

Sustainability

A History of Sustainable Development

The notion of sustainability is not new. As long ago as the 18th Century for example, scholars such as the Rev. Thomas Malthus warned of the dangers of uncontrolled population growth, in relation to available resources. Later writers expressed increasing concern that environmental degradation seemed to be viewed as an inevitable consequence of economic progress.

But it was the United Nations Report, 'Our Common Future', chaired by the former Prime Minister of Norway, Gro Harlem Brundtland, which was the first to popularise and formalise the concept of Sustainable Development, defined as *'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'*.

Put another way, when we make decisions about how to use the Earth's resources (water, forests, minerals, food, wildlife etc.), we must take into account not only how much of these resources we are using, what processes we are going to use to attain the resources and who will have access to them, but we must also consider whether enough resources are going to be left for our Grandchildren to use in the future. In simple terms, it is time we stopped to consider the consequences of our actions.



Five years on from the **Brundtland Report** in 1992, the United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro in Brazil - the Rio 'Earth Summit' as it has since come to be known.

Gro Harlem Brundtland Among other things, the Rio Summit drew up a blueprint for Sustainable Development in the 21st Century, producing a document entitled **Agenda 21**. Recognition was given to the fact that it was too easy to blame 'Industry' or 'Government' - or whoever, for the environmental ills of the world, but instead it emphasised that we are *all* part of the problem

and consequently we must all be part of the solution.

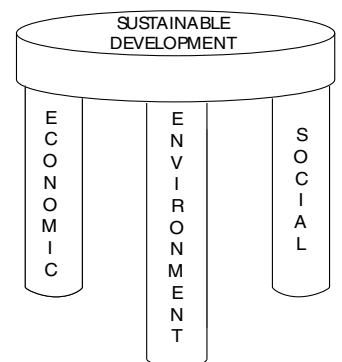
To help bring this about, an undertaking was given by the attending countries that all local authorities would produce their own plans - essentially a **Local Agenda 21**, specific to their own circumstances. It was thought that this should be much more effective than some 'one size fits all' policy, which development organisations had been guilty of using in the past, with little success.

It is from **Local Agenda 21** that the well-known slogan, *'Think globally, but act locally'* was born.

In 2002, the Johannesburg Summit reaffirmed Sustainable Development as a central element of the international agenda and gave further impetus to global action to fight poverty, while at the same time protecting the environment.

ACTIVITY 1

- In your workbooks, copy the Brundtland definition of Sustainable Development.
- In what ways might it be said that we are all part of the 'environmental problem'? Give examples.
- Sustainable Development has sometimes been likened to a three-legged stool as shown below, with each of the legs representing the essential components. In your workbooks make a copy of this diagram and discuss how each of the three elements might be an important component of Sustainable Development.
- Explain what you understand by a 'one size fits all' policy and say why a Local Agenda 21 might be more successful. The social component of the stool has been the most neglected of the three and has only recently played a more important role, in particular, in forming the basis of 'Local Agenda 21', although on a global scale. This is the most difficult component to measure and implement effectively.



Ecological Footprints



Redefining Progress is an organisation based in Oakland, California that seeks to influence policy makers to follow a more sustainable lifestyle. In 2002 they published a study that presented the idea that every human leaves his or her imprint on the Earth in terms of the resources we consume.

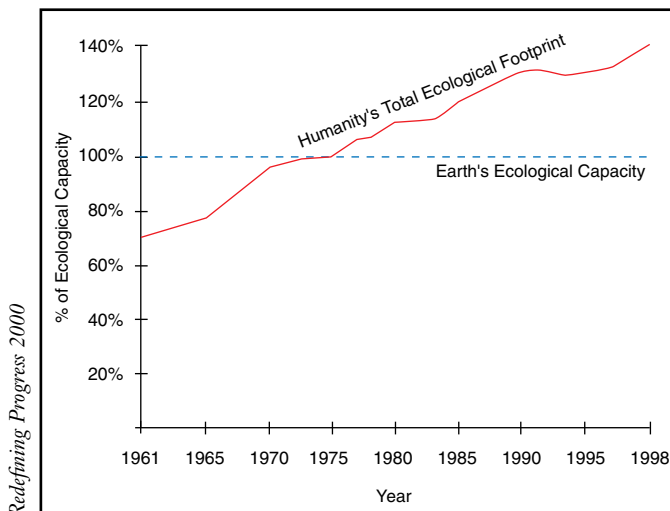
The study employed a relatively simple calculation of working out the total area of productive land or sea required to produce all the crops, meat, seafood, energy and infrastructure each individual would need, in relation to their consumption.

Based on a North American lifestyle, for 1961 this was calculated as about 70% of the Earth's productive capacity, but by 1999 it was nearer 25%-35% larger than the Earth's capacity, which is obviously unsustainable. (See the graph illustrating this relationship.)

