

Sustainable development

Can we continue to live as we do?

One attempt to answer the question has through the notion of **sustainable development**.

There are multitudes of definitions and varying interpretations about its meaning

and application to human affairs, there a broad consensus around the following from the UN Commission on Environment and Development (Bruntland Commission, 1987).

Definition

Sustainable development is development that meets the needs of the present

without compromising the ability of future generations to meet their own needs.

Balancing needs to resources for minimum impact

Human needs are many and diverse and have continued to grow to meet the development needs of nations. But the resources required in the long-term to meet the needs are limited.

global warming and climate change, pollutants, deforestation, depletion of ocean resources and increased incidence and impact of natural disasters.

The impacts on the environment are equally worrisome including increased greenhouse gases and threat to life from

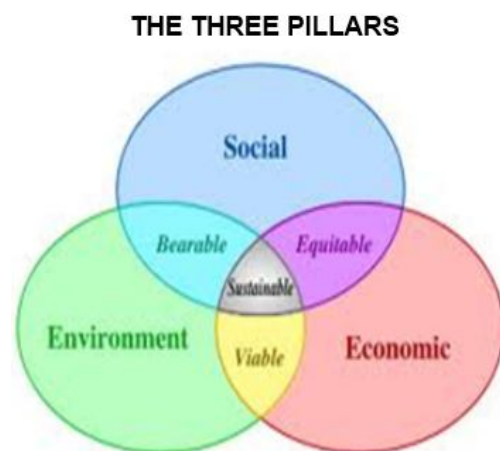
The definition calls for development that provides for a balance between satisfying the needs taking into account the limited resources.

The three pillars

The three pillars of sustainable development are generally accepted as comprising:

- **social aspects** (health, education, employment, protection from natural disasters, etc.),
- **environment** (biodiversity, natural resources, clean air, water and surroundings, waste disposal, green settings with plants, protected beaches, renewable energy, activities that generate less greenhouse gases, etc.),

- **economic aspects** (services for community well being, agricultural and industrial growth, etc)



In order to ascertain whether an activity is sustainable, the three aspects should be analysed to ensure fairness (**Equitable**),

feasibility (**Viable**) and acceptability (**Bearable**).

Brief historical perspective

In the since the dawn of history, human beings lived close to Nature and in harmony with it. As they were few, their carbon imprint was limited allowing Nature to remain untouched and with the ability to regenerate continuously. Nature was bountiful in terms of animals, fish, edible plants and fruits.

Today, tribal people in Africa, Asia, Americas and Oceania still revere Nature. Their beliefs and practices are still very respectful of the environment.

In general, the sacred books of humanity call in many ways the protection of Nature.

The advent of modern civilisation with exploitation or as of now the over-exploitation of natural resources such as forest, ocean, fossil fuel, soil, water and mineral resources has led to a point where our life style is unsustainable.

Carbon and ecological footprints

As a measure of human impact, the carbon and ecological footprints are considered.

Human *carbon foot print* measure direct emissions of gasses that cause climate change into the atmosphere. The current estimated carbon footprints are:

- Mauritius: 2.60 tonnes
- Industrial nations: 11 tonnes
- Worldwide: 4 tonnes
- Worldwide target to combat climate change: 2 tonnes

Ecological footprints estimates the number of "earths" that would theoretically be required if everyone on the planet consumed resources at the same level as the person calculating their ecological footprint.

For 2007, humanity's total ecological footprint was estimated at 1.5 planet Earths; that is, humanity uses ecological services 1.5 times as quickly as Earth can

renew them. It varies from country to country. For developed countries the figure is closer to 5 times. For Mauritius, it was estimated at 3.25 for 2005.

