

SUSTAINABLE DEVELOPMENT - THEORY AND PRACTICE

- *Practical implementation of sustainable development*
- *Comparative experience of EU Parliaments.*

Since 1987, the concept of 'sustainable development' has spread throughout the United Nations system, and is now meant to underpin the future development of all nations. Despite the spread of national sustainable development strategies (including the UK's), there is considerable debate over how far the philosophy is compatible with current societal directions, or implies substantial changes in the way our economies are organised.

POST recently organised a meeting to compare experience at five EU Parliaments¹. This note outlines some of the perspectives gained.

BACKGROUND

From the 1960s, it has become increasingly obvious that there can often be an uneasy relationship between economic development and the protection of the environment. Typical of early environmental concerns were: smoky cities, polluted rivers, pesticide residues in wild-life (even in the Antarctic), and the damage caused by uncontrolled exploitation and depletion of resources. While national parliaments took many steps (typified in the UK by the Clean Air Act in 1956) to address specific problems, it became increasingly obvious that more than local progress needed to be made if the problems of environmental degradation were to be contained and reversed. Issues of pollution started to cross national borders - whether in the context of acid rain or the pollution of common waters such as the North Sea. Other issues required action at a global level - ozone layer depletion due to emissions of man-made chloro-fluoro-carbons, and the effects of greenhouse gases (carbon dioxide, methane, etc.) on global climate.

These 'pollution' issues meshed with other global concerns of increasing population, social and economic development, widespread deforestation through logging and pressure for more agricultural land, to generate a widespread view that many human activities were simply unsustainable, and that a new 'model' of development was needed.

Such a view was not new - the 'Club of Rome' brought the issue of sustainability into the public eye with its

¹ 'Sustainable Development - business as usual or need for a change?' EPTA Symposium, 26 Sept. 1996, London.



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treatise on 'Limits to Growth', back in 1970. But that study had focused on simple physical constraints (e.g. when the world would run out of single minerals). In retrospect, this was too narrow a definition, in view of the adaptability of markets and technology to cope with shortages. The 1980s concerns were at a much more strategic level - how the economic and social aspirations of the world's growing population could be accommodated without a wholesale loss of ecosystems, of global plant and animal life, and of the resources available to successive generations.

This more 'holistic' view was developed in the World Commission on Environment and Development, chaired by the then Norwegian Prime Minister (Mrs Brundtland), which published the report 'Our Common Future' in 1987. This provided the most commonly used working definition of sustainable development (SD), describing it as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*"

This general principle received substantial backing internationally, and led to the UN Conference on Environment and Development in 1992 (commonly known as the Rio Earth Summit), attended by Heads of State and Government. A number of important agreements were reached, including the Climate Change Convention, and moves towards a Biodiversity Convention. On 'sustainable development' the key outcome was the Rio Declaration on Environment and Development, which set out 27 general principles supported by 'Agenda 21', a comprehensive action plan for the pursuit of sustainable development into the next century, with 40 chapters of detailed recommendations addressed to international agencies, national and local governments, and non-governmental organisations covering environmental, social and economic issues.

One of the initiatives under Agenda 21 was to establish a new Commission on Sustainable Development within the UN, and to call on governments to prepare national strategies for sustainable development. It was as part of the latter that the UK published its Sustainable Development Strategy in 1994. This is outlined in **Box 1**. Similar initiatives have been taken in other EU Member States.

PARLIAMENTARY INVOLVEMENT

Parliamentary scrutiny has included an inquiry by the House of Lords Select Committee on Sustainable Development during 1994/5 (Box 2). This looked at policy implementation in the UK of the UN principles, with emphasis on the environmental dimensions of SD, viz:

- (a) The reduction of carbon dioxide and other noxious emissions into the atmosphere.
- (b) The management of rural land and water resources.
- (c) Waste disposal and recycling.
- (d) Transport.

