

# Growth within limits through solidarity and equity

**Masse Lô**

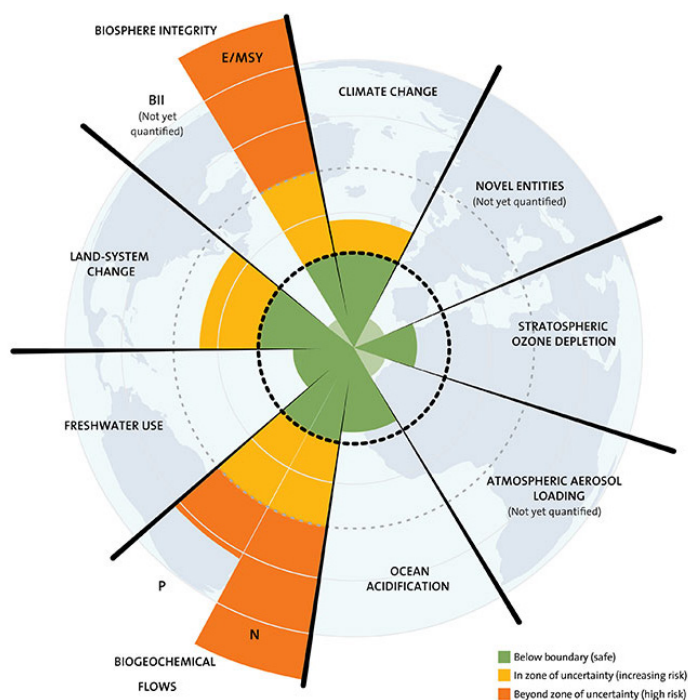
Director of the Institute of Leadership  
for Development-Africa (ildp-Afrique)

## Introduction

About 2 million years ago, *Homo erectus* appeared in Africa, migrating to Europe, Asia, and present-day Indonesia. *Homo erectus* is presented as the first hominid to domesticate fire, cook food, and master the techniques of stone cutting to create biface tools. The instruments they made show that *Homo erectus* could adapt tools to local conditions and their own needs.

Around 200,000 years ago, *Homo sapiens* (modern humans) followed suit, taking the same migration paths that led them to other continents, particularly Europe, where our ancestors first arrived 35,000–40,000 years ago. *Homo sapiens* are biologically and intellectually more evolved than the first hominids. Not only did they master fire, but they also worked with wood and made blades and strips, which served as basic tools that allowed them to develop more specialised tools, such as scrapers, chisels and projectile points. They also succeeded in domesticating several animal and plant species and began to wear clothes. In short, they already started having an impact on the environment through their agricultural activities, and their need for cultivated land led *Homo sapiens* to **clear forests and destroy biodiversity**.

We are now in the era of *Homo detritus*, considered the first modern humans, with science, technology and knowledge that have allowed us to extract value from the Earth's natural resources, generating vast quantities of waste and contributing to levels of atmospheric carbon dioxide (CO<sub>2</sub>) never before seen in the history of humankind. This uninterrupted extraction of resources since the Industrial Revolution has led to the disruption of the biogeochemical cycles of nitrogen and phosphorus, the loss of biodiversity and the acidification of the ocean, among other negative consequences. This human, *Homo detritus*, is the emblem of our current era, the Anthropocene.



Since 1980, humankind has accelerated its pressures on life-supporting ecosystems, pushing four of the **nine planetary boundaries** out of their “safe” operating space. There is now overwhelming scientific evidence that the strain caused by humankind is threatening to destabilise the entire Earth system, undermining possibilities for future prosperity. We are heading into a world where there will only be humans and the species from the animal and plant kingdom that they will have selected and protected for their own needs. Everything else will have disappeared (Terry, 1988).

## Escaping out of the wasp's nest

Over the last three decades, multilateral agreements and treaties have been signed at memorable summits, with a single objective: to promote sustainable development on a global scale. Two of the summits can be seen as major turning points: the Planet Earth Summit in 1992, in Rio, Brazil; and the 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) in 2015 in Paris, France.

At the Rio summit the international community adopted Agenda 21 (aka the Rio Declaration), thus laying the foundation for a sustainable development agenda, and signed two major international conventions: the Climate Convention and the Convention on Biodiversity. At the request of African parties, negotiations also began for a third convention on the fight against desertification, which was adopted in 1994.

At the Paris summit, the international community simultaneously adopted the Sustainable Development Goals (SDGs) and the Paris Agreement to limit global warming to 2°C, and preferably as close to 1.5°C as possible, compared to pre-industrial levels. The aim was to do everything conceivable to start reducing greenhouse gas emissions as quickly as possible and achieve a climate-neutral world by the middle of the 21st century.

Achieving the Sustainable Development Goals and redressing the damage already done to the planet's ecosystem will require robust and ambitious actions by all of humanity.

With 17 goals and 169 targets, the 2030 Agenda for Sustainable Development is designed to speed up the pace and “finish the job” that was started by the Millennium Development Goals (MDGs). The MDGs helped lift more than 1 billion people out of extreme poverty, increased primary school attendance (137 million additional children) and reduced the death rate from diseases including malaria and tuberculosis. Several SDGs are heading in the right direction, but they will need to speed up multiple times to achieve their targets. If the world's nations continue with the same efforts as recent years, we will not achieve SDGs by 2030, nor even by 2050. What is certain is that achieving the SDGs and redressing the damage already done to the planet's ecosystem will require robust and ambitious actions by all of humanity. This is what Earth4All's five economic policy areas for a sustainable transition – “the five extraordinary turnarounds” – are all about.

Implementation of the five turnarounds can only be achieved through consensual global actions. It requires actions by all parties, determined by individual capacities, being applied to a whole (the planet). Global action, by this definition, does not exist, yet. Consequently, the five turnarounds will need an active global solidarity pact to even stand a real chance at success.

In this transition there is no shortage of challenging questions. How do we achieve a global shift from fossil fuels to renewable energy when the energy consumption rates between low-, middle- and high-income countries are so wide? How can low- and middle-income countries that have only started to exploit fossil fuels relatively recently for their development now abandon them in exchange for renewable energies when financing is so hypothetical? How can rich countries that are struggling to meet their commitments in terms of the energy transition

achieve their own ambitions? And finally, how can we achieve turnarounds in a global economic system that is based on domination and excessive capitalist accumulation?

The threats facing the planet today target humanity as an indivisible whole. Thus, the sustainability of the planet and its ecosystems will only be achieved within the framework of solidarity and the equity-based international system. The solidarity and equity system we are referring to here is not a (mere) agreement between and support for the members of the international community, but a new, genuine, and active solidarity and equity, which the “capitalism-patriarchy” has never allowed to happen. Such solidarity is the one whereby low-, middle- and high-income countries will be called upon to contribute based on their comparative responsibility for global warming.

Rich countries are in favour of globalisation because of the benefits they derive from it, but they are very resistant to global governance, which is the sine qua non to save the planet. Without global governance, high-income countries will not be magically spared from global threats simply because of their status of industrial power.

