

TOWARDS AN INCLUSIVE “GREEN ECONOMY”: RETHINKING ETHICS AND ECONOMY IN THE AGE OF THE ANTHROPOCENE

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Sometimes, to look afresh at the problems of today, we need to take a wider view. Not just decades, or centuries. Not even millennia.

Geologists divide the Earth’s existence into periods called epochs. These can be tens of millions of years long. Each is marked by a radically different climate, and most culminate in some kind of mass extinction. The Holocene, for example, started some twelve thousand years ago, when the glaciers started to retreat from the temperate lands we know today, and mammoths and sabre-toothed tigers disappeared from our planet.

Some scientists suggest that we have entered into an entirely new epoch. Nobel Prize laureate Paul Crutzen was the one to give this period its name: the Anthropocene. And this name may soon be formalised, as the Stratigraphy Commission of the Geological Society of London will decide in 2016 if the Anthropocene will indeed become a formal unit of geological epoch divisions. Dating back to the Industrial Revolution, this is the period in which the human race became the single most influential factor in our planet’s future. The mass extinction has already started: it is estimated that species of flora and fauna are presently going extinct at 1000 times the rate we could otherwise expect.

To put that into perspective, that places the human race in the same category as the asteroid which wiped out the dinosaurs, and 75% of all Earth’s species, 66 million years ago.

We are not the inheritors of the Earth’s natural resources, but rather, the custodians. We have a duty of care to the poor, the weak and disenfranchised; to our children and to their children, to protect and nurture creation.

This responsibility presses upon us as individuals, as communities and as nations. The treasures of creation are the very base that allows human society to develop and grow. If we exhaust these resources, there can be no sustainable social and economic growth. To foster these resources and thrive, we need to evolve our development ethic and vision. Alongside that, our very survival as a species could depend upon the adoption of a new paradigm for transforming the ever dominant economic rationale of our times which has guaranteed a great deal of wealth but has also begun

to impoverish our societies and is rapidly compromising the wellbeing of future generations.

A New Development Ethic and Vision

As individuals and communities we need to respond to a different set of realities and responsibilities in the Anthropocene. 250 years of consumption have magnified, not reduced, inequality. We need to correct the irrationality of valuing economic growth and material wealth over happiness, security and wellbeing.

Yet in decoupling the definition of development from Gross Domestic Product (GDP), we must ensure we provide a set of positive solutions, rather than a mere critique of the *status quo*.

Moving the world's 1.2 billion poorest to a life of dignity for all will require recognition that environmental conservation is not an impediment to development, but in fact the key to a future of economic prosperity, human wellbeing, and food and energy security for all.

In the lead up to Rio+20 UNEP worked with partners, including the UN University, to introduce the Inclusive Wealth Indicator (IWI) as an alternative to GDP as a measure of sustainable development.

The IWI is among a range of potential replacements which world leaders can consider as a way of bringing greater precision to assessing wealth generation in order to realize sustainable development and eradicate poverty.

The wellbeing of humanity and the functioning of the economy and society ultimately depend upon the responsible management of the planet's finite natural resources.

Living within the Earth's safe operating space – its planetary boundaries – safeguards humanity from crossing ecological or social thresholds that could undermine or even reverse development gains.

To achieve sustainable development without crossing ecological thresholds, countries will need to transition to a low-carbon economy, adopt sustainable consumption and production patterns, become more resource efficient and decouple economic growth from the over-exploitation of natural resources.

A New Paradigm for Economic Progress and Prosperity

This is the goal of a Green Economy: an inclusive system which creates jobs and prosperity for all by safeguarding the Earth's life support systems.

Sustainable consumption and production can yield economic, social and health benefits, including greater access to markets, social innovation, job creation and empowerment.

Sustainable consumption is not necessarily about consuming less. It is about consuming better – in an intelligent and environmentally sustainable way.

The dominant consumption pattern of affluent societies is a major stress on natural resources. According to a report by the International Resource Panel, total resource use grew eight-fold between 1990 and 2000, from 6 billion to 49 billion tonnes.

By 2050, humanity could devour an estimated 140 billion tonnes of minerals, ores, fossil fuels and biomass per year – three times its current appetite – unless economic growth is “decoupled” from natural resources consumption.

More emphasis is required on resource efficiency in government policies, public and private sector management practices, technology choices, and investments, so as to deliver more output per unit of input, as well as less associated environmental damage.

The success of a new paradigm for economic growth will ultimately be seen in four principle areas: Food, Water, Energy, Natural Capital and Human Capital.

Food

The world is struggling to feed its 7 billion citizens. Figures from The Food and Agriculture Organization of the United Nations (FAO) indicate that 842 million people went hungry between 2011 and 2013, most of them in the developing world. By 2050, we must find a way to feed an additional 2.6 billion people. This means that agricultural production must increase by 70 per cent, according to World Bank figures

The goal of food security for all cannot be achieved by expanding croplands in pursuit of increased food production, which would bring its own problems. Agriculture already accounts for more than two thirds of the world’s freshwater use and is a contributor to deforestation.

