

Article 2 - Living with the Blue Planet



In many cases it would seem that mankind is in control of the environment; we have shown the ability to excavate mountains, seed clouds to make it rain, place chemicals on our crops to make them grow faster, defy gravity by sending rockets into space, create medicines that help our bodies, work at a nanoparticle or DNA level, and use science to understand the universe.

We may feel to be the most advanced species and that *we are above and in control of the environment*, after all, our impact on the environment is now recognised to be the driving force of environmental change; the Anthropocene Epoch.

The Earth however, having evolved over the last 4 or so billion years, has developed into a complex self-regulating synergistic system (aka the Gaia Theorem) that keeps the conditions favourable for the evolution of life. Mankind's developments on the planet are tipping this balance (Ref: Cyprus Mail Sept 8th 2021, article 'Earth: Us and our only home') resulting in unusual events with new records set in events such as superstorms, hailstorms, floods, drought, pests, melting icecaps, sea level rise etc.; some veering on the biblical.

These events are a 'feedback' from Gaia, and is changing the way we live and survive on the planet. It indicates that we are actually not in control of our environment but certainly able to influence it.

Essentially, we are a part of the biosphere (the thin crust around the planet bounded by the oceans, lithosphere (rock) and upper atmosphere); we are just another living organism, albeit the most influential, existing alongside all the biological activity that exists in the biosphere. How we live within this biosphere will determine how we will live on the planet.

History has shown us that if we do not protect and value this biosphere, we will be doomed; the fall of certain societies such as Easter Island, the Mayans, Chaco Anasazi are direct examples, while the fall of the

The Gaia Theory/Hypothesis was coined by Dr. James Lovelock in the 1960's when NASA has charged him with the task of finding a way of detecting life on other planets. With the help of the late Dr. Lynn Margulis, who brought in the symbiotic relationship of biological life a hypothesis was developed that showed that the earth is a self-regulating system. Today, this field of study is known as Earth Systems Science.

Roman Empire was significantly caused by a disproportionate use of environmental resources, combined with volcanic eruptions, and 3 consecutive pandemics.

Today we are experiencing a similar situation, yet it's on a global scale. If the coming generations are going to live and thrive on the planet, we need to, at a very basic level, become 'sustainable'.

In 1987, the United Nations Brundtland Commission defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

However, this can be challenging when today, the almost 140 developing countries in the world who are seeking ways of meeting their development needs, are faced with the challenge of climate change, population displacement, water crisis, and so much more; where protecting future generations may not be a top priority.

According to the Intergovernmental Panel on Climate Change, we only have a decade or so to turn things around. This means a momentous movement involving everyone; we the people, the entrepreneurs, start-ups, businesses, and industry leaders must step up and assist governments by acting on the ground, so that our impact is contributing to a beautiful future for our lifetime, and for the coming generations to enjoy.

However, there are a multitude of different types of economic enterprises around the world; how do we ensure that we are taking care of both planet and people when we are bombarded with different opinions about climate change and sustainability (everyone seems to have their own version)? Where do the individuals/corporations/governments even start?

Just like understanding what is 'right' or 'wrong' is based on principles, so too we can develop a context around what is 'sustainable' and 'unsustainable'.

An easy way to contextualise sustainability is to view it as the function of a system that, over time, does not degrade either the environment, or the society operating within that system. This is naturally logical; without a good environment (clean air, good food, fresh water), we cannot operate, and any economic activity is driven by people; therefore, the society at large needs also to be kept healthy.

To actualise this, the Blekinge Institute of Technology (Sweden) has worked over the past 30 or so years, in collaboration with scientists, industry partners and government entities, and have refined in an international consensus, a set of Sustainability Principles. This has been an interactive process that has been developed with companies like IKEA and Volvo, and governments/municipalities and even Åland (an autonomous region of Finland) alike; principles that apply across all domains/sectors/industries.

The result is a set of 8 Sustainability Principles (SPs); principles that are underpinned by scientific laws and knowledge, that we all can use in our own lives and businesses to help humanity live sustainably with the planet. The first three relate to the environment, while the latter five toward society.

The first 3 SP's were developed with the need to find what is essential for our ecological system (Biosphere) to be sustained in order for future generations not to have their needs systemically undermined;

The first 3 Sustainable Principles keep the planetary processes in check. The natural symbiotic relationships and geological cycles of the earth have a capacity of function, and therefore these 3 SPs aim at not increasing beyond these limits by **not systemically increasing..**

- 1) ... **concentrations of substances extracted from the earth's crust**; there are naturally occurring exchanges between the biosphere and the lithosphere (earth's crust); however activities like mining and polluting exceed these natural processes, placing pressure on the biosphere.
- 2) ... **concentrations of substances produced by society**; emitted or leaked substances that the biosphere cannot degrade, or that can be naturally deposited into the lithosphere. These apply to naturally occurring elements such as Nitrogen Oxides (NO_x), or elements that have never existed in the biosphere such as chlorine or CFC's.
- 3) ... **degradation by physical means**; human activities that influence the biosphere by physical means, such as the destruction of wetlands, deforestation, over-harvesting, and in many cases the methods used in industrial food production.

The latter 5 principles pertain to society, whereby **people are not subject to structural obstacles to..**

- 4) ... **health**; people are not exposed to environments that undermine their physical, mental or emotional wellbeing (e.g. dangerous working conditions, or lack of sleep).
- 5) ... **influence**; people are not systematically prevented from participating in shaping social systems (e.g. suppression of free speech, or neglect of opinions).
- 6) ... **competence**; people are not systematically prevented from learning or developing competence (individually or together); (e.g. education)
- 7) ... **impartiality**; people are not systematically exposed to partial treatment (e.g. discrimination or unfair selection to job positions)
- 8) ...**meaning-making**; people are not systematically prevented from creating individual meaning, or common meaning as a group (e.g. suppression of cultural expression)

With these principles, we have a framework (or lens) that we can use to review our current situation, and also to develop future societies towards. These may be a tall order, but the early adopters will (and have) set themselves up to operate for a long -term basis and in many cases, much more efficiently and economically.

There already exist initiatives around the world that have taken off, that prioritize the environment and people, before profit; circular economy, cradle to cradle, regenerative farming, agroecology, permaculture, and many many more. We will explore these in the next article!