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Achieving Sustainable Consumption for Sustainable Development: Issues and Solutions

by

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"The major cause of the continued deterioration of the global environment is the unsustainable patterns of consumption and production, particularly in the industrialized countries. Developing countries must take the lead in achieving sustainable consumption".

- United Nations Agenda 21.

ABSTRACT

Promoting sustainable consumption and production are important aspects of sustainable development. Agenda 21, endorsed by the United Nations Conference on Economic Development (UNCED) in 1992, identified unsustainable consumption and production patterns, particularly in industrialised countries, as the major cause behind the continued deterioration of the global environment. Agenda 21 stresses that changes in consumption and production patterns are necessary to ensure more sustainable development. It calls on industrialised countries to take the lead in achieving sustainable consumption patterns and demonstrate that resource-efficient, low-pollution lifestyles are feasible. The World Summit on Sustainable Development (WSSD) in Johannesburg recognised the necessity of "changing unsustainable

patterns of consumption and production". Current patterns of consumption and production, particularly, in the developed countries are unsustainable. They are depleting forest resources, fisheries, groundwater and bio diversity, polluting air, water and eco systems and causing dangerous climate changes. Environmental decay is occurring everywhere around the globe.

This article focuses on sustainable consumption. Without sustainable consumption, sustainable development is impossible. Sustainable consumption has become an important issue on the global governance agenda. There is an increasing recognition that increases in resource productivity alone will not be sufficient to deliver sustainable development. Shifts in the scale and pattern of consumption are essential and it depends on the expectations, choices, behaviours and the lifestyles of consumers. These issues are key components within the emerging concept of 'Sustainable Consumption'.

INTRODUCTION

"Ever Increasing Consumption is putting a Strain on the environment, polluting the earth and destroying eco systems".

- UNEP 2002

Consumption has been an important issue in international policy since the early 1970s. In recent years, the environmental impacts of consumption have received an increasing amount of attention`, in particular, in the international discussions of sustainable development.

There are three major concerns.

- That consumption growth is depleting renewable and mineral resources, and causing irreversible damage to the environment.
- That a large proportion of the world's population has been left out of the transformation in quality of life seen by industrialised countries in the 20th Century.
- That improving the economic standard of living does not necessarily lead to an improvement in the broader quality of life.

Efforts to shifting more on sustainable consumption patterns have expanded steadily since 1992, particularly in developed countries, but also in developing countries in recent years. Increasing consumption by almost 1 billion consumers in developed countries and some 800 million middle and high-income consumers in developing countries have been putting unprecedented pressure on natural resources and the environment.

Sustainable Production and Consumption

Sustainable **C**onsumption and Production (SCP) has been on the international agenda since Agenda 21 (1992) identified unsustainable patterns of production and consumption as the major cause of the continued deterioration of the global environment. Production and consumption are tightly linked; producers through product design and marketing influence consumption, and consumers in turn through their choices influence production. But the direct focus of sustainable consumption is on the social and environmental performance of the demand side of the economy. Demand side measures can help to reduce the generation of waste for disposal. Sustainable consumption is thus focused on making goods and services serve the goal of Sustainable Development.

There is an increasing recognition that increases in resource productivity alone will be insufficient to deliver sustainable development. Shifts in the scale and pattern of consumption are also likely to be essential. Achieving this relies on being able to influence the efficiency of industry, the performance of business and the design of products, but also the expectations, choices, behaviours and the lifestyles of consumers. These issues are the key components within the emerging concept of "sustainable consumption".

Without sustainable consumption, sustainable development is impossible. The emphasis of sustainable production is on the supply side of the equation, focusing on improving environmental performance in key economic sectors, such as agriculture, energy, industry tourism and transport. Sustainable consumption addresses the demand side, looking at how the goods and services

required to meet basic needs and improve quality of life such as food and health, shelter, clothing, leisure and mobility can be delivered in ways that reduce the burden on the Earth's Carrying Capacity. Sustainable consumption aims to reduce the environmental burden of using and disposing goods and services. Action on the demand – side can also help to reduce the 'ecological rucksacks' of goods and services throughout the life cycle.

History of the Concept

Sustainable Consumption has become an important issue in national and international agendas. Changing from unsustainable consumption patterns is crucial for achieving the goal of sustainable development. The last two decades have witnessed an enormous growth in production and consumption at the global level. Related to this production and consumption, a simultaneous environmental degradation is the reality everywhere around the globe. Bringing in more sustainable consumption pattern is not easy task but it has become an important challenge for society and science. The World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 called upon the international community to work toward improving global living conditions and to "encourage and promote the development of a ten-year frame work of programs on sustainable consumption and production (SCP) in support of regional and national initiatives to accelerate the shift towards SCP. "The WSSD also found that fundamental changes in the way societies produce and consume are indispensable for achieving global sustainable development.