The Committee found that sustainable development

means different things to different people. The Government's interpretation puts much emphasis on a perceived need to maintain and even quicken economic growth, and to protect international competitiveness, while having proper regard to the environment. Other interpretations saw the term more as implying a commitment to leave future generations with the same capacity as now for improving human well-being. The latter requires **preserving the capacity of all human and man-made environmental assets**, not only reserves with a recognised economic value (such as coal, oil or gas), but also natural assets such as the ozone layer, tropical forests and biological diversity. Such interpretations can loosely be categorised as 'business

Box 1 UK SUSTAINABLE DEVELOPMENT STRATEGY

This strategy was published in 1994, and comprised a comprehensive review of the implications of sustainable development over the entire range of government activities. It first reviewed the principles of sustainable development, starting from the premise that economic development is a primary goal of society (not only to satisfy basic material needs, but also to provide the resources to improve the quality of life, including meeting the demand for healthcare, education and a good environment). It pointed out that while conflict between economic development and the environment was not inevitable, there were reasons why the environment might not be adequately protected by market forces - hence approaches such as the polluter pays principle, and the precautionary principle. A basic premise of the strategy is that sustainable development can be achieved through the current economic system by incorporating better information on environmental impacts, improved techniques for analysis of public decisions, better information and mechanisms in the private sector, and ensuring that the benefits of developments are sufficient to outweigh the costs.

The strategy provides an overview of the state of environment in many fields, including trends in population, households and incomes, global atmosphere, air quality, fresh water, the sea, soil, land use, minerals, fossil fuels, wild life and habitats. It then looked at how the principles of sustainable development might be applied over a full range of economic activities in agriculture, forestry, fisheries, minerals extraction, energy supply, manufacturing and

services, biotechnology, chemicals, waste, development and town and country, construction, transport and leisure.

The final section discussed putting sustainability into practice in the international context, in central government, local government, and via voluntary organisations. It also looked at the scope for individual awareness and action, progress in the private sector, the use of environmental accounting and indicators, the land use planning system, energy efficiency, the role of science, engineering and technology.

The strategy concludes that sustainable development is already being promoted actively in many ways in the UK, at both national and local level, but that three new measures are desirable:-

- The Government Panel on Sustainable Development to give authoritative and independent advice.
- A UK 'Round Table' on sustainable development, to bring together representatives of the main sectors or groups.
- A Citizen's environment initiative to carry the message to individuals and communities.

But the main additional activities were seen to be at the level of individuals, in developing a more sustainable world, whether as 'Green Consumers', volunteers, parents or citizens. Government action should thus be targetted at increasing people's awareness of the part that their personal choices can play in delivering sustainable development.

Box 2 THE HOUSE OF LORD'S SELECT COMMITTEE ON SUSTAINABLE DEVELOPMENT

The House of Lords held an inquiry into the UK Strategy in order to help bring parliamentary scrutiny to the process of shaping policies for sustainable development in the UK.

Overall, the Committee welcomed the Government's Sustainable Development Strategy, and congratulated the Government on its comprehensiveness and promptness. Although the strategy was criticised for lack of targets, more recent events had moved somewhat to establishing targets in key areas (e.g. waste recycling). Nevertheless, the Committee pointed out there was still an unevenness in the response of Government Departments, and the country had a long way to go in implementing policies that would take it to a style of development which could be regarded as sustainable. The Committee made a general recommendation that the annual review "This Common Inheritance", prepared by the DoE, should place more emphasis on comparing outcomes with expectations, and should also enhance the coordinating role of the DoE across Departments. The Committee also recommended that the Government should actively look for further opportunities to shift the burden of taxation away from labour and

capital and on to resources and pollution. While supporting the use of economic instruments where cost effective, the Committee also pointed out that the use of regulations should not be foregone, particularly where an absolute ban or a speedy response is required.

In addition to these general observations, the Committee also addressed a number of other specific areas, including:-

- the meaning of sustainable development,
- scientific uncertainty and the precautionary principle,
- targets for atmospheric emissions,
- transport targets,
- targets for waste and recycling,
- targets for agriculture,
- forestry targets,
- biodiversity targets,

and covered a range of other issues; possible policy measures, including tax hypothecation, social equity, policy integration and new institutions, and the role of raising awareness and environmental education in changing lifestyles and attitudes.

as usual (i.e. continued economic development with appropriate measures for environmental protection and welfare provision), versus a switch in emphasis to not run-down the stock and capacity left to future generations, and so live within Earth's environmental limits.

