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FEATURE ARTICLES

Sustainable development in Europe's protected landscapes

Prospects and challenges after Johannesburg

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The members of the EUROPARC Federation – the managers of Europe's protected areas – are responsible for about 10 per cent of the continent's most important biodiversity and landscape resource. These places, and especially the Protected Landscapes, are also home to millions of people, and vitally important in many ways to millions more.

Europe's protected area managers need no lessons in how big is the responsibility that they currently carry. But, post-Johannesburg, they must expect to shoulder a still weightier burden. This paper will survey the prospects after the Earth Summit, and consider the challenge now facing Europe's Protected Landscapes. It will suggest a four-part strategy that managers will need to embrace to deal with this challenge, and in which the Federation as a whole can give leadership.

Johannesburg – setback or breakthrough?

In the immediate aftermath of the World Summit on Sustainable Development (WSSD), it is difficult to prepare an informed evaluation of its achievements. Many of those present spoke of an overwhelming amount of activity which may have obscured a proper appreciation of what progress was in fact made. Those, like the author, who did not attend are even worse placed to draw up a balance sheet.

But even so it seems clear that WSSD failed in a number of important respects to fulfil the hopes placed in it. The broad conclusions are beyond dispute:

- **Trade, globalisation and poverty:** nothing new was achieved. All targets agreed at WSSD were really reiterations of previously agreed decisions. There are no penalties for countries that fail to meet targets;
- **Aid:** likewise, WSSD repeated calls for the earlier target of 0.7 per cent of national wealth of rich countries to go to development assistance at a time when most developed counties have been cutting their aid budgets;
- **Water and sanitation:** the one area where significant progress was made: a commitment to halve the number of people without basic sanitation by 2015, and to provide clean water to half of those currently without it. But the agreement is not binding and there are no sanctions for failure;
- **Climate change:** a major setback, as the big aim, which was to give electricity to 2 billion people without adding to global warming, was not achieved. However, Canada and Russia agreed to sign the Kyoto protocol on CO_2 which tips the balance towards eventual ratification, despite the absence of the US and Australia;
- **Fishing:** some modest progress as the decision was taken to set up an international network of marine reserves by 2012 and action agreed to restore depleted fish stocks by 2015, but critics are unimpressed in view of the past failures in this sector;
- **Biodiversity:** at Rio, world leaders optimistically promised to stop biodiversity depletion by 2010; now, perhaps more realistically, they aim only to slow down depletion of the Earth's living resources; and
- **Health:** the final text seems to represent a step backward on women's rights to abortion and contraception.

Reading the full text from Johannesburg is a profoundly uninspiring exercise. It is evident that gov-

ernments in general, and one in particular, failed even to live up to the modest standards set ten years ago at Rio. And, while the effect of the US on the negotiations was deeply negative, neither the EU nor developing nations adopted wholly enlightened positions on sustainable development.

But it is wrong to see what happened at Johannesburg as being all about governments. Many other interests were active at WSSD too – business, industry, trade unions, local government, the media, resource users, indigenous groups, NGOs and pressure groups of all kinds, the world's leading faiths and many more besides. In fact the wide agenda of sustainable development brings together a vast number of interests. And although much of the effort of such interests present at WSSD was directed at encouraging (or sometimes sabotaging) government positions, a lot too went into dialogue among and between such groups. Thus, for example, business and industry were talking to conservation bodies; local and regional groups were drawing up common agendas to enable them to play a larger role in sustainable development; local authorities were celebrating the success of Local Agenda 21 activity since Rio and moving to Local Action 21; women's groups, and representatives of local communities and of the world's indigenous peoples argued their corners forcefully; and pressure groups on the environment, development and human rights made common cause over a number of issues. While one can be cynical about the motives behind some of the organisations engaged in such dialogue and agreements, it is surely healthier for the prospects of sustainable development that there should be 'multi-stakeholder' debates rather than all matters being resolved by and through governments.

So, at the risk of crude generalisations, one can draw these important lessons from Johannesburg:

- governments have let us down, but
- this is no excuse for the rest of us, since the Earth Summit has shown that sustainable development is now everyone's business.

The message is particularly relevant to protected area managers – as far as they possibly can, they need to get on with promoting sustainable development themselves, without waiting for a lead from government.

Protected Landscapes: a vehicle for sustainable development

Europe is unusual among the regions of the world in that Protected Landscapes account for two thirds of all the area under protection. Globally the figure is only 11 per cent (see Figures 1 and 2). In some European countries, they account for over 15 or even 20 per cent of the territory. Many of the bodies responsible for these areas are members of EUROPARC. Since Protected Landscapes (IUCN Category V protected areas) are also the theme of this conference, it is intended to focus on their particular relevance to the topic of sustainable development. This is a convenient connection since these areas are particularly important in a number of ways to the post-Johannesburg situation. In making this case, the author will draw in part upon draft guidelines on the management of Category V protected areas, which will be published before the end of the year by IUCN – the World Conservation Union.

What are Protected Landscapes?

There are many kinds of protected areas: national parks, nature reserves, wildlife refuges, and so forth. IUCN has examined these and, to reduce confusion, recommends the use of six categories distinguished by management objective (see annex). This analysis shows that protected areas are broadly of two kinds: those where the emphasis is put on the protection of the natural world (even though this very often requires working with local people), and those where the focus is on maintaining a relationship between people and nature. It is this second idea – that of people and nature together – which is at the heart of the Protected Landscape, or Category V approach. Category V is unique among the six IUCN categories of protected area by making human processes, rather than nature conservation, the main focus of management. In this way, the area and its resources are protected, managed and made capable of evolving in a sustainable way – and natural and cultural values are thereby maintained and enhanced.