The terminology of sustainable consumption entered into the policy discourse in 1992 at the Rio Earth Summit. The problem of unsustainable

consumption and production was placed on the International Agenda by the 1992 Rio Earth Summit and its Agenda 21 action plan. Agenda, 21, the policy document agreed by governments speaks of the need for;

> **"New concept of wealth and prosperity which allow higher standards of living through changed lifestyles and are less dependent on the Earth's finite resources",**

In Agenda 21, sustainable consumption was presented as a major challenge for achieving sustainable development: "the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialised countries, which is a matter of grave concern, aggravating poverty and imbalance." (Agenda 21, Chapter 4.3). Agenda 21 addresses both consumption and production, which are closely linked. Thus, for the first time, the agreement recognised that the overarching goal of sustainable development would be impossible without a specific focus on sustainable consumption.

The World Summit on Sustainable Development (WSSD) in Johannesburg recognised the necessity of "Changing unsustainable patterns of consumption and production". The Johannesburg Plan of Implementation, adopted at the World Summit on Sustainable Development in September 2002, contains, in Chapter III, commitments on changing unsustainable patterns of consumption and production. The plan calls for actions at all levels to encourage and promote the development of a 10 year frame work of programmes in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production to promote social and

economic development within the carrying capacity of eco systems by addressing and, where appropriate, delinking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste. All countries should take action with developed countries taking the lead, taking into account the development needs and capabilities of developing countries, through mobilisation from all sources, of financial and technical assistance and capacity building for developing countries.

An International Expert meeting was held in Marrakech, Morocco, June 2003, to advance the development of the 10-year framework of programmes for sustainable consumption and production. The results of the International Expert meeting, in the form of a proposed "Marrakech Process", will be submitted to the commission on sustainable development for consideration as part of its post – Johannesburg programme of work. The results of the meeting are also intended for consideration by other International Regional and National Organisations concerned with sustainable consumption and production. Several international Organizations, including the United Nations Environment program (UNEP), Organization for Economic Co-operation and Development (OECD), and the European Environment Agency (EEA) are working for deeper understanding of consumption and of possible government strategies to encourage more sustainable consumption.

Changing Consumption patterns

"The earth has enough for every one's need, but not for every one's greed." - Mahatma Gandhi.

Lifestyles and consumption patterns have been transformed over the last century, co-evolving with technology, infrastructure, markets, the legal system, social structure and culture. The transformation appears to have gone largely in one direction: towards increased levels of consumption and towards higher levels of resource use despite increasing resource efficiency. Consumption patterns shift from being seen as luxuries, to being seen as normal consumption, to being seen as basic necessities. Total energy consumption is growing, despite efficiency improvements in industry and end-use appliances. This increase of energy use will magnify many pre-existing environmental problems, including acid rain, urban smog, and global warming. The world's grain lands continue to shrink, while water supplies for irrigation have witnessed only marginal growth since 1990. In most industrialised countries current consumption patterns are unsustainable because they require too many resources, cause too many emissions, and produce social impacts in developing countries. In many developing countries, consumption patterns are unsustainable because the consumption is insufficient to meet the basic needs and allow humans a freedom from want. They may also be unsustainable because they are based on resource exploitation or cause adverse side effects, such as soil erosion and salinisation.

Sustainable consumption patterns are patterns of consumption that satisfy basic needs offer humans the freedom to realise themselves, and are

replicable across the whole globe without compromising the Earth's carrying capacity.

The second Oslo Symposium (1995) on sustainable consumption stated: "Sustainable Consumption is an umbrella term that brings together a number of key issues, such as meeting needs, enhancing the quality of life, improving resource efficiency, minimising waste, taking a life cycle perspective and taking into account the equity dimension; integrating these parts is the central question of how to provide the same or better services to meet the basic requirements of life and aspirations for improvement of both current and future generations, while continually reducing environmental damage and the risk to human health" (UNEP 2001).

In 1995, the United Nations Commission on Sustainable Development (UNCSD) defined sustainable consumption as: "The use of services and related products which respond to basic needs and bring a better quality to life while minimising the use of natural resources and toxic materials, and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations".

This definition puts forward two important dimensions of sustainability: the social dimension (e.g. equity and distributional considerations) and the environmental dimension (e.g. natural resources, pollutants, and waste).