The current COVID-19 pandemic is the best illustration the world can have: the planet is now hyperconnected, allowing for a virus to rapidly spread across continents and affect the daily lives of billions. Despite this obvious hyperconnectivity, rich countries still rushed to vaccinate their populations, leaving behind countries that do not have the means to buy vaccines for their communities. Ultimately, this self-interested approach to vaccination will prolong the pandemic with negative consequences for all. The irony of this must not be lost on us.

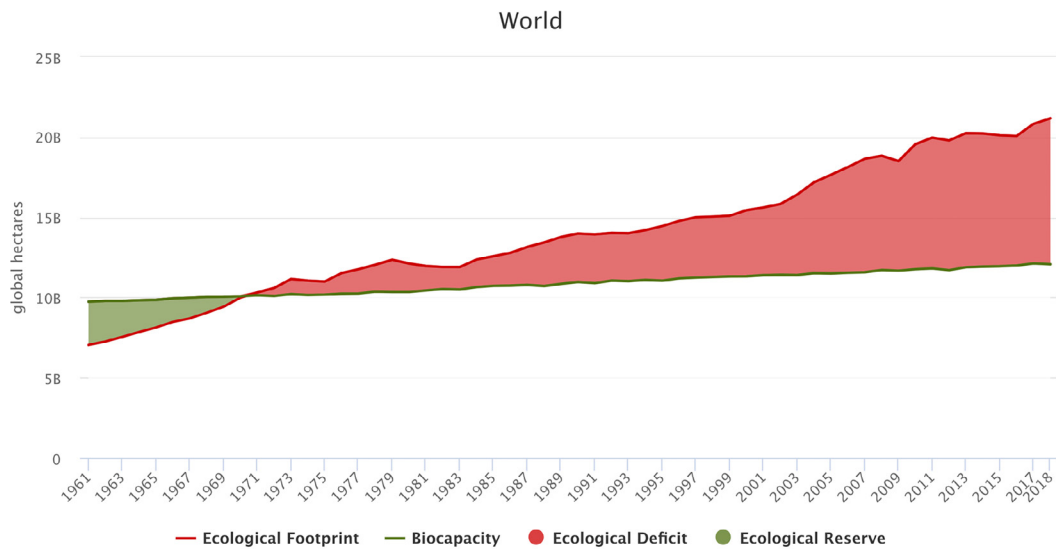
When in a group, like that of the United Nations, the rule is that decisions are (normally) made unanimously, which is the case at the Conferences of the Parties (CoP) on climate change for instance. As a consequence, the decisions are not necessarily the most suitable ones for the planet; there is no active solidarity between the members of the Conference of the Parties.

The philosophy required to prevail against the threats facing humankind should be inspired by the Zulu/Bantu term *Ubuntu* (“humanity”) or more specifically, *Umntu*, *ngumuntu*, *ngabantu*, which is translated as “a person becomes a person only through other persons”. For our context, it can be read as “a country becomes a country only through other countries”.

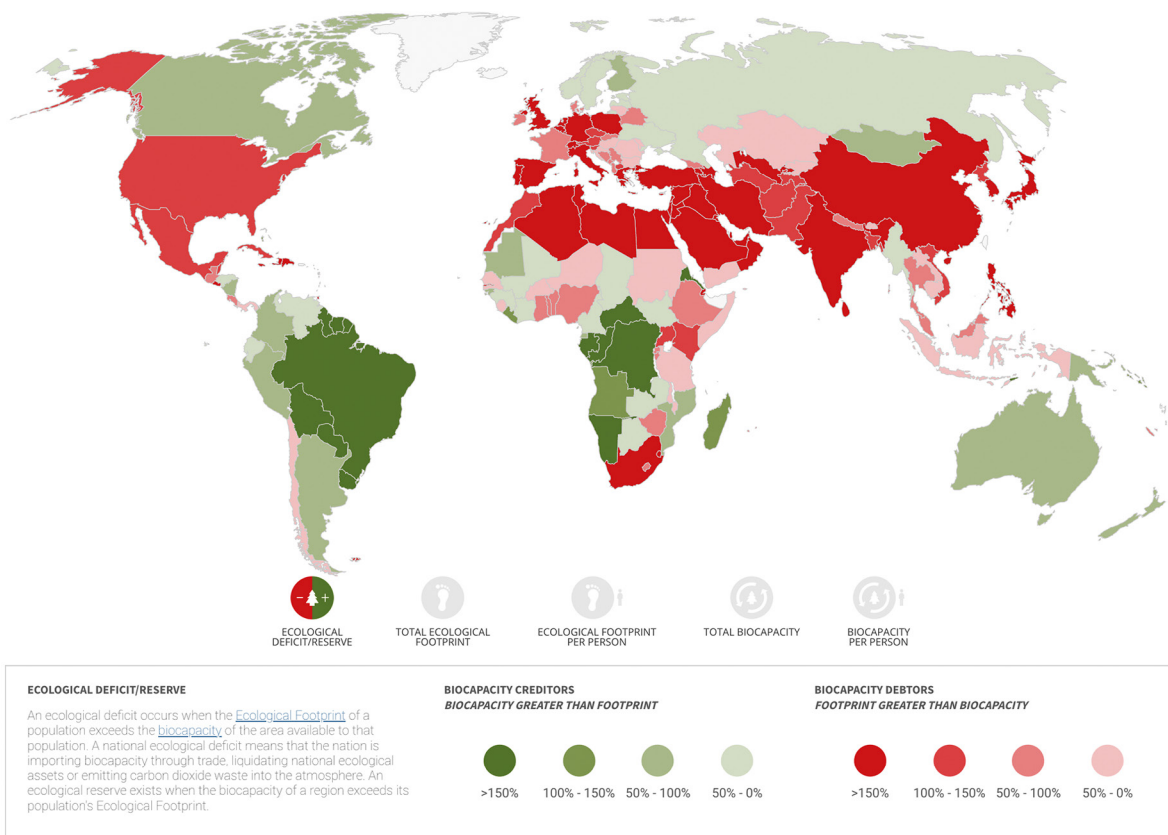
## **Solidarity and equity as prerequisites for achieving growth within limits**

Analysing the level of industrialisation, development and living standards of high-income countries, alongside their ecological footprint and their biocapacity, can shed light on why solidarity and equity are critical to achieving sustainable development.

The ecological footprint is important because it provides us with a measure of human demand for natural capital. Or, in other words, the quantity of “nature” it takes to support a given population or economy. With this information, countries can improve sustainability and wellbeing, and optimise investments. If a given country’s ecological footprint exceeds its biocapacity, then that country has an ecological deficit. The population’s demand for the available natural resources exceeds its supply, which can lead to depletion as well as high emissions of CO<sub>2</sub> into the atmosphere.