Such places focus on areas where people/nature relationships have produced a landscape with high aesthetic, ecological, biodiversity and/or cultural values, and which retains integrity. Their management is concerned therefore both with people and their environment; and with a range of natural and cultural values. Management often seeks to enhance these values rather than simply maintain or protect them. It views communities, and their traditions, as fundamental to the success of the approach: therefore stakeholder and partnership approaches are essential. It supports the stewardship role of the private landowner or manager, often through management arrangements that are not driven wholly from the centre but rather from the local government or community levels. A special emphasis is placed on land use planning. Effective management depends on transparent and democratic structures which support people's active involvement in the shaping of their own environments. Finally, like all protected areas, Protected Landscapes require effective management systems, including objective setting, planning, resource allocation, implementation, monitoring, review and feedback.

Management objectives for Protected Landscapes

The management of Category V protected areas aims to bring social, economic and cultural benefits to local communities, as well as environmental, cultural, educational and other benefits to a wider public. When IUCN published its *Guidelines for Protected Area Management Categories* in 1994, this was expressed in these terms:

- to maintain the harmonious interaction of nature and culture through the protection of landscape and/or seascape and the continuation of traditional land uses, building practices and social and cultural manifestations;

- to support lifestyles and economic activities which are in harmony with nature and the preservation of the social and cultural fabric of the communities concerned;
- to maintain the diversity of landscape and habitat, and of associated species and ecosystems;
- to eliminate where necessary, and thereafter prevent, land uses and activities which are inappropriate in scale and/or character;
- to provide opportunities for public enjoyment through recreation and tourism appropriate in type and scale to the essential qualities of the areas;
- to encourage scientific and educational activities which will contribute to the long term well-being of resident populations and to the development of public support for the environmental protection of such areas; and
- to bring benefits to, and contribute to the welfare of, the local community though the provision of natural products (such as forest and fisheries products) and services (such as clean water or income derived from sustainable forms of tourism).

It is a measure of how rapidly ideas and experience have advanced since, (not least in the run up to and at the WSSD), that IUCN now proposes an additional set of objectives for such areas, which really amount to an emerging agenda for sustainability.

These are:

- to provide a framework which will underpin community participation in the management of valued landscapes or seascapes and the natural resources and heritage values that they contain;
- to contribute to bio-regional scale conservation and sustainable development;
- to buffer and link more strictly protected areas;
- to encourage the understanding and conservation of the genetic material contained in domesticated crops and livestock;
- to help ensure that the associative and non-material values of the landscape and traditional land use practices are recognised and respected; and
- to act as models of sustainability, both for the purposes of the people and the area, and so that lessons can be learnt for wider application.

In short, in a few brief years, IUCN has begun to move the thinking about the management of Category V protected areas into the agenda for sustainable development.

A strategy for Europe's Protected Landscapes

Turning now to the challenge to Europe's Protected Landscapes in the light of the earlier analysis of the outcome of WSSD and other developments, it is suggested that a four-part strategy be followed by managers:

1. be ready for the new pressures that are coming,
2. aim to make Protected Landscapes exemplars of sustainable development,
3. make new partners, and
4. advocate forcefully the benefits that Protected Landscapes can bring to society at all levels.

Prepare for the pressures that are coming

Our Protected Landscapes will face greater pressures in future than in the past. Some of these pressures will be of global origin, some will arise at the European scale and others will be mainly national or local in their origins.

Of the global influences, climate change will surely be the most pervasive and daunting in its implications. Higher temperatures and more erratic rainfall patterns with droughts of greater length and storms of greater intensity will affect both the natural world and human land use. Much familiar vegetation and fauna will be under stress and may not survive in present locations. Established farming systems will need to adapt to the new conditions.

Governments around Europe are responding to this challenge, for example in support for renewable forms of energy. The consequences of this will be increasingly apparent in the landscape of the future. Can – should – Protected Landscapes be immune from such developments? And if we draw the line over – say – large wind farms in sensitive landscapes, what kind of contribution should our Protected Landscapes make to meeting the renewable targets and living with strategies to combat the causes of climate change?

Our landscape will also need to accommodate the changes brought about by EU enlargement. Though the CAP reforms may offer a chance to develop more environmentally benign forms of farming, in Eastern and Central Europe at any rate big changes in farming practice, the rural economy and the rural environment lie ahead. Landscape impacts are also implicit in the development of more globalised markets for agricultural products.

Then there are social and demographic forces. We must expect major movements of population and ethnic diversity in places where this has hitherto been unfamiliar. The challenge to Protected Landscapes, many of which reflect the cherished values of people who have long lived in Europe, is to make them relevant to a whole slice of the population (often living in cities) whose values may have been shaped in very different conditions.

At the national and local levels, too, our lived-in landscapes will be subject to new forces as social and economic changes further undermine the vulnerable economies and traditional patterns of life of many rural communities across Europe. The conventional response, to boost rural incomes through increased agricultural support, is no longer acceptable politically and in any case has too many environmental and other downsides. Furthermore, as declining protected areas budgets in many European countries have shown, a generalised public sympathy for parks is no longer sufficient to provide adequate funding for our work, even at a time when tourist pressures on such places are rising.

Promote Protected Landscapes as exemplars of sustainable development

At first sight, therefore, the prospects for our Protected Landscape look deeply discouraging: more to do and less to do it with. But this challenge tells us that we need

to work differently in future, in two ways that re-position Protected Landscape:

1. From being places where we defend the past, to places where we advocate the future.
2. From being places treated as islands apart to places that are connected to the areas around and to the needs of society as a whole.

In short, Protected Landscapes need to be consciously developed as exemplars of sustainable development, and as models of land and resource management that will have great relevance to society in future.

Being exemplars of sustainable development has a number of components. In the first place, there are the established roles of Protected Landscapes in protecting natural and cultural values, and helping people to enjoy and understand these. This will be even more important in future but it represents familiar territory for most managers and therefore is not repeated below.

