

INFORMATION ON THE THREATS TO PLANET EARTH

Environmental catastrophes are no longer a future threat but a present reality, a reality caused by us, human beings. If we care at all about the kind of planet which we are leaving to the next generation, we can no longer afford to be apathetic. The first thing we must do is to become informed about the actual environmental threats so that we can take intelligent steps to mitigate them. Below we give just some excerpts from the numerous documents available:

1. Global threats. World scientists' warning to humanity. A second notice

Since 1992, with the exception of stabilizing the stratospheric ozone layer, humanity has failed to make sufficient progress in generally solving ... environmental challenges, and alarmingly, most of them are getting far worse.

Especially troubling is the current trajectory of potentially catastrophic climate change due to rising GHGs from burning fossil fuels (Hansen et al. 2013), deforestation (Keenan et al. 2015), and agricultural production— particularly from farming ruminants for meat consumption (Ripple et al. 2014). Moreover, we have unleashed a mass extinction event, the sixth in roughly 540 million years, wherein many current life forms could be annihilated or at least committed to extinction by the end of this century.

... humanity is not taking the urgent steps needed to safeguard our imperiled biosphere....

Sustainability transitions come about in diverse ways, and all require civil-society pressure and evidence based advocacy, political leadership, and a solid understanding of policy instruments, markets, and other drivers. Examples of diverse and effective steps humanity can take to transition to sustainability include the following (not in order of importance or urgency):

- 1) Prioritizing the enactment of connected well-funded and well-managed reserves for a significant proportion of the world's terrestrial, marine, freshwater, and aerial habitats;
- 2) Maintaining nature's ecosystem services by halting the conversion of forests, grasslands, and other native habitats;
- 3) Restoring native plant communities at large scales, particularly forest landscapes;
- 4) Rewilding regions with native species, especially apex predators, to restore ecological processes and dynamics;
- 5) Developing and adopting adequate policy instruments to remedy deforestation, the poaching crisis, and the exploitation and trade of threatened species;
- 6) Reducing food waste through education and better infrastructure;
- 7) Promoting dietary shifts towards mostly plant-based foods;

- 8) Further reducing fertility rates by ensuring that women and men have access to education and voluntary family-planning services, especially where such resources are still lacking;
- 9) Increasing outdoor nature education for children, as well as the overall engagement of society in the appreciation of nature;
- 10) Divesting of monetary investments and purchases to encourage positive environmental change;
- 11) Devising and promoting new green technologies and massively adopting renewable energy sources while phasing out subsidies to energy production through fossil fuels;
- 12) Revising our economy to reduce wealth inequality and ensure that prices, taxation, and incentive systems take into account the real costs which consumption patterns impose on our environment; and
- 13) Estimating a scientifically defensible, sustainable human population size for the long term while rallying nations and leaders to support that vital goal.

For the full text, see

http://scientists.forestry.oregonstate.edu/sites/sw/files/Ripple_et_al_warning_2017.pdf

2. Climate crisis. Threat to the Atlantic Ocean circulation (AMOC)

Avoid Gulf stream disruption at all costs, scientists warn

How close the world is to a catastrophic collapse of giant ocean currents is unknown, making halting global warming more critical than ever, scientists say

Damian Carrington Environment editor

Serious disruption to the Gulf Stream ocean currents that are crucial in controlling global climate must be avoided "at all costs", senior scientists have warned. The alert follows the revelation this week that the system is at its weakest ever recorded.

Past collapses of the giant network have seen some of the most extreme impacts in climate history, with Western Europe particularly vulnerable to a descent into freezing winters. A significantly weakened system is also likely to cause more severe storms in Europe, faster sea level rise on the east coast of the US and increasing drought in the Sahel in Africa.

The new research worries scientists because of the huge impact global warming has already had on the currents and the unpredictability of a future "tipping point".

The currents that bring warm Atlantic water northwards towards the pole, where they cool, sink and return southwards, is the most significant control on northern hemisphere climate outside the atmosphere. But the system, formally called the Atlantic Meridional Overturning Circulation (Amoc), has weakened by 15% since 1950, thanks to

melting Greenland ice and ocean warming making sea water less dense and more buoyant.

This represents a massive slowdown – equivalent to halting all the world’s rivers three times over, or stopping the greatest river, the Amazon, 15 times. Such weakening has not been seen in at least the last 1,600 years,

For the complete article, access:

<https://amp.theguardian.com/environment/2018/apr/13/avoid-at-all-costs-gulf-streams-record-weakening-prompts-warnings-global-warming>

3. World Environment Day.2018

Beat Plastic Pollution is the theme of World Environment Day 2018. Join the movement to break up with single-use plastic.

New evidence is emerging that shows that the human population’s obsession with all things plastic is poisoning one of the world’s natural wonders: coral reefs.

Much more than simply an object of beauty, coral reefs are living, breathing ecosystems, teeming with life. Although they occupy less than 0.1 per cent of the world's ocean surface, they provide an essential home for 25 per cent of all marine life; they are also vital for protecting coastal communities, acting as natural barriers from cyclones and rising seas; and 275 million people depend directly on them for their food and livelihoods.

Yet coral reefs are under attack on a number of fronts. In the past 30 years, we have lost up to 50 per cent of the world’s corals from the effects of warming sea temperatures due to climate change, overfishing, and a range of land-based activities. However, a major new study has revealed they are also under siege from plastic.

Each year, it is estimated that more than 8 million tonnes of plastic are ending up in the oceans – the equivalent of emptying a garbage truck of plastic every minute. We are producing 20 times more plastic today than in the 1960s. If we continue the current rate of plastic usage, we will have produced another 33 billion tonnes of plastic by 2050; a large portion of which will end up in oceans, where it will remain for centuries.

....Of the 124,000 individual reef-building corals that were assessed, 89 per cent of those smothered in plastic were facing the threat of disease compared with only 4 per cent in corals free from plastic. The plastic debris starves corals of vital oxygen and light, and releases toxins enabling bacteria and viruses to invade.

.... Scientists recorded a worrying development in the ingestion of plastic by marine wildlife. There is myriad evidence of marine wildlife fatally mistaking plastic debris, particularly microplastics, for food.

For the complete article, access: <http://worldenvironmentday.global/en/news/marine-plastic-new-and-growing-threat-coral-reefs>

4. The management of urban waste in Kenya.

The management of urban waste in Kenya is becoming headline news these days. With the change of administration in many counties, the 'new brooms' are trying to tackle the perennial problem of what to do with the mountains of waste produced in our urban areas.

However, when thinking about the proposed solutions to the urban waste problem, there are two questions that we need urgently to ask ourselves: (1) Whose responsibility is the management of waste? (2) Are we looking for short-term or long-term solutions?

For the complete article, [see attached]. This article will soon be posted on the IEM-K website iemkenya.org