

## **Sustainability and Justice: Facing the Environmental Challenges and Choices of Our Age**

*Environmental Justice and Climate Change Meeting, The Vatican - September 11, 2015*

Excellencies, Colleagues, Ladies and Gentlemen,

In December of 1972, the crew of the Apollo 17 captured one of the most famous photos in history as they drifted 45,000 kilometres from Earth. “The Blue Marble”, as it is called, depicts our planet - the sunlit contours of the African continent and Indian and Atlantic oceans - suspended delicately in the inky darkness of space.

In July of this year, NASA released another Blue Marble photo, this time centred over the Americas. Storm systems still swirl over the continents. Oceans still shine in a splendid palette of blues.

In fact, from this distant astronomical vantage point, little seems to have changed in 43 years aside from geographical orientation.

But we typically observe the planet from a more human, terrestrial perspective. Over the years, we have identified and witnessed the shifts that the Blue Marble photo can't show. Our planet and environment has changed and is changing in adverse ways that increasingly affect our lives, our lifestyles and our well-being. And that change is mainly due to us.

The scope and magnitude of humanity's impact on the environment today transcend anything we have seen throughout history.

To some scientists, this notion that humans are now the single most influential factor in our planet's future implies that we are living in a new epoch. Nobel laureate Paul Crutzen was the first to give it a name: the Anthropocene.

Climate change is probably the most visible and discussed anthropogenic environmental transformation. It is so visible that one can actually, in fact, see it from space. The melting of polar ice caps has so quickly outrun the anticipated retreat that National Geographic has been forced to redraw its world atlas multiple times over the last 15 years to account for the change.

Earth-bound observations, meanwhile, have shown that climate change and environmental degradation threaten multitudes of species and ecosystems on our planet, many having suffered greatly from human activity already.

The disappearance of a species may not be visible from a satellite. Yet, flora and fauna are disappearing at a rate 1000 times normal due to anthropogenic climate change and environmental degradation.

And where we do not harm species through second-degree neglect, we continue to do so directly, through poaching and the illegal wildlife trade. As an example, between 2010 and 2012 estimates show some 100,000 elephants were killed in Africa. This is out of a population of 420,000–650,000. Rhinos have disappeared completely from several African and Asia countries. The value of poached ivory is in the hundreds of millions of dollars.

However, the money generated by wildlife crime is dwarfed by the scale of total environmental crime.

In fact, UNEP and INTERPOL estimate that every year, environmental crime deprives countries of natural resources worth as much as \$213 billion US and fuels activities of global criminal cartels and terrorist groups. Unprecedented levels of illegal mining, forest crime, smuggling of fishery products and illicit dumping of chemicals contribute to the wildlife crime previously mentioned.

Exploitation of forest, including illegal logging, is valued at between US\$30-100 billion per year. The ecosystems suffer just as much as the economies, if not more. A recent study led by Yale University academics put the number of trees on the planet at just over 3 trillion. This may seem a substantial amount, until you consider that the same study estimated humans have halved the number of trees since the last ice age.

Oceans, which seem so pristine from 45,000 kilometres away, are dumps for massive amounts of human-generated waste. In 2010 alone, the oceans swallowed 8 million tons of plastic. These plastics, including some 5.25 trillion tiny plastic particles, infiltrate and damage the aquatic food chain, even entering into food we eat.

This just goes to illustrate that while nature has intrinsic value, we can't divorce it from human needs. Our lives and livelihoods are built on the environment around us. Around 2.6 billion people worldwide draw their livelihoods in part or in full from agriculture. 1.6 billion from forests. 250 million from fisheries. 200 million from pastoralism.

Over-exploitation and degradation of natural wealth threatens to short-circuit human development and risks trapping huge numbers in poverty and a vicious cycle of over-exploitation and environmental degradation.

Climate change will only continue to exacerbate the problem of unsustainable consumption and production patterns, and vice versa.

The challenges that humanity faces in view of our impact on the planet manifest in economic, social, environmental, scientific and technological dimensions.

But, as Pope Francis indicated in his recent Encyclical, ongoing environmental degradation is also a moral and ethical challenge. The devastation that will befall lives, livelihoods and the

natural world from this degradation, necessitates that our solutions comprise the notions of responsibility, justice and equity.

The current refugee crisis in Europe has sharpened the world's focus on these concepts. At a time when we are witnessing record numbers of people being forced to flee from conflicts, natural disasters and economic deprivation - almost 60 million in 2014 - the prospect of causing further displacement and migration is a grim prospect. But consider that as rising seas and escalating natural disasters wreak worsening havoc across the world, the number of people displaced from their homes may one day dwarf the magnitude of the crisis in Europe now.

