partnership with Europe. Available at: https://scioteca.caf.com/bitstream/handle/123456789/2103/LAC%20UE%20DIGITAL_ENG?sequence=5&isAllowed=y
16 More information is available at: https://portal.mineco.gob.es/RecursosNoticia/mineco/prensa/noticias/2022/20221213_plan_algoritmos_verdes.pdf
17 Jones, E. and Easterday, B. (2022). Artificial Intelligence's Environmental Costs and Promises. Available at: https://www.cfr.org/blog/artificial-intelligences-environmental-costs-and-promise
18 Burke, H. S. and Doyle, C. (2023). U.S. Governance on Critical Minerals. Available at: https://www.wilsoncenter.org/sites/default/files/media/uploads/documents/ECSP%20Brief%204_Critical%20Minerals.pdf
19 United Nations (2015). Sustainable Development Goals. Available at: https://www.un.org/sustainabledevelopment/sustainable-development-goals/

In order to ensure quality education, AI can help teachers and professors through large language models, personalizing the experience of education and making it more appealing. This can be done through an intelligent assessment of basic literacy skills in children as seen in Reach Every Reader,[20] an initiative by the Harvard Graduate School of Education, the MIT Integrated Learning Initiative, and Florida State University.

In order to guarantee food security, AI can contribute to the selection and genetic enhancement of seeds, an assessment of plant conditions, and selective fumigation and watering. It can also help farmers by estimating crop yields and production.

In order to reduce inequalities and ensure the financial inclusion of vulnerable groups, AI can contribute to increased, simplified access to banking among marginal populations by "tokenizing" goods and services of the informal economy or by universalizing different financing mechanisms through blockchain technology, as promoted by the UNICEF Grassroots Economics initiative.[21]

In order to improve healthcare quality and access, AI can be applied in different ways, providing assistance to medical professionals, improving patient diagnostics and prognoses, speeding up the process of testing medicine and reducing delays in care, increasing telemedicine and digitalizing medical records, and ensuring nationwide access to medical records. One pioneering initiative in this regard is that of the Agency for Electronic Government and Information and Knowledge Society (AGESIC), which has introduced electronic medical records as part of the Integrated National Healthcare System.[22]

As part of the battle against social violence, especially gender violence, AI can help identify cries for help among groups at risk in urban contexts or serve as an online assistant available 24/7 for reports of gender violence. One example is Sara, an AI solution developed by the UNDP and USAID to tackle gender violence in Central America.[23]

At the same time, the benefit of each of these AI applications must not overshadow the efforts to ensure that people's integrity and rights are respected wherever AI is used. Robust protection of personal data, transparent algorithms, informed consent among users, and equal opportunities are the cornerstones of this process.

## *Algorethics* for Strategic Governance

"Fraternity among all," said Pope Francis at the launch of the Rome Call for AI Ethics, "is the condition for technological development also to be at the service of justice and peace everywhere." Programming languages must, at the same time, include a second language: that of ethics for the respect of each individual and humanity as a whole. In the Pope's words, "algorethics" strengthens technology's commitments to compassion, mercy, peace, and the common good.

Essential frameworks like the OECD AI Principles (2019);[24] the UNESCO Recommendation on the Ethics of Artificial Intelligence (2021), adopted by all 193 member states[25]; the European Union's AI Act (2023), the first law to regular AI globally;[26] and the Ministerial and High Authorities Summit

20 More information is available at: https://reacheveryreader.gse.harvard.edu/
21 More information is available at: https://www.grassrootseconomics.org/
22 More information is available at: https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/saluduy
23 More information is available at: https://www.undp.org/latin-america/press-releases/sara-new-artificial-intelligence-tool-tackle-gender-violence-central-america
24 OECD (2019). OECD AI Principles overview. Available at: https://oecd.ai/en/ai-principles
25 UNESCO (2021). Recommendation on the Ethics of Artificial Intelligence. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000381137
26 European Parliament (2023). EU AI Act: First Regulation on Artificial Intelligence. Available at: https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence.

on the Ethics of Artificial Intelligence (AI) in Latin America and the Caribbean (LAC), where 24 high authorities gathered to define a joint Latin American strategy for AI, reveal that moral and humane consensuses can be reached on AI's development.

However, the transition from written agreements to their application in every area where AI is used is far from complete. The current question is what tools will most effectively uphold the principles of transparency, accountability, security, and inclusion in AI developments. In terms of risk levels, should "labels" be developed for different types of AI? In terms of oversight, should specific regulatory agencies be created, like those that exist for food and drugs? In terms of sanctions, should these be action-based or harm-based?

## Moving Beyond Good Intentions

Moving beyond good intentions is the next big step toward maturity in AI ethics. To ensure that the development of these technologies is truly human-centric, it is essential to call upon decision-makers, developers, and users of AI to shift from debate to action. This transition involves not only equipping international and national bodies with multidisciplinary teams capable of addressing the issue competently but also establishing agencies with the necessary capabilities to implement and properly regulate AI. Spain has already taken a step in this direction by creating the Spanish Agency for the Supervision of Artificial Intelligence (AESIA),[27] which will handle the rulemaking for the AI Act recently passed by the European Union.

If misuse of AI represents an existential threat—like that of starting a nuclear war—the global community must establish and regularly update a permanent institutional framework to define common rules and ensure they are applied equitably in all nations. To stop the AI arms race, as the Pope has said, global regulations must be developed that go beyond voluntary self-regulation or the mere voicing of desires

27 More information is available at: https://espanadigital.gob.es/lineas-de-actuacion/agencia-nacional-de-supervision-de-la-inteligencia-artificial

# Apostolic Exhortation *Laudate Deum* of the Holy Father Francis

## To All People Of Good Will On The Climate Crisis

1. "Praise God for all his creatures". This was the message that Saint Francis of Assisi proclaimed by his life, his canticles and all his actions. In this way, he accepted the invitation of the biblical Psalms and reflected the sensitivity of Jesus before the creatures of his Father: "Consider the lilies of the field, how they grow; they neither toil nor spin, yet I tell you, even Solomon in all his glory was not clothed like one of these" (*Mt* 6:28-29). "Are not five sparrows sold for two pennies? Yet not one of them is forgotten in God's sight" (*Lk* 12:6). How can we not admire this tenderness of Jesus for all the beings that accompany us along the way!

2. Eight years have passed since I published the Encyclical Letter *Laudato Si'*, when I wanted to share with all of you, my brothers and sisters of our suffering planet, my heartfelt concerns about the care of our common home. Yet, with the passage of time, I have realized that our responses have not been adequate●, while

**Scientific evidence supports Pope Francis**

● **The current ambitions of countries' Nationally Determined Contributions (NDC) are insufficient,** and we are far from what is required. If all the current NDCs were to be implemented, the world would still be on a dangerous path of around 2.4°C–2.8°C by the end of the century, leading to devastating consequences for nature and humanity (IPCC, 2023; UNEP, 2022).