But a sustainable development agenda also implies a number of new areas of activity:

- **Getting the strategy right:** Protected Landscapes need to have environmental, social and economic roles, expressed in terms that make clear that 1) wherever possible, all three aims should be pursued in a mutually reinforcing way, but 2) where there is irreconcilable conflict, environmental aims should take precedence, as they underpin all activity. It may be necessary to revise basic legislation to establish this relationship.
- **Working with local communities:** too many Protected Landscapes are still run in a top-down manner, in which the local people are informed, or perhaps consulted, but rarely trusted. The challenge is therefore to dare to let go a little more – to move from seeking consensus around the agency's proposals to genuine negotiations with local people and sharing responsibility for the area's management with them.
- **Making Protected Landscape models of Sustainable Agriculture, for example:**
  - Focus on the protection of 'agri-biodiversity', that is rare or unusual breeds of livestock or endangered varieties of crops, vegetables and fruit, which is often a feature of traditional farming in Category V protected areas,
  - Encourage organic agriculture among farmers in the protected area. An excellent example of this is being pioneered in a number of Italian Category V protected areas,
  - Support local products from Protected Landscapes (food, drink, crafts, etc). The French regional nature parks have much to teach about the value of local branding. UK research suggests that when food is locally purchased, for every £1 spent, £2.58 stays in the local economy, whereas only £1.14 does so when the products are bought in supermarkets, and
  - Generally encourage farmers to feel pride and job satisfaction in the quality of their produce and the part that they play in landscape and wildlife conservation;
- Making Protected Landscapes models of Sustainable Resource Use, for example:
  - Adopt a carbon neutral target for the area in the longer term. This has several implications: for energy generation (and how Protected Landscapes deal with renewable energy such as on-shore and off-shore wind farms, biomass, solar, etc), energy conservation (should properties in such areas set higher standards of insulation for example?), and climate change mitigation (e.g. tree planting),
  - Make Protected Landscapes models of waste management. This not only relates to issues of waste collection and disposal, but also to the adoption of state-of-the-art standards of waste minimisation and recycling by shopkeepers, businesses and commercial enterprises, farmers, builders and other potential waste generators in the area, and
  - Make Protected Landscapes models of sustainable water management. This includes: integrated management of river basins using 'green' techniques of flood minimisation (e.g. removing artificial drainage in catchments) and flood control (e.g. allowing natural flooding to occur rather than combating it); support for innovative domestic and commercial techniques to reduce water consumption and increase recycling; and aiming to recover a proper level of reimbursement from towns downstream that use water resources whose quality and quantity depends on the protection of watersheds in Protected Landscapes;
- Making Protected Landscape models of Sustainable Tourism, for example:
  - Adopt the many good ideas in EUROPARC's *Loving Them to Death*,
  - Capture, by taxes or other means, some of the tourist wealth generated in Protected Landscapes and re-cycle it in investment in the local environment,
  - Pioneer schemes to get visitors (and locals) out of cars and onto public transport, operate pollution-free public transport and impose speed and other kinds of limits over traffic so as to reduce its environmental impact, and
  - generally insist that tourism is based on the sustainable use of the area's particular environmental assets;
- Advocate sustainable development in education programmes: so go far beyond traditional interpretation of conservation values to visitors and set up partnerships with schools and others to promote the messages of sustainability. The aim would be to ensure that enthusiasm for sustainable development is shared throughout the community living in the Protected Landscape, and beyond as far as possible;
- Using Protected Landscapes as a tool of bio-regional planning: it is now clear that biodiversity conservation cannot be effective if it is focused only on a set of isolated strictly protected areas, like national parks or nature reserves (Categories I-IV). Instead it needs to be undertaken at a larger, bioregional scale. This creates a new role for Protected Landscapes as buffers and corridors around and

between such 'core' areas. Thus Protected Landscapes of the future may be seen less as islands and more as part of the protection of biodiversity values at a large geographical scale;

- Playing an appropriate international role: for example:
- Learn about all relevant international agreements, such as global treaties (the Convention on Biological Diversity, the World Heritage Convention and the Ramsar Convention especially) the new European Landscape Convention and EU Directives,
- Explain the relevance of these to the public and politicians,
- Consider setting up partnerships with protected areas in developing countries, and
- Participate in the work of EUROPARC, IUCN etc, for example at the next World Parks Congress (see below).

Make new partners

The agenda that is now unfolding requires that Protected Landscapes develop alliances with many partners, with some of whom managers have not always been comfortable in the past. First and foremost are the local communities and individual farmers, fishers and foresters. Another familiar audience is tourists, a source of income and support as well as a management challenge. But for the new sustainable development agenda, partnerships are also needed with:

- Business, industry and commerce, including resource users, such as the water industry and mining companies: an interesting model is represented by the UK's Council for National Parks Corporate Forum which enlists the support of several major national and international companies (e.g. oil, mining, water, electricity) that impinge on the parks in a range of schemes designed to promote more sustainable standards;
- Other branches of local or regional government, and service providers: if the sustainable development agenda set out above is to be delivered, then the support of a range of local or regional government departments will be required, e.g. those dealing with water, waste, energy, transport, agriculture, education and health;
- Neighbouring urban communities that use the area and its resources: Protected Landscapes need to reach out more to the urban communities whose citizens visit them and consume their products (food, water, etc.). How many Protected Landscapes have a 'shop window' in nearby cities? How many work aggressively with urban politicians and media to explain why their area is important?
- Others as varied as the military, the media, the health sector, schools and universities: depending on the local situation, managers need to develop partnerships with other interests. A novel example might be to work with local health officials to establish and promote the benefits to physical and mental health of the recreation and clean air and water provided by the Protected Landscape to people living in nearby cities. Another might be to seek out a long-term research partnership with a regional university.

Promoting 'Benefits beyond Boundaries'

In less than a year's time the environmental movement will be meeting again in South Africa, at a smaller event certainly than the WSSD but one of great importance to Europe's Protected Landscapes: the fifth World Parks Congress in Durban (8-19 September 2003). The theme of this will be Benefits beyond Boundaries, the idea that protected areas as a whole bring benefits far beyond the relatively limited areas within their boundaries. It is already clear that Category V protected areas will be the focus of much international attention at Durban. It is therefore excellent that EUROPARC is considering how to bring the role that such places play within Europe in promoting sustainable development to the Durban agenda.

