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SUSTAINABLE WASTE MANAGEMENT IN A GLOBALISING WORLD

1. Introduction

We all are aware that we are living in a globalizing world which is dominated by consumption, or rather by over-consumption. Of course, it would be a mistake to blame all recent problems on globalisation, but as Zygmunt Bauman said, globalisation is a *key word* and we are just getting used to calling more and more problems, challenges, and disappointments of the modern world, global ones. Standardization of products, liberalisation, the free market, all these factors have increased global consumption. Better and faster information flow, the availability of the same products virtually all around the world, eating the same food, all these factors are participating in the process of creating a new phenomenon known as the „global customer". The „global customer" is a major producer of waste.

„Sustainable production and consumption is the use of goods and services that respond to basic needs and bring better quality to life, while minimising the use of natural resources, toxic materials and emissions of wastes and pollutants over the life cycle, so as not to jeopardize the needs of future generations" [Symposium: Sustainable Consumption, 1994].

Achieving sustainability will require efficiency in production and changes in consumption patterns, in order to optimise resource use and minimise waste. In many instances, this will require re-orientating existing production and consumption patterns, that have developed in industrial societies and are in turn repeated in most of the developing world [OECD, 1997].

Progress can be made by strengthening the positive things that are emerging, as part of a process aimed at achieving significant changes in the consumption patterns of industries, governments, households and individuals.

2. Waste in Europe

Waste represents, first of a loss of resources both in the form of materials and energy. Indeed, the amount of waste produced can be seen as an indicator of how efficient we are as a society, particularly in relation to the use of natural resources. During the last 20 years or so an increasing number of initiatives have been started by governments, councils, NGO's, and private companies to improve waste management, including programmes for drastically reducing the quantities of waste generated.

In the past an increase of living standards always meant an increase in consumption. Starting from the end of the cold war, the unification the Europe has been in process, the post-communist countries have joined the "consumption club", but at the same time ecological awareness in these countries is still underdeveloped

In Europe most of the streams of waste will probably increase over the next decade. For instance in 2010 the generation of paper and cardboard, glass and plastic waste is expected to increase by 40% to 60% compared with 1990 levels. The number of scrapped cars should increase less, by around 35% compared with 1995 levels. Waste is also produced as a result of society's attempt to solve other environmental problems, such as water and air pollution. Some of these increasing amounts of waste give rise to new problems, such as sewage sludge and residues from the cleaning of flue gases.

In most EU countries landfilling is still the most common method of waste treatment. Furthermore, as illustrated by municipal waste, there has been no general improvement in this trend in the 1990's. Paper and glass are some of the types of waste for which EU countries have followed the Community waste strategy of increasing recycling instead of energy recovery and landfilling. However, this development has only been a partial success, as the total amount of waste paper and waste glass generation has also increased in the same period. Sewage sludge and exploited vehicles are other waste streams where further increases in quantity can be expected, calling for more efficient waste management practices. The quantities of waste are now so great that transport of waste represents a significant fraction of total transport. All in all,

a major change is needed, in order to implement the EU strategy on waste.

There are a lot of grim statistics. According to them, half the waste comes from the manufacturing industry and construction and demolition activities, while municipal waste, mining waste and waste from other sources each contributed about sixth of the total. In the countries in transition to a market economy, the amount of industrial waste per *capita* is higher, while volumes of municipal waste are currently lower than the EU average.

However, it would be a mistake to divide these problems between the accession countries and the rest of Europe, because the problems of over-consumption and excessive waste production do not know any borders. Nowadays, we are dealing with global over consumption. If we are considering waste management, we should at first focus on global ecological awareness. On one hand, it is said that we are living in the information age where things are more visible and nothing can be hidden, but on the other hand there is a lack of information that would in a visible way indicate the dangers of over-consumption. This leads us to some fundamental reflections. People should be informed what the effects of over-consumption are, and what the advantages of sustainable waste management would be. So prevention should be a priority.

Not only economic costs of environmental protection are a huge problem, but also the lack of personal, financial and technical resources in regional and local administration of the countries in transition. The fulfilment of municipal environmental tasks, for example in the areas of waste management, sewage purification, energy supply and transport, confronts municipalities in Central and Eastern Europe with enormous challenges. So local authorities should be supported in the development of their environmental protection capabilities and the fulfilment of their tasks. To this end, adequate transfer of knowledge relevant to the problems at hand should be initiated and supported. This means that accession countries should not be left alone with their environmental problems, including waste management.

3. A Sustainable Waste Strategy

The challenge of increasing quantities of waste cannot be solved in a sustainable way by efficient waste management and recycling alone. There is an urgent need for integrating waste management into a strategy for sustainable development, where waste prevention, reduction of resource depletion and energy consumption and minimisation of emissions at source is given the highest priority. Waste must be analysed

and handled as an integrated part of the total material flow through society [Tisdell, 1998; Turner, 1993].