It was against this backdrop that the network set up to exchange information between EU Parliamentary Technology Assessment Agencies (EPTA)² held a special

meeting to compare work on sustainability issues. The experience of EPTA members straddled the fields of agriculture, health, environment and technology, consumption, transport, and information technology, and is outlined in **Box 3**. The meeting was deliberately structured to bring out generic lessons, to illuminate to

2. EPTA comprises the Parliamentary Technology Assessment organisations of the UK, France, Denmark, Germany, Netherlands Parliaments as well as that of the European Parliament.

Box 3 SUSTAINABILITY THEMES ADDRESSED BY PARLIAMENTS OF SOME EU STATES

Crop protection suitable for sustainability and economic development (Netherlands)

This paper looked at the attempts in the Netherlands to reduce dependence on pesticide use in intensive agriculture, as part of a Government policy.

Various approaches did offer the possibility of drastically reducing dependence on pesticides, but the study had identified many barriers to their use; these included:-

- low pesticide use meant a possible increased risk of failure,
- a lack of knowledge,
- higher production costs,
- poor communications between research and applications,
- the increasing proprietary nature of knowledge, impeding dissemination,
- no commercial motive to reduce use.

Health and the Environment (France)

This report's focus was on the links between environment and health, particularly for children. The study had looked at the way in which children interact with their environment in terms of their physical, mental and social well-being, and had identified a total of 14 recommendations, ranging from collecting and codifying laws dealing with health and environment to setting up a specialized agency in the field of health/ environment.

Integrated environmental technology, environmental policy and sustainable development (Germany)

This paper looked at the interactions between various types of environmental protection and the German economy. Current environmental technologies were based on end-of-pipe technology, which added to capital costs, running costs, and required additional inputs of energy. Moreover, the technology often only moved the pollution from one location to another. Looking to the future there were many arguments in favour of developing a more systems-integrated approach to try and change the production paradigm. This would be characterised by :-

1. reduced use of energy and materials,
2. avoiding hazardous materials,
3. more life-cycle analysis,

4. more re-cycling,
5. more durable and repairable products.

Moving in this direction required, however, several barriers to be overcome. The report identified as policy options:-

- a longer-term planning horizon in environmental policy,
- more flexibility and moving away from the command and control, top-down regulation,
- more use of economic instruments,
- scope for voluntary agreements,
- eco-audits and eco-labelling.

Consumption and Sustainability (Denmark)

This presentation described the Consensus Conference being prepared on consumption and sustainability, whereby a lay panel would be invited to address fundamental questions relating to the tension between the aspirations of the Danish Finance Minister to see continued growth in the Danish economy (40% over 10 years), and the Environment Minister's concern over impacts on the Danish and global environment. The conference was based on the assumption that it was not just sufficient to try and improve economic efficiency and levels of environmental protection, but that a conflict between sustainability and growing levels of consumption was inevitable.

The panel were being asked to look at three 'scenarios':-

1. **'computer dreams'** - a world of highly efficient, technologically-driven society, with tight regulations and controls,
2. **'home again'** - a world of much more modest consumption, with local production and consumption, with a reduced role for the state and reduced 'economic' aspirations,
3. **'free initiative'** - a world where consumption is good and where everything is left to the market.

The panels will imagine these scenarios, develop views on them and discuss the principles that might apply to guide future development of society, and how to influence both consumer and producer behaviour. Central to this will be to develop some sort of understanding of the relationship between consumption and quality of life.

Transport and its Implications for Sustainability (UK)

POST had investigated current trends in transport and their sustainability. The report looked at the growth in emissions, and the competing trends of improved end-of-pipe technology and increased car usage, other potential conflicts between road construction and car usage and resources and habitats, and the factors which influence personal choice over the type of transport we use. Conflict with sustainability were found in the growth of carbon dioxide emissions. Here, if transport were to be required to play a pro-rata roll in reducing national emissions, vehicle mileage would have to be 20-33% less than that forecast on current trends for 2010. Such realisations had led to a 'great transport debate' in the UK, leading to the UK Department of Transport White Paper. This had *inter alia*, concluded:-

- environment and sustainability are central considerations in transport,
- change in emphasis was needed away from roads,
- change in attitudes needed,
- new trunk roads planning system,
- broadening local powers (e.g. to control traffic at times of high air pollution).