If Protected Landscapes embrace the new agenda of sustainable development set out above, then they need to tell people about this and indeed to promote the message not only within the boundaries of the area but beyond it too. In particular, they need to demonstrate four connections, and establish them in the public mind:

- Connecting Protected Landscapes to the social, cultural and economic wellbeing of the communities living within the areas themselves, showing how a sustainable development agenda can help maintain their well-being over the long term, and how environmental sustainability underpins the life of the community;
- Connecting Protected Landscapes to the countryside at large, showing how ideas pioneered in them can be applied elsewhere to the benefit of the rural society and economy as a whole – the idea was once referred to as the 'greenprint' concept;
- Connecting Protected Landscapes to the quality of life in cities and to the health of our society as a whole, and demonstrating the role that such places can play in enriching the lives of all people of all ages, and from all ethnic backgrounds;
- Connecting Protected Landscapes to the future, making the point that society will need such places even more in the years to come.

Closing thoughts

It is very clear that this agenda is quite different from that which most European protected areas people were engaged in only ten years ago. Properly addressed, however, initiatives like those above offer a new direction for Protected Landscapes which will make them much more relevant to the wider national, European and global societies of which they are a part, and on whom their survival depends. The challenge is really about winning hearts and minds – beginning with our own, as the agenda requires that we revisit many of our cherished values and overhaul many of our familiar structures and ways of working.

Note: *This paper was first presented at the European Conference, Llandudno in October 2002 with acknowledgments to Ruth Chamber, Vicki Elcoate, Tony Hams and Stephen Martin.*

Justice and science for sustainable development

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When the Prime Minister visited Johannesburg for the World Summit on Sustainable Development in August, he would have been forewarned and forearmed with the best science on the environmental challenges facing the world today. This science increasingly highlights the inequalities and global injustices in environmental, social and political spheres. There is no hiding behind a 'wait and see' mantra – hard decisions need to be made now.

In 1992 John Major attended the UN Conference on Environment and Development in Rio de Janeiro with much less scientific knowledge on the environment that is available today. The scale of the global climate change problem, the impacts of biodiversity loss, and the extent of global forest loss were hotly contested by various interest groups. The unwillingness of the US and other countries to take action then was partly justified in terms of this lack of good science. In the intervening decade, global science, to which the UK has contributed significantly, has monitored environmental change and assessed its impact on societies, and on their most vulnerable members. Now the picture is clear. Global economic inequalities reinforce environmental inequalities. For example, pollution impacts most heavily on the health and well-being of poorer countries and poorer sections of societies within all countries. This is as true in the UK as it is in the developing world. According to recent research, for example, there are strong gradients in exposure to pollutants from car emissions between populations of different levels of deprivation and ethnic background in Birmingham.

Future worlds

To coincide with Johannesburg, the United Nations Environment Programme (UNEP) has published its third Global Environmental Outlook, which assesses the status of sustainable development ten years on from the Rio Earth Summit, and 30 years after the United Nations Conference on the Human Environment in Stockholm.

The UNEP outlook uses four scenarios to illustrate the choices facing us over the coming decades. These scenarios are termed Markets first, Policy first, Security first, and Sustainability first. Markets first represents further globalisation and deregulation and an increase in corporate wealth. Policy first represents a world in which market forces are tempered by government intervention to alleviate poverty and protect the environment. Security first describes a world ordered by considerations of national security and self interest; a world of 'striking disparities in which inequality and conflict prevail'. The fourth world, Sustainability first, is one in which new values and institutions lead to a more participatory and consensual world in which basic human needs are provided without compromising the environment for future generations.

These four scenarios represent ways in which the world may develop, depending on the development choices we make today. They are not entirely mutually exclusive. It is easy to recognise elements of the first three scenarios in today's world, in which policies developed by industrialised nations and international financial institutions are designed to liberalise markets and lead to indefinite economic growth, while disparities of wealth and concerns about national security lead to conflict within and between nations. However, while lip service is paid to the need for collective environmental security, there has as yet been no fundamental shift towards policies designed to encourage sustainable development.

Security is seen overwhelmingly in economic and military terms, and growth is viewed through the narrow lens of GDP. It is often assumed that conventional economic growth benefits everybody and reduces inequality, although this assumption is not always supported by the evidence. Little attention is paid to the social and environmental costs of economic growth, resulting from pollution, pressure on natural resources and demands for cheap and flexible labour. Production is increasingly shifting to the developing world, where countries are encouraged to restructure their economies to produce goods for consumption in wealthy nations. As well as having implications for equity, this trend results in the transportation of increasing quantities of goods over increasingly large distances. This is occurring within the context of a global political economy based on fossil fuels, the burning of which results in the emission of heat-trapping greenhouse gases that accelerate global climate change.

Blocking the goal

The UK delegation to Johannesburg needs to recognise that we are currently pursuing the opposite of sustainable development. Sustainability is not first, second or third in the list of priorities of economic policy. Our preoccupation with conventional economic growth is already having dramatic consequences for the environment, the most worrying of which is arguably accelerated climate change, caused by the burning of fossil fuels. The consequences of climate change are likely to be dramatic, and will affect the poor disproportionately. Developing nations are largely situated in parts of the world where drought, flooding, tropical storms and other extreme weather-related events are already common. These events are likely to become more common and more severe as rainfall variability increases and sea levels rise. Weather-related disasters can set back economic development by decades, as in the case of Honduras after Hurricane Mitch, and their impacts hit the poor hardest, increasing inequality.

Climate change has the potential to undermine

development efforts, sustainable or otherwise, and represents a barrier to achievement of the UN's Millennium Development Goals. Any development process that addresses issues of poverty alleviation and equity must also address climate change. Sustained international efforts at mitigation, i.e. reducing the extent and severity of climate change by cutting greenhouse gas emission, are essential. We must reduce emissions by at least 60 per cent in order to avoid potentially dangerous rapid climate change. The Kyoto Protocol, initially committing signatories to an average reduction in emissions of 5 per cent, is a start, and provides a useful framework for tackling climate change. However, the impact of the first round of Kyoto commitments on climate change will be almost negligible, and much more needs to be done.