Based on 1961–2017 data, the world’s average ecological footprint was 2.75 global hectares per person (22.6 billion in total) and the average biocapacity was 1.63 global hectares. This means there is a global deficit of [1.1 global hectares per person](#). The message is clear: the ecological footprint being smaller than biocapacity is a necessary condition for the sustainability of Earth.



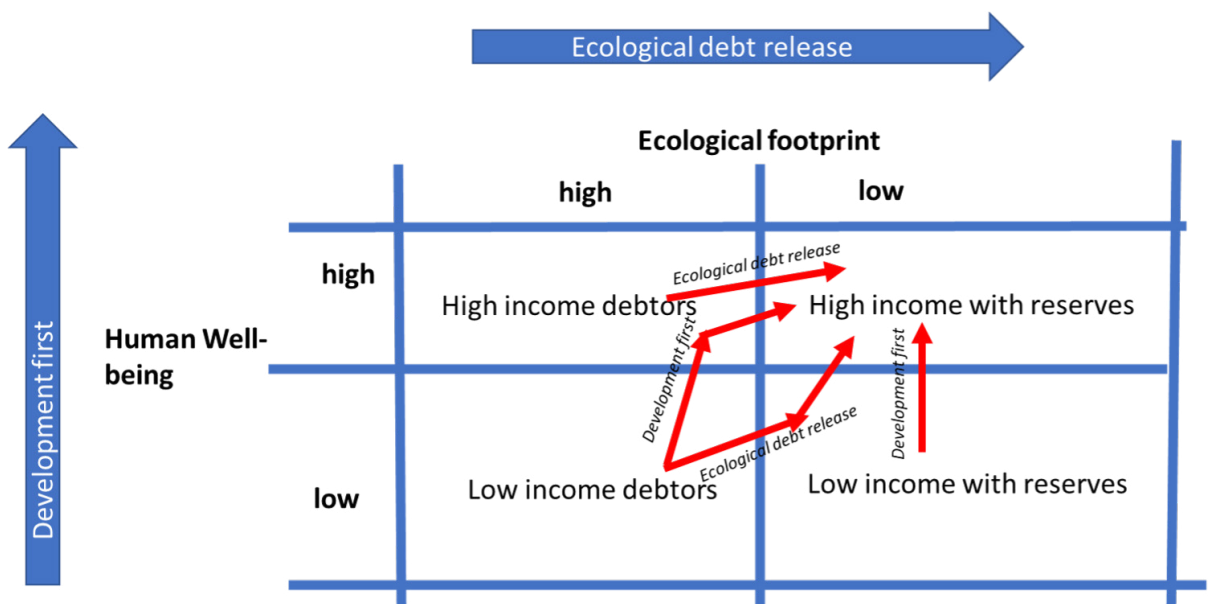
From a global perspective, however, this average figure conceals enormous disparities between high-income countries and low- and middle-income countries (and also *among* high-income countries), as shown on the map above.

A [comparative analysis of the listed countries](#), undertaken by the Global Footprint Network, York University and the Footprint Data Foundation, found that 134 countries are in a situation of ecological deficit. That is, their ecological footprint exceeds their biocapacity. Of these countries, 82 have a deficit exceeding 100%. Singapore has the worst deficit, being 10,300%. At the opposite end of the spectrum is a list of countries with an ecological reserve, meaning their biocapacity exceeds their ecological footprint. French Guiana tops this list with a figure of 4,810%.

In October 2010, delegates at the UN Conference for Trade and Development in Geneva stated that sustainable development requires two overarching and complementary objectives: (1) allow countries with a low human development index (HDI) that are unable to provide a decent living standard for their current generation to increase those living standards, while controlling the increase in their ecological footprint; and (2) ensure countries with an HDI over 0.7 – and that are destroying the living standards for future generations – drastically reduce their ecological footprint, and transform their consumption patterns towards sustainability.

This recommendation of the Group of Experts on Trade, Economy and Sustainable Development made a decade ago is an application of the theory of “degrowth”, which implies a readjustment of the global disparities: a drastic reduction of overconsumption of natural resources by rich countries, for the benefit of better access for poorer countries.

There is often assumed to be a dichotomy of “ecological debtors” and “ecological creditors”, where debtors are often presumed to be high-income countries in the Global North and the creditors assumed to be low-income countries in the Global South. The reality is more of a spectrum than a dichotomy, with a mix of high-income and low- and middle-income in each category of creditor and debtor, making for a complex reality. There are as many countries as there are different situations. They can be grouped in four relatively homogenous categories, using their ecological footprint against their HDI ranking, with the following characteristics: (i) high-income debtors, (ii) low-income debtors, (iii) high-income with reserves, and (iv) low-income with reserves.



Source: Lo & Collste, 2022

The objective should be to eventually have a high HDI ranking with a low ecological footprint for each country. Development that stays within planetary boundaries means ensuring that nations in all four categories can implement adequate national economic and energy policies that are carbon-neutral at the global level. This is the purpose of the “smarter” pathway to achieving the 17 SDGs within planetary boundaries, as outlined by the [Stockholm Resilience Centre](#).

Transformational change is introduced through Earth4All’s five leverage points that have a synergistic effect on the SDGs:

- **Accelerated renewable energy growth to halve carbon emissions every decade**
- **Accelerated sustainable food chain productivity**
- **Rolling out new development models in the low- and middle-income countries**
- **Unprecedented action for inequity reduction**
- **Step changes in education, gender equality and family planning**

## **High-income debtors: ecological debt release**

The list of high-income debtors consists of countries with a high HDI (0.7 or more) but whose biocapacity is much lower than their ecological footprint. It includes the United States, most European countries, Russia, and Asian countries such as China, Japan and India. These countries have energy-intensive consumption patterns and development models with consumption ratios per capita among the highest in the world. Americans constitute 5% of the world’s population but consume 24% of the world’s energy. On average, one American consumes as much energy as 13 Chinese people, 128 Bangladeshis, 307 Tanzanians and 370 Ethiopians.

China is by far the largest emitter of greenhouse gases, ahead of the United States and India. But if we consider all emissions since industrialisation (1850 to present day), the United States is the largest emitter, with 509 billion tonnes of accumulated CO<sub>2</sub>, or 20% of the world total. China comes far behind (11%), followed by Russia (7%) and Brazil (5%).

These are among the countries that must make the greatest efforts to reduce their greenhouse gas emissions. In December 2021 some progress was made at the COP26 UN climate summit in Glasgow, Scotland, as the final agreement committed all signatories to “phase down” coal, and a dozen governments promised to end their exploration and extraction of hydrocarbons from 2030 or 2040. But there is a very long way to go because the efforts required to “keep 1.5° alive”, as in the spirit of the Paris Agreement, are far from Glasgow’s commitments.

These record levels of consumption are not peculiar to energy resources only: consumption levels of other environmental resources are also reaching extremes. We are pushing planetary limits whether it concerns drinking water, meat products, minerals, forests, fisheries, you name it. This development model is the “trademark” of the European consumerist civilisation.