Reducing the 1.3 billion tonnes of food lost or wasted each year, equivalent to one third of all food produced and enough to feed the world’s hungry, is one of many sensible ways of tackling the problem – particularly when one considers that 1.4 billion hectares of cropland, as well as water and other agricultural inputs, are needed to produce this discarded food.

Pope Francis in June last year said this waste was ‘like stealing from the table of the poor and hungry’.

UNEP and the FAO last year launched *Think.Eat.Save. Reduce Your Foodprint* – a campaign encouraging consumers and business to rethink their practices.

Meanwhile, two billion hectares of agricultural land is currently degraded. Rehabilitating this land, which lies largely in areas where local food

insecurity is highest, could increase food production by 79 per cent. This has the potential to feed an extra 2.25 billion people.

Intelligent solutions are required to establish a sustainable future. A combination of restoring degraded lands, preventing further degradation, and reducing waste will have a more positive impact than attempting to boost production through expansion.

Water

Feeding the projected 2050 population will require approximately 50 per cent more water than is currently used in agriculture globally. Yet more than 2 billion people live in countries with absolute water scarcity.

Research suggests that with current practices, the world will face a 40 per cent global shortfall between forecast demand and available water supplies by 2030.

Governments are taking steps to improve the management of water resources. In a survey of 130 countries carried out by UNEP and partners, it was reported that over 80 per cent of countries have reformed their water laws in the past twenty years as a response to growing pressures on water resources from expanding populations, urbanization and climate change.

In many cases, such water reforms produce significant impacts on development, including improvements to drinking water access, human health and water efficiency in agriculture.

But global progress has been slower where irrigation, rainwater harvesting and investment in freshwater ecosystem services are concerned.

Energy

Clean, efficient and reliable energy options are indispensable for a sustainable future for all with multiple benefits for development, human health, environment and climate change.

At the moment, over 1.2 billion people – most in rural areas – don't have access to electricity. 2.8 billion rely on wood or other biomass to cook and heat their homes, causing millions of deaths each year as a result of indoor air pollution.

Although 1.7 billion people gained access to electricity between 1990 and 2010, this is only slightly ahead of population growth of 1.6 billion over the same period.

Energy from renewable resources – bioenergy, geothermal, hydro, ocean, solar, wind – is local, clean, inexhaustible and free. In 2013, almost half of total new electricity generating capacity came from renewable sources, but by 2030, the share of renewable energy in the global energy mix will need to grow to 36 per cent, up from 18 per cent in 2010.

Energy efficiency improves energy security, reduces greenhouse gas emissions and increases productivity. Between 1990 and 2010, improvements in energy efficiency have cut over 25 per cent from cumulative global energy demand. But energy efficiency rates need to double by 2035, otherwise energy-related CO₂ emissions will increase by around 20 per cent, according to World Bank estimates.

A global transition to efficient lighting could significantly reduce CO₂ emissions. Lighting accounts for approximately 15 per cent of global power consumption and 5 per cent of worldwide greenhouse gas (GHG) emissions.

Through the *en.lighten* project, a key contribution to the Secretary General's Sustainable *Energy for All* initiative, UNEP assists countries to make the switch to efficient lighting technologies.

A country such as India, for example, could cut its lighting electricity consumption by over 35 per cent, which is equivalent to closing 11 large coal-fired power plants or taking over 10 million cars off the road. Annual savings would be over USD 2 billion.

Globally, this transformation would yield annual cost savings of over USD 140 billion and can achieve annual CO₂ reductions of 580 million tonnes.

Natural Capital

Natural capital not being valued is a large part of the reason land and water systems are being degraded. The Economics of Ecosystems and Biodiversity, or TEEB, aims to change this. The initiative, supported by UNEP, is encouraging governments to accurately account for the present and future benefits of their countries' natural resources.

The share of the poor in global GDP is marginal and is reduced with the erosion of natural capital. The share of the bottom 40 per cent of the population in global wealth remains less than 5 per cent.

These people mainly live on small farms, coastal areas and around forests, and depend on natural capital for their livelihoods, nutrition and health.

Some 2.6 billion people worldwide draw their livelihoods either partially or fully from agriculture, 1.6 billion from forests, 250 million from fisheries, and 200 million from pastoralism. It has been estimated that ecosystem services and other non-marketed goods make up 50 to 90 per cent of the total livelihoods of poor rural households.

Degradation of natural resources creates a poverty trap, which leads to a reinforcing loop of further degradation and worsening poverty. Any reduction in natural capital stocks negatively affects the wellbeing of the poor disproportionately and leads to growing inequalities. On the other hand, investing in natural capital protects livelihoods and creates green jobs.