Even if we were to achieve a 60 per cent reduction in greenhouse gas emissions, we would still be committed to some climate change as a consequence of past emissions. While climate change does occur naturally, our actions are increasing the chances that we will have to deal with its consequences sooner rather than later. In the 21st century we can no longer talk about purely natural climate change, neither can we necessarily attribute a single extreme weather event to our interference with the climate system. However, we can be certain that climate variability and change will continue to disrupt natural and human systems, and that the less action we take to mitigate climate change, the greater this disruption will be.

The limited efficacy of existing mitigation strategies, and the reality of unavoidable climate change, mean that countries must adapt to changes in mean climatic conditions and the frequency and severity of extreme events. Climate change has the potential to undermine sustainable development by causing widespread damage to physical infrastructure, compromising agricultural systems, and increasing the burden of disease. The consequences of climate change for planning, resource availability, health, agriculture, transport and business must be faced, and appropriate adaptation strategies must form an integral part of the development process. Such measures must be taken now.

Many developing countries would benefit from adaptation strategies even if the climate remained stable; adapting their systems to cope better with climatic variability would represent a win-win or 'no regrets' strategy, given the enormous cost to the developing world of climate-related disasters over recent decades.

Decision time

Sustainable development, the aim of the Johannesburg summit, is a process already facing enormous obstacles in the form of powerful political and economic interests. Sustainable development means providing clean water, adequate nutrition, education, healthcare, housing and other basic services to a growing global population, without destroying the natural resource base on which we all depend. This cannot be achieved simply through economic efficiency, particularly when mainstream economics ignores the social and environmental costs of commercial activity, and the fundamental inequality that provides the context for economic transactions between rich and poor. Neither can it be achieved as long as economic activity is based on the consumption of fossil fuels, as the resulting changes in climate are likely to exacerbate poverty and inequality.

Johannesburg represents an historic opportunity to make a difference to the world environment as well as to the future shape of global society. The signs following the preparatory meetings have not been good. Countries have not been able to reach agreement on energy subsidies, the implementation of the WTO Doha agreements, or agricultural subsidies. Nor do the developing countries simply roll over when demands of good governance are placed on them when good environmental governance is so clearly lacking in parts of the West. While good governance is necessary, it is not the answer to the developing world's problems. As a Ugandan diplomat recently put it, 'Good governance does not make it rain.'

In order for sustainable development to succeed, we must face up to the reality of climate change, while doing all we can to minimise its impacts by moving away from a global economic system based on fossil fuels. We also need to examine the process of globalisation, addressing issues of equity and resource management. We should reassess our notions of growth, that currently do not address the social and environmental costs of economic activity, or even acknowledge the fact that resources are finite. We need to ask ourselves whether the world in which we currently live is one in which sustainable development is possible and, if not, what we can do to change it.

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John Connell Memorial Award

This year's award for the best student project has gone to Andrew Frost at the University of Lancaster. His undergraduate research project involved a meticulous assessment of the use of Radon in assessing ground water and surface water flows at two sites in Cumbria.

The thesis was highly praised by the judges; it was well written and researched with a detailed methodology and analysis of the results. The judges described the work as 'a first class piece of research, which made a substantial contribution to our ways of assessing groundwater movement within specific catchment areas'.

Other awards were made to Deborah Ballantine at the University of Ulster for her research on the regeneration of artificial bogs following peat extraction and to Alana Cunningham, University of Ulster, for her study of Cryptosporidium contamination of shellfish.

Francis du Corbier of Sussex University was also awarded a prize for his research on the development of a biomarker for heavy metal contamination in marine and terrestrial plants.

The judges and co-sponsors (Casella Group and the Noise Abatement Society) commented on the very high quality of the submitted projects and their contribution to the resolution of some important environmental problems.

Ocean cruising: a rapidly growing global phenomenon

Professor Derek Hall MIEnvSc

Following decades of relative stagnation, ocean cruise tourism experienced a significant resurgence in the 1980s. This was stimulated by aggressive marketing campaigns, increasing disposable wealth, changing demographic profiles in the world's leading economies, and nostalgia for a slower pace of leisure travel.

But paradoxically, while rising levels of wealth and the increasing old age structure of populations in developed economies were seen to complement the old and wealthy image of the typical cruise passenger, so cruise lines began to expand the market and their range of products by targeting middle-income, middle-aged groups. This was done through offering shorter cruises, introducing fly-cruise options, and increasing ship capacities up to 2,600 passengers. As a result, the average income and age profiles of cruise passengers diminished, while world demand grew from 1.5 million passengers in 1980 to 8.5 million by 2000, making ocean cruising one of the world's leading tourism sectors. With an 8 per cent annual growth rate, participation in ocean cruising has increased at almost twice the rate of global tourism overall.

Now, in the first five years of the new millennium, more than 40 new ships, worth US$10 billion, are being constructed to even larger scales – up to 130,000 tonnes with 3,840 passengers and a crew of 1,200 – with greater ranges of onboard attractions. Such huge vessels are categorised as 'post-Panamax' ships since they are too large to pass through the Panama Canal. Economies of scale coupled to market expansion have helped to raise profit levels for the largest cruise lines. Seen as largely supply-led, industry trends have been stimulated by state subsidies provided to shipbuilding industries in France, Finland, Italy and a number of Asian countries. These subsidies have represented up to 30 per cent of production costs, rendering cruise ships a competitive capital purchase. Between 1988 and 1998 the number of cruise-ships increased globally from 97 to 129, and the number of berths almost doubled, from over 68,000 to 128,000. While the events of 11 September 2001 caused a temporary turn-down in demand and a repositioning of some ships away from the Mediterranean and Middle East to the Caribbean and Alaska, the ocean cruise industry seems to have largely returned to previous levels of provision and demand.

One impact of the new tonnage is increased speed and therefore ability to cover greater distances between ports of call. However, for the volume market there is an increasing problem of ever-larger vessels being unable to enter the smaller ports of an ever-expanding menu of destinations. This paradox raises significant logistical questions since cruise lines do not like using tenders, as their use raises the possibility of accidents, and it is important for the port to convince an operator that its offshore moorings are secure.