A clear example is the overfishing in West Africa by European, Russian and Chinese fishing fleets since 2011. According to Greenpeace, overfishing in European waters is higher than the global average, with an estimated 88% of European fish stocks in a poor state. Rather than solve this problem, the EU has progressively increased its capacity in foreign-owned waters to meet the growing global demand for seafood and to keep its fleets in business. In many European nations, fishing fleets have the capacity to fish two to three times more than the sustainable level for their domestic waters. Several of Europe's largest vessels are currently operating in waters of some of the world's poorest nations through partnership agreements or joint ventures and undermining local food security by failing to adequately consider the local communities' needs.

Regarding European civilisation, the French zoologist Émile Blanchard said this in 1870 in the *Revue des deux Mondes*, in relation to the list of animals that have disappeared since historical times, due to the actions of humankind: "Since the day when the last great physical phenomena were accomplished, on the surface of the earth, a few animals disappeared. A few large species alone have been wiped out, and mankind is the sole perpetrator of this regrettable annihilation. [...] The destruction of big animals, accomplished by humans in the space of a few centuries, foreshadows an immense impoverishment of nature, in the distant future. The extinction of a host of species has taken place with desperate speed in the Mascarene Islands [for example]; it is happening in many other parts of the world. Strangely enough, wherever European civilisation penetrates, devastation begins and ends quickly. The most industrious peoples are the greatest pests. A few thousand more years and the whole earth will look uniform and miserable."

It is this consumerist and devastating civilisation that has spread across the planet that is the source of the disaster. China is among today's proponents of this consumerist civilisation with a deficit of 2.9 gha the largest in the world. With the largest population in the world (about 1.4 billion), combined with inefficient resource use, China is depleting its resources quickly. The United States ranks second with an ecological deficit of -1,416.05, followed by India (-878.05), Japan (-547.18) and the United Kingdom (-483.83). Although the United Kingdom's ecological deficit is the fifth highest in the world, the country seems to be moving in the right direction.

If everyone lived based on the Japanese standard of living, we would require the equivalent of 2.3 Earths to support the world population. It would take almost five planets if everyone lived like an average American, 4.1 planets for an Australian and 3.2 for a Russian. The takeaway message is that Americans should theoretically reduce their ecological footprint by at least five times through a systematic change of consumption patterns. Other countries on the list should also reduce their ecological footprint proportionately to be in phase with sustainable consumption models for the planet.



## Degrowth: “putting high-income debtors back in their place”

The post-war years were marked by increases in workers’ purchasing power. New technological breakthroughs and the variety of products and services led to profound changes in social motivations for the consumption of goods and services. Western consumers in particular began to aspire to a lifestyle of material possessions and consumer products.

The concept of “consumer society” was born out of this progress. It refers to an economic and social system based on the creation and systematic stimulation of a desire to enjoy consumer goods and services – in ever higher levels. Indeed, the values and beliefs, and the economic, cultural and legal systems of these societies are primarily geared towards supporting consumption.

Within consumerist societies, marketing techniques urge customers to buy beyond their real needs, while goods are designed to have limited lifespans through in-built obsolescence. This fuels consumption and thus production, and therefore the tapping of more and more resources.

All measures contribute to the desire to consume prevailing over any ethical consideration. The concept of consumer society is usually associated with a materialistic perspective at the expense of ecology.

At the same time, a growing number of scientists are arguing that a sharp reduction in our consumption is necessary to address the ecological emergency. They advocate various solutions to create the conditions for a sustainable society. Degrowth is one of these alternative solutions.

The notion of degrowth can trigger a knee-jerk rejection that is difficult to explain. But degrowth is based on the wisdom that current exponential growth cannot continue indefinitely without irreparable damage to the environment and its ecosystems. At its core it means the decoupling of gross domestic product (GDP) from the social wellbeing of people, because increasing material wealth does not necessarily lead to increasing social wellbeing.

Degrowth, therefore, aims to reduce the production of goods and services in order to preserve the environment and natural resources. In other words, degrowth means a profound change in the modes of production and consumption of goods and services: a transition from a capitalist economy of excessive growth to a “post-growth” society, which Serge Latouche (2006) describes as a society of “frugal abundance” or “prosperity without growth”.

From a historical viewpoint, degrowth as a concept is not new. It is inspired by the millennia-old wisdom of the first nations, be they African or Asian. Indeed, these societies are by definition “eco-cultures” whose functioning was governed by the same principle: “consume/develop without destroying”. Resources were taken (from biocapacity) to meet essential needs without damaging natural capital.

Degrowth is based on the wisdom that current exponential growth cannot continue indefinitely without irreparable damage to the environment and its ecosystems.

### The example of the Diola community

In the philosophy of the Diola community (southern Senegal) the birth of a child was accompanied by the planting of several palm trees. When the young Diola reached marriageable age, they were authorised by the community to harvest part of these palm trees to build their own house. The remainder was paid into the forest capital belonging to the whole community, which ensured that it was protected against any form of plundering or destruction. (Debouvry, 2004)

Latouche argues that, in a way, the concept of degrowth has matured in Africa: “It was when I was working on the informal economy, which employs most of the workforce, in Africa, that I realised that there was an alternative to the Western way of life. The Greeks educated their people in the philosophy of proportion through drama. It was about learning to [avoid] excess, hubris, that is, the unrestrained pursuit of power and wealth. The Zen philosophy, on which the Japanese identity is based, is very similar to ‘degrowth’. The same is true of the Amerindian societies of the Equator, whose philosophy, *Buen Vivir*, is in the same vein.”

One of the conditions for making the Stockholm Resilience Centre’s “smarter” scenario a reality is to promote and educate high-income debtors in economic and ecological philosophy and ethics based on limits and a sense of proportion.

The Canada case study by Peter A. Victor (Victor, 2019) and Tim Jackson provides scenarios for analysis and comparison as well as the types of actions to be taken as part of a policy strategy for degrowth (see box below). Victor and Jackson compared their degrowth pathway with two other scenarios: growth status quo and a scenario where Canada commits to curb greenhouse gas (GHG) emissions through a CA\$300/tonne carbon tax, significant green investments and electrification of transportation, but without compromising growth. Their growth within limits scenario is the most successful in ensuring the wellbeing of the population while keeping GHGs at bay. This is true at least until 2070 when the simulation ends.

### Canada case study

Growth within limits is a much better option than infinite growth for Canada's long-term prosperity. That conclusion from Peter A. Victor (Victor, 2019) and Tim Jackson is based on scenarios of alternative futures for Canada from 2017–2067. One scenario is a base case that is essentially a projection of the past into the future. The second scenario introduces a vigorous programme of greenhouse gas reduction. The third scenario builds on the second by adding more environmental, social and economic measures that are combined to provide sustainable prosperity. A fourth sustainable prosperity scenario is added with net-zero carbon emissions.

The growth within limits scenario (Canada) that yields better results mainly includes: 1) a carbon tax of CA\$300 per tonne, 2) working hours progressively reduced by about 20%, 3) massive investment in green energy, 4) a population of 44 million in 2068, and 5) better redistribution of wealth, through social programmes.

