

Lectio Magistralis

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More than a year since the emergence of Covid-19, the pandemic continues to devastate lives and economies. There is hope in vaccination programmes, but we have a long way to go. Our sympathies lie with those struggling with physical and mental health, grief and financial problems.

We must overcome this pandemic, for all of our sakes. But as we do so, we must understand that Covid-19 is not something we can fix and forget, so as to return to normal. And by normal, I mean our high-carbon and resource-intensive economic models. Normal helped to cause the pandemic. Normal is warming the planet. Normal is destroying nature and biodiversity, and therefore the foundations of human existence. Normal is polluting the air, land and sea. Normal is a world of inequality in which those least responsible for the three planetary crises – climate change, biodiversity and nature loss, and pollution and waste – are the ones who suffer the most from them.

Normal, my friends, is our and the planet's enemy.

Humanity now faces two paths. The first path leads back to normal and a world in which these crises slowly destroy our future. The other path transforms our economies and societies so that we can live in harmony with nature, on a planet that aspires for peace and prosperity.

Today, obviously, I would like to focus on how we can walk the latter path. I will outline the steps, guided by the principles of science and solidarity, that we must take. And the path that I will describe is outlined in significant detail in UNEP's recent report, entitled *Making Peace with Nature*. We consider this report a blueprint for a sustainable future.

But before I get to the blueprint, and the positive vision it presents, allow me to provide the darkness to counterpoint the light: what science tells us about the scale and threat of the three planetary crises.

Concentrations of all greenhouse gases in the atmosphere are higher than at any time in the past 800,000 years. As a result, the Earth's mean near-surface temperature has risen by over 1°C as

compared to pre-industrial times. 2020 was the second-hottest year on record. The top ten hottest years have all come since 2015.

We are living with the consequences. In 2018, damages from climate-related natural disasters cost about 155 billion US dollars. Two billion currently people live in water stress. Wildfires, floods and droughts are so commonplace they often do not even make the news.

And we are approaching tipping points. Warming oceans are melting ice, which means less reflected sunlight and more heating. Permafrost is disappearing, releasing methane into the atmosphere. Burning forests deprive us of carbon sinks, again sending emissions up. We face a system cascade that will send global temperatures through the roof.

Nature is declining at an unprecedented rate. Around 1 million out of 7.8 million species face extinction. Humans have altered 75 per cent of the terrestrial surface and 66% of marine areas. Only 15% of wetlands remain. Around 10% of forests have been lost since 1990.

As we degrade our ecosystems, we chip away at the foundations of what makes well-being possible – food, water, temperature regulation, economic growth, the roofs over our heads and the clothes we wear, to name only some of nature’s services. This loss is a threat to our survival.

Every year, pollution causes about 9 million premature deaths, primarily from dirty air. Marine plastic pollution has increased tenfold since 1980, swirling in ocean currents and in the guts of fish and seabirds. Cities produce 1.3 billion tonnes of solid waste per year and we throw away 50 million tonnes of e-waste every year – roughly equal to the weight of all commercial airliners ever made. And the pandemic is worsening the waste problem, with tens of millions of pieces of disposable protective equipment thrown away every day.

Our current development model was based on the idea that the planet would never stop giving, no matter how we treated it. We grew reliant on fossil fuels. We rushed to convert land for agriculture, infrastructure and urban expansion. We emptied the waters of fish, giving back only plastic and toxic sludge. Since 1970, trade has grown tenfold, the global economy has grown nearly fivefold, extraction of natural resources and energy has tripled, and the world population has grown by a factor of two.

As a result, we are altering the Earth systems that have provided relative climatological stability for the past 3 million years. The systems that enable regular rainfall, seasonal shifts, the hydrological cycle and predictable ocean currents. That predictable world,

where season follows season, where harvest follows harvest, is no longer a given.

Governments and businesses have made promises to deal with these problems: through sustainable development goals, through the Paris Agreement, through international goals on biodiversity and so much more. But the world has not acted strongly enough on the science nor on its own promises. Let us look at climate change as an example.