There are three main strategies for achieving sustainable consumption: efficiency, substitution and reduction. The first strategy stresses that developing new and more efficient technology is a prerequisite for sustainable

consumption. The second strategy advocates changes in consumption patterns in order to reach the goal of sustainable consumption. The third strategy stresses that it is necessary to reverse the high and increasing level of consumption.

Environmental Pressures on Household Consumption

> **"Human activity is putting such a strain on the natural functions of the Earth that the ability of the planet's eco systems to sustain future generations can no longer be taken for granted".**
>
> **Millennium Ecosystem Assessment, 2005**.

Growing consumption can cause major environmental damage. Redirecting our consumption behaviour towards sustainability is a task that requires changes from all actors of society. Households are one of the major actors in Sustainable Consumption and Production: They have an important role in a production-consumption chain, which causes many environmental pressures. Household consumption has grown and changed its form tremendously in the past few decades. Changing unsustainable household consumption patterns is crucial for achieving the goal of sustainable Development.

According to the OECD, household consumption is defined as the consumption of various goods and services by households. It includes the selection, purchase, use, maintenance repair and disposal of any product or service (OECD, 2002).

The environmental impact of household consumption can be decomposed into three determinants.

- the level of consumption
- the composition of consumption and
- the environmental intensity of goods and services produced for consumption, including both direct and indirect effects.

The environmental impact of a household is defined to include both the direct pressures caused by a household, such as emissions associated with a household's fuel combustion, as well as the indirect pressures, such as emissions associated with the production of the goods and services consumed by a household. The direct emissions are emissions associated with the consumption of energy commodities in the households, i.e. electricity, gas, oil, gasoline and other heating. The indirect emissions are emissions associated with the production of all other commodities for households such as furniture, clothes, foods, services, etc. The indirect emissions occur in the industry producing these commodities.

Total CO_2 emissions from household type i are defined as

$$Ei = Eih + Eip$$

where, E_i is total Co_2 emissions from household i,

E_{ih} is direct Co_2 emissions from household i,

E_{ip} is indirect Co_2 emissions from household i,

Figure 1 illustrates the relationship between functional needs, product – service systems and production sectors using recreation and leisure as an example.