Further input of resources for treatment and stabilisation should not be avoided. In the same way, problems such as contamination of sewage sludge should not lead to an increased use of energy in incineration plants or advanced treatment, but to a decrease in the use of chemicals and heavy metals in industry and products creating the problems. Otherwise, these substances end up in the sewer. To stabilise or even reduce the amount of waste there is a need for many varied initiatives besides cleaner technology, such as product development based on product life cycle analysis, design for disassembly, environmental management in manufacturing industries, re-use of products and packages, improvement of product quality, greater possibility for repair, increased re-use of components from discarded products and, last but not least, increased consumer awareness of the need for changing lifestyles [Nemerow, 1995; Jackson, 1993]. If a product or the components of a product are re-used, this will directly contribute to waste minimisation.

Recycling of waste is a process which takes materials from the stream of waste and produces useful materials or products, but it cannot be regarded as waste minimisation as such. In fact it is already technically possible to systematically re-use components from discarded products when producing new products. For example, a photocopier can be produced with the content of re-used components valued at 10% to 50% of the total cost, with an average of 35% [Weizäcker et al., 1996]. Besides recycling, re-use and pre-cycling, the lengthening of the life-time of a product may significantly reduce the waste problem.

The prevailing systems of decision-making in many countries tend to separate economic, social and environmental factors at the policy, planning and management levels. This influences the actions of all groups in society, including governments, industry and individuals, and has important implications for the efficiency and sustainability of development. An adjustment or even a fundamental reshaping of decision-making, in the light of country-specific conditions, may be necessary, if the environment and development is to be put at the centre of decision-making, in effect achieving a full integration of these factors. In recent years, some governments have also begun to make changes in their institutional structures, in order to enable more systematic consideration of the environment when decisions are made on economic, social, fiscal, energy, agricultural, transportation, trade and other policies, as well as the implications of policies in these areas for the environment. New forms of dialogue are also being developed for achieving better integration between national and local government, industry, science, environmental

groups and the public in the process of developing effective approaches to the environment and development [Born and Sonzongi, 1995]. The responsibility for bringing about changes lies with governments in partnership with the private sector and local authorities, and in collaboration with national, regional and international organizations, including UNEP, UNDP and the World Bank in particular. Exchange of experience between countries can also be significant. National plans, goals and objectives, national rules, regulations and law, and the specific situation in which different countries are placed form the overall framework in which such integration takes place.

The overall objective is to improve or restructure the decision-making process so that consideration of socio-economic and environmental issues is fully integrated and a broader range of public participation assured. Recognizing that countries will develop their own priorities in accordance with their prevailing conditions, needs, national plans, policies and programmes, the following should be regarded as objectives:

– to conduct a national review of economic, sectoral and environmental policies, strategies and plans to ensure the progressive integration of environmental and developmental issues,

– to strengthen institutional structures to allow the full integration of environmental and developmental issues, at all levels of decision-making,

– to develop or improve mechanisms to facilitate the involvement of concerned individuals, groups and organizations concerned in decision-making at all levels,

– to establish domestically determined procedures to integrate environmental and development issues in decision-making.

The primary need is to integrate environmental and developmental decision-making processes. To do this governments should conduct a national review and, where appropriate, improve the processes of decision-making, so as to achieve the progressive integration of economic, social and environmental issues in the pursuit of development that is economically efficient, socially equitable and responsible and environmentally sound. Countries will develop their own priorities in accordance with their national plans, policies and programmes for the following activities:

– ensuring the integration of economic, social and environmental considerations in decision-making at all levels,

– establishing domestically determined ways and means to ensure the coherence of sectoral, economic, social and environmental policies, plans and policy instruments, including fiscal measures and the budget; these mechanisms should be applied at various levels and bring together those interested in the development process,

– adopting a domestically formulated policy framework that reflects a long-term perspective and cross-sectoral approach as the basis for decisions, taking account of the links between and within the various political, economic, social and environmental issues involved in the development process,

– monitoring and evaluating the development process systematically, conducting regular reviews of the state of human resources development, economic and social conditions and trends, the state of the environment and natural resources; this could be complemented by annual environmental and development reviews, with a view to assessing achievements of the various sectors and departments of government in promoting sustainable development,

– ensuring the transparency of, and accountability for, the environmental implications of economic and sectoral policies.

To support a more integrated approach to decision-making, data systems and analytical methods used to support such decision-making processes may need to be improved. In the context of globalisation, governments should review the status of the planning and management system and modify and strengthen procedures in collaboration with national and international organizations, so as to facilitate the integrated consideration of social, economic and environmental issues. They should develop their national plans, policies and programmes for activities such as:

– improving the use of data and information at all stages of planning and management, making systematic and simultaneous use of social, economic, developmental, ecological and environmental data. This analysis should stress interaction and synergism, a broad range of analytical methods should be encouraged, so as to provide various points of view.

– developing comprehensive analytical procedures for prior and ongoing assessment of the impacts of decisions, including impact within and among the economic, social and environmental spheres. These procedures should extend beyond the project level to policies and programmes. Analysis should include an assessment of costs, benefits and risks.

– developing integrated waste management systems. Traditional or indigenous methods should be studied and considered wherever they have proved effective.

– adopting flexible and integrative planning approaches that allow the consideration of multiple goals and enable adjustments to changing needs. Integrative regional approaches at the ecosystem or watershed level can assist in this approach.

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