

Strategic Sustainable Development: A Comparison of Current Approaches

Executive Summary of a UNU/ZEF workshop in June 2000

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Introduction

In summer 2000, a number of organizations concerned with practical approaches toward sustainability in various countries met to compare their philosophies and experiences. Since the early 90s they all have worked successfully with industry, institutions and governments to develop tools and skills for solving problems in systematic ways. As one of the outcomes of their discussions, pioneers of the “Clean Technology”, “Ecological Foot Print”, the “Dutch Sustainable Technology Program”, the “Factor X”, the “Natural Capitalism”, “The Natural Step”, and the “UNU Zero Emission Forum” agreed to publish a joint paper in order to explain relationships, synergies and diversity among their strategic approaches towards sustainable development. The participants of this workshop in France called also for establishing a new alliance under UNEP’s Cleaner Production Network that will create a neutral arena for a dialogue between NGOs, industry and governments with the goal of establishing an economic framework that allows approaching social, ecological and economic sustainability. Additionally they agreed to initiate a closer cooperation and to merge forces with an “Alliance for Global Eco-Structuring (AGES)”.

System Considerations

The participants of the meeting agreed that only systemic approaches offer hope for sustained economic activities under stable ecological conditions. Defining sustainability in operational terms, applying analyses "from cradle to grave" (LCA), defining explicit long term ultimate sustainability objectives, designing practical steps toward meeting these objectives, and developing monitoring tools for measuring progress are among the indispensable requisites. International interdependencies, recognizing differences in historical and cultural conditions, need close attention.

Sustainability

Economic/ecological Sustainability is considered to be the condition that permits the global human economy - the system that produces and distributes wealth for all people - to function far into the future without jeopardizing the continued availability of sufficient natural resources as well as the human life sustaining services provided by the ecosphere. Resources include natural timber, minerals, water, air, as well as fauna, flora, and micro-organisms associated with and supporting continued human life. Services of the ecosphere include the availability of stable climatic conditions, clean water, fertile soil, useful bio-mass, insects, as well as seasonal light and temperature variations.

The operational Systems Conditions for economic/ecological sustainability are derived from identifying the three basic human activities by which natural life sustaining systems can be destroyed.

Accordingly, human society shall not impact nature by systematically increasing

- (1) The materials extracted from the Earth's crust,
- (2) The concentrations of substances technically produced, and
- (3) The degradation of nature by physical means.

Social Sustainability is considered to be the condition where human needs - including emotional and social needs - are met worldwide.

Operational Systems Conditions for social sustainability are derived from identifying the basic ingredients for human survival. They are:

- (1) Sufficient wealth for all living people must be provided and fairly distributed,
- (2) Social cohesion and participation must be achieved and maintained.

In this context, wealth is more than merely the availability of food, shelter, goods and services. It includes such factors as dignity, equity, safety, health, education, freedom from hunger and violence, freedom to speak, freedom to make decisions and to vote for representation.

Setting the Objectives

In their dealings with clients, the organizations that met in 2000 found that the following management objectives are the key to success:

(1) Eliminate contributions to systematic increases in the concentrations of materials extracted from the Earth's crust. This means substituting certain materials that are scarce in nature with others that are more abundant, using all extracted materials efficiently, and systematically reducing dependence on fossil fuels.

(2) Eliminate contributions to systematic increases in concentrations of substances produced by society. This translates into systematically substituting certain persistent

synthetic compounds with those that are more abundant or break down more easily in nature, and using all substances produced by society in the most efficient way possible.

(3) Eliminate contributions to the systematic physical degradation of nature through sealing of surfaces (e.g. parking lots), technical translocation of masses (e.g. overburden), over-harvesting, clear cutting of forests, introductions of mono cultures and other forms of modification. This means systematically pursuing the most productive and efficient use of resources and land, and exercising caution and restraints in all kinds of modification of nature.

(4) Contribute as much as possible to meeting socially defensible human needs everywhere. This means using all natural resources equitably, fairly and responsibly and leaving the services of the ecosphere intact so that the needs of all people can be met, now and in the future.

Experiences

Some of the experiences gained by the participating organizations in working with enterprises can be summarized as follows:

- When following comprehensive and systemic guidelines such as outlined above, the neglect of essential management elements and underlying principles can often be avoided;
- Designing strategic action programs allows conscious management of trade-offs;
- Selecting and designing tools fitting the strategic approach selected helps to avoid future "dead ends";
- Regardless of the original focus, additional essential aspects of the enterprise and its management are often discovered during the consultation and can benefit from it;
- Responding early to the increasing scarcity of natural resources by innovation tends to increase the robustness of enterprises, increase chances of future exports, and to avoid surprises;
- Increasing the prices of natural resources through re-shaping tax structures, subsidies, custom duties, priority rights and R&D priorities were found to be vital for reaching sustainability because increases in resource productivity are not profitable beyond relatively narrow margins at this time.

No major obstacles seem to derive in reaching desired results from the different philosophical standpoints or strategic approaches of the various organizations represented in the joint publication. This encourages co-operations and promises synergies;

A Practical Case

Electrolux's move toward phasing out CFC's may illustrate the points made above. From the start, the company disregarded plans to change to other relatively persistent compounds foreign to nature, like HCFC's. Thus Electrolux avoided a simplistic trade-off of known environmental problems for unknown ones. This approach has also high significance for developing business models that can help the developing world to avoid previous mistakes by the industrialized world. Approaches consisting of limited questions like "do we emit noxious compounds with high destruction potential"? or "how does the energy consumption change during equipment use when replacing the cooling agent"? were obviously insufficient to move the firm toward directionally safe solutions. Instead, key questions were raised and answered on the principle level. They included such questions as „can we find ways to use less natural resources overall and still produce high end-use satisfaction"? and "can we contribute toward decreased degradation of nature"?, and "do we contribute as much as we can to meeting real human needs"?. Critical flows of the company's activities were listed, as were the alternative ways of meeting the needs on the market without these flows. Qualitative analysis of the critical flows were followed by Life-Cycle-Analyses (LCA). The firm decided to be bold and apply Factor X as the overall guiding principle for dematerialization, and as a means to be able to afford some of the essential substitutions with respect to materials and management routines. This, of course, required the selection and design of tools to monitor the process. Prior to making decisions, Electrolux compared the implications of applying

- The step by step analysis of the Natural Step approach,
- The aggregated resource input per unit extracted value (MIPS) approach, and
- The ideas of the Zero Emission concept.

The results were integrated into recognized business management tools (ISO 14001, EMAS). Backcasting (looking back at the present situation from the desired "landing place", the explicit ultimate sustainability objectives of the firm) was employed to design the detailed management plan, excluding certain options in order to avoid future dead ends, and on the other hand including opportunities that future markets may reward.

Strategic sustainable development — selection, design and synergies of applied tools

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Abstract

The number of tools and approaches to develop sustainability is growing rapidly. Sometimes they are presented as if they are contradictory or in competition. However, a systems approach consistent with basic principles and the requirements of sustainability shows that these tools are complementary and can be used in parallel for strategic sustainable development. In fact, it is only when using these approaches outside of the systemic context of sustainability that they become contradictory. This paper is a collective effort of scientists who have pioneered some of these tools and approaches.

The paper maps essential elements for developing sustainability and documents how these elements relate to the application of the respective tools. The objective is to show how these tools and approaches relate to each other and build on each other when used for planning for sustainability. © 2002 Elsevier Science Ltd. All rights reserved.

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