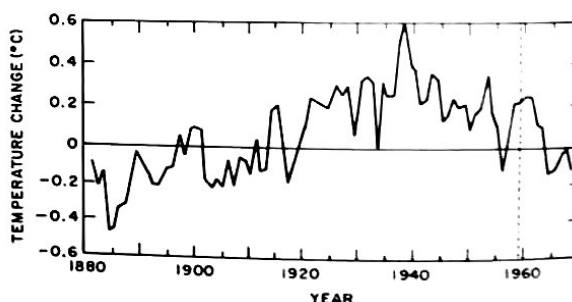


Historical evolution

Since the late 19th century, a few scientists had foreseen the impact of greenhouse gases.

Global cooling

In the late 60s, a decrease in global temperature from 1940 to 1970 raised the alarm of global cooling. The potential for a return of ice age drew global attention of the scientists but also of the general



public as telecommunications and broadcast capabilities had enhanced media coverage.

The spectre of global change in the living room

The first jolt was due to the first major environment catastrophe of a magnitude unheard of previously. The Sahel drought (1968-1974) caused political, economic and sociological upheavals unknown in recent history. Between 100,000 and 250,000 people perished, nearly 5.5 million were displaced and the agricultural bases of 5 countries crumbled (Ethiopia, Sudan, Mali, Niger and Chad). In Niger cattle decreased from nearly 4.50 million head to 2.25 million. Half of the rural population migrated to more developed urban centres.

The other unprecedented disaster was the huge storm surge generated by tropical cyclone *Bhola* in the Bay of Bengal in 1970 that killed over 500 000 people on the coast of Bangladesh.

These two events brought home for the first time the potential threat of natural disasters to human development and well-being.

Systematic observation of the Earth systems

By that time systematic data of the atmosphere, the ocean and the stratosphere were being collected and exchanged freely among all nations of the world under the aegis of the World Meteorological Organisation (WMO). It was also the age of weather and subsequently environmental satellites

that enable a closer monitoring of the Earth-terrestrial -atmosphere-ocean system.

In 1972, the UN established the United Nations Environment Programme (UNEP).

Global warming

Research was intensified and by mid-70s, it was already clear the Earth was

warming with consequences for life on the Planet. The outpouring of results led

the UN, in the 1980s, to call for action to mitigate the impact of climate change. The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 to study and shift through all available

information and provide clear guidance on the state of climate change science, the potential impact of climate change on the environment and propose policy options to governments.

IPCC AR5 Report

The first of five reports of the Fifth Assessment Report (AR5) from the International Panel on Climate Change (IPCC) assert that the planet is warming and human beings are responsible. How should political leaders respond?

The IPCC Panel in Stockholm on 27 September

2013, stated that "Human influence on the climate system is clear: since the 1950s, many of the observed changes are unprecedented over previous decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased."

Ozone depletion

In mid-70s, it was discovered that the protective ozone layer was being depleted by chlorofluorocarbons (CFCs) used in cooling systems. The subsequent actions by governments and industry to ban the gas and find suitable substitutes bore fruit

as the Antarctic 'ozone hole' has been gradually filling. However, a complete recovery may take at least five decades. However, a hole has been observed in the Arctic.

World Commission on Environment and Development (WCED)

These developments in the 70s and 80s led the UN to establish what is known as the Bruntland Commission to study the overall sustainability situation of the Planet.

In its 1987 Report '*Our Common Future*', it provide a grim picture of the state of the Planet and provided considerable guidance on how to address the situation as a matter of urgency. By that time the

population of the world had grown several fold and the mode of life increasingly adopted were energy guzzler and wasteful of the Earth resources which had been taken as being inexhaustible. For the first time, the issues of environment, economy and society were accepted as being intricately linked which gave to the emergence of the term 'sustainable development'.

Conferences on Environment and Development

The first global *Conference on Environment and Development (UNCED)* was held in Rio de Janeiro in 1992. It gave rise to the UN Framework Convention on Climate Change (UNFCCC), UN Convention

on Desertification (UNCCD), Convention on Biodiversity and a Panel on Forests. Special attention was given the Small Islands Developing States. It agreed on a global programme of action called

“Agenda 21”. The Conference also led to the strengthening of the Earth observing system and reinvigorated sectoral actions by Governments, the private sector, industry and civil society.