● **The Earth is operating beyond the safe zone: we have exceeded six out of nine planetary limits already.** This was the warning of the Potsdam Institute on these six: climate change, deforestation, loss of biodiversity, synthetic chemicals including plastics, depletion of freshwater, and nitrogen use (Potsdam Institute for Climate Impact Research, 2023).

● Exceptionally high temperatures, low air humidity, and **severe drought led to periods of unprecedented forest fires and natural disasters in many South American countries** (World Meteorological Organization, 2023a).

● **According to the World Health Organization**, climate change is the greatest threat to human health, as it influences its social and environmental determinants: clean air, safe drinking water, sufficient food, and secure housing (World Health Organization, 2021).

● **According to the ILO, excessive heat in the workplace poses risks to health**, limits the functions and physical capabilities of workers, as well as their labor capacity and productivity (International Labour Organization, 2019).

● **The climate crisis affects the right to housing** and has serious repercussions on urban settlements, while slow-onset events such as desertification or sea-level rise, jeopardize the habitability of human settlements (Special Rapporteur on Adequate Housing, 2022).

● **We must prepare for migrations caused by climate impacts**, especially from the poorest and most vulnerable individuals. It is estimated that the number of internal climate-driven migrants amounts to 216 million people. The number of internal climate-driven migrants in Latin America could reach 17.1 million by 2030 (2.6% of the population) (World Bank, 2021a).

● **Vulnerabilities and inequalities are exacerbated by the effects of climate change,** disproportionately affecting marginalized groups. The average mortality from natural disasters is up to 15 times higher in countries classified as highly vulnerable compared to regions and countries with very low vulnerability. More than 3.3 billion people live in countries classified as highly vulnerable (IPCC, 2022).

● **The situation of environmental activists is worsening worldwide (Global Witness, 2023),** particularly in Latin America and the Caribbean (LAC). In 2022, a total of 177 people lost their lives defending their land and the environment, with indigenous peoples remaining the primary targets of attacks.

● **The period between 2015 and 2022 marked the eight warmest years on record** since instrumental records began in 1850. The year 2022 was the fifth warmest in history (World Meteorological Organization, 2023).

the world in which we live is collapsing and may be nearing the breaking point●. In addition to this possibility, it is indubitable that the impact of climate change will increasingly prejudice the lives and families of many persons●. We will feel its effects in the areas of healthcare●, sources of employment●, access to resources, housing●, forced migrations●, etc.

3. This is a global social issue and one intimately related to the dignity of human life. The Bishops of the United States have expressed very well this social meaning of our concern about climate change, which goes beyond a merely ecological approach, because "our care for one another and our care for the earth are intimately bound together. Climate change is one of the principal challenges facing society and the global community. The effects of climate change are borne by the most vulnerable people, whether at home or around the world".● [1] In a few words, the Bishops assembled for the Synod for Amazonia said the same thing: "Attacks on nature have consequences for people's lives".● [2] And to express bluntly that this is no longer a secondary or ideological question, but a drama that harms us all, the African bishops stated that climate change makes manifest "a tragic and striking example of structural sin". [3]

4. The reflection and information that we can gather from these past eight years allow us to clarify and complete what we were able to state some time ago. For this reason, and because the situation is now even more pressing, I have wished to share these pages with you.

## The Global Climate Crisis

5. Despite all attempts to deny, conceal, gloss over or relativize the issue, the signs of climate change are here and increasingly evident. No one can ignore the fact that in recent years we have witnessed extreme weather phenomena, frequent periods of unusual heat, drought and other cries of protest on the part of the earth that are only a few palpable expressions of a silent disease that affects everyone●. Admittedly, not every concrete catastrophe ought to be attributed to global climate change. Nonetheless, it is verifiable that specific climate changes provoked by humanity are notably heightening the probability of extreme phenomena that are increasingly frequent and intense. For this reason, we know that every time the global temperature increases by 0.5° C, the intensity and frequency of great rains and floods increase in some areas and severe droughts in others, extreme heat waves in some places and heavy snowfall in others. [4] If up to now we could have heat waves several times a year, what will happen if the global temperature increases by 1.5° C, which we are approaching? Those heat waves will be much more frequent and with greater intensity. If it should rise above 2 degrees,

the icecaps of Greenland and a large part of Antarctica [5] will melt completely, with immensely grave consequences for everyone.

● **Significant reductions in polar ice sheets are being recorded.** Antarctica is losing ice mass at an average rate of approximately 150 billion tons per year, while Greenland is losing around 280 billion tons per year (NASA, 2023a).

**Resistance and confusion**

6. In recent years, some have chosen to deride these facts. They bring up allegedly solid scientific data, like the fact that the planet has always had, and will have, periods of cooling and warming. They forget to mention another relevant datum: that what we are presently experiencing is an unusual acceleration of warming, at such a speed that it will take only one generation – not centuries or millennia – in order to verify it. The rise in the sea level and the melting of glaciers can be easily perceived by an individual in his or her lifetime, and probably in a few years many populations will have to move their homes because of these facts.

● **The global mean sea level continued to rise in 2022, reaching a new unprecedented high** since records have been available from satellite altimeters (1993–2022) (World Meteorological Organization, 2023).

● **Global sea levels are rising as a result of human-caused global warming**, with unprecedented rates in at least the last 2,500 years (NASA, 2023b).

7. In order to ridicule those who speak of global warming, it is pointed out that intermittent periods of extreme cold regularly occur. One fails to mention that this and other extraordinary symptoms are nothing but diverse alternative expressions of the same cause: the global imbalance that is provoking the warming of the planet. Droughts and floods, the dried-up lakes, communities swept away by seaquakes and flooding ultimately have the same origin. At the same time, if we speak of a global phenomenon, we cannot confuse this with sporadic events explained in good part by local factors.

8. Lack of information leads to confusion between large-scale climate projections that involve long periods of time – we are talking about decades at least – with weather forecasts that at most can cover a few weeks. When we speak of climate change, we are referring to a global reality – and constant local variations – that persists for several decades.

9. In an attempt to simplify reality, there are those who would place responsibility on the poor, since they have many children, and even attempt to resolve the problem by mutilating women in less developed countries. As usual, it would seem that everything is the fault of the poor. Yet the reality is that a low, richer percentage of the planet contaminates more than the poorest 50% of the total world population, and that per capita emissions of the richer countries are much greater than those of the poorer ones. [6] How can we forget that Africa, home to more than half of the world's poorest people, is responsible for a minimal portion of historic emissions?

● Approximately **60% of greenhouse gas emissions come from just 10 countries**, while the 100 countries emitting the least contributed to less than 3% (World Resource Institute, 2023).