The study pointed out that on the basis of the present population levels, each person would have around 2 hectares (Ha) of productive land available, whereas by the year 2050 - with an estimated global population of 9 billion, only 1.2 Ha would be available. This might not be enough to support rich societies in the manner to which they had grown accustomed. It should be noted that this figure does not even take into account the land required by the 25 million or so of other species inhabiting the Earth.

Footprints for some selected countries are shown in the table below.

Country	Population (millions)	Ecological Footprint (in Hectares per Capita)
UK	58.4	6.3
Norway	4.3	9.2
USA	271.6	12.5
India	960.2	0.7
Bangladesh	122.0	0.6



Graph showing consumption in relation to ecological capacity

ACTIVITY 2

- Choosing an appropriate scale, draw a Bar Graph (Histogram) to show the ecological footprints of each of the countries shown in the table. Based on a world average of only 2 Ha of land per head of population being available globally, colour in green the first 2 Ha of bar and in red the proportion of each bar which exceeds this average figure. Comment on the results.
- To calculate your own personal 'footprint' go to the following website:-

www.earthday.net/footprint/info.asp

ACTIVITY 3

Although Redefining Progress focuses on American lifestyle issues, we in Europe also place an enormous burden on natural resources and the environment in the manufacture, use and disposal of goods. As citizens we must accept that consumer selectivity and wasting less reduces pressure on the environment. The following activity highlights some of the issues which are at the heart of the concept of sustainability.

- (a) Imagine that you are required to survive for a year on a desert island. You have only two minutes to brainstorm 10 items that you might take with you. List them in your workbooks. When you are finished, discuss your choices with the rest of the group. (Note that the island has water, animals and fruit on it so you do not need to take these.)
- (b) Consider your first list again. This time you can take only five essential items. Rank them in order of importance (with 1 being most important). Get together with the rest of the group once more and compare your lists and rankings. Are they identical? Almost certainly they will not be, as people inevitably have differing priorities and perspectives!
- (c) Consider some of the factors in an increasingly complex world, likely to make arriving at a consensus (i.e. agreement) much more difficult. Look at the Global Village diagram, which highlights some of the economic, social and cultural variations throughout the world. All these variants are likely to form obstacles to effective communication and therefore agreement.

IF THE WORLD WAS A VILLAGE OF 1000 PEOPLE...

NATIONALITY

584 would be ASIANS
 123 would be AFRICANS
 95 would be EUROPEANS
 84 LATIN AMERICANS
 52 NORTH AMERICANS
 6 AUSTRALIANS & NEW ZEALANDERS

LANGUAGE

165 people would speak MANDARIN
 86 would speak ENGLISH
 83 HINDU/URDU
 64 SPANISH
 58 RUSSIAN
 37 ARABIC

MORTALITY & POPULATION

330 would be children
 60 would be over 65
 Each year 28 BABIES would be born
 10 people would die, 3 from lack of food and 1 from cancer
 2 deaths would be babies less than 1 year old
 Next year the POPULATION would be 1018
 5 people would be SOLDIERS, 7 would be TEACHERS and 1 a DOCTOR

INCOME

200 people would receive 3/4 of the INCOME
 Another 200 would receive only 2% of the INCOME

CONSUMPTION

Over 300 would not have access to safe drinking water
 Nearly 400 would be ILLITERATE
 Only 70 would own a CAR
 7% of the expenditure would go on DEFENCE which is more than on EDUCATION or HEALTH

RELIGION

300 people would be CHRISTIANS
 175 MOSLEMS
 128 HINDUS
 55 BUDDHISTS
 210 would be from all the other religions including ATHEISTS.

LAND

The village would have 4000 Hectares of LAND available.
 One third would be FARMLAND. One third FOREST and one third WASTELAND such as desert.

Sustainable Development Quiz

ACTIVITY 4

So you think you know your environment! Try this quiz and see.

(The answers are given in the Teachers' Notes.)

- How much Rainforest is cut down every second?
 - 10,000m²
 - 1000m²
 - 100m²
- How often does someone in the world die of hunger?
 - every 3.6 seconds
 - every 36 seconds
 - every 360 seconds
- How many average sized trees are saved by each tonne of paper recycled?
 - 1
 - 15
 - 25
- How many litres of water are wasted per year if your tap is dripping at the rate of one drip per second?
 - 12 litres
 - 120 litres
 - 1,200 litres
- What would be the reduction in CO₂ emissions if 10 million TV sets were to be switched off from standby each year?
 - 100,000 tonnes
 - 5000,000 tonnes
 - 1,000,000 tonnes
- What is the average distance women in Africa walk to collect water?
 - 1 km
 - 3 km
 - 5 km
- How large is the Giant Panda population today?
 - 500
 - 1000
 - 5000
- What percentage of car trips in the UK is under 2 miles?
 - 15%
 - 25%
 - 35%
- The world's population has recently passed 6 billion. What will it be in 2020?
 - 7 billion
 - 7.5 billion
 - 8 billion
- What percentage of the world's population has access to a telephone?
 - 30%
 - 40%
 - 50%

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