Growth would slow down to zero by 2050 and remain stable thereafter. In addition, the environmental problem would be solved, full employment would be achieved, and there would be more equity. All this without increasing the country's debt.

This growth within limits scenario has the added advantage of being much more stable than the current model, in which periods of growth are interspersed with periods of recession, inevitably creating collateral damage such as job losses and business closures, from which it is always difficult to recover individually and collectively.

## Low-income debtors and low-income countries with ecological reserves

Like the countries termed “high-income debtors”, the low-income debtors are countries whose ecological footprint exceeds their national biocapacity. They must find ways to improve living standards for their current generations without worsening their ecological footprint indefinitely.

Most of the ecological creditors are African. African nations account for half of the low- and middle-income countries with a biocapacity reserve.

The low- and middle-income countries termed “ecological creditors” include most of the countries with ecological reserves (40 of the 51). Among these countries are Gabon (whose biocapacity exceeds its ecological deficit by 869%), Congo (754%), Central African Republic (524%) and Paraguay (228%). French Guiana is the region with the highest biocapacity/ecological footprint ratio (4,810%). Chad brings up the rear with a 3% ecological reserve. These countries should seek to improve the living standards of their current populations while seeking to preserve their status as ecological creditors.

Most of the ecological creditors are African. African nations account for half of the low- and middle-income countries with a biocapacity reserve, and only account for 30 of the 100 or so low- and middle-income countries with a biocapacity deficit (out of a total of 134 countries, regions, overseas territories, etc.).

On the other hand, African nations do not perform so well when analysed in terms of the Human Development Index (HDI). Of these African countries, the majority (29) are classified as countries with low HDI (<0.550) and 13 with medium HDI (0.550–0.699). Only 7 African countries – Seychelles, Algeria, Tunisia, Libya, South Africa, Egypt and Gabon – are in the high HDI category (0.700–0.799). That said, it is important to note that the HDI is a metric that is evolving to take account of inequalities and pressures on natural resources and the planet. The Planetary pressures-adjusted Human Development Index (PHDI) allows the standard HDI to be adjusted by incorporating the level of CO<sub>2</sub> emissions and material consumption of countries. For now, the standard HDI is still much more comprehensive than GDP per capita, which measures economic output without providing information on an individual or collective wellbeing.

Continent-wide, all African countries with low and medium HDIs face the same challenge: to work towards raising their national HDIs to improve the life expectancy of their populations, education and per capita income, etc. So whatever development model these countries embrace, whether they are ecologically indebted or have biosphere/ecological reserves, their goal should be “development first”, without letting their ecological footprint soar indefinitely.

## **Development first!**

While the five turnarounds are relevant to all countries, this section will focus on three critical and transformational conditions required in the “low-income debtors” and “low-income countries with ecological reserves”:

- 1. Restoring state control over decision-making processes by rethinking the international funding mechanism**
- 2. The need for an energy leapfrog**
- 3. Financing development by recovering funds from illicit finances, tax evasion, fraud, etc.**

### **Restoring state control over decision-making processes by rethinking the role of international finance institutions**

Thomas and Sokona (2002) emphasised this aspect on the eve of the Johannesburg World Summit on Sustainable Development (September 2002): “The development priorities of the countries are set by the national executive authorities having recourse, to varying degrees according to the countries, to the participation of the populations. However, the observation is that these orientation documents are most often without real effects in terms of political action. Indeed, the effective implementation of these orientations in economic and social policy actions is often done under the constraints of economic conditionalities. Structural adjustment programmes (SAPs) and their various conditionalities to governments are good illustrations. They tend to apply to large projects where international financial institutions have a lot of influence over identification and development of the projects.

African countries have made climate change a development priority because they are among the countries most vulnerable to extreme climate events. Climate change is, however, one of the areas where projects and initiatives are the most outsourced. Therefore, it is necessary to create the conditions for an African leadership on projects and initiatives targeting African countries. Political decisions must be “repatriated” to avoid indebtedness. For the African countries, it is a question of having real control over their decision-making process by rethinking the role of the international financial institutions.

**Cherif Salif Sy said**, “African economies are still in a turbulent zone and the main difficulty always comes from international institutions, the World Bank or the International Monetary Fund (IMF), organisations that often make mistakes but persist with a strong desire not to lose control over our economies. This has a strong impact on our states’ decision-making capacity. Since 1980, economic and social policy has been reduced to fiscal policy.”

The reality is that the actions of these institutions can hinder economic and social development in African states. Take the example of development banks, which these institutions do not want. No region in the world has developed without development banks.

### **Africa has all the necessary assets for its economic development within the limit of its ecosystems’ biocapacity**

In the 1980s, Africa suffered through widespread decline in economic performance, combined with civil unrest, autocratic governments and rising poverty. Gross national product (GNP) per capita fell by 25% in that period, whereas globally other regions such as Latin America and Asia saw their GNP rise 70–110%. The early 1990s witnessed more of the same, with living standards plummeting under several military regimes, exacerbated by sweeping famines, droughts and other natural disasters. As the century ended, what became apparent was that the worst was over, and the only way was up. From 2002, the Millennium Development Goals (MDGs) provided a platform for a concerted effort to accelerate the fight against extreme poverty, and Africa showed a steady economic growth of 5% and an impressive resilience in the face of the global economic crisis. While most of this growth was dependent on extractive industries, it was the application of sound macroeconomic policies that helped strengthen the confidence of investors, resulting in the doubling of foreign direct investment between 2003–2008. In the last two decades, Africa has been “the” rising economy, but with increasing challenges, particularly with systemic social inequalities. Given those inequalities, and also problems with climate change, it is not easy to predict what the region will look like beyond 2030. What is certain, however, is that the next decades will see Africa continuing to rise – a rise in economy, a rise in living standards, a rise in urbanised and young populations, and a rise in urban poverty.

### **“Growth without development”**

The COVID-19 pandemic has marked a halt in the growth of most African countries, but the economic forecasts are good as the growth momentum is maintained in all sub-regions. It is, however, worth noting that the long-lasting growth of the African economies is disproportionately benefiting the ruling elites and/or the state and tends to not benefit most citizens. The levels of investment in the education and health sectors (at 5% and 15% of GDP respectively) are too low to sustain the human capital required to catch up with the level of advanced countries.

Access to higher education is estimated at 7%, the average poverty rate at 40%, and the risk of mortality among children under the age of one is the highest in the world with 59 deaths per 1,000 births. In addition, 621 million Africans do not have access to electricity despite the continent's vast reserves of renewable energy (hydro, solar, wind, etc.). This situation leaves many young Africans with no alternative but to venture down the perilous routes of emigration, especially to Europe. Others look to radicalisation, which feeds on despair and idleness. We need to correct this trajectory.