10. It is often heard also that efforts to mitigate climate change by reducing the use of fossil fuels and developing cleaner energy sources will lead to a reduction in the number of jobs. What is happening is that millions of people are losing their jobs due to different effects

of climate change: rising sea levels, droughts and other phenomena affecting the planet have left many people adrift. Conversely, the transition to renewable forms of energy, properly managed, as well as efforts to adapt to the damage caused by climate change, are capable of generating countless jobs in different sectors. ● This demands that politicians and business leaders should even now be concerning themselves with it.

● The **global renewable energy sector employed 13.7 million people** directly and indirectly. It is estimated that **between seven and eight million new jobs could be created in the circular economy** (ILO-IRENA, 2023). Currently, it is estimated that **nearly 75 million people work in Nature-based Solutions (NbS).** (ILO-UNEP-IUCN, 2023).

### Human causes

11. It is no longer possible to doubt the human –"anthropic"– origin of climate change. ● Let us see why. The concentration of greenhouse gases in the atmosphere, which causes global warming, was stable until the nineteenth century, below 300 parts per million in volume. But in the middle of that century, in conjunction with industrial development, emissions began to increase. In the past fifty years, this increase has accelerated significantly, as the Mauna Loa observatory, which has taken daily measurements of carbon dioxide since 1958, has confirmed. While I was writing *Laudato Si'*, they hit a historic high – 400 parts per million – until arriving at 423 parts per million in June 2023. [7] More than 42% of total net emissions since the year 1850 were produced after 1990. [8]

● **Human activities have unequivocally caused global warming.** The likely range of the total increase in global surface temperature caused by humans from 1850–1900 to 2010–2019 is 0.8°C–1.3°C, with a best estimate of 1.07°C (IPCC, 2023).

12. At the same time, we have confirmed that in the last fifty years the temperature has risen at an unprecedented speed, greater than any time over the past two thousand years. In this period, the trend was a warming of 0.15° C per decade, double that of the last 150 years. From 1850 on, the global temperature has risen by 1.1° C, with even greater impact on the polar regions. At this rate, it is possible that in just ten years we will reach the recommended maximum global ceiling of 1.5° C. ● [9] This increase has not occurred on the earth's surface alone but also several kilometres higher in the atmosphere, on the surface of the oceans and even in their depths for hundreds of metres. Thus the acidification of the seas increased and their oxygen levels were reduced. The glaciers are receding, the snow cover is diminishing and the sea level is constantly rising. [10]

● At the current rate of fossil fuel burning, **the Earth could reach 1.5°C of warming by 2029** (Nature Climate Change, 2023).

13. It is not possible to conceal the correlation of these global climate phenomena and the accelerated increase in greenhouse gas emissions, particularly since the mid-twentieth century. The overwhelming majority of scientists specializing in the climate support this correlation, and only a very small percentage of them seek to deny the evidence. Regrettably, the climate crisis is not exactly a matter that interests the great economic powers, whose concern is with the greatest profit possible at minimal cost and in the shortest amount of time. ●

● **The economic impacts of environmental degradation are increasing.** Natural disasters cost over 120 billion dollars in the first half of 2023, with Latin America and the Caribbean being one of the most affected regions. In the current year, the region has experienced seven major natural disasters, including wildfires in Chile, droughts in Uruguay, droughts and floods in Argentina, among others (Swiss Re, 2023).

14. I feel obliged to make these clarifications, which may appear obvious, because of certain dismissive and scarcely reasonable opinions that I encounter, even within the Catholic Church. Yet we can no longer doubt that the reason for the unusual rapidity of these dangerous changes is a fact that cannot be concealed: the enormous novelties that have to do with unchecked human intervention on nature in the past two centuries. Events of natural origin that usually cause warming, such as volcanic eruptions and others, are insufficient to explain the proportion and speed of the changes of recent decades. [11] The change in average surface temperatures cannot be explained except as the result of the increase of greenhouse gases.

**Damages and risks**

15. Some effects of the climate crisis are already irreversible, at least for several hundred years, such as the increase in the global temperature of the oceans, their acidification and the decrease of oxygen. Ocean waters have a thermal inertia and centuries are needed to normalize their temperature and salinity, which affects the survival of many species. This is one of the many signs that the other creatures of this world have stopped being our companions along the way and have become instead our victims.

16. The same can be said about the decrease in the continental ice sheets. The melting of the poles will not be able to be reversed for hundreds of years. As for the climate, there are factors that have persisted for long periods of time, independent of the events that may have triggered them. For this reason, we are now unable to halt the enormous damage we have caused. We barely have time to prevent even more tragic damage.

17. Certain apocalyptic diagnoses may well appear scarcely reasonable or insufficiently grounded. This should not lead us to ignore the real possibility that we are approaching a critical point. Small changes can cause greater ones, unforeseen and perhaps already irreversible, due to factors of inertia. This would end up precipitating a cascade of events having a snowball effect. In such cases, it is always too late, since no intervention will be able to halt a process once begun. There is no turning back. We cannot state with certainty that all this is going to happen, based on present conditions. But it is certain that it continues to be a possibility, if we take into account phenomena already in motion that "sensitize" the climate, like the reduction of ice sheets, changes in ocean currents, deforestation in tropical rainforests and the melting of permafrost in Russia, etc. [12]

**Environmental degradation is driving the planet towards a sixth mass extinction of species,** costing more than 10 percent of the annual global gross domestic product in terms of biodiversity loss and ecosystem services (IPBES, 2019). Approximately a quarter (23.7%) of species, with an estimated total of one million species, are threatened (Secretariat of the Convention on Biological Diversity, 2020).

**The Andean glaciers, natural regulators of essential water resources to ensure water availability during dry seasons, are retreating** faster than anywhere else in the world (United Nations University – Institute for Environment and Human Security, 2023b).

**According to the "State of the Climate in 2023" report (Ripple et al., 2023),** we are entering an unknown domain, a situation that no one has witnessed firsthand in human history.

**We are dangerously approaching the edge of multiple critical risk points.** Human actions are behind this rapid and fundamental change on the planet (United Nations University – Institute for Environment and Human Security, 2023a).

**Some future changes are unavoidable and/or irreversible, but they can be limited through a profound, rapid, and sustained reduction in global greenhouse gas emissions.** The probability of abrupt and/or irreversible changes increases with higher levels of global warming (IPCC, 2023).

**LAC is home to 23% of the world's forests**, and over the past 30 years, their area has systematically decreased from 53% to 46% of the territory (ECLAC, 2021).

18. Consequently, a broader perspective is urgently needed, one that can enable us to esteem the marvels of progress, but also to pay serious attention to other effects that were probably unimaginable a century ago. What is being asked of us is nothing other than a certain responsibility for the legacy we will leave behind, once we pass from this world.

19. Finally, we can add that the Covid-19 pandemic brought out the close relation of human life with that of other living beings and with the natural environment. But in a special way, it confirmed that what happens in one part of the world has repercussions on the entire planet. This allows me to reiterate two convictions that I repeat over and over again: "Everything is connected" and "No one is saved alone".

## A Growing Technocratic Paradigm

20. In *Laudato Si'*, I offered a brief resumé of the technocratic paradigm underlying the current process of environmental decay. It is "a certain way of understanding human life and activity [that] has gone awry, to the serious detriment of the world around us". [13] Deep down, it consists in thinking "as if reality, goodness and truth automatically flow from technological and economic power as such". [14] As a logical consequence, it then becomes easy "to accept the idea of infinite or unlimited growth, which proves so attractive to economists, financiers and experts in technology". [15]

21. In recent years, we have been able to confirm this diagnosis, even as we have witnessed a new advance of the above paradigm. Artificial intelligence and the latest technological innovations start with the notion of a human being with no limits, whose abilities and possibilities can be infinitely expanded thanks to technology. In this way, the technocratic paradigm monstrously feeds upon itself.

22. Without a doubt, the natural resources required by technology, such as lithium, silicon and so many others●●, are not unlimited, yet the greater problem is the ideology underlying an obsession: to increase human power beyond anything imaginable, before which nonhuman reality is a mere resource at its disposal. Everything that exists ceases to be a gift for which we should be thankful, esteem and cherish, and instead becomes a slave, prey to any whim of the human mind and its capacities.

23. It is chilling to realize that the capacities expanded by technology "have given those with the knowledge and especially the economic resources to use them, an impressive dominance over the whole of humanity and the entire world. Never has humanity had such

● **Current trends are pushing us beyond the planetary limits of available natural resources,** responsible for half of global greenhouse gas emissions, more than 90% of biodiversity loss, land-related water stress, and one-third of pollution-related health impacts (IRP, 2022).

● The production of minerals, such as graphite, lithium, and cobalt, could increase by almost 500% by 2050, to meet the growing demand generated by the energy transition, estimated at more than 3 billion tons of minerals and metals to achieve a future below 2°C (World Bank, 2022).

power over itself, yet nothing ensures that it will be used wisely, particularly when we consider how it is currently being used... In whose hands does all this power lie, or will it eventually end up? It is extremely risky for a small part of humanity to have it". [16]

**Rethinking our use of power**

24. Not every increase in power represents progress for humanity. We need only think of the "admirable" technologies that were employed to decimate populations, drop atomic bombs and annihilate ethnic groups. There were historical moments where our admiration at progress blinded us to the horror of its consequences. But that risk is always present, because "our immense technological development has not been accompanied by a development in human responsibility, values and conscience... We stand naked and exposed in the face of our ever-increasing power, lacking the wherewithal to control it. We have certain superficial mechanisms, but we cannot claim to have a sound ethics, a culture and spirituality genuinely capable of setting limits and teaching clear-minded self-restraint". [17] It is not strange that so great a power in such hands is capable of destroying life, while the mentality proper to the technocratic paradigm blinds us and does not permit us to see this extremely grave problem of present-day humanity. ●

25. Contrary to this technocratic paradigm, we say that the world that surrounds us is not an object of exploitation, unbridled use and unlimited ambition. Nor can we claim that nature is a mere "setting" in which we develop our lives and our projects. For "we are part of nature, included in it and thus in constant interaction with it", [18] and thus "we [do] not look at the world from without but from within". [19]

26. This itself excludes the idea that the human being is extraneous, a foreign element capable only of harming the environment. Human beings must be recognized as a part of nature. Human life, intelligence and freedom are elements of the nature that enriches our planet, part of its internal workings and its equilibrium.

27. For this reason, a healthy ecology is also the result of interaction between human beings and the environment, as occurs in the indigenous cultures and has occurred for centuries in different regions of the earth. ● Human groupings have often "created" an environment, [20] reshaping it in some way without destroying it or endangering it. The great present-day problem is that the technocratic paradigm has destroyed that healthy and harmonious relationship. In any event, the indispensable need to move beyond that paradigm, so damaging and destructive, will not be found in a denial of the human being, but include the interaction of natural systems "with social systems". [21]

● **The risks associated with AI have already begun to exacerbate existing inequalities,** resulting in greater harm to marginalized groups. Within the framework of UNESCO, the document "Recommendation on the Ethics of Artificial Intelligence" was approved in 2021, which provides guidelines for putting AI systems at the service of humanity, individuals, societies, the environment, and ecosystems, as well as for preventing harm from their use (UNESCO, 2021).

● **Indigenous peoples share collective ancestral ties to the land.** It is estimated that there are 476 million indigenous people worldwide. Although they make up only 6% of the global population, they represent around 19% of the extremely poor. They safeguard 80% of the biodiversity and hold essential ancestral knowledge and experiences on how to adapt, mitigate, and reduce climate and disaster risks (World Bank, 2023).

28. We need to rethink among other things the question of human power, its meaning and its limits. For our power has frenetically increased in a few decades. We have made impressive and awesome technological advances, and we have not realized that at the same time we have turned into highly dangerous beings, capable of threatening the lives of many beings and our own survival. Today it is worth repeating the ironic comment of Solovyov about an "age which was so advanced as to be actually the last one". [22] We need lucidity and honesty in order to recognize in time that our power and the progress we are producing are turning against us. [23]

**The ethical goad**

29. The ethical decadence of real power is disguised thanks to marketing and false information, useful tools in the hands of those with greater resources to employ them to shape public opinion. With the help of these means, whenever plans are made to undertake a project involving significant changes in the environment or high levels of contamination, one raises the hopes of the people of that area by speaking of the local progress that it will be able to generate or of the potential for economic growth, employment and human promotion that it would mean for their children. Yet in reality there does not seem to be any true interest in the future of these people, since they are not clearly told that the project will result in the clearing of their lands, a decline in the quality of their lives, a desolate and less habitable landscape lacking in life, the joy of community and hope for the future; in addition to the global damage that eventually compromises many other people as well. ●

● **In 2021, the Escazú Agreement was signed,** which is the first regional environmental pact in Latin America and the Caribbean and the first in the world to contain specific provisions regarding environmental human rights defenders. Additionally, this agreement aims to improve public access to environmental information and advocate for their participation in decision-making processes (ECLAC, 2021).

30. One need but think of the momentary excitement raised by the money received in exchange for the deposit of nuclear waste in a certain place. The house that one could have bought with that money has turned into a grave due to the diseases that were then unleashed. And I am not saying this, moved by a overflowing imagination, but on the basis of something we have seen. It could be said that this is an extreme example, but in these cases there is no room for speaking of "lesser" damages, for it is precisely the amassing of damages considered tolerable that has brought us to the situation in which we now find ourselves.

31. This situation has to do not only with physics or biology, but also with the economy and the way we conceive it. The mentality of maximum gain at minimal cost, disguised in terms of reasonableness, progress and illusory promises, makes impossible any sincere concern for our common home and any real preoccupation about assisting the poor and the needy discarded by our society. In recent years, we can note that, astounded and excited by the promises of

any number of false prophets, the poor themselves at times fall prey to the illusion of a world that is not being built for them.

32. Mistaken notions also develop about the concept of "meritocracy", which becomes seen as a "merited" human power to which everything must be submitted, under the rule of those born with greater possibilities and advantages. A healthy approach to the value of hard work, the development of one's native abilities and a praiseworthy spirit of initiative is one thing, but if one does not seek a genuine equality of opportunity, "meritocracy" can easily become a screen that further consolidates the privileges of a few with great power. In this perverse logic, why should they care about the damage done to our common home, if they feel securely shielded by the financial resources that they have earned by their abilities and effort? ●

33. In conscience, and with an eye to the children who will pay for the harm done by their actions, the question of meaning inevitably arises: "What is the meaning of my life? What is the meaning of my time on this earth? And what is the ultimate meaning of all my work and effort?" ●

## The Weakness of International Politics

34. Although "our own days seem to be showing signs of a certain regression... each new generation must take up the struggles and attainments of past generations, while setting its sights even higher. This is the path. Goodness, together with love, justice and solidarity, are not achieved once and for all; they have to be realized each day". [24] For there to be solid and lasting advances, I would insist that, "preference should be given to multilateral agreements between States". [25]

35. It is not helpful to confuse multilateralism with a world authority concentrated in one person or in an elite with excessive power: "When we talk about the possibility of some form of world authority regulated by law, we need not necessarily think of a personal authority". [26] We are speaking above all of "more effective world organizations, equipped with the power to provide for the global common good, the elimination of hunger and poverty and the sure defence of fundamental human rights". [27] The issue is that they must be endowed with real authority, in such a way as to "provide for" the attainment of certain essential goals. In this way, there could come about a multilateralism that is not dependent on changing political conditions or the interests of a certain few, and possesses a stable efficacy. ●

● Around USD 44 trillion in economic value generation **(more than half of the world's total GDP) depends moderately or highly on nature and its services** (WEF, 2021).

● From the private sector, there is a new economic trend that proposes the need to integrate environmental considerations into economic analysis. Therefore, it is under discussion whether GDP is an adequate indicator to measure the sustainability of development, as it reflects economic growth but not the degradation or depletion of assets (World Bank, 2021b).

● **The UN has agreed to launch a Summit for the Future in 2024,** representing a unique opportunity to enhance global cooperation, address governance deficiencies, reaffirm existing commitments, and progress toward a revitalized multilateral system capable of positively impacting people's lives. The summit will focus on reimagining the foundations of more effective global cooperation to address current challenges and new threats moving forward (UN, 2023).

36. It continues to be regrettable that global crises are being squandered when they could be the occasions to bring about beneficial changes. [28] This is what happened in the 2007-2008 financial crisis and again in the Covid-19 crisis. For "the actual strategies developed worldwide in the wake of [those crises] fostered greater individualism, less integration and increased freedom for the truly powerful, who always find a way to escape unscathed". [29]

**Reconfiguring multilateralism**

37. More than saving the old multilateralism, it appears that the current challenge is to reconfigure and recreate it, taking into account the new world situation. ● I invite you to recognize that "many groups and organizations within civil society help to compensate for the shortcomings of the international community, its lack of coordination in complex situations, and its lack of attention to fundamental human rights". [30] For example, the Ottawa Process against the use, production and manufacture of antipersonnel mines is one example that shows how civil society with its organizations is capable of creating effective dynamics that the United Nations cannot. In this way, the principle of subsidiarity is applied also to the global-local relationship.

● In order to enhance the fulfillment of its mission, the UN is making radical changes to the development agenda, streamlining and strengthening management, simplifying processes, and prioritizing prevention and sustaining peace (UN, 2022).

38. In the medium-term, globalization favours spontaneous cultural interchanges, greater mutual knowledge and processes of integration of peoples, which end up provoking a multilateralism "from below" and not simply one determined by the elites of power. The demands that rise up from below throughout the world, where activists from very different countries help and support one another, can end up pressuring the sources of power. It is to be hoped that this will happen with respect to the climate crisis. For this reason, I reiterate that "unless citizens control political power – national, regional and municipal – it will not be possible to control damage to the environment". ● [31]

● The Action for Climate Empowerment (ACE) aims to strengthen education on climate change, training, public awareness, public participation, public access to information, and international cooperation on these elements (UNFCCC, 2021).

39. Postmodern culture has generated a *new sensitivity* towards the more vulnerable and less powerful. This is connected with my insistence in the Encyclical Letter *Fratelli Tutti* on the primacy of the human person and the defence of his or her dignity beyond every circumstance. It is another way of encouraging multilateralism for the sake of resolving the real problems of humanity, securing before all else respect for the dignity of persons, in such a way that ethics will prevail over local or contingent interests.

40. It is not a matter of replacing politics, but of recognizing that the emerging forces are becoming increasingly relevant and are in fact capable of obtaining important results in the resolution of concrete problems, as some of them demonstrated during the

pandemic. The very fact that answers to problems can come from any country, however little, ends up presenting multilateralism as an inevitable process.

41. The old diplomacy, also in crisis, continues to show its importance and necessity. Still, it has not succeeded in generating a model of multilateral diplomacy capable of responding to the new configuration of the world; yet should it be able to reconfigure itself, it must be part of the solution, because the experience of centuries cannot be cast aside either.

42. Our world has become so multipolar and at the same time so complex that a different framework for effective cooperation is required. It is not enough to think only of balances of power but also of the need to provide a response to new problems and to react with global mechanisms to the environmental, public health, cultural and social challenges, especially in order to consolidate respect for the most elementary human rights, social rights and the protection of our common home. It is a matter of establishing global and effective rules that can permit "providing for" this global safeguarding. ●

43. All this presupposes the development of a new procedure for decision-making and legitimizing those decisions, since the one put in place several decades ago is not sufficient nor does it appear effective. In this framework, there would necessarily be required spaces for conversation, consultation, arbitration, conflict resolution and supervision, and, in the end, a sort of increased "democratization" in the global context, so that the various situations can be expressed and included. ● It is no longer helpful for us to support institutions in order to preserve the rights of the more powerful without caring for those of all.

● **The "Our Common Agenda" report is a call for inclusive, interconnected, and effective multilateralism** to better respond and deliver results for people and the planet. It calls for a renewed commitment to global solidarity and redesigning the multilateral system to be able to adapt to global challenges while upholding the purposes and principles of its Charter (UN, 2021).

● **The Escazú Agreement** aims to ensure the full and effective implementation of the rights of access to environmental information, public participation in environmental decision-making processes, and access to justice in environmental matters (ECLAC, 2023).

## Climate Conferences: Progress and Failures

44. For several decades now, representatives of more than 190 countries have met periodically to address the issue of climate change. The 1992 Rio de Janeiro Conference led to the adoption of the United Nations Framework Convention on Climate Change (UNFCCC), a treaty that took effect when the necessary ratification on the part of the signatories concluded in 1994. These States meet annually in the Conference of the Parties (COP), the highest decision-making body. Some of these Conferences were failures, like that of Copenhagen (2009), while others made it possible to take important steps forward, like COP3 in Kyoto (1997). Its significant Protocol set the goal of reducing overall greenhouse

gas emissions by 5% with respect to 1990. The deadline was the year 2012, but this, clearly, was not achieved.

45. All parties also committed themselves to implementing programmes of adaptation in order to reduce the effects of climate change now taking place. Provisions were also made for aid to cover the costs of the measures in developing countries. The Protocol actually took effect in 2005.

46. Afterwards, it was proposed to create a mechanism regarding the loss and damage caused by climate change, which recognizes as those chiefly responsible the richer countries and seeks to compensate for the loss and damage that climate change produces in the more vulnerable countries. It was not yet a matter of financing the "adaptation" of those countries, but of compensating them for damage already incurred. ● This question was the subject of important discussions at various Conferences.

● OP 27 concluded with an innovative agreement to provide **financing for losses and damages to vulnerable countries** affected by floods, droughts, and other climate disasters. The creation of a fund and necessary financing mechanisms was agreed upon, although making them operational is still a subject of negotiation (UNFCCC, 2022).

47. COP21 in Paris (2015) represented another significant moment, since it generated an agreement that involved everyone. It can be considered as a new beginning, given the failure to meet the goals previously set. The agreement took effect on 4 November 2016. Albeit a binding agreement, not all its dispositions are obligations in the strict sense, and some of them leave ample room for discretion. In any case, properly speaking, there are no provisions for sanctions in the case of unfulfilled commitments, nor effective instruments to ensure their fulfilment. It also provides for a certain flexibility in the case of developing countries.

48. The Paris Agreement presents a broad and ambitious objective: to keep the increase of average global temperatures to under 2° C with respect to preindustrial levels, and with the aim of decreasing them to 1.5° C. Work is still under way to consolidate concrete procedures for monitoring and to facilitate general criteria for comparing the objectives of the different countries. ● This makes it difficult to achieve a more objective (quantitative) evaluation of the real results.

● **The Global Stocktake is a process for countries and stakeholders to collectively assess progress.** It reviews the global state of climate action, identifies gaps, and collaboratively charts a better path to accelerate climate action (UNFCCC, 2023b).

49. Following several Conferences with scarce results, and the disappointment of COP25 in Madrid (2019), it was hoped that this inertia would be reversed at COP26 in Glasgow (2021). In effect, its result was to relaunch the Paris Agreement, put on hold by the overall effects of the pandemic. Furthermore, there was an abundance of "recommendations" whose actual effect was hardly foreseeable. Proposals tending to ensure a rapid and effective transition ● to alternative and less polluting forms of energy made no progress.

● **Renewable energy will become the largest source of electricity generation worldwide by early 2025, surpassing coal** (IEA, 2022a). Of the 188 Parties to the Paris Agreement that had submitted their Nationally Determined Contributions (NDCs) by early December 2020, 170 (or 90% of the total) mentioned renewable energy, while 134 (or 71%) included quantified renewable energy targets (IRENA, 2020).

50. COP27 in Sharm El Sheikh (2022) was from the outset threatened by the situation created by the invasion of Ukraine, which caused a

significant economic and energy crisis. Carbon use increased and everyone sought to have sufficient supplies. Developing countries regarded access to energy and prospects for development as an urgent priority. There was an evident openness to recognizing the fact that combustible fuels still provide 80% of the world's energy, and that their use continues to increase.

51. This Conference in Egypt was one more example of the difficulty of negotiations. It could be said that at least it marked a step forward in consolidating a system for financing "loss and damage" in countries most affected by climate disasters. This would seem to give a new voice and a greater role to developing countries. Yet here too, many points remained imprecise, above all the concrete responsibility of the countries that have to contribute.

52. Today we can continue to state that, "the accords have been poorly implemented, due to lack of suitable mechanisms for oversight, periodic review and penalties in cases of noncompliance. The principles which they proclaimed still await an efficient and flexible means of practical implementation". [32] Also, that "international negotiations cannot make significant progress due to positions taken by countries which place their national interests above the global common good. Those who will have to suffer the consequences of what we are trying to hide will not forget this failure of conscience and responsibility". [33]

## What to Expect from COP28 in Dubai?

53. The United Arab Emirates will host the next Conference of the Parties (COP28). It is a country of the Persian Gulf known as a great exporter of fossil fuels, although it has made significant investments in renewable energy sources. Meanwhile, gas and oil companies are planning new projects there, with the aim of further increasing their production. To say that there is nothing to hope for would be suicidal, for it would mean exposing all humanity, especially the poorest, to the worst impacts of climate change.

54. If we are confident in the capacity of human beings to transcend their petty interests and to think in bigger terms, we can keep hoping that COP28 will allow for a decisive acceleration of energy transition, with effective commitments subject to ongoing monitoring. This Conference can represent a change of direction, showing that everything done since 1992 was in fact serious and worth the effort, or else it will be a great disappointment and jeopardize whatever good has been achieved thus far.

For the second consecutive year**, global energy generation from coal reached a historical high in 2022**, driving $CO_2$ emissions from coal power plants to unprecedented levels and accounting for over one-third of total electricity generation (IEA, 2023a).

**Global fossil fuel use has increased** alongside GDP since the beginning of the Industrial Revolution. The share of fossil fuels in the global energy mix has consistently remained at around 80% (IEA, 2022b).

**In the 2019–2020 period, average annual global funding for climate action reached USD 632 billion.** Out of this total, approximately 90.3% was allocated to mitigation, 7.2% to adaptation, and only the remaining 2.4% to activities that cover both areas. The absence of an official definition for losses and damages makes monitoring this challenging (World Resources Institute, 2022).

**The main themes of the COP 28 presidency** focus on driving specific action in four paradigm shifts: Accelerating the energy transition and reducing emissions before 2030; Transforming climate finance, delivering on past promises, and establishing the framework for a new finance agreement; placing nature, people, lives, and livelihoods at the center of climate action; mobilizing for the most inclusive COP in history (UNFCCC, 2023a).

55. Despite the many negotiations and agreements, global emissions continue to increase. Certainly, it could be said that, without those agreements, they would have increased even more. Still, in other themes related to the environment, when there was a will, very significant results were obtained, as was the case with the protection of the ozone layer. Yet, the necessary transition towards clean energy sources such as wind and solar energy, and the abandonment of fossil fuels, is not progressing at the necessary speed. Consequently, whatever is being done risks being seen only as a ploy to distract attention.

56. We must move beyond the mentality of appearing to be concerned but not having the courage needed to produce substantial changes. We know that at this pace in just a few years we will surpass the maximum recommended limit of 1.5° C and shortly thereafter even reach 3° C, with a high risk of arriving at a critical point. Even if we do not reach this point of no return, it is certain that the consequences would be disastrous and precipitous measures would have to be taken, at enormous cost and with grave and intolerable economic and social effects. Although the measures that we can take now are costly, the cost will be all the more burdensome the longer we wait.

● **The World Meteorological Organization warns that there is a 50% probability that the global temperature will temporarily reach the 1.5°C threshold above pre-industrial levels in the next five years,** for at least one of the next five years, and the probability increases over time, according to the World Meteorological Organization (World Meteorological Organization, 2022).

57. I consider it essential to insist that "to seek only a technical remedy to each environmental problem which comes up is to separate what is in reality interconnected and to mask the true and deepest problems of the global system". [34] It is true that efforts at adaptation are needed in the face of evils that are irreversible in the short term. Also some interventions and technological advances that make it possible to absorb or capture gas emissions have proved promising. Nonetheless, we risk remaining trapped in the mindset of pasting and papering over cracks, while beneath the surface there is a continuing deterioration to which we continue to contribute. To suppose that all problems in the future will be able to be solved by new technical interventions is a form of homicidal pragmatism, like pushing a snowball down a hill.

● **There is a 90% probability that El Niño conditions will continue to prevail during the second half of 2023,** leading to increases in global temperatures and the development of harmful weather and climate patterns. This alert calls on governments worldwide to prepare for mitigating the effects on health, ecosystems, and economies (World Meteorological Organization, 2023b).

58. Once and for all, let us put an end to the irresponsible derision that would present this issue as something purely ecological, "green", romantic, frequently subject to ridicule by economic interests. Let us finally admit that it is a human and social problem on any number of levels. For this reason, it calls for involvement on the part of all. In Conferences on the climate, the actions of groups negatively portrayed as "radicalized" tend to attract attention. But in reality they are filling a space left empty by society as a whole, which ought to exercise a healthy "pressure", since every family ought to realize that the future of their children is at stake.

59. If there is sincere interest in making COP28 a historic event that honours and ennobles us as human beings, then one can only hope for binding forms of energy transition ● that meet three conditions: that they be efficient, obligatory and readily monitored. This, in order to achieve the beginning of a new process marked by three requirements: that it be drastic, intense and count on the commitment of all. That is not what has happened so far, and only a process of this sort can enable international politics to recover its credibility, since only in this concrete manner will it be possible to reduce significantly carbon dioxide levels and to prevent even greater evils over time.

60. May those taking part in the Conference be strategists capable of considering the common good and the future of their children, more than the short-term interests of certain countries or businesses. ● In this way, may they demonstrate the nobility of politics and not its shame. To the powerful, I can only repeat this question: "What would induce anyone, at this stage, to hold on to power, only to be remembered for their inability to take action when it was urgent and necessary to do so?" [35]

● **The IEA lays out a narrow but achievable pathway to net-zero emissions in the energy sector** by mid-century, consistent with limiting global temperature increase to 1.5°C. Creating enabling conditions for its implementation remains a challenge (IEA, 2023b).

● In June 2023, the summit for a "new global financing pact" was held in Paris, outlining a roadmap for the redesign of the financial architecture. **Its goal is to build a new contract between Northern and Southern countries to address climate change and the global crisis.** One of the primary objectives of the summit was to facilitate international financing access for the most climate-vulnerable countries, enabling them to better respond to climate challenges, including access to healthcare and poverty reduction (Élysée, 2023).

## Spiritual Motivations

61. I cannot fail in this regard to remind the Catholic faithful of the motivations born of their faith. I encourage my brothers and sisters of other religions to do the same, since we know that authentic faith not only gives strength to the human heart, but also transforms life, transfigures our goals and sheds light on our relationship to others and with creation as a whole.

### In the light of faith

62. The Bible tells us: "God saw everything that he had made, and indeed, it was very good" ( *Gen* 1:31). His is "the earth with all that is in it" ( *Deut* 10:14). For this reason, he tells us that, "the land shall not be sold in perpetuity, for the land is mine; with me you are but aliens and tenants" ( *Lev* 25:23). Hence, "responsibility for God's earth means that human beings, endowed with intelligence, must respect the laws of nature and the delicate equilibria existing between the creatures of this world". [36]

63. At the same time, "the universe as a whole, in all its manifold relationships, shows forth the inexhaustible richness of God". Hence, to be wise, "we need to grasp the variety of things in their multiple relationships". [37] Along this path of wisdom, it is not a matter of indifference to us that so many species are disappearing and that the climate crisis endangers the life of many other beings.

64. Jesus "was able to invite others to be attentive to the beauty that there is in the world because he himself was in constant touch with nature, lending it an attraction full of fondness and wonder. As he made his way throughout the land, he often stopped to contemplate the beauty sown by his Father, and invited his disciples to perceive a divine message in things". [38]

65. Hence, "the creatures of this world no longer appear to us under merely natural guise, because the risen One is mysteriously holding them to himself and directing them towards fullness as their end. The very flowers of the field and the birds which his human eyes contemplated and admired are now imbued with his radiant presence". [39] If "the universe unfolds in God, who fills it completely... there is a mystical meaning to be found in a leaf, in a mountain trail, in a dewdrop, in a poor person's face". [40] The world sings of an infinite Love: how can we fail to care for it?

**Journeying in communion and commitment**

66. God has united us to all his creatures. Nonetheless, the technocratic paradigm can isolate us from the world that surrounds us and deceive us by making us forget that the entire world is a "contact zone". [41]

67. The Judaeo-Christian vision of the cosmos defends the unique and central value of the human being amid the marvellous concert of all God's creatures, but today we see ourselves forced to realize that it is only possible to sustain a "situated anthropocentrism". To recognize, in other words, that human life is incomprehensible and unsustainable without other creatures. For "as part of the universe... all of us are linked by unseen bonds and together form a kind of universal family, a sublime communion which fills us with a sacred, affectionate and humble respect". [42]

68. This is not a product of our own will; its origin lies elsewhere, in the depths of our being, since "God has joined us so closely to the world around us that we can feel the desertification of the soil almost as a physical ailment, and the extinction of a species as a painful disfigurement". [43] Let us stop thinking, then, of human beings as autonomous, omnipotent and limitless, and begin to think of ourselves differently, in a humbler but more fruitful way.

69. I ask everyone to accompany this pilgrimage of reconciliation with the world that is our home and to help make it more beautiful, because that commitment has to do with our personal dignity and highest values. At the same time, I cannot deny that it is necessary to be honest and recognize that the most effective solutions will not come from individual efforts alone, but above all from major political decisions on the national and international level.

In *Laudato Si'*, Pope Francis reminds us that **"Authentic human development has a moral character and implies full respect for the human person, but it must also pay attention to the natural world and 'take into account the nature of each being and its mutual connection in an ordered system'"** (*Laudato Si'*, 5).

70. Nonetheless, every little bit helps, and avoiding an increase of a tenth of a degree in the global temperature would already suffice to alleviate some suffering for many people. Yet what is important is something less quantitative: the need to realize that there are no lasting changes without cultural changes, without a maturing of lifestyles and convictions within societies, and there are no cultural changes without personal changes.

71. Efforts by households to reduce pollution and waste, and to consume with prudence, are creating a new culture. The mere fact that personal, family and community habits are changing is contributing to greater concern about the unfulfilled responsibilities of the political sectors and indignation at the lack of interest shown by the powerful. Let us realize, then, that even though this does not immediately produce a notable effect from the quantitative standpoint, we are helping to bring about large processes of transformation rising from deep within society. ●

● For promoting this necessary cultural change, it is worth remembering the words, **"We need to feel again that we need each other, that we have a responsibility for others and for the world, that it is worth being good and honest"** (*Laudato Si'*, 229).

72. If we consider that emissions per individual in the United States are about two times greater than those of individuals living in China, and about seven times greater than the average of the poorest countries, [44] we can state that a broad change in the irresponsible lifestyle connected with the Western model would have a significant long-term impact. As a result, along with indispensable political decisions, we would be making progress along the way to genuine care for one another.

73. "Praise God" is the title of this letter. For when human beings claim to take God's place, they become their own worst enemies.

*Given in Rome, at the Basilica of Saint John Lateran, on 4 October, the Feast of Saint Francis of Assisi, in the year 2023, the eleventh of my Pontificate.*

FRANCIS

# Notes

[1] UNITED STATES CONFERENCE OF CATHOLIC BISHOPS, *Global Climate Change Background*, 2019.

[2] SPECIAL ASSEMBLY FOR THE PAN-AMAZONIAN REGION, Final Document, October 2019, 10: AAS 111 (2019), 1744.

[3] SYMPOSIUM OF EPISCOPAL CONFERENCES OF AFRICA AND MADAGASCAR (SECAM), *African Climate Dialogues Communiqué*, Nairobi, 17 October 2022.

[4] Cf. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC), *Climate Change 2021, The Physical Science Basis*, Cambridge and New York, 2021, B.2.2.

[5] Cf. ID., *Climate Change 2023, Synthesis Report, Summary for Policymakers*, B.3.2. For the 2023 Report, see https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

[6] Cf. UNITED NATIONS ENVIRONMENT PROGRAM, *The Emissions Gap Report 2022*: https://www.unep.org/resources/emissions-gap-report-2022.

[7] Cf. National Oceanic and Atmospheric Administration, Earth System Research Laboratories, Global Monitoring Laboratory, *Trends in Atmospheric Carbon Dioxide*: https://www.gml.noaa.gov/ccgg/trends/.

[8] Cf. IPCC, *Climate Change 2023, Synthesis Report, Summary for Policymakers*, A.1.3.

[9] Cf. ibid., B.5.3.

[10] These are data of the IPCC, based on 34,000 studies: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC); cf. *Synthesis Report of the Sixth Assessment Report (20/03/2023): AR6 Synthesis Report: Climate Change 2023 (ipcc.ch).*

[11] Cf. IPCC, *Climate Change 2023, Synthesis Report, Summary for Policymakers*, A.1.2.

[12] Cf. ibid.

[13] Encyclical Letter *Laudato Si'* (24 May 2015), 101: AAS 107 (2015), 887.

[14] Ibid., 105: AAS 107 (2015), 889.

[15] Ibid. 106: AAS 107 (2015), 890.

[16] Ibid., 104: AAS 107 (2015), 888-889.

[17] Ibid., 105: AAS 107 (2015), 889.

[18] Ibid., 139: AAS 107 (2015), 903.

[19] Ibid., 220: AAS 107 (2015), 934.

[20] Cf. S. SÖRLIN-P. WARDE, *"Making the Environment Historical. An Introduction"*, in S. SÖRLIN-P. WARDE, eds., *Nature's End: History and the Environment*, Basingstroke-New York, 2009, 1-23.

[21] Encyclical Letter *Laudato Si'* (24 May 2015), 139: AAS 107 (2015), 903.

[22] Cf. *War, Progress and the End of History, Including a Short Story of the Anti-Christ. Three Discussions by Vladimir Soloviev*, London, 1915, p. 197.

[23] Cf. SAINT PAUL VI, Address to FAO on its 25th Anniversary (16 November 1970), 4: AAS 62 (1970), 833.

[24] Encyclical Letter Fratelli Tutti (3 October 2020), 11: AAS 112 (2020), 972.

[25] Ibid., 174: AAS 112 (2020), 1030.

[26] Ibid., 172: AAS 112 (2020), 1029.

[27] Ibid.

[28] Cf. ibid., 170: AAS 112 (2020), 1029.

[29] Ibid.

[30] Ibid., 175: AAS 112 (2020), 1031.

[31] Encyclical Letter *Laudato Si'* (24 May 2015), 179: AAS 107 (2015), 918.

[32] Ibid., 167: AAS 107 (2015), 914.

[33] Ibid., 169: AAS 107 (2015), 915.

[34] Ibid., 111: AAS 107 (2015), 982.

[35] Ibid., 57: AAS 107 (2015), 870.

[36] Ibid., 68: AAS 107 (2015), 874.

[37] Ibid., 86: AAS 107 (2015), 881.

[38] Ibid., 97: AAS 107 (2015), 886.

[39] Ibid., 100: AAS 197 (2015), 887.

[40] Ibid., 233: AAS 107 (2015), 938.

[41] Cf. D. J. HARAWAY, *When Species Meet*, Minneapolis, 2008, pp. 205-249.

[42] Encyclical Letter *Laudato Si'* (24 May 2015), 89: AAS 107 (2015), 883.

[43] Apostolic Exhortation Evangelii Gaudium (24 November 2013), 215: AAS 105 (2013), 1109.

[44] Cf. UNITED NATIONS ENVIRONMENT PROGRAM, *The Emissions Gap Report 2022: https://www.unep.org/resources/emissions-gap-report-2022.*

Building on his 2015 encyclical *Laudato Si'*, Pope Francis recently published the Apostolic Exhortation *Laudate Deum*, which reinforces the need to understand the climate crisis and the social crisis as part of the same challenge of integral human development, to which we must urgently, creatively, and courageously respond.

In response to this universal call, this publication has brought together a distinguished group of global experts who, along with the entire CAF team, analyze the practical and operational challenges highlighted by the Pope in *Laudate Deum*. They also delve into the ethical and philosophical elements necessary to promote global public goods.

Pope Francis's voice resonates as a high moral appeal not only in the face of the Climate Change Summit – COP 28 but also in the face of the ongoing dilemmas that the world faces today in building sustainable peace with greater social justice.

With its abundant natural resources, our region is not only an essential protagonist in this discussion but can also provide concrete solutions to make the future of the world more humane and equitable.

CAF, as the Development Bank of Latin America and the Caribbean, reaffirms with this publication its commitment to becoming a green bank, promoting sustainable and inclusive development.