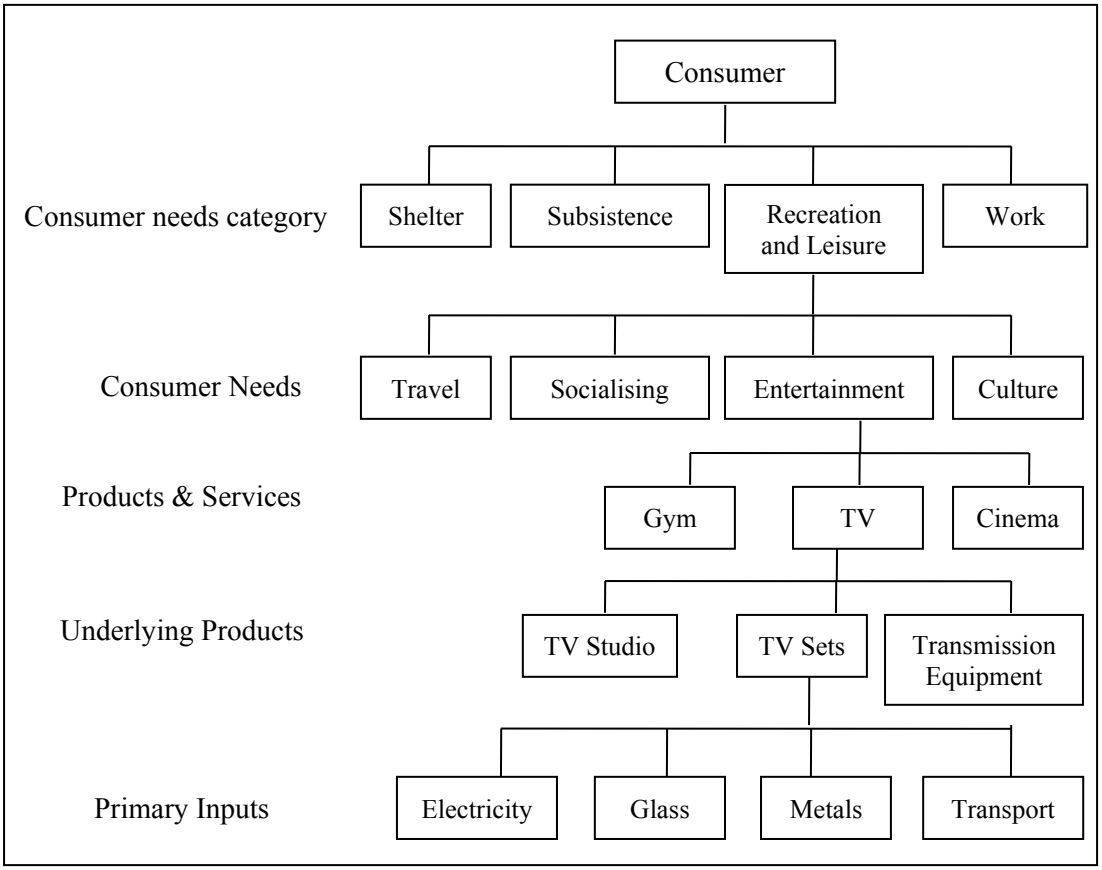


Figure 1 shows how the satisfaction of the need for recreation and leisure drives a number of subsidiary needs, among them the desire for entertainment stimulates a demand for a specific set of product service systems such as gyms, Cinemas and TV systems. These systems generate in their turn a demand for specific consumer goods – such as TVS – and services – such as electricity. These goods and services have in their turn to be produced in the economy through a variety of different production processes, using a variety of different materials and energy inputs, and generating a variety of different environmental impacts.

Sustainable Consumption at the Individual Level

Sustainable Consumption at the individual level means a change in attitude, lifestyle and consumption pattern for individuals, so that resources are not diminished for future generations. Sustainable consumption is necessary because human population is increasing exponentially; also many resource and pollution flows have grown beyond their sustainable limits. Some economists believe that consumption is the only reason why things get produced, therefore, in a market economy, the responsibility for preventing environment degradation lies with the consumer. In order to understand sustainable consumption it is necessary to identify those goods, which add little, or nothing to human welfare and to assess the effects of reducing their consumption on natural and human resource use.

In order for our society to practice sustainable consumption it is necessary for individuals to act independently to change their lifestyle and their consumption behaviour. Citizen's awareness of environmental problems and concern for the environment has grown over the past decade. People can change their lifestyle towards sustainable consumption as a consumer. Consumers have the power to change market behaviour through demanding goods that are environmentally and socially responsible.

Environmental Assessment Methods

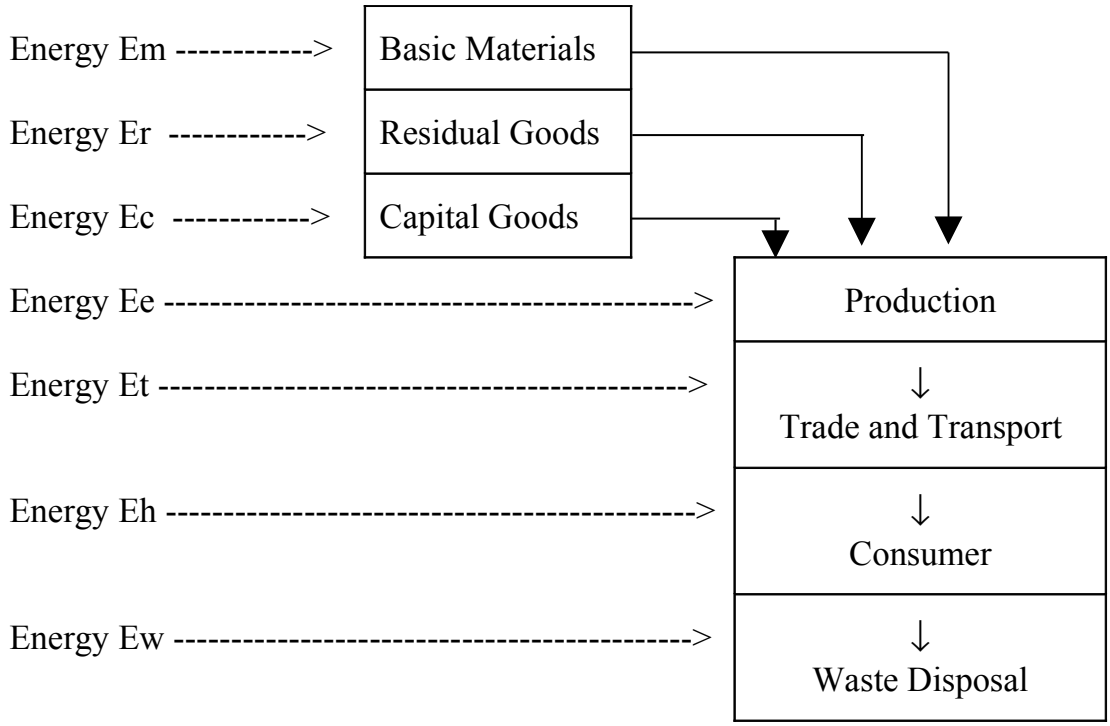
Consumption is the ultimate cause of all worldwide environmental damage caused by humans. On the issue of consumption related environmental impacts, many studies have been performed. Various methods have been used

in the effort to provide insights into the creation of environmental damage caused by human activity.