The current economic growth needs to be less impoverishing and more inclusive, as [\*\*Cherif Salif Sy explains:\*\*](#) “As long as economic growth is not driven by sectors that create jobs, growth, at any rate, will remain impoverished. Countries should therefore cease to be dazzled by high growth rates, which are not synonymous with development. It is a well-mastered industrialisation process supported by local savings that can help create the conditions for economic emergence.”

African countries should adjust their economic strategy to catch up in areas such as education and health, and build strategies more geared towards reducing inequalities and eradicating poverty and avoiding falling into the pitfalls of neoliberalism. Above all, there needs to be an African leadership focused on issues concerning Africa. In combating climate change, Africa cannot be the most vulnerable continent and cannot leave the initiative to others on policies and programmes. Regarding the development financing plan, leadership must enable the proliferation of banks (national and regional development) against the will of international financial institutions whose mission should not be to carry out economic and social development in place of state autonomy.

Further, it is essential that African governments improve the tax revenue collection system, in particular the taxation applied to multinationals, whose profits (up to 10% of the GDP of the host countries) are repatriated to the countries of origin.

### **“Need for an energy leapfrog...”**

Africa has experienced [rapid economic growth](#) over the past two decades: from 2000–2015, the average growth rate for most African countries was 5% (real GDP). This growth has slowed due to the decline in commodity prices – especially in oil producers such as Nigeria, Gabon, Equatorial Guinea and Angola – but also due to the COVID-19 pandemic that has affected almost all countries. However, there is every reason to believe that several countries in the continent will continue to achieve growth rates of over 5% (Ethiopia and Rwanda 8%, Tanzania, Côte d'Ivoire, Cape Verde, Uganda and Senegal 6%) and will continue their way to emergence.

This progress has brought increased levels of trade and investment, with the annual rate of foreign investment across Africa increasing fivefold since 2000. For the future, improvements in such areas as access to finance and quality of infrastructure should help improve Africa's global competitiveness. More than two thirds of the continent has registered an overall improvement in the quality of economic governance in recent years, with increased capacity to deliver economic opportunity and basic services.

Despite this long-term sustained economic growth, the lack of infrastructure remains a major constraint to the continent's economic growth and development. This lack of structural infrastructure, particularly electricity, causes the continent to lose up to 3 to 4 points of growth per year; it also hinders poverty reduction and human development objectives.

Sub-Saharan Africa's electricity system has an installed generation capacity of about 90 GW, or about 0.1 kW per capita, in contrast to the richer economies, which have installed capacities ranging from **1–3 kW per capita**. Half of the region's capacity is located in South Africa.

The increasing need for electricity, particularly in sub-Saharan Africa, requires a significant expansion of the electricity system. Now, the electricity demand in Africa amounts to 700 terawatt-hours (TWh), 70% of which is concentrated in Northern and Southern Africa. However, the other countries in sub-Saharan Africa will experience the **strongest growth by 2040**. Electricity demand exceeds 1,600 TWh in the "Stated Policies" scenario, more than doubling the current level, and reaches 2,300 TWh in the "Africa Case" scenario, with electricity serving a growing number of purposes in the residential, industrial and service sectors. In those scenarios, the majority of the additional electricity consumption comes from production activities and middle- and high-income households.

There are major challenges related to inadequate supply. According to the BP Statistical Review of World Energy, the continent's primary energy consumption amounted to 440 million tonnes of oil equivalent in 2016 out of a global total of over 13 billion tonnes, or just over 3%. The continent's development will imply a very large increase in its energy consumption in absolute terms and per capita.

**The African continent has abundant renewable energy resources with potential for hydro, geothermal, biomass, solar and wind power, most of which are still relatively untapped.**

Two out of every three people in Africa – around 621 million in total – have no access to electricity. Almost four out of five rely on cooking using solid biomass, mainly fuelwood and charcoal. Achieving universal access to clean energy by 2030 is out of the question. In the business-as-usual scenario, it will take Africa until 2080 to achieve universal access to electricity (African Progress Report, 2015). Yet, the region has one of the biggest potential renewable energy assets.

The African continent has abundant renewable energy resources with potential for hydro, geothermal, biomass, solar and wind power, most of which are still relatively untapped. Sunshine levels of 5–7 kWh/m<sup>2</sup>/day provide the region with almost unlimited potential for photovoltaic electricity production (10,000 GW). The potential for hydroelectric power, one of the largest in the world (a capacity of 350 GW and an estimated generation of 1,100 TWh), is only exploited to the extent of 3–5%. In addition to these enormous resources, there is a potential capacity of 110 GW from wind power and 15 GW from geothermal energy.



Overall, the region has the assets to achieve universal access to electricity for its populations, perhaps not by 2030, but within the scope of [Agenda 2063: the Africa we want](#). For this objective to be achieved, everything must be implemented at all levels (national, sub-regional and regional) for an “energy leapfrog” to meet challenges of such magnitude. This leapfrog implies very strong political will, adequate national energy strategies implemented over the long term, and international and regional cooperation that is much more committed than it is today. It requires massive investments in the renewable energy sector, the continued exploitation of fossil resources oriented towards domestic markets (e.g. petrochemicals, the substitution of wood fuels) and the strengthening and extension of regional electricity pools.

### Focusing on renewables

Decentralised energy production facilities such as solar and wind can provide access to energy for the vast majority of Africans who currently have no access to the electricity grid. According to the International Renewable Energy Agency (IRENA), sub-Saharan Africa could meet up to 67% of its energy needs by 2030, [with appropriate policies and access to financial markets](#).

Large hydroelectric dams can provide the region with the electrical energy it needs for industrialisation. If all the dams in the proposed Grand Inga complex on the Congo River were developed, they could add an additional 44 GW of capacity, which would cover almost 40% of all Africa’s needs (Green et al., 2015).

There are many financing initiatives on the continent. Of note, the Sustainable Energy Fund for Africa (SEFA) has played a catalytic role in the launch of two pioneering investment funds for the sector. The Africa Renewable Energy Fund was one of the first pan-African renewable energy investment funds and mobilised US\$205 million by 2014, and the Facility for Energy Inclusion, a pan-African platform for financing through two independent funds (off-grid and on-grid) mobilised US\$270 million by the end of 2019 to support investments in decentralised electrification. The SEFA also motivated the African Development Bank (AfDB)’s engagement in the decentralised renewable energy access sector.

As part of the New Deal on Energy for Africa, the AfDB has set a target of ensuring universal access to electricity by 2025, promoting renewable energy, installing 160 GW of additional grid capacity, making 130 million new grid connections, 75 million new off-grid connections and providing 150 million households with clean cooking solutions. The AfDB will invest US\$12 billion of its resources by 2025, which falls short of the US\$60–90 billion per year that will be needed. Africa could attract nearly US\$700 billion by 2030 because of its enormous energy resource potential, but these levels of investment are far from being reached.

