

# So, what is sustainability?

Sustainability is the capacity to endure. In ecology the word describes how biological systems remain diverse and productive over time. Long-lived and healthy wetlands and forests are examples of sustainable biological systems. For humans, sustainability is the potential for long-term maintenance of well being, which has ecological, economic, political and cultural dimensions.

Healthy ecosystems and environments are necessary to the survival and flourishing of humans and other organisms. There are a number of major ways of reducing negative human impact. The first of these is environmental management that is based largely on information gained from earth science, environmental science and conservation biology. The second approach is management of human consumption of resources, which is based largely on information gained from economics. A third more recent approach adds cultural and political concerns into the sustainability matrix.

Sustainability interfaces with economics through the social and environmental consequences of economic activity. The economics of sustainability involves ecological economics – where social aspects, including cultural, health-related and monetary/financial aspects are integrated. Moving towards sustainability is also a social challenge that entails international and national law, urban planning and transport, local and individual lifestyles and ethical consumerism.

Different ways of living more sustainably can take many forms, from reorganising living conditions (e.g., ecovillages, eco-municipalities and sustainable cities), reappraising economic sectors (permaculture, green building, sustainable agriculture), or work practices (sustainable architecture), using science to develop new technologies (green technologies, renewable energy and sustainable Fission and Fusion power), to adjustments in individual lifestyles that conserve natural resources.

### How is it defined?

The word sustainability is derived from the Latin sustinere (tenere, to hold). Dictionaries provide more than ten meanings for sustain, the main ones being to "maintain", "support", or "endure". However, since the 1980s sustainability has been used more in the sense of human sustainability on planet Earth and this has resulted in the most widely quoted definition of sustainability, that of the Brundtland Commission of the United Nations on March 20, 1987: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable development as defined by the UN is not universally accepted and has undergone various interpretations. What sustainability is, what its goals should be, and how these goals are to be achieved are all open to interpretation. For many environmentalists "sustainable development" is an oxymoron - as development seems to entail environmental degradation. Ecological economist Herman Daly has asked, "what use is a sawmill without a forest?" From this perspective, the economy is a subsystem of human society, which is itself a subsystem of the biosphere, and a gain in one sector is a loss from another. This can be illustrated as three concentric circles, though with economics treated as only one of a number of domains that includes politics and culture.

A universally accepted definition of sustainability remains elusive because it needs to be factual and scientific — a clear statement of a specific "destination". The simple definition "sustainability is improving the quality of human life while living within the carrying capacity of supporting eco-systems", though vague, conveys the idea of sustainability having quantifiable limits. But sustainability is also a call to action, a task in progress or "journey" and therefore a political process, so some definitions set out common goals and values. The Earth Charter speaks of "a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace."

# History

The history of sustainability traces human-dominated ecological systems from the earliest civilizations to the present. This history is characterized by the increased regional success of a particular society, followed by crises that were either resolved, producing sustainability, or not, leading to decline.

In early human history, the use of fire and desire for specific foods may have altered the natural composition of plant and animal communities. Between 8,000 and 10,000 years ago, Agrarian communities emerged which depended largely on their environment and the creation of a "structure of permanence."

The Western industrial revolution of the 18th to 19th centuries tapped into the vast growth potential of the energy in fossil fuels. Coal was used to power ever more efficient engines and later to generate electricity. Modern sanitation systems and advances in medicine protected large populations from disease. In the mid-20th century, a gathering environmental movement pointed out that there were

environmental costs associated with the many material benefits that were now being enjoyed. In the late 20th century, environmental problems became global in scale. The 1973 and 1979 energy crises demonstrated the extent to which the global community had become dependent on non-renewable energy resources.

In the 21st century, there is increasing global awareness of the threat posed by the human greenhouse effect, produced largely by forest clearing and the burning of fossil fuels.

## The population challenge

According to the latest population estimates and projections, the world population is currently 7.08 billion, up from 6.9 billion in May 2009 and expected to exceed 9 billion people by 2050. Most of the increase will be in developing countries whose population is projected to rise from 5.6 billion in 2009 to 7.9 billion in 2050. This increase will be distributed among the population aged 15–59 (1.2 billion) and 60 or over (1.1 billion) because the number of children under age 15 in developing countries is predicted to decrease. In contrast, the population of the more developed regions is expected to undergo only slight increase from 1.23 billion to 1.28 billion, and this would have declined to 1.15 billion but for a projected net migration from developing to developed countries, which is expected to average 2.4 million persons annually until 2050. Long-term estimates done in 2004 of global population suggest a peak at around 2070 of nine to ten billion people, and then a slow decrease to 8.4 billion by 2100.

Emerging economies like those of China and India aspire to the

living standards of the Western world as does the non-industrialized world in general. It is the combination of population increase in the developing world and unsustainable consumption levels in the developed world that poses a stark challenge to sustainability.

## **Economic opportunities**

Treating the environment as an externality may generate shortterm profit at the expense of sustainability but sustainable business practices, on the other hand, integrate ecological concerns with social and economic ones (i.e., the triple bottom line). Growth that depletes ecosystem services is sometimes termed "uneconomic growth" as it leads to a decline in quality of life. Minimising such growth can provide opportunities for local businesses. For example, industrial waste can be treated as an "economic resource in the wrong place". The benefits of waste reduction include savings from disposal costs, fewer environmental penalties, and reduced liability insurance. This may lead to increased market share due to an improved public image. Energy efficiency can also increase profits by reducing costs.

The idea of sustainability as a business opportunity has led to the formation of organizations such as the Sustainability Consortium of the Society for Organizational Learning, the Sustainable Business Institute, and the World Council for Sustainable Development. Research focusing on progressive corporate leaders who have embedded sustainability into commercial strategy has yielded a leadership competency model for sustainability. The expansion of sustainable business opportunities can contribute to job creation through the introduction of green-collar workers.

### What can I do?

There is a wealth of advice available to individuals wishing to reduce their personal impact on the environment through small, inexpensive and easily achievable steps. But the transition required to reduce global human consumption to within sustainable limits involves much larger changes, at all levels and contexts of society.

The United Nations has recognised the central role of education, and have declared a decade of education for sustainable development, 2005–2014, which aims to "challenge us all to adopt new behaviours and practices to secure our future". The Worldwide Fund for Nature proposes a strategy for sustainability that goes beyond education to tackle underlying individualistic and materialistic societal values head-on and strengthen people's connections with the natural world.

As with many things in life, start with small, achievable goals and let as many people as possible know of your successes. It's human nature to copy formulas that work and it'll be no different with winning, sustainable ideas that show others how it's done. It starts with you.

For inspirational stories and videos on people who have introduced sustainability into their businesses with positive results and greater profits, visit www.real-leaders.com.