Sustainability and the Information Society (The European Parliament)

New information and communication technologies (ICTs) could contribute to sustainable development by 'dematerialisation' (e.g. electronic newspapers) or 'dis-intermediation' (removal of intermediate service provider, e.g. travel agents). Transport telematics might allow more aircraft into the same amount of airspace, ICTs would help competitiveness, so encouraging growth of economies and help the efficiency of use of materials, energy, water, etc. Other areas where ICTs offered promise to help sustainable development in the area of:-

- environmental information services,
- energy management,
- telemetry, environmental monitoring,
- environmental management support systems,
- telemetry for transport.

what extent concepts of sustainability were already fully integrated into current policies or required significant shifts in attitudes and regulatory structures.

COMMON THEMES

From the separate perspectives of the Parliaments, a number of common themes emerged.

a) **What does Sustainable Development actually mean?** Here, many people and institutions continue to categorise SD as an 'environmental' problem, although this ignores the social and economic issues inherent in the debate. A recent conference posed the question thus: "*how can scientific approaches, economic practice, societal structures and personal behaviour be transformed worldwide in order to assure global survival in balance with nature*"³. Whatever the exact definition, there was seen to be a need at policy level to translate the general wording of SD into specific targets (reduced pesticides, reduced energy use etc.). Neither could one avoid addressing the likelihood of conflict between economic aspirations and environmental objectives. For example, little progress is apparent on alternatives to economic statistics as indicators of national well-being. There was some discussion about whether such indicators might seek measurements of 'happiness' or 'quality of life' but these present major difficulties at present.

b) **Technology is both part of the problem and part of the solution.** One example here is that technology is clearly responsible for the adverse environmental effects of pesticide use; equally, technology can be used to try and better control application rates, and reduce pollution. Widespread innovation may replace 'dinosaur technologies' by information-rich, low-resource, environment-friendly technologies³. However, in most of the studies discussed, the solution was not technological, but required many social and institutional barriers to be overcome.

c) **It is easier to point out the shortcomings of the present global market economy than to design sustainable economies, which are fully in balance with life-supporting ecosystems and social requirements.** This had proved to be the case in nearly all the presentations, where clear descriptions of the problems and their underlying causes were available, but solutions capable of implementation were much more difficult to define. Often it involved a 'schizophrenic' attitude on the part of many people who agreed there was a problem (e.g. traffic congestion), but did not see themselves as contributing to it, let alone responsible for helping solve it.

d) **The case studies had often illustrated great resistance to change,** both by consumers and producers, and a lack of incentives to bring about change in the direction of sustainable development. Thus neither

farmers nor producers had a primary incentive to reduce the consumption of pesticides; neither drivers nor car manufacturers had an incentive to reduce ownership or use of cars.

e) **Partly as a result of the complexity of most cases studies, they were not amenable to the single big initiative,** but often would require lots of small individual actions which, cumulatively, would have an impact. This meant it was just as important to seek a devolution of initiatives to local level (e.g. via Agenda 21 initiatives), as it was to look for bold 'national' initiatives.

f) **Sustainable development requires society to set itself real objectives.** For instance to define its needs and targets in terms of access rather than mobility (i.e. to ensure people had local access to shopping as an alternative to driving 30 miles to a shopping centre). Another objective would be to find measures of achievement that are not consumption-related and incorporate quality of life - a green/ sustainable national GDP measure, which helps the market deliver real signals in its pricing by including environmental and resource costs. At present however, there was still a long way to go before a credible alternative approach could be developed to current economic indicators. In this context, some discussion took place on the relative role of eco-taxes and whether these should represent a net increase in taxation, or a shift from taxing labour to taxing consumption.

g) **Because of the uncertainties it was important to identify as many 'no-regrets' policies as possible - i.e. those policies which it is known contribute to sustainable development, and which are also widely accepted to be beneficial (or at least not damaging) to the economy.** These are typified by the search to improve energy efficiency and conservation, and economically viable renewable sources of energy.

h) **Role of the Social Sciences.** Given the increasing complexity of society, and the different lifestyles being evaluated, the social sciences have an important role to play in exploring alternative consumption patterns, to draw lessons and to predict trends. Social sciences are also critical to understanding people's resistance to change and the factors that might influence this, and the public perception of sustainable development. Given the existence of significant numbers of people sympathetic to more sustainable alternative lifestyles, a stronger involvement of people in decision-making might actually overcome some of the institutionalised resistance to change.

3. The International Congress of Engineers and Scientists' Meeting (August 1996) on Challenges of Sustainable Development.