Further, the scale of cruise liners and the hazard potential they face may readily draw adverse publicity and negative media attention. A recent example of this was the case of the Greek-owned, Panamanian-registered and largely Ukrainian-crewed, 51-year old Ocean Glory I, which was found to have 35 potentially dangerous defects during a routine inspection when docked between cruises at Dover in southern England. The vessel had been seized earlier for 24 hours by Portuguese authorities over an ownership dispute. Its subsequent cruise schedule to the Norwegian fjords with 600 passengers for the charterer Cruise Collection was cancelled at very short notice amid much adverse publicity (Whitney, 2001).

Impacts of cruise growth

The marine pollution impacts both off- and on-shore resulting from cruise liner activity may be significant although often difficult to distinguish from the discharges and spillages of other marine activity. Some notable examples have, however, been publicised in the media. In 1999 Royal Caribbean Cruise Lines and Carnival Corporation's Holland America Line were fined several million dollars for dumping untreated bilge water, oil and other waste into Alaskan waters. Royal Caribbean, which is based in Miami, was fined $6.5m by a federal court for offences committed in 1995 and 1996, including the dumping of dry-cleaning chemicals, the rigging up of special pipes that bypassed on-board pollution-control equipment, and the falsification of records. The company has also been fined for dumping waste near ports of call in other parts of the world. It has been quoted subsequently as promising to establish a better environmental culture, emphasising that new ships have on-board water-cleaning systems that far surpass (US) government standards and turbine engines that generate less smoke.

Several of the on-shore impacts of ocean cruise tourism resemble the impacts typical of mass tourism. Onshore visits tend to be for a relatively short period of time – typically morning to early evening – resulting in: congestion in port-related and passenger-activity areas, requiring significant impact management strategies; short-term pressure on retailing and other services; loss of economic benefit from visitors not staying in local onshore accommodation; and wider economic leakages resulting from the organisation of on-shore visits by the cruise company or its agents, and from the fact that visitors may be taken on such excursions some distance away from the point of disembarkation. Economic 'leakage' is common in marine tourism situations, because visitors often arrive in vessels that have been provisioned with supplies else-

where. In addition, in many coastal and island areas, marine tourism operators may not be local but will be seasonal businesses that have their base elsewhere. Consequently much of the income generated by the business does not stay within the host community.

Local inflation and functional change in the provision of services can result from relatively high income visitors demanding certain types of goods which may gradually usurp the role of traditional retailing needed by local people. This can clearly impose economic hardship on host communities, particularly if they do not receive enhanced income as a result of cruise line visits.

Exemplifying a number of these impacts is the case of Juneau, capital of Alaska. With a population of 30,000 this city sees as many as 600,000 cruise visitors during the short summer months, a figure which has risen from 250,000 since 1990. Cruise tourists crowd the city's streets and generate a feeding frenzy among local businesses. Even more annoying to many locals are the fleets of helicopters passing overhead ferrying visitors to the mile-thick Juneau Icefield north of the town. In October 1999 the population voted for a $5 per head tax on cruise passengers to help defray the expense to the local community of handling such crowds.

Bermuda presents an interesting model of attempts to reduce impact problems. Prior to 1984, up to seven cruise ships a week were docking in Bermuda. The impact on the tourist transport system was particularly seen in traffic congestion due to visitors renting taxis for sightseeing. This led to the introduction of limitations on cruise ship passengers by restricting the number of ships in port at any one time, and by attempting to restrict cruise ship visits. This deliberate policy by Bermuda's government eliminated weekend cruise ships from docking, thereby reducing the overcrowding and temporary congestion of the island's transport network previously experienced. The number of ships which can operate in the area is limited to five of 4-star ranking or higher. The aim is not only to control visitor numbers but also to preserve the island's up-market image, and to ensure a relatively high onshore visitor expenditure.

In the Caribbean, however, six cruise companies have purchased their own 'fantasy islands' which are exclusive to passengers and employees. These islands with no Caribbean people living on them are marketed as 'the best of the Caribbean', claiming to offer, not a little paradoxically, 'the total experience that can be found in the West Indies' (Wood, 2000). Contact with local people is viewed as being disturbing to passengers, so this is minimised, or excluded. Thus, for example the 'islanders' at Disney's Castaway Cay are hired through casting agencies, and may come from as far away as Australia. Even the Caribbean's natural environment may need to be 'enhanced' to meet fantasy images: Disney dredges sand from the bay and then grinds it up further to make the island's beaches better conform to (assumed) perceptions of 'paradise'.

The development of these private island destinations in conjunction with cruise activity has had a number of negative impacts on Caribbean countries' cruise-derived income, as in practice a local port is being removed from the cruise itinerary process, and the cruise company monopolises the economic rewards providing for their passengers a comprehensive range of facilities and services. The already limited contribution of cruise passengers to local Caribbean economies is thereby further eroded.

As traditionally staid cruise tourism has become more like non-cruise mass tourism, its distinctive characteristic of sea-based mobility has enabled it to exhibit major characteristics associated with processes of globalisation (Wood, 2000). First, cruise liners are large – taking advantage of internal economies of scale and sourcing on-board products globally – and very visible concentrations of multinational capital. Their physical mobility renders a capability of being 'repositioned' anywhere in the world at any time and they spend much of their time in non-territorial waters, only briefly 'touching down' in their ports of call. Indeed cost savings can be made by sailing slowly, and thus saving fuel, and by including in itineraries ports of call which have cheap or low-tax fuel bunkering, playing off one destination against another – a not unfamiliar policy of multinational corporations seeking direct investment opportunities.

Second, ship crews represent both physically compact yet globally highly diverse labour forces (originating from up to 50 countries on a single ship). Such globally-recruited labour is rigidly stratified into three groups: officers, staff and crew. These groups have separate living areas, segregated dining areas, different levels of restrictions about interacting with passengers, and vastly different pay levels, with usually a clear ethnic cast to this hierarchy. Recruitment policies, while acknowledging tourist images and expectations, are thus most critically influenced by industry interests of employment control, cost minimisation and public relations. Most shipboard employees work seven days a week for six months at a time.