### An energy mix with fossil fuels for a fair transition

The global consensus to achieve carbon neutrality by 2050 gained momentum at the recent COP26. The discussions on fossil fuels are a signal that coal is already on its way out, despite the jitters of some states that heavily depend on coal for their energy supply. The issue of phasing out two centuries of oil and gas economies was also raised and some countries have resolved to stop investing in fossil fuels.

The issue of the exit from fossil energy sources, especially oil and gas, raises new questions in Africa. Above all, what will happen to African countries with fossil energy resources, especially the new oil and gas countries (Côte d'Ivoire, Senegal, Mauritania, for example)? The case of Angola is complex (it is one of the most oil-dependent countries in the world, deriving [70% of its export earnings and 90% of its foreign exchange](#) from oil) but not isolated. Several other former African oil-producing countries are in the same situation.

In Africa's current situation, it would be illusory to consider abandoning fossil fuels, especially oil and natural gas, even in the long term. It is understandable when we consider the following factors: the majority of these countries are low ranking in terms of HDI (<0.550); more than half of their total energy consumption comes from biomass; they hold [more than 13% of the world's hydrocarbon reserves](#); all the countries combined contribute very little to global greenhouse gas emissions – [less than 4%](#); and all but a few countries (Burkina Faso and Cape Verde) are undergoing oil exploration. For some of these countries, it is on oil and gas that they have pinned their hopes for development, which several successive years of structural adjustment programmes have prevented them from achieving.

The (new) oil and gas countries should keep, under all scenarios, the opportunity of “development first” and the possibility of transitioning their economy<sup>1</sup> from oil to gas gradually. Indeed, African oil-producing countries have not made the best use of their oil revenues, and those that have recently discovered oil and/or gas reserves have not yet reaped any benefits from these resources.

As an example, the liquefied natural gas plant [being developed off Mauritania and Senegal](#) – two new oil-producing countries – is integrated into the national energy mix and transition strategies of both countries. Both have programmes to create economies based on natural gas and renewable energy sources. For example, Senegal currently operates with about 23% renewable energy and aims to reach 30% by 2025. The use of gas within producing countries will be all the more beneficial for their development as liquefied natural gas is cleaner than natural coal and heavy fuel oil. Some players even see it as a natural transition to green hydrogen – a clean energy source.

However, based on the experience of Africa's first and largest oil producers, the new oil and gas countries would rather benefit from using their resources by following the mining vision set out by the African Union and the African Development Bank, under Africa's New Deal on Energy. It is in the interest of the countries to favour their domestic market, for purposes such as use of gas for electricity production, large-scale substitution of wood fuels by liquefied petroleum gas, and development of the petrochemical industry.

### **Financing “Development first”**

The international community has been mobilised on development economics for almost three decades, through the three International Conferences on Financing for Development (Monterrey 2002, Doha 2008, and Addis Ababa 2015). The Addis Ababa Action Agenda is the global financing framework of the 2030 Agenda for Sustainable Development. It addresses all national, international and intergovernmental mechanisms (public, private, cooperative resources, debt, etc.) to finance the implementation of the SDGs.

So-called innovative mechanisms for the financing of sustainable development also exist. These include the Clean Development Mechanism, the Green Climate Fund and the Adaptation Fund. The Forum on Financing for Sustainable Development (FfD) allows for an assessment of the achievements in terms of financing the 2030 Agenda. The assessments carried out so far tend to show that achievements do not match commitments.

The latest assessment from COP26 shows that the US\$100 billion in annual funding from 2020 onwards promised by rich countries to low- and middle-income countries for climate change adaptation amounted to just US\$79 billion in 2019. There is still a long way to go.

Of all these schemes, the tax capacity building programme is probably one of the most promising for low- and middle-income countries that want to take control of their development path and destiny. Indeed, huge amounts of money could be recovered in many low- and middle-income countries, especially in Africa, from a clampdown on tax evasion, tax avoidance and illegal transfers of financial resources, as well as tax exemptions granted to subsidiaries of parent companies based in other countries. If recovered, this money could enable many countries to meet their financing needs.

### **Revenue lost through fraud and tax evasion exceeds official development assistance**

Figures on tax evasion and avoidance in low- and middle-income countries vary from source to source. But all analysts agree on one fact: the amounts of unrecovered tax revenue represent colossal amounts that far exceed what countries receive in development aid (Watrinet, 2017). Official development assistance in [2016 was US\\$142 billion](#), while the illicit financial flows (money from fraud, corruption and crime) that escape from low- and middle-income countries each year are estimated at some [US\\$1.07 trillion per year](#).

According to the 2021 report by the Tax Justice Network Public Service International and the Global Alliance for Tax Justice, African countries lost some US\$17.1 billion in tax revenues in 2021 due to tax evasion. The previous year it had been even higher when the continent lost US\$25.4 billion in tax revenue. The biggest drop in 2021 was in Nigeria, where estimates of lost tax revenues fell from US\$8.8 billion down to US\$2 billion. South Africa had the largest loss (US\$3.5 billion) due to international tax evasion on the continent.

### **Unrecovered taxes also exceed potential oil revenue within sub-Saharan Africa**

Among the low-income debtors and low-income countries with reserves, some have recently become oil and gas countries. This is the case in Africa, with Côte d'Ivoire, Ghana, Mauritania, Niger, Kenya, Mozambique, Tanzania, Uganda and Senegal, in addition to former oil-producing countries such as Nigeria and Angola. The oil reserves in sub-Saharan Africa are only one-tenth of those in the Middle East. However, Africa has comparative advantages that make it an increasingly popular region for oil companies.

In these new oil-producing countries, governments tend to view newly discovered oil as a pathway to development (and for accelerating the pace of their development), having previously been held back by structural adjustment programmes. However, despite relatively large oil reserves, the expected revenues from these resources are likely to be less significant in the long run than the amounts of unrecovered fiscal potential for several of these countries. This is likely to be the case in Senegal, where oil and gas discoveries since 2014 are expected to yield US\$1.2 billion per year (1,030 million barrels, 1,350 billion m<sup>3</sup> of natural gas). These revenues should enable the country to achieve double-digit growth rates for the first time in its history (10.3% in 2024). Despite that, these annual revenues are still exceeded by the money lost due to subsidiaries transferring profits made in Senegal to parent companies in France and other European nations.

### Money needed to finance “Development first” exists but is poorly allocated

In most low- and middle-income countries that have undergone structural adjustment programmes – particularly in Africa – investment has improved in sectors considered a priority by the population, such as education and health, and in the productive sector. However, despite sustained economic growth (5% on average) for almost two decades, these investments remain too low (5–15% of GDP) to create sufficiently qualified human capital. The result is a lack of prospects that can lead people to a path of migration or radicalisation.

#### Senegal loses US\$4.1 billion each year

According to Chérif Salif Sy (2019): “Every year, 4.1 billion US \$ escape from Senegal in the form of transfers made by economic operators, in all legality, tax evasion and fraud [of various kinds]. Legal or not, tax evasion is a scourge for the Senegalese economy, [it] greatly aggravates the deficits and [does not allow the development] of public services and social protection.”