Nearly six years ago, nations arrived at the Paris Agreement to limit global warming this century to well below 2°C and pursue 1.5°C. Many nations stepped up with pledges. Many are now committing to transition their economies to net-zero emissions by mid-century. But pledges – and the action to back them – must still become stronger. If nothing changes, we will hit a global temperature rise of over 3°C this century. To get back on track for a 2°C world, we have to cut one-third of emissions by 2030. For 1.5°C, we must halve emissions.

The pandemic-linked economic slowdown will not help. The CO₂ bathtub was already full, so turning off the tap for a couple of seconds does not mean it is now empty. Worryingly, greenhouse gas emissions have already rebounded to pre-pandemic levels. The light at the end of pandemic tunnel is looking increasingly like a fire.

Just as importantly, we have to catch up on solidarity. Strong financial support for nations that need help to adapt to the impacts of climate change is baked into the Paris Agreement. But we have failed to deliver.

We are in a similar position with biodiversity. In 2010, we agreed on a series of biodiversity targets to be reached by 2020. We met none of them. I could go on to talk about inadequate progress on chemicals, on waste, on sustainable development. But I have talked enough about the problems, about what we have not done. Now I will turn to what we can, and must, do.

As UNEP's *Making Peace with Nature* report lays out, to address the climate crisis, the biodiversity and nature crisis, and the pollution and waste crisis, we need urgent transformations in three areas:

- First, we must tackle the Earth's environmental emergencies and human well-being as one integrated and indivisible challenge.
- Second, we must transform our economic and financial systems to power and enable the shift to sustainability. Easy to say, harder to do, but essential for our long-term survival.

- Third, since we all need food, water and energy, we must transform the systems that provide them to meet growing human needs in an equitable, resilient and environmentally friendly manner.

Let us look at each transformative area in turn. Planetary health and human health are the same thing. The three planetary crises – the climate crisis, the nature and biodiversity crisis and the pollution and waste crisis – are, in essence, one crisis: that of humanity’s dysfunctional relationship with the natural world. No one sector on its own is entirely responsible for, or can fix, these crises.

There are many examples to illustrate the interconnectedness of the crises, human health and their solutions.

A cooler climate will protect biodiversity and slow down desertification, conserving nature, while healthier nature will help to store carbon and create natural buffers to the impacts of climate change. Nature-based solutions – such as ecosystem restoration – could provide between 35 and 40% of the effort needed until 2030 to limit warming to 2°C. This buys us time to decarbonize our economies. Quickly reducing greenhouse gas emissions will also make it easier and cheaper for vulnerable countries to adapt to climate change – essential for solidarity.

The sources of climate change and air pollution are often the same, from coal-fired power plants to polluting vehicles, so moving to clean energy will address both crises. Meanwhile, by fully implementing international conventions that touch on chemicals, waste and climate change, we can save millions of lives each year and protect fragile ecosystems.

The destruction of nature and over-exploitation of species is a contributing factor to zoonotic diseases such as Covid-19, so restoring nature will increase human health by reducing pandemic risks, while boosting food security and the services nature provides.

In each of these examples, action in one area impacts another.

This is why it is so essential for nations, this year, to incorporate new net-zero commitments into strengthened pledges at the climate summit, COP26, in Glasgow. In fact, every country, city, financial institution and company should adopt plans for net-zero by 2050 and make them a reality. And this last bit matters: make them a reality, with clear time-bound plans, and start implementing them immediately.

Right now, countries need to take strong action on energy systems, land use, agriculture, forest protection, urban development, infrastructure and lifestyles – all through the lens of resource efficiency and circularity. And right now, we are pouring public finance

into the economy to recover from the pandemic slowdown. We must use these resources wisely – to create a more sustainable and green future, instead of going back to the “old normal”. Let us not forget that we are borrowing these monies from the next generation. We do not want to leave them with both a broken planet and an insurmountable debt.

This is why we must pass an ambitious post-2020 biodiversity framework at the next Conference of Parties – COP15 – in Kunming, China. Here, it is vital to target biodiversity-positive agriculture and fisheries, an end to harmful subsidies, promotion of larger and better-managed conservation areas, and movement to patterns of sustainable consumption and production.