Third, avoidance of national or international regulations is a major characteristic of cruise lines (Wood, 2000). The use of flags of convenience (FOCs) circumvent home country employment laws, taxes and maritime regulations. Over half the tonnage of leading maritime nations flies FOCs. For cruise ships this is even more pronounced. Indeed, cruise development has been assisted by the climate of deregulation and the pool of migrant labour on which the industry increasingly relies. Not a single cruise ship plying the Caribbean flies the US flag. For example, although both based in Florida, Carnival Cruise Lines is registered as a Panamanian corporation and Royal Caribbean a Liberian one. In the latter case the company is estimated to save around $30m annually in US taxes by registering its ships under FOCs. FOC ship crews are subject neither to the employment laws of their countries of origin nor to those of the country of their employer, but they are subject to the laws of the country in which the ship is flagged, most commonly Panama, Liberia or the Bahamas. Employment laws protecting the rights of workers are virtually non-existent in FOC countries.

As one of the most dynamic sectors of one of the fastest growing global activities – tourism – ocean cruising presents a range of emerging and ever changing characteristics, notably in relation to impacts and globalisation effects – which deserve greater attention from environmental researchers and policy makers.

References

Whitney, A., 2001, Cruise ship with 35 defects was a 'potential hazard'. *The Independent*, 4 July.

Wood, R.E., 2000, Caribbean cruise tourism: globalization at sea. *Annals of Tourism Research*, 27(2), 345-370.

http://trasf.cybercruises.com/cruiseurl.ht#employment
Cruise links including section on employment and recruitment

http://www.shipjobs.com/
This is listed in the above and looks a useful place to start from

http://www.informare.it/news/review/1997/St0009.asp
Italian maritime site with search facility

Environmental News and Comment

Scotland's second class beaches

Tests on water quality undertaken between mid-June and mid-September last summer by the government's Scottish Environmental Protection Agency (Sepa) at 55 'undesignated' beaches in Scotland, found 21 were contaminated with high levels of sewage. Unacceptable levels were discovered of 'faecal coliforms' – an indication of human or animal waste in the water – and a possible sign that more harmful organisms, such as salmonella and viruses, are also present. These can strike down swimmers and surfers with stomach upsets, infections and rashes.

These are popular swimming spots which are not on the European Union's list of 60 'designated' beaches which must be checked annually. The number of these designated beaches which failed the tests dropped from nine last year to only five this year. EU water quality standards are breached if levels of faecal coliforms rise above 2,000 per 100 millilitres of water on more than one occasion.

According to *Scotland on Sunday*, the findings have led to accusations that the government has been concentrating its efforts on improving designated beaches to keep within EU requirements while allowing thousands of beach users elsewhere to bathe in untreated sewage. While Friends of the Earth Scotland welcomed the improvement in the standard of designated beaches, it expressed concern for the low priority accorded to the undesignated beaches and the hazards they pose.

Conversely, failure to designate beaches which have good water quality hampers local authority attempts to promote them as tourist attractions. According to the Green Party more than 70 per cent of water pollution had been shown to originate on farms, either through bad management or bad practice. The Scottish Environmental Protection Agency appeared largely to concur by suggesting that the reason for the failures at undesignated beaches was largely the result of excessive levels of human and farm sewage reaching bathing waters. Sepa was particularly disappointed with failure at Arbroath where a new sewage treatment works for the area had recently been put in place. Investigations were being carried out into the reasons for such failures.

A Scottish Executive response was to indicate that between 1999 and 2006 over £3bn was being spent upgrading the Scottish water industry, with a significant proportion of this investment going towards improvements to benefit the quality of 'Scotland's water environment'.

New web site and e-mail addresses

The IES has new e-mail address and our web site address has changed again:

- **e-mail:** ies-uk@breathemail.net
- **web site:** http://www.ies-uk.org.uk

Moving? Changing jobs?

Remember to let us know promptly with your new address, telephone number, etc. This can avoid loss of communication, wasted postage and unnecessary complications.

Write to: IES, PO Box 16 Bourne, PE10 9FB

Tel/Fax: 01778 394846

E-mail: ies-uk@breathemail.net

Can the professions survive?

Exploring professional values for the 21st century

There is a widespread perception that the professions are under threat. They are no longer able to claim special privileges as disinterested, altruistic occupational groups acting detachedly in the public interest. The public is less likely to accept and trust its professionals and professional bodies and others have sought to fill the gap caused by this 'decline of disinterest' with increasing reliance on rules, codes of practice and a complex regulatory framework. Government has sought to curtail certain professional monopolies and the professions have been criticised for their lack of openness in terms of access to membership, particularly at the higher levels, and transparency of procedures, particularly for regulation and discipline of their members.

Critical comment about the professions is not new, as any historical study will reveal. Nevertheless, a number of high profile scandals, affecting a wide range of professions, have brought the professions to the forefront of public concern. Events such as the Alder Hey and Bristol enquiries in the health service, the Equitable Life, Enron and WorldCom scandals in the financial sector, and the highly public disputes at a number of professional bodies, most notably the Law Society, have led to statements about lack of trust and faith in our professions and professionals becoming almost commonplace. But are such observations true? Many people continue to look to their professional advisers for reliable and trustworthy advice while at the same time being increasingly ready to resort to litigation or professional indemnity insurance schemes when things go wrong. Professional practice itself is a less certain, more risky enterprise and some of the traditional boundaries and distinctions between professional work and the commercial world appear to have broken down or become blurred. In this climate, can – and should – the professions survive?

A new RSA project seeks to consider some of these issues. Arising from interest in the professions over a number of years and more recently from the work of its Forum for Ethics in the Workplace, the project will offer the opportunity to ask a broad range of questions about the nature of professions and professionalism and particularly what society now requires from professionals and professional practice.

