CONCEPTS OF SUSTAINABILITY

INTRODUCTORY ARTICLE ON SUSTAINABILITY CONCEPTS WITH A FOCUS ON THE BROAD CONCEPTS OF "WEAK" AND "STRONG" SUSTAINABILITY

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The Brundtland report has the status of being the launching pad for the global agenda on sustainability. That is why the Brundtland report's definition of sustainability is a safe starting point to use as a base: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". It is a fairly broad and general definition: What, for example, are current and future needs? Just as with the concept of growth, there are different definitions of what sustainability is and there will always be different views on what values one should attach to biodiversity, landscapes, habitats etc.

In the debate in the West, the Brundtland report is regarded as having put the global environment on the agenda, but one of its great strengths and reasons for its impact was that it connected global environmental issues to the need for global development and reduction of poverty. Until then, there had been a conflict of interest between the rich countries' increasing focus on the environment and the poor countries' focus on poverty. The Indian leader, Indira Gandhi expressed it as follows at the UN's Stockholm conference in 1972, which became one one of the launchpads for the UN's environmental program UNEP:

"Aren't poverty and need the most important pollutions? How can we talk to villagers and slum-dwellers of the need to protect the air, the ocean and rivers when their own life is contaminated? The environment cannot be improved in conditions of poverty" (http://www.bu.dk/pages/25.asp).

The Brundtland report thus aligned *social* sustainability as a necessary element. This is also the reason for it being so positive towards economic growth, as the case is: "What is needed now is a new period of economic growth - a growth that is strong as well as socially and environmentally stable."

It is important to bear in mind that sustainability is not a definitive concept. It means that there will always be a political position - either conscious or unconscious - in relation to the choice of development in environment and production.

Generally, we distinguish between two concepts of sustainability, so-called "weak" and "strong" sustainability. (See OECD's Glossary of Statistical Terms http://stats.oecd.org/glossary/search.asp).

TWO GENERAL CONCEPTIONS OF SUSTAINABILITY

These can be characterized briefly as follows:

- *Weak sustainability:* Depletion of resources, breaking down of ecosystems and species extinction can be compensated for if this takes place in a process that supports opportunities for continued maintenance or expansion of economic opportunities. Nature, in this respect, is a form of capital, which can be substituted with other kinds of capital. Development is sustainable for as long as it does not harm the prospects of the continued fulfillment of economic necessity.
- *Strong sustainability:* this viewpoint lays emphasis on development not leading to irretrievable loss of resources. Plants and animal species, ecosystems and raw materials have a value in themselves and not just as input in the economic process.

Many of the indicators for development, which have been suggested as alternatives or supplements to the GDP concept can be classified according to these two sustainability perspectives (Neumeyer).

These two perspectives lead to potentially fundamentally different views of the given pattern of development. They weigh very differently between economy and ecology and thus also give vastly different policy recommendations.

They are, however, not necessarily always in conflict with each other. In Danish environmental policy, conservation legislation is a classic example of a strong sustainability perspective, whilst weak sustainability is a characteristic of everything from the issuing of environmental permits for businesses and agriculture to building permits for housing and to the construction of new infrastructure. The discussion is, in other words, just as old as it is fundamental.

It should also be mentioned that there can be fundamental uncertainty about the consequences of the economic activities. It is often here that the main part of the debate is located. The most recent example is, of course, the question of global climate, where there have been attempts to calculate future consequences of the present-day emissions by means of constructing large computer models of the global climate, which are regularly upgraded with data from e.g sea and air temperatures, drilling of the inland ice in Greenland and with subsystems such as e.g feedback effects from clouds, the sea and any melting of tundra. The prognoses will thus also be reviewed regularly.

In the light of these uncertainties, the proponents of strong sustainability will presumably refer to the "precautionary principle".

There is a tendency for sustainability to be identified with reluctance, almost abstinence, and that the concept also has moral overtones. Thus, it may also appear to some as a boring and "born-again" concept, which preaches constantly. It is interesting that the Brundtland report itself foresaw some of these aspects, as is evident in the following quote:

"Ultimately, sustainable development is not in a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs."

INDICATORS OF STRONG AND WEAK SUSTAINABILITY

Examples of indicators based on the weak sustainability concept:

- The United Nation's Development Index (HDI). It is a simple average of three indicators, namely income per capita, life expectancy and education. A decrease in one indicator can thus be offset by a rise in another. Note that the HDI does not actually include any environmental indicators, but has been published since 1970 for a large number of countries.
- The World Bank's Genuine Savings indicator. This is a concept that works on the basis of national assets rather than national income. The national assets consist of three main forms of capital: Natural assets, produced assets and the so-called intangible assets. Development is measured in the total growth in assets - hence the name "Genuine Savings". But it can also be seen that the outflow of natural capital can be invested in a larger increase in intangible capital, e.g education or the construction of institutions so that one achieves a positive development in the Genuine Savings (Kirk Hamilton: The Changing Wealth of Nations).

Examples of indicators based on the strong sustainability concept:

- ISEW/GPI (Index of Sustainable Economic Welfare/ Genuine Progress Indicator). This concept was developed by, amongst others, the steady-state economist Daly, Friends of the Earth. The concept seeks to explicitly include strong sustainability considerations.
- Ecological footprint (Global Footprint Network). An indicator based on material consumption, which calculates material consumption and calculates how large an area will be needed to supply all the resources concerned and to absorb the emissions that the consumption causes.