This is why we must ensure a strong post-2020 framework for the sound management of chemicals. We require a framework that prevents harmful chemicals from entering the environment and moves nations and businesses towards effective, safe and green alternatives.

This is why we must push hard on the UN Decade on Ecosystem Restoration, which gets underway in June, to restore hundreds of millions of hectares of degraded land.

We need to establish more mechanisms and approaches for cross-sectoral coordination so that solutions addressing all three crises together become the norm. Here, I must draw your attention to the One Health approach. A One Health approach integrates action across sectors and disciplines to protect the health of people, animals and the environment. We must use it.

Integration also applies to science. We have a separate body on climate, in the IPCC. On biodiversity, in IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services). On resources, in the IRP (International Resource Panel). And many more. They are all needed. But if they can work together on joint assessments that demonstrate common solutions, we will have a stronger case to take to the world. This, in fact, is the central tenet of our report, *Making Peace with Nature*.

We must also move outside of the environmental and science bubbles to engage the sectors – public and private – that are essential for human survival, but in their current form undermine long-term sustainability and drive environmental damage. Here I refer to infrastructure. Agriculture. Energy. Transport. Cities. Consumers. There is no point in setting targets for, say, biodiversity loss, unless we engage with and support these key sectors to shift to more nature-positive models.

We need to integrate nature into built infrastructure. Build infrastructure that has a smaller footprint by deploying circular

models in construction. Support and incentivize farmers to use agricultural practices that support and underpin nature. Electrify our transport and invest in public mobility.

And as consumers we have choices too. We can eat a plant-rich diet. Control how we travel and move and what we buy. And when we select who represents us in government, we should demand that they set the policy guardrails for greater sustainability through incentives, through regulations, through laws and through trade rules.

We need trillions of dollars each year to meet the Sustainable Development Goals. To unlock this investment, we need to move entire markets and financial systems. How do we do this? The answers are manifold, but key actions are incorporating accounting for nature into our economic and financial systems, shifting subsidies and investing in the right places.

The starting point is to recognize the true value of nature. Over half of global Gross Domestic Product (GDP) depends on nature – never mind the services nature provides free of charge, such as climate regulation, water filtering and protection against natural disasters.

We are eating into these natural assets faster than they can regenerate because we do not reflect the true value of nature's goods and services in market prices. We have not created wealth if, in the process, we have polluted our waterways, our soil, our oceans or our air. We have not created wealth if we have fished the oceans empty or cut the forests down for timber or agriculture. And yet today, that is our measure of wealth.

When we apply inclusive wealth accounting, as UNEP has done, we can clearly see that our prosperity has come at a price. Produced capital and human capital – such as roads and skills – have increased by 13% since the early 1990s. At the same time, natural capital – the planet's stock of renewable and non-renewable natural resources – has declined nearly 40%. This is not a viable road to follow.

The good news is that there is now a growing understanding that we must replace GDP with an inclusive wealth index that values all forms of capital. This is not in any way to deny the intrinsic value of nature. Nor is it about hanging a price tag on every bee and tree. It is about understanding that intact ecosystems are worth more to humanity than when they are destroyed.

So, the days when environmental impact was treated as an externality must end. We must legislate against and tax the environmental "bads", as opposed to merely targeting labour and goods. Governments, businesses and financial institutions should

mainstream natural capital accounting to help shift behaviour to a more sustainable path.

Even without such measures, we know that backing industries that harm the environment is a bad idea. Many subsidies do just that. I am not suggesting a blanket end to subsidies – particularly those that keep food affordable for many people in difficulty. Nonetheless, trillions of dollars of subsidies go to fossil fuels each year. These could be redirected to underfunded biodiversity and climate goals. Carbon taxes, carbon pricing, markets for carbon trading and payments for ecosystem services are other ways to start moving markets.

Both accounting for nature and shifting subsidies would start investments flowing to where they are needed. But we must invest regardless. Pandemic recovery stimulus packages are a massive opportunity to accelerate action. The UNEP Emissions Gap Report, for example, found that a green recovery could cut 25% off of 2030 emissions.

So, as mentioned, governments must use pandemic stimulus packages to create a more sustainable future. This means putting recovery money into decarbonization, into nature-positive agriculture, into sustainable infrastructure, into climate change adaptation measures that protect vulnerable communities and reduce poverty, and so much more.

The same goes for businesses and investors – for their own bottom lines as well as the planet. Renewables are a great investment. But other figures show that the business opportunities from transforming the food, land and ocean use system could generate 3.6 trillion US dollars of additional revenues or cost savings by 2030, while creating 191 million new jobs.

Investing in sustainability is the smartest move any of us can make.

The world we live in is profoundly inequitable. Almost 700 million people go hungry every day, while we waste almost one billion tonnes of food each year. Hundreds of millions of people struggle with energy poverty, while others leave lights on in every room. Some people leave their taps running without blinking an eye, while others struggle to find water to drink or tend their crops.

If we are serious about solidarity, we need to ensure that everybody has enough to eat. That we provide energy equity and connectivity for all. That water resources are used wisely and shared. We must do all of this while ensuring that the environmental impact of the food, water and energy systems shrinks instead of growing.

On energy, we obviously have to prioritize clean, renewable sources. But this must be accompanied with huge improvements

in the energy efficiency of every appliance, vehicle and building that draws power – including through regulations. We also need incentives and infrastructure for electric vehicles and sustainable bioenergy strategies.

There is a price tag: investments of 0.8-2.9 trillion US dollars are needed per year until 2050 to deliver a low-carbon system consistent with the Paris Agreement. But energy efficiency alone can deliver costs savings of 2.9-3.7 trillion US dollars per year by 2030.

Meanwhile, our food systems need serious reform. The global food system, as a whole, emits 21-37% of greenhouse gases. Then we have the stripping of forests and other ecosystems to meet growing demand for food, feed and fibre. This is why the UN Secretary-General is hosting the Food Systems Summit later this year.

We need to move to food systems that work with nature. Make agriculture, forestry, fisheries and aquaculture biodiversity positive. Integrate sustainable production and management of food and water within terrestrial, freshwater and marine ecosystems. Promote sustainable agricultural intensification, agroecological practices and conservation of genetic resources. Stop overfishing. Empower small-scale farmers, especially women.

I would like to give a special mention here to methane, a greenhouse gas that emanates both from energy and agriculture. Methane is 28 times more powerful at trapping heat than CO₂, but it lingers in the atmosphere for far less time. So, efforts such as capturing methane from the oil and gas industry and improving the health of livestock can have rapid effects.

In fact, a new report from UNEP and the Climate and Clean Air Coalition to be released in a few weeks, shows that reducing human-caused methane by 40-45% by 2030 would avoid nearly 0.3°C of global warming by the 2040s. It would also prevent over 250,000 premature deaths and more than 25 million tonnes of crop losses globally each year.

Here, I would like to touch again on the role of personal responsibility. Some 17% of food is wasted at the household, retail and food service level, while meat-heavy diets are big drivers of environmental damage. Relatively minor changes in our diets, cutting waste and reducing meat intake, can make a big difference, including to the methane emissions just mentioned. The same idea of personal responsibility applies in everything from how we travel to the packaging we chose.

Yes, it can be difficult to make choices that are good for the planet. Our societies depend heavily on fossil fuels, monoculture

crops and wasteful packaging. The system must change. Until it does, we must do what we can – within the constraints of our circumstances, and no matter how small – to change our lifestyles.

I have barely scratched the surface of the huge and complex task we face. This task may seem overwhelming. It would be overwhelming, if it were the task of just one person. But it is not. It is the task of over seven billion people. If each of us does our part, we can make rapid progress.

We are seeing this process of change. We have more commitments and solutions than ever. Businesses and investors are stepping up. Renewable energy is more widespread, and cheaper. Public awareness of the issues is at an all-time high. And Covid-19 has shown how quickly we can change, when we have to. Well, we have to change.

We have the science, the knowledge and the tools for transformation. We have the opportunities, in a green pandemic recovery and in the many international processes unfolding over the coming months and years.

We now need to let science lead us, and principles of solidarity guide us, as we get to work making peace with nature, and building a world in which we can all live, peacefully and prosperously, together.