The overall aim of the project is to re-invigorate the concept of a 'profession', to enlarge its application and to encourage the professions in the UK to become a more significant, trusted, and creative force for economic and social good. The RSA starts neither from a position that assumes the professions are inherently a bad thing nor one that assumes all is well in the world of professional competence and regulation.

Some of the issues and questions that the project will explore are:

- Do we need new concepts of profession, professional and professionalism or are the old ones good enough?
- How can we restore confidence – amongst the public and in government – in the professions and develop new relationships based on trust? Or is the professions' claim to particular authority and status an outmoded claim based on restrictive trade practices? Do we, indeed, need the professions at all?
- What are professional values? Why should they matter? Are they still needed in the 21st century and, if so, how can they be maintained and strengthened, both among traditional professional groups and emerging ones?
- Is there a generic 'professional ethic' or set of values that transcends specific professional groupings and goes beyond the requirements of the Privy Council in setting out the characteristics which a profession needs in order to obtain Chartered status? What effect will increasing globalisation and internationalisation have on such values?
- What are the differences and similarities between professional ethics and business ethics?
- What are the limits and responsibilities of a fiduciary relationship?
- What are the particular challenges facing employed professionals? Or self-employed professionals? Or professionals working in multi-disciplinary partnerships?
- What special qualities do professionals bring to the workplace? As we face the prospect of a longer working life, how can professionals find a renewed sense of vocation and meaning in their work and still retain an adequate work-life balance?
- What structures and forms of organisation are needed to help professions and practitioners respond to these challenges; to be flexible, able to innovate and modernise, and ensure that they keep up to date with learning and best practice?
- How will such changes affect consumers of 'professional services' and what regulatory frameworks will be required?

At this stage the anticipated outcomes from the project are:

- a new definition of a model profession, with suggestions as to where new professions are needed;
- mechanisms and fora to ensure good communication between new and emerging professions, new and old professions, the public and the professions, the government and the professions;
- a convincing and influential concept of 'Professional Social Responsibility' to parallel 'Corporate Social Responsibility' in the business sphere;
- a co-ordinated approach to values education as a part of initial training and Continuing Professional Development.

Two joint events are planned over the winter: with the Institute for Global Ethics on the theme of Professional Responsibility; and a conference at Oxford University's Department for Continuing Education on new and emerging professions.

From spring 2003 a series of focused events on specific themes/professions is planned for the RSA's Gerard Bar at the John Adam Street premises in London.

Further details about the project can be obtained from Susanna Reece, Susanna.Reece@care4free.net, who is the Project Manager. There is also information on the RSA website www.theRSA.org where it is hoped to develop a discussion area on the themes arising from the project. Expressions of interest in the project are always welcome, as are suggestions for potential sponsors to develop the work further.

Note: *The Institution is in contact with the RSA and will be taking part in this programme.*

Career Profile

Dr Suzanne Jordan, MIEnvSc

Environmental Research Manager, B&Q Plc

Sue Jordan began her career as a scientist when she left Whitfield Comprehensive school in Bristol in 1989 and joined Wessex Water's Water Resources department for a year, under the Royal Academy of Engineering's 'Year in Industry' scheme. Having enjoyed working in environmental management, Sue undertook a BSc in Applied Sciences at the University of Glamorgan in 1990. Studying Geology and Environmental Pollution Science gave her the thorough grounding in earth sciences and environmental chemistry she needed to take forward her chosen career path in pollution management.

Having gained First Class Honours, Sue undertook post-graduate research into the environmental chemistry of polluted soils in the School of Chemistry, University of Bristol. She obtained her PhD in 1998 and, after recovering from the experience, joined SGS Environment (later Casella) in Bridgend as an Environmental Consultant, concentrating on contaminated land, due diligence and construction project management.

In early 2000, Sue joined B&Q's Environment department in Southampton as Environmental Researcher. Within what is now B&Q's Social Responsibility Team, Sue advises the business on a wide range of environmental issues. Her responsibilities include tracking and advising the business on issues such as developing UK and European legislation, environmental reporting and chemicals issues. Sue manages B&Q's 'DIY Detox' chemicals strategy and also represents the company on the British Retail Consortium Environmental and Product Stewardship Action Groups.

Roles such as this require the ability to understand and adapt a wide range of often complex technical data and translating it into business-focused advice and solutions. An ability to work to tight deadlines and being very flexible in approach is also essential. Despite the often high pressures of the business, no day is ever the same as the next, and the work is constantly varied and challenging – from dealing with customer queries to contributing to EU policy debates.

Although retailing is not traditionally a significant employer of scientific expertise, growing regulatory and consumer pressure on CSR issues such as climate change, waste management and product stewardship is increasing the number of dedicated environmental policy managers working in the sector. An increasing number of retailers are also using consultants to advise and to manage the issues on their behalf. Given that direct opportunities are still infrequent, this is currently one of the most opportune ways of entering the sector.

Forthcoming events and activities

9th January
LTSN-GEES pedagogic research 'end of programme' conference

14th January
Environmental Science learning and teaching swap shop

23 January
Preparing for Round 2 – Air Quality Review & Assessments, Birmingham
Workshop covering the changes to the Local Air Quality Management regime
Details: AQM Resource Centre, UWE, Bristol
Tel: 0117 3442929 Email: nicky.woodfield@uwe.ac.uk

18-20 February
Risk Assessment and Management of Contaminated Land & Groundwater, University of Sheffield
Short Course: looking at risk assessments, and the relationship of sources, pathways & receptors.
Details: Sarah Murton, Civil & Structural Engineering, University of Sheffield, Mappin Street, Sheffield
Tel: 0114 222 5712 Email: s.l.murton@shef.ac.uk

20 February
Preparing for Round 2 – Air Quality Review & Assessments, Wrexham
Workshop covering the changes to the Local Air Quality management regime
Details: AQM Resource Centre, UWE, Bristol
Tel: 0117 3442929 Rmail nicky.woodfield@uwe.ac.uk

11-13 March
NAPLs: Behaviour and Restoration of Non-Aqueous Phase Liquids in Porous and Fractured Rocks
University of Sheffield
Short Course: