Urgent Need for Equitable Solutions

Addressing the Environmental Crisis and Climate Change

Ramón Pichs Madruga

WHEN the United Nations Declaration on the New International Economic Order (NIEO) was adopted in 1974, environmental issues had not yet gained the relevance they have today, although there were already concerns within the scientific community about these challenges.

Just over 30 years ago, at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil, the challenges surrounding the link between environment and development came to the forefront. There was a global call for sustainable development, encapsulated in a Declaration of 27 principles that remain fully valid today.

Currently, the World Economic Forum estimates that half of the 10 biggest global risks for the next decade are environmental challenges, including the impacts of climate change, loss of biodiversity, pollution, and the overexploitation of natural resources. It is also estimated that about half of the global ecological footprint (the environmental impacts of human activity) corresponds to the carbon footprint, as fossil fuels still represent 82 percent of the global commercial energy mix.

In line with the above, the Intergovernmental Panel on Climate Change (IPCC) in its Sixth Assessment Cycle, concluded in 2023, confirms that human activities, primarily through greenhouse gas emissions, have unequivocally caused global warming. This report also recognizes the interdependence of climate, ecosystems, biodiversity, and human societies; the value of various forms of knowledge; and the close links between climate change adaptation, mitigation, ecosystem health, human wellbeing, and sustainable development. The IPCC also highlights that vulnerable communities, which have historically contributed the least to current climate change, are disproportionately affected.

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Photo: Guliver Image

The intensification of climate change exacerbates extreme poverty: a farmer in Zimbabwe in the middle of his dried-up crop field

Over the last 50 years, the operating rules of the prevailing world economic order, far removed from the aspirations of developing countries as outlined in their proposal for a NIEO in the 1970s, have intensified the environmental crisis to unprecedented levels, with adverse implications for the planet and the future of humanity. This is largely due to the prevalence of unsustainable production and consumption patterns.

In recent years, the international debate on the environment and development has increasingly focused on the so-called triple planetary crisis, referring to climate change, biodiversity loss, and pollution (especially from plastics). In this context, studies on development issues are increasingly using the term Anthropocene to define the period characterized by interrelated planetary pressures of large scale, speed, and scope.

Under these conditions, recent evaluations by the United Nations Development Program (UNDP) document that the impact of human activity on the planet is so profound that it is

causing dangerous planetary changes, with destabilizing effects accompanied by growing social polarization. Recent reports from the United Nations Environment Program (UNEP) emphasize that human population dynamics (particularly demographic pressure) and economic development have been the main drivers of environmental change.

According to WWF's Living Planet Report 2022, the global ecological footprint reveals that humanity is overexploiting the planet by at least 75 percent, which is equivalent to consuming the resources of 1.75 planet Earths.

The ecological crisis must therefore be analyzed in its close connection with the world's problems, gaps, and imbalances in terms of socioeconomic development. Both issues have a profoundly negative impact on the majority of the world's population, who reside in developing countries and are trapped in a vicious circle that tends to be reinforced and reproduced under the conditions of the current global economic order.

Although a large portion of the planet's natural resources are located in developing countries, the greatest benefits derived from their use have largely been monopolized by developed countries. Historically, the control, exploitation, degradation, and depletion of these resources have characterized economic relations between the North and the South, often to the detriment of the development priorities and interests of less advanced nations.

The Vicious Cycle of Underdevelopment, Poverty, and Environmental Degradation

Although a large portion of the planet's natural resources—energy, strategic minerals, biodiversity, freshwater, tropical forests, and soils—are located in developing countries, the greatest benefits derived from their use have largely been monopolized by developed countries. Historically, the control, exploitation, degradation, and depletion of these resources have characterized economic relations between the North and the South, often to the detriment of the development priorities and interests of less advanced nations.

Today, these socioeconomic asymmetries are only growing, social polarization is increasing, and inequality is being reinforced. For example, according to statistics from the International Monetary Fund (IMF), about 14 percent of the world's population living in 41 highly industrialized countries generate more than 60 percent of global exports. In contrast, another 14 percent residing in 45 countries in Sub-Saharan Africa contribute less than 2 percent of global exports and dedicate a third of their export earnings to servicing external debt. For all developing countries and emerging economies, external debt totaled about $12 trillion at the end of 2023, with debt servicing equivalent to 36 percent of these countries' export income. Between 2010 and 2023 alone, developing countries transferred nearly $47 trillion to their creditors in foreign debt service.

One of the most evident manifestations of the vicious circle between underdevelopment, poverty, and environmental degradation is the high dependence of the poorest sectors of the population in developing countries on traditional biomass fuels to meet basic energy needs, such as cooking and heating. The traditional use of biomass is estimated to cause about 3.6 million premature deaths per year due to indoor pollution.

According to UNDP statistics, 21.7 percent of the population in developing countries lives in conditions of multidimensional poverty, to which 15.2 percent is highly vulnerable. The situation is even more concerning in the poorest regions, such as Sub-Saharan Africa, where 53.4 percent of the population is affected by multidimensional poverty, and 18.8 percent is vulnerable. Often, these impoverished populations have no other choice but to degrade the natural environment to survive. It is estimated that 1.3 billion people depend on degraded agricultural lands.

One of the most evident manifestations of the vicious circle between underdevelopment, poverty, and environmental degradation is the high dependence of the poorest sectors of the population in developing countries on traditional biomass fuels to meet basic energy needs, such as cooking and heating. The use of bioenergy by these populations for these purposes is highly inefficient, estimated to reach about 25 exajoules, which is equivalent to about 8 percent of total commercial energy consumption in developing countries, according to statistics from the International Energy Agency (IEA). This amount is primarily concentrated in Africa (50 percent) and Asia (45 percent). The traditional use of biomass is estimated to cause about 3.6 million premature deaths per year due to indoor pollution. Moreover, these practices also generate greenhouse gas emissions and have been identified as

one of the main barriers to the active incorporation of women from these communities into other socioeconomic activities.

It is shocking that around 770 million people, especially in Sub-Saharan Africa, still lack access to electricity, a technology that dates back to the late nineteenth century. This situation is not just evidence of a technological gap; it is a stark example of the enormous social debt accumulated under the current world order.

The nexus between food, energy, and water insecurity is another major concern in countries of the Global South, where food insecurity is largely driven by gaps in energy and water security.

The intensification of climate change, for example, tends to exacerbate extreme poverty by reducing agricultural yields, driving up food prices, and worsening food and water insecurity. The poorest families, for whom food accounts for more than 50 percent of their household budget, according to the World Bank, are the most affected by rising energy and food prices.

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The vicious cycle of underdevelopment, poverty, and environmental degradation primarily impacts poor countries that are heavily dependent on the export of raw materials, such as agricultural products, minerals, and fisheries, among others in the primary sector of the economy. According to IMF statistics, about 60 developing countries rely primarily on raw material exports for their economic functioning. Of these, 24 are oil exporters, and 36 export other primary products. Most of these countries are located in Africa (25 countries, of which 70 percent depend mainly on the export of non-oil raw materials), the Middle East, North Africa, and Central Asia (18 countries, of which 72 percent are oil exporters), and Latin America and the Caribbean (10 countries, with 80 percent exporting non-oil primary products).

In these countries, where economies depend heavily on primary product exports, the environment and natural resources are subjected to intense pressures leading to resource depletion and environmental degradation, exacerbated by socioeconomic constraints. For instance, pressures to service external debt often lead to increased exports of natural resources, particularly when falling prices of export products drive efforts to compensate by increasing export volumes.

According to IMF statistics, in 2022, external debt service payments for the 36 developing countries that rely primarily on non-oil primary products amounted to 42.4 percent of their export income. For the 24 countries that primarily depend on oil exports, the proportion was significantly lower, at 15.8 percent, due to the central role of oil in global markets and the world economy.

If these trends continue, the development aspirations of the Global South will be further delayed, and in the coming years, the achievement of the Sustainable Development Goals (SDGs), adopted in 2015, will be increasingly postponed, exacerbating the adverse effects left by the pandemic. Proposals for solutions regarding the environment and development must consider the priorities and interests of the South.

Analyzing these issues requires a historical perspective since the great ecological challenges of today are, by nature, long-term issues that originated in earlier historical periods. The primary historical responsibility for the current ecological crisis lies with industrialized countries, which, especially since the Industrial Revolution in England, have caused the most significant environmental damage to the planet, in terms of environmental degradation and resource depletion. These countries, therefore, have an ecological debt to humanity, which they must begin to repay by leading global efforts to address the accelerated environmental deterioration of the planet without compromising the South's right to development.

Ecological Debt of Industrialized Countries

The key principles established at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro remain fully valid today, particularly the principle of "common but differentiated responsibilities." This principle acknowledges that although environmental problems are often global, not all countries bear equal responsibility for causing or exacerbating these problems. Highly industrialized countries carry the primary responsibility for global environmental degradation, especially when analyzed from a historical perspective. At the same time, the most vulnerable countries and communities, which have contributed the least to planetary pressures, bear the greatest burden of the global environmental crisis.

Since 2020, recent editions of the UNDP Human Development Reports have incorporated the Human Development Index (HDI) adjusted for

planetary pressures. This adjustment, although still incomplete and limited, considers both CO2 emissions per capita and material consumption per inhabitant in each country. According to this adjusted measurement, the United States, which ranked 21st in terms of HDI in 2022, drops 36 positions; meanwhile, Cuba, ranked 83rd in the HDI, improves by 30 positions when the adjustment is applied. The United States' per capita CO2 emissions are 47 times higher than the average for Least Developed Countries (LDCs), and per capita material consumption in the United States is nearly 10 times that of the LDCs.

Highly industrialized countries owe a debt to humanity, as their development has been built on unsustainable production and consumption patterns. These patterns have largely been transferred to the rest of the world.

Before these recent UNDP calculations, Jason Hickel introduced the Sustainable Development Index in 2020 as a contrast to the HDI. He highlighted, among other things, that the countries ranking highest on the HDI—generally highly industrialized nations—have contributed the most to climate change and the ecological crisis on a per capita basis.

According to Hickel, the top 10 countries in the HDI rankings, all of which are highly industrialized, exceed the planetary limit of sustainability for material footprint per capita by an average of 5.1 times and exceed the limit for per capita CO2 emissions by 7.9 times. Hickel argues that the HDI, due to its reliance on income, automatically portrays the Global North as superior to the South, thereby erasing or even legitimizing the violence through which the former has accumulated its surpluses—such as colonization, the slave trade, structural adjustment, land theft, labor exploitation, resource extraction, and other methods used by the core countries of the global system to undermine the periphery's efforts at development.

The seven most developed economies, with 9.9 percent of the world's population, generate 30.5 percent of world exports and 30.4 percent of global GDP, according to IMF statistics for 2022. These seven economic powers consume 26.9 percent of the world's commercial energy, with fossil fuels still accounting for 77.8 percent of their combined energy consumption, according to British Petroleum statistics. The per capita commercial energy consumption of the G7 is therefore 2.7 times the world average, 14.3 times the African average, 8.2 times that of India, and 1.9 times that of China.

The per capita ecological footprint of G7 countries far exceeds, in all cases, the planet's biocapacity per inhabitant, which is estimated at 1.6 global hectares. According to WWF and Footprint Network statistics, the average inhabitant of the United States or Canada consumes natural resources equivalent to almost five planets. The United States' per capita ecological footprint is 2.2 times greater than that of China and 7.1 times greater than that of India.

According to UN statistics, the number of climate-related disasters, including the most extreme ones, rose from 3,656 in the period between 1980 and 1999 to 6,681 between 2000 and 2019 resulting in 510,837 deaths in the latter 20-year period.

In summary, highly industrialized countries owe a debt to humanity, as their development has been built on unsustainable production and consumption patterns. These patterns have largely been transferred to the rest of the world. The current high levels of per capita energy and material consumption in the developed world come at a significant environmental cost and reflect the persistent socioeconomic disparities of our time.

CLIMATE CHANGE AS A CHALLENGE FOR DEVELOPMENT

The progress of climate science in recent decades has been well-documented in the assessment reports of the IPCC, which completed its Sixth Assessment Cycle in March 2023. The Synthesis Report from the latest cycle acknowledges that, for any level of future warming, many climate-related risks are greater than those assessed in the IPCC's Fifth Cycle, which concluded in 2014.

The Synthesis Report of the Sixth Cycle emphasizes the concept of climate-resilient development as an approach that integrates adaptation and mitigation to advance sustainable development for all. It underscores the need for greater international cooperation, improved access to adequate financial resources, particularly for vulnerable regions, sectors, and groups, as well as inclusive governance and coordinated policies to achieve this goal.

Among the adverse implications of climate change is the increasing frequency and intensity of extreme events. According to UN statistics, the number of climate-related disasters, including the most extreme ones, rose from 3,656 in the period between 1980 and 1999 to 6,681 between 2000 and 2019—an 83 percent increase—resulting in 510,837 deaths in the latter 20-year period. Floods account for the highest percentage of these disasters (44 percent of

Climate science messages in recent IPCC reports:

- Human influence on the warming of the climate system is unequivocal, with the carbon footprint representing more than half of the global ecological footprint.
- Advances in climate science tend to reduce uncertainty, enabling a better understanding of the interrelationships between natural systems, human systems, and climate change.
- Risks arise from the combination of climate threats, vulnerability, and exposure of human systems, ecosystems, and their biodiversity. Additionally, there are risks associated with climate change response strategies, which must be promptly identified and managed.
- The urgency of action against climate change is clear, as is the importance of ensuring that responses are immediate and equitable. Delays in action increase both the costs and the risks associated with this global challenge.
- Each increase in global warming amplifies changes in regional average temperatures and precipitation patterns, with projected extreme events becoming more frequent and intense.
- If global warming reaches 1.5° C above pre-industrial levels, the world will face multiple and inevitable climate threats within the next two decades. Exceeding this level, even temporarily, would lead to additional severe impacts, some of which would be irreversible.
- Extreme climate and weather events are occurring simultaneously, causing cascading impacts that are increasingly difficult to manage, and leaving millions of people in acute insecurity regarding food and water availability, particularly in Africa, Asia, Central and South America, small islands, and the Arctic.
- In a warming world, crucial services provided by nature—such as pollination, coastal protection, tourism, food security, health, water availability (both in quantity and quality), clean air, and climate regulation—are at risk. The loss of ecosystems and their services has cascading and long-term impacts on people globally, especially indigenous peoples and local communities who directly rely on ecosystems to meet their basic needs.
- Vulnerability is exacerbated by inequity and marginalization linked to differences in gender, ethnicity, low income, or a combination of these factors, particularly for many indigenous peoples and local communities.
- Integrated, multi-sectoral solutions that address social inequalities and tailor responses to local climate risks and situations will improve food and nutrition security.
- Climate-resilient development processes that integrate scientific, indigenous, local, professional, and other knowledge are more effective and sustainable because they are locally appropriate and lead to more legitimate, relevant, and effective actions.
- Between 2010 and 2019, annual greenhouse gas emissions reached the highest levels in human history. After the decline in emissions caused by the COVID-19 pandemic in 2020, emissions rebounded rapidly.
- The possibility of limiting global warming to 1.5° C will remain out of reach unless there are immediate and significant reductions in greenhouse gas emissions.
- There are options available today across all socioeconomic sectors (energy, industry, transportation, land use, buildings, urban areas, and service demand) that could halve emissions by 2030.
- Available financial flows are 3-6 times lower than the levels needed to limit warming to below 1.5°C or 2°C by 2030. Although there is enough global capital and liquidity to close investment gaps, these resources have not been directed toward climate action. The challenge of closing financial gaps is greater for developing countries, where response capacities are much more limited. Additionally, the adoption of low-emission technologies is slower in most developing countries, particularly the poorest ones.
- Accelerated and equitable climate action is key for sustainable development.

the total), affecting 41 percent of the people impacted, causing 9 percent of the deaths, and leading to 22 percent of the economic losses. Storms also have a significant impact, comprising 28 percent of total events, 18 percent of those affected, 16 percent of deaths, and 47 percent of economic losses.