Jean-Louis Roy said that the phenomenon of tax evasion is a problem of national political [will]. In his opinion, treaties should be consistent and demanding. Better still, he indicates that governments must enforce the laws once they have been adopted or passed by vote. There are no visible efforts to stop [the haemorrhage]. However, the solutions to this problem are within the reach of African countries.

Senegal uses the “cross-border recovery assistance” that allows a state to know the assets held abroad by its taxpayers. Some US\$3.3 million have already been recovered by the country over the past five years with the help of three jurisdictions in Europe, two jurisdictions in Africa and one in the Caribbean. (OECD, 2020.)

To meet their investment needs, countries resort to official development assistance, foreign direct investment, and market borrowing. However, there is more to be made in illegal money transfers, tax exemptions, uncollected taxes, embezzlement of public funds and corruption. More and more countries are becoming aware of this situation and the amounts stolen through these practices, which could have been used for the development of these countries, are enormous.

In fact, the scale of losses undermines the development of an entire continent that is larger than both Europe and North America together, with Africa covering one fifth of the Earth’s total land area, the equivalent of the United States, China, India and most of Europe combined. This financial evasion is all the more disabling for the continent as almost all its countries are affected. Some US\$50–80 billion dollars escape from African states every year and for some analysts, that quantity is just the tip of the iceberg. The responsibility of the governments of countries involved is obvious. They must therefore do their utmost to combat all forms of evasion, misappropriation and corruption. Governmental leadership must lead to the application and scrupulous respect of fiscal texts and laws.

## High-income with ecological reserves: leading the way

The “high-income countries with ecological reserves” are industrialised countries with a percentage of biocapacity that exceeds their ecological footprint. There are not many of them. They include Brazil (where exceedance is 233%), Finland (88%), Argentina (87%), Canada (83%), New Zealand (67%), Australia (62%), Sweden (43%), the Russian Federation (26%) and Norway (22%). The geographical area with the highest biocapacity on the planet is French Guiana, a French overseas territory in South America (4,810%).

The fact that these countries have ecological reserves, while more than most countries are in a situation of deficit, is partly due to geography, surface area and population, but also to the “frugality” and policies put in place to manage the environment and natural resources.

Indeed, Agenda 21 from the Rio Earth Summit in 1992 states in its principles of action (point 37.1) that the ability of a country to move towards sustainable development depends largely on the capabilities of its people and institutions as well as its ecological and geographical situation. In practical terms, institutional capacity refers to the human, scientific, administrative, institutional and financial resources available to each country.

Having natural resources because of one’s position in latitude and longitude is a matter of geography (rainfall conditions, soil quality, etc.), but not of merit. What is truly meritorious is when a country’s ecological reserves are largely the result its forward-thinking consumption and natural resource conservation policies. This is the case for only four countries in the world with high biocapacity reserves and a high Environmental Performance Index (EPI). The EPI assesses, compares and ranks countries according to environmental health and ecosystem vitality.

Countries	Ecological reserve (%)	EPI (100)
Finland	88	78.9 (7th)
Sweden	43	78.7 (8th)
Norway	22	78.7 (9th)
Canada	83	71.0 (20th)

Finland, Norway and Sweden are Scandinavian and Nordic countries. In these countries, the way in which people perceive the environment and nature is first and foremost a matter of strong sensitivities and rather singular ownership rationale (Laslaz & Girault, 2020).

In Finland, Norway and Sweden, as well as in Iceland, the right of access to nature is a principle according to which everyone has the right to benefit from natural areas regardless of their land status. Crossing a meadow, picking mushrooms and berries in a forest, bivouacking in a meadow, hiking on any trail and canoeing on any lake are considered as environmental amenities and services accessible to all under this customary right that conceives nature as a public good. Considering this right of access in the light of the notion of environmental capital helps to reveal the gaps between the theoretical and practical dimensions, between the collective and individual character of such freedom of access and use of natural spaces.

**The experiences in environmental health and ecosystem vitality in the high Environmental Performance Index countries, particularly the Scandinavian nations, are so transformative that they should be replicated in other parts of the planet.**

Access to ecosystem services is thus expressed through forms of spatial contractualisation that often refer less to space segmentation than to forms of co-presence. Thus, by allowing public use of private property (outside private areas) and by encouraging the non-rival development of natural areas by different actors, the right of access to nature also dissolves the distinction between public and private space in favour of a contractual space.

In this respect, we can truly speak of Scandinavian or Nordic exemplary nature in the relationship between society and the environment. This is a fruitful feature that can also be found in some southern eco-cultures.

In Denmark, another Scandinavian country, access to nature is based on the same principles. The country has no ecological reserves – its ecological footprint is larger than its biocapacity – but it had the best EPI in 2020. It owes this record to its remarkable efforts in solid waste management – all waste is recycled, composted or incinerated – and to the originality of its innovative climate finance programme. Indeed, €2.7 million was raised through a national telethon – the first of its kind – to finance a large-scale programme for planting one million trees across the country.

There is much to learn from Denmark. The country is full of original experiences that can be replicated elsewhere, both in the low-income debtors and in the low-income countries with ecological reserves. The countries that come next in the EPI ranking (Sweden, Luxembourg, the United Kingdom, for example) are also implementing environmental policies from which the countries with lower EPIs could learn. In summary, the experiences in environmental health and ecosystem vitality in the high EPI countries, particularly the Scandinavian nations, are so transformative that they should be replicated in other parts of the planet.

## Conclusion

The 1992 Rio Earth Summit was a pivotal moment in the negotiation process on the environment and sustainable development. If the conference was a resounding success (two conventions signed, on climate and biodiversity), we owe this in large part to the leadership of a man unknown to many today: Maurice Strong, businessperson and Canadian politician, and secretary-general of the summit. He is at the origin of the concept of the Earth Charter (heir to the Stockholm Declaration) and of the fundamental principles of sustainable development.

The Rio Declaration is an “agreement” between high-income and low- and middle-income countries. The low- and middle-income countries had highlighted their sovereign right to development, and the responsibility of the industrialised countries in the degradation of the environment.

Our current world needs the same type of disruptive leadership to get rich debtors to pay their ecological debt, as they should, and leading the way should be high-income countries with ecological reserves and high EPIs.

Leadership is an essential condition for the advent of a more inclusive and equitable environmental and climate governance regime. In the climate crisis we face it should be possible to fulfil a dual objective: to allow drastic reductions in global emissions of greenhouse gases but also to guarantee the right to the economic and social development of low- and middle-income countries.

Reconciling the objectives of climate change mitigation with the objectives and development needs of low- and middle-income countries – which represent more than 80% of the world’s population – will not be achieved without strong leadership at all levels of decision-making. Decision makers (international, regional and local) need to be engaged and aware of the risks that the entire planet faces as a result of climate change.



## Footnotes

<sup>1</sup> The oil reserves in sub-Saharan Africa would not even be a tenth of the current oil reserves in the Middle East.

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