For example, a stimulus package for sustainable forest management could create an additional 10 to 16 million jobs globally at an estimated cost of USD 36 billion. It is estimated that non-timber forest products can generate some 4 million person-years of employment annually, along with USD 14 billion in international trade and income for subsistent households. Which leads us to our next point.

Human Capital

A shift towards sustainable production can contribute to green, inclusive and decent employment. For example, sustainable agricultural systems tend to be more labour intensive, as this input replaces often-toxic or polluting chemical inputs.

Innovative economic and environmental policy reforms, fiscal measures and green investments can prevent the loss of employment opportunities in both urban and rural areas, expand and diversify the local job market, and contribute to the transfer of the technology and skills that are necessary for long-term poverty eradication and sustainability.

The Partnership for Action on Green Economy, or PAGE, is an inter-agency initiative founded by the United Nations Environment Programme (UNEP), the International Labour Organization (ILO), the United Nations Industrial Development Organization (UNIDO) and the United Nations Institute for Training and Research (UNITAR).

By taking a country by country approach, PAGE will catalyze up to 30 national economies between now and 2020, and thus contribute to the global transition to a sustainable future for all.

Today, countries such as Burkina Faso, Peru, Mauritius, Mongolia, and Senegal are set to boost their economies through a shift of investment and policies towards a new generation of assets that include clean technologies and resource efficient infrastructure, green skilled labour, well-functioning ecosystems, and good governance. Such a transformation will pay significant dividends in social, environmental and economic terms.

A package of green investments – coupled with policy reforms that are aimed at making growth socially inclusive – offers economically viable options to reduce poverty and hunger, and addresses challenges of climate change and degradation of natural resources, while simultaneously providing new and sustainable pathways to economic development and prosperity.

Towards a Green Economy

In a Green Economy, growth in income and employment is driven by public and private investment that reduces carbon emissions and pollution,

enhances energy and resource efficiency, and prevents the loss of biodiversity and ecosystem services.

These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes.

At Rio+20, world leaders adopted the Ten-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP). This global framework for cooperation and capacity building is designed to accelerate the shift towards sustainable patterns and to promote social and economic development within the carrying capacity of ecosystems.

The text adopted was explicit that the 10YFP should build on existing initiatives and policies, must contribute to all three pillars of sustainable development, and that developed countries should provide leadership in promoting the shift to SCP patterns.

The first 10YFP programme, on Sustainable Public Procurement, just got underway. Governments spend trillions of dollars each year on procuring goods and services, and redirecting this money into green goods and services can drive the transition to a more resource-efficient world.

Climate Change: the threat of the Anthropocene

While much of the world's private capital is locked up in carbon-intensive investment across the developed world, developing country investment in a low-carbon future is on the rise. Clean energy investments reached USD 244 billion in 2012, while outlays in developing countries reached USD 112 billion, according to estimates by REN 21 (Renewable Energy Policy Network for the 21st Century).

World Economic Forum estimates suggest that investment in infrastructure of an estimated USD 6 trillion annually is needed over the next 16 years to deliver a low-carbon economy. Of this, nearly USD 1 trillion is over and above the business-as-usual trajectory.

This investment is worth it, however, to head off the worst impacts of climate change, which fall most heavily on those who are least able to respond, and often on those who have contributed very little to its causes.

Delayed action on climate change means a higher rate of climate change in the near term and likely more near-term climate impacts, as well as the continued use of carbon-intensive and energy-intensive infrastructure, according to the Emissions Gap report launched by UNEP and over 44 research institutes from 17 countries ahead of the Warsaw COP, last year.

UNEP research shows that even if nations meet their current climate pledges, greenhouse gas emissions in 2020 are likely to reach up to 12 gi-

gatonnes of CO₂ equivalent above the level that would provide a likely chance of remaining on the least-cost pathway.

The stepping stone of the 2020 global target can still be achieved by strengthening current pledges and further action, including scaling up international cooperation initiatives in areas such as energy efficiency, fossil fuel subsidy reform, renewable energy and reforestation schemes.

Redefining the Anthropocene

Pope Benedict XVI said: “The ecological crisis offers a historic opportunity to develop a common plan of action aimed at orienting the model of global development toward greater respect for creation and for an integral human development inspired by the values proper to charity in truth”.

Caritas can be understood as a duty of love for God; for creation; and for one’s neighbour. In this interconnected world, our neighbour could be on a different continent. Or indeed, yet to be born. Our duty of care is no longer bounded by traditional spatial or temporal limits.

Almost all faiths and societies share similar notions of responsibility. Embracing this duty will provide a bridge to common understanding between groups which have, at times, found it easier to focus upon their differences.

We don’t have the luxury of millennia to think about it: we need to zoom right back in to the here and now, and start making changes to the way we live on, use and understand our planet. But let us take some hope from our definition of the Anthropocene. If we live in a human-made age, we may have the power to re-make it, too.