



FACT SHEET

SUSTAINABLE DEVELOPMENT

Factsheet No.22



WHAT IS SUSTAINABLE DEVELOPMENT?

The word sustain originates from the Latin, *sustenerere*: to hold up, support, tolerate, or keep in being. In the Second world conservation Strategy, *Caring for the Earth*, sustainability is defined as "characteristic of a process or state that can be maintained indefinitely." sustainable development, as defined by the Brundtland Commission, calls for a balance to be struck in the pursuit of human welfare:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The World Wide fund for Nature (WWF), in collaboration with the World Conservation Union (IUCN) and the United Nations Environment Programme (UNEP), further developed the notion of balance in *Caring for the earth*, defining sustainable development as "improving the quality of human life within the carrying capacity of supporting system".

Therefore the concept of sustainable development must be discussed within a broad socio-economic as well as environmental context.

ECOLOGICAL DIMENSIONS

Supporting ecosystems are the sole sources of the necessities of life, including air, fresh water, food, fuel and the materials necessary for clothing, housing cooking and heating. It is only within ecosystems that vital life-supporting processes like the regeneration of soil for food cultivation and the global circulation of carbon, oxygen, water and other elements necessary for life can take place.

Some countries are surrounded by a full variety of natural resources. But others obtain them through trade and technology. the shops are always filled with products of land and sea all over the world. Phenomena that disrupt ecological processes have similarly extended effects - acid rain formed as a result of the burning of fossil fuel which kills trees thousands of kilometres away. Pollution by heavy metals similarly reduces the productivity of downstream water thousands of kilometres from its source.



Ecological process disruption can also occur within territories as small as Hong Kong. Up to 50% of the sewage produced in Hon Hong Kong is disposed of without treatment. This has led to the serious deterioration of our water quality. As a result, the beauty and recreational value of our beaches fall, the population of marine organisms are upset and hence commercial fishery is seriously affected. Development of rural areas always results in destruction of habitats and the diversity of life found there. Therefore, land use, urban and infrastructure development and building designs should integrate environmental and human health concerns.

ECONOMICS DIMENSIONS

Economic sustainability depends upon the relationship between benefits and costs; more precisely, it requires that benefits exceed or balance costs. Economic sustain is conditioned by the availability and cost of inputs, both nature and man-made resources, the cost of extraction and processing, and the demand for the product All these factors are highly variable over time ad among the world regions. The key constraints on economic processes, from a ecological point of view, are the need to use the resources in ways that do not damage the environment nor impair the capacity of renewable resources to continually replenish their stocks.

Take fishery as an example, the more you catch, the more you earn, but many catches are increasingly made up of small fishes which have not yet reached maturity. the fish population itself is the capital. In order to maintain a healthy sustainable fish population, we should only catch the "interest" gain out of this capital. but with modern technology and the powerful vessels used for fishing, we are not simply taking the interest but exploiting the capital as well. As a result, the fish stock is declining and fishermen now need to go further to catch fish, which in turn increases operation costs and hence fish prices at market.

Economic sustainability is constrained by anything that upsets a viable balance between benefits and costs. The imperative to reduce costs must not be an excuse the circumvent these constraints since they affect long-term economic and ecological sustainability. If meeting such environmental requirements results in added costs, those added costs must be reflected in prices. Also among the costs of economic activity are those necessary investments of capital and labour. These, along with the costs of material inputs, must be met by the returns from satisfying the demand for products.

TECHNOLOGICAL DIMENSIONS

People invent technologies to improve the efficiency of accessing and processing resources as well as improving the standard of living in general. we should continue to shift to technologies that are cleaner and more efficient, that minimise consumption of energy and other natural resources especially the

inventing new technologies, we must also preserve traditional ones that recycle or create few wastes or pollutants. the creation and adoption of green technologies should be fostered by both government and industry through legislation, education and enforcement.

SOCIAL DIMENSIONS

Social sustainability reflects the relationship between development and current social norms are based on religion, tradition and custom, ethics, value systems, education, attitudes, individual and group behaviour that are not primarily motivated by economic considerations.

For Hong Kong, meeting basic human needs, including access to adequate employment and housing, health care, education, culture activities, and public transportation are important to maintain social stability. A high level of environmental awareness and appreciation of the need for stewardship among the public, the business community and the government are also important in integrating sustainability goals into public policy. We should not sacrifice long-term environmental conditions for short term social stability. A high level of environmental awareness and an appreciation of the need for stewardship among the public, the business community and the government are also important in integrating sustainability goals into public policy. We should not sacrifice long-term environmental conditions for short term social stability. Opportunities should be provided for multi-sectoral participations in governmental planning and decision making in order to ensure that decisions are supported by the general public, as well as the business and industrial communities as a whole.

SUSTAINABLE INDICATOR

To measure whether one country is on the path towards achieving sustainability in any specific areas, the indicators themselves must be able to reflect social, economic as well as ecological factors. The current indicator commonly used to measure the prosperity and progress of mankind is Gross Domestic Product (GDP), which unfortunately, does not take ecological factors into consideration. GDP is an aggregate measure of the total value of production of all resident producing units within the economic territory of an economy in a specific period. According to the calculation of GDP, Japan is one of the richest countries in the world per capita. But how reliable is this guide to real wealth and welfare?

The Kobe earthquake occurred in 1995 and caused 5,500 deaths, 33,000 injuries and damage is exceeding USD110 billion in value. However, the income generated by the huge rescue and clean-up efforts means that, according to the calculations of GDP, the earthquake will turn out slightly positive in balance. As the environment is not taken into account when GDP is calculated, we think we are much wealthier and healthier than we actually are.

Similarly, the limits of the supporting ecosystems can be drawn from the community's imports and exports, including not only goods and services in trade, but also of its ecological benefits and damages. the carrying capacity of the earth should be considered as the capacity of an ecosystem to support health organisms while maintaining productivity, adaptability and capability for renewal.



this expanded meaning is important because it reflects the significance of ecological processes and the notion that carrying capacity for any species, including humans must be determined within the content of the health and productivity of other species.

For Hong Kong, the various sustainable indicators available overseas are under review and the identification of our own set of indicators is one of the priority tasks of the Hong Kong Government.

HUMANS AND NATURE

Humans are integral part of nature, our survival depends on nature: air, water, soil, climate, and biological diversity. To sustain human survival, the relationship between humans and nature has to be a balanced one in which human use resources in a manner consistent with nature's capacity to continue to support the lives of humans and other species, indefinitely.

Further Readings:

1. A sustainable World, IUCN- the world Conservation Union, 1995
2. Caring for the Earth - A strategy for sustainable living, IUCN, UNEP and WWF
3. Making Development Sustainable, The world Bank Group and the Environment, Fiscal 1994
4. Pollution in Hong Kong - a time to act, Planning Environment and Lands Branch, government Secretariat, March 1996