A decade later a follow up Conference was held in Johannesburg, known as Earth Summit Rio+10.

Rio+20, held in Rio, 20 years after the landmark 1992 Conference again reviewed developments and scientific findings and urged actions towards a “Green Economy” as a new roadmap for sustainable development.

Small Island Developing States

In 1994, the First UN Conference on SIDS was held in Barbados. It adopted a *Programme of Action on the Sustainable Development of Small Island Developing States, the Barbados Programme of Action (BPOA)*, is a policy document on sustainable development that addresses the vulnerability.

In 2005, Mauritius hosted the Second SIDS Conference and adopted the *Mauritius Declaration and Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States*. It called for action on priority issues (see Table).

SIDS 20 Priority action points

- Climate change and sea-level rise
- Natural and environmental disasters
- Management of wastes
- Coastal and marine resources
- Freshwater resources
- Land resources
- Energy resources
- Tourism resources
- Biodiversity resources
- Transportation and communication
- Science and technology
- Graduation from least developed country status
- Trade: globalization and trade liberalization
- Sustainable capacity development and education for sustainable development
- Sustainable production and consumption,
- National and regional enabling environments
- Health
- Knowledge management and information for decision-making
- Culture
- Implementation

2014 SIDS Conference



The Third International Conference on Small Island Developing States will be held from 1 to 4 September 2014 in Apia, Samoa. It will review the implementation of the 1994 Barbados Programme of Action and the 2005 Mauritius Strategy.

The Conference will focus the world's attention on a group of countries that remain a special case for sustainable development in view of their unique and particular vulnerabilities.

2000 – The Millennium Development Goals (MDG)

The MDGs were an outcome of the UN Millennium Declaration in 2000 of the Summit of Heads of States. It set out 8 goals

and 18 targets, largely related to sustainable development, to be achieved by 2015.

Post-2015 Development Agenda

The post-2015 agenda will reflect new development challenges and is linked to the outcome of "Rio+20" – the UN Conference on Environment and Development -- that took place in June 2012 in Rio de Janeiro, Brazil. The outcome document of the Conference was "*The Future We Want*".

Global issues

Among the global issues that are recurrent are:

- Changes - climate change and impacts, pollution, water scarcity, deforestation, depleted ocean resources, etc.
- Consumption pattern – sustainable use of resources
- Technology transfer
- Equity among nations

National issues

For densely populated Mauritius as for most SIDS, the major concerns are:

- Limited land resources
- Fragility of coastal zone
- Pollution increase mostly water and management
- Impacts from global changes – climate change, natural disasters, etc.
- Need for development, energy, employment, etc.
- Choice of development path
- Dense population and waste management

National Policy

In the context of environment protection and management, Mauritius has developed *The Environment Protection Act 2002*. It is also the primary document that defines national action in relation to sustainable development.

Other legislations are environmental guidelines related to water quality, environmental regulations related to water, plastic disposal and noise and environmental standards air quality, effluents and noise.

Maurice, Ile Durable (MID)

The Maurice Ile Durable vision was aimed at promoting sustainable development. The primary focus was for Mauritius to be self-reliant on fuel and increase renewable energy to the tune of 65% by 2028 with most of the energy coming from biogas and solar. Other sources proposed were wind, hydro, cogeneration and waves. To this end a Fund was created.

A Policy, a 10-year Strategy, an Action Plan with indicators was developed along with a review of institutional and

legislative framework. It was issued in August 2012

The areas covered were Energy, Environment including biodiversity and pollution, employment, education and equity.

The Green Paper: *Towards a National Policy for a Sustainable Mauritius* issued in April 2011 is a report initiated by the Government regarding the eventual formulation of a policy in relation to MID.