Life Cycle Analysis

Life Cycle Analysis (LCA) studies the environmental impacts arising from the production, use and disposal of products. LCA provides a mechanism for investigating and evaluating such impacts all the way from the extraction of basic materials from nature, through material and component production, assembly, distribution, product use and end-of-life management (which may be disposal, reuse, recycling or recovery). LCA considers impacts on all environmental media – air, water and land. This "holistic, system-wide" view is one of the principal benefits of LCA. The results of LCA studies are used to inform environmental purchasing decisions, product design, process selection and policy making. This type of assessment can help producers reduce the environmental impact of a product during its life cycle. Life-cycle assessment consists of three distinct analytical steps: the determination of processes involved in the life-cycle of a product, the determination of environmental pressures (emissions, resource uses etc) produced in each of those processes, and the assessment of environmental impacts and aggregation to impact indicators.

The following figure depicts an example of the elements requiring energy in a flow chart showing a life cycle.



The flow chart should include all the activities that will probably make an important contribution to the energy requirement, i.e. production, trade and transport, consumption and waste disposal.

Input – Output Analysis

Input – Output analysis is an analytical framework created by Wassily Leontief in the late 1930s and was originally designed to analyse the interdependence of industries in an economy. Today the compilation of input-output tables is standard procedure in national accounting statistics in almost all countries of the world and input-output methods are routinely applied in economic analysis. Since the late 1960s, IO analysis was extended to address

economy – environment relationships, focussing predominantly on energy use and pollution.

Hybrid Analysis

Input – Output analysis is a fast calculation method but less detailed due to the use of scrotal input-output tables. Process analysis is much more precise but also very laborious. A combination of elements of process analysis and input-output analysis results in hybrid analysis. The hybrid method seeks to use advantages of both methods and to reduce disadvantages of both methods. This method enables us to evaluate various determinants of the environmental load of consumption consistently at several levels-the national level, the local level and the household level.

Towards a strategy for Sustainable Consumption

Price incentives, awareness raising, and voluntary agreements with industry are not enough to achieve the scale or pace of consumption change needed to move towards a sustainable society. Sustained global reductions in resource use would require levels of price incentives. Many initiatives for sustainability from enthusiastic individuals and groups fail partly because of conflicts between the policies and programmes of different government departments. A major challenge for government is to bring policies and measures in diverse departments – for example, on road and house building, agriculture, employment, education and energy – fully on line with sustainable consumption goals.

Sustainable procurement policies are another important part of a coherent strategy for sustainable consumption. Government procurement sends strong signals to the rest of society about its priorities. It can also be an important lever for encouraging the introduction of sustainable products and for bringing down costs. Some of the most important procurement areas may include construction, energy, transport services and food. It may be necessary for Central Government to develop guidelines for providers of contracted out services and services in the hands of local authorities including schools and hospitals.

Regular reviews or audits are needed to identify where and how government policies and practices fail to support the strategy. These might need to be carried out by an independent agency or consultants. If the strategy is to be fully effective, government will need to be prepared to learn from the findings and act on them. Developing congruent policies is crucial but it is likely to be a slow process requiring sensitivity and strong leadership.

The public authorities at the global, national, regional and local levels can influence the sustainability of consumption and production by providing a framework within which business and consumers can operate. The tools available include.

- Legal and regulatory instruments (such as directives, laws and regulations)
- Market – based instruments (such as taxes and charges, tradable, permits and subsidy removal)
- Enabling technological improvements
- Making information available.

Conclusion

A change towards sustainable development in general, and towards sustainable household consumption in particular, is a highly discomfiting task. This requires a consistent and accurate framework to identify the most sustainable lifestyles and consumption patterns. Countries are applying a broad range of policy tools in specific sectors to prevent or offset the negative environmental effects of changing consumption patterns. These range from demand-side management strategies, including increased consumer awareness, to measures which encourage eco-efficient production patterns and product policies, including expanded use of lifecycle analysis and extended producer responsibility. To influence consumption patterns, governments can use regulatory, economic and social instruments. Achieving sustainable development requires considerable effort and austerity. Surely reforms of consumption on a global scale are the necessity. However, such a reform cannot simply be planned. It must be based on the acceptance by each individual of the need for sustainable development and the related need for lifestyle changes. Sustainable development through sustainable consumption is cost effective since the change is expected from the individual who is also the powerful consumer, though the change is not an easy thing to happen.

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