The poorest countries are the most severely affected by these events, with particularly large losses in sensitive sectors like agriculture, which globally depends on 70 percent of rainfall. Disasters, especially climate-related ones such as storms, have a disproportionately high impact on small island nations. Of the ten countries or territories with the greatest economic losses as a percentage of GDP from 2000 to 2019, eight are island nations, seven of which are in the Caribbean region (Dominica: 15 percent; Cayman Islands: 9.1 percent; Haiti: 8 percent; Grenada: 7.8 percent; Turks and Caicos Islands: 5.8 percent; Bahamas: 4.3 percent; Puerto Rico: 3.5 percent). The other three are Guyana: 3.6 percent; Belize: 3.4 percent; and Samoa: 2.1 percent.

Both asymmetries and inequalities have been exacerbated in recent years. The results of multilateral negotiations on environmental and climate change as global challenges have been insufficient and have failed to adequately address existing socioeconomic gaps, or the development and equity priorities of the majority of humanity. The most vulnerable populations continue to face the greatest risks from climate change.

The answer to the reality of our interconnected world is not fragmentation. It is cooperation. We need to come up with proposals that are fit for the future: a strengthened framework for international cooperation.

Multilateral negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement largely reflect North-South confrontations, where the interests of developed countries collide with the priorities of developing countries. These divergences in the negotiation process are rooted in the global and regional socioeconomic gaps that prevail under the current world order.

There is international consensus that climate change is a global challenge, but this consensus breaks down when negotiating the responsibilities and commitments of each country to guarantee lasting solutions. The harsh reality is that the process of multilateral negotiations on the environment

and climate change remains extremely slow and fragmented, due to the lack of political will among the historically responsible countries to commit to emissions reductions commensurate with their historical responsibilities.

One of the unresolved issues is the necessary financial and technological support for developing countries to enable a just transition to a more sustainable economy. In this context, climate financing must strike an appropriate balance between adaptation and mitigation, and developed countries must meet their financial support commitments to developing nations in a timely manner.

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Trillions of dollars from both public and private sources are required to achieve global carbon neutrality. However, developed countries have so far agreed to mobilize only $100 billion annually for climate policies to support developing countries—a promise that has continually fallen short. The OECD estimates that recent climate financing has not met this $100 billion commitment.

The contributions of developing countries to addressing climate change require additional financial resources, suitable technology transfers, and capacity building—support that developed countries are obligated to provide under the Framework Convention and the Paris Agreement. Instead of making progress in these areas, there has been an increase in new forms of protectionism based on the carbon content of traded products and services, trade wars involving natural resources, and new forms of colonization and commodification of nature, all of which disproportionately affect the poorest countries.

Combined Solutions

In the current context, the position of developing countries in the debates and negotiations on the environmental dimension of NIEO must recognize that environmental problems cannot be separated from the issues of socioeconomic development. Solutions must involve a combination of conditions that include equitable international cooperation, the preservation of peace, respect for the right to development, and guarantees of access to additional financing and appropriate technologies.

Immediate actions are necessary, but they must be guided by a long-term perspective. These actions must be equitable and take into account the multiple socioeconomic and environmental interrelationships assessed by science. The principle of common but differentiated responsibilities, incorporated into the negotiations of the 1992 Rio Declaration on Environment and Development, must serve as the cornerstone of the negotiation process on these issues.

Addressing the environmental crisis, with climate change as a key expression of it, must be combined with the pursuit of a fair and lasting solution to the energy crisis that affects large sectors of the poorest populations on the planet. This must be a priority issue for the developing world in international negotiations and requires concrete contributions in terms of North-South transfers of financing and technologies.

Additionally, the lessons learned from responses to the environmental crisis and climate change during the COVID-19 pandemic must be taken into account. The pandemic exposed the inability of neoliberalism to respond to emergencies of this nature, reaffirmed the importance of science, highlighted the significance of local development and local-scale response capabilities, and underscored the need to enhance international cooperation and solidarity, as well as to strengthen the environmental dimension of development to prevent future pandemics.

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