Current global trends also point at an increasing correlation between conflicts and environmental issues. Of the 45 "fragile states" identified by OECD, 80 per cent contain extractive resources of strategic significance to the global economy. 95 per cent contain trans-boundary waters at risk, biodiversity hotspots of global significance, or both. Over the last 60 years, at least 40 per cent of all intrastate conflicts have had a link to natural resources. Yet since the end of the World War II, fewer than a quarter of peace agreements that have aimed to resolve conflicts linked to natural resources have included specific resource management mechanisms.

Sustainability is the prism through which we must address the changes, challenges and choices we face. The longer we wait to act on climate change and other environmental issues, the less we will be able to reverse their effects. Our actions now, as never before, affect not only the present generation, but the well-being of generations yet to come.

If indeed the "Anthropocene" is defined by the fact that we possess the advanced knowledge, science and technology to so dramatically affect the environment, it also means we can employ these tools to plot a sustainable path forward for the planet and its peoples.

In this age of choices, we have the responsibility to act. On an individual and collective level, we must recalibrate our moral compass. We must consider how to account for and respond to the negative effects of anthropogenic environmental change.

Sustainability can provide us the sound basis to continue to grow and develop our societies in coincidence with a convalescent environment.

Individually, what can one person do? Above all, we have a duty to know. To know about the changes occurring. To know about the challenges we are all facing. To know about the choices we can make individually to make a difference.

And then, we have a duty to act on those choices to build a better, more sustainable world for all.

This can mean simple things like rethinking our individual consumption choices and patterns related to food products and services.

Accountability lies in the collective as well. As Pope Francis said in *Laudato Si*, "We need to strengthen the conviction that we are one single human family." Few would argue against helping a family member in need.

And if we accept this, that we have a moral duty to help our fellow human being, our neighbours no longer live only in the flat or house next door. They live 5,000 kilometres away in a drought-ridden desert, or 15,000 kilometres away on an island threatened by a rising ocean.

After all, the negative effects of anthropogenic environmental change impact the very foundations that underpin our society, and permeate national borders. Rapacious and unsustainable development are elements that we have seen shake these foundations. The financial volatility in developed economies in recent years is but one reminder of the necessity to include sustainability factors in all policies, regulations and legislation that govern the ways our societies operate.

To avoid doing so imperils all of humanity and threatens to have us relive crisis after crisis along the way.

The political, legal and governance challenges for decision-makers are perhaps not easy to face. Governments must reassess policy, legislation and regulations to include sustainability factors, including all citizens in the discussion.

Existing barriers to decoupling economic growth from environmental degradation should be removed. Distorting subsidies for energy and water use, outdated regulatory frameworks and technological biases are but a few examples of where unsustainable policies continue to exist.

This need for a green shift in policy is pressing, but we are seeing some progress.

Take renewable energy as an example. In just eight years since 2005, the number of countries with clean energy targets nearly tripled from 48 to 138, half of which are developing countries.

Global investment in renewable power and fuels (excluding large hydro-electric projects) reached 279 billion USD in 2014, nearly 17% higher than 2013. Almost 50% of all new electricity generating infrastructure investments in 2014 were renewable.

This is heartening, and the right laws and policy and move us in the right direction. However, the economy, which underlies global interaction, must move with us. This entails the realization of an inclusive green economy, where growth and jobs are generated by investments that reduce pollution and GHG emissions, protect biodiversity and ecosystem services, and enhance energy and resource efficiency.

Some 65 countries have already embarked on green economy and related strategies.

Many of them are developing green economy plans as part of sustainable development strategies.

And as countries embark on these efforts, they are preparing their financial systems to support this shift by introducing national legislation and policy on sustainable finance initiatives.

Individual national sustainability efforts will continue to be at the core of achieving an inclusive green economy.

At an international level, agreements among nations will continue to demonstrate the solidarity that is required for universal environmental justice and equity. The Sustainable Development Goals Summit in September is another immediate opportunity for the world to chart the course toward a sustainable future and test our collective capacity to rise to the challenge.

We only need recall the Montreal Protocol to demonstrate the potential of collective cooperative action. After identifying the disastrous effects of certain substances on the ozone layer, the international community came together to ban them. The world has not looked back.

The climate conference in Paris in December will be another opportunity for an international response to a global challenge. I urge all nations to sign ambitious targets to reach an agreement where global warming is held below 2 degrees celsius.

However, this challenge, as never before, is one that must be met by the current generation. If we sacrifice the environment for contemporary, short-term gain - of which there is little to be had anymore - we are sacrificing the well-being of countless future generations.

And if we, the peoples of the world, can meet this challenge successfully - what then? It means that 100 years from now when another Blue Marble photo is taken, the world will continue to look the same. But down on the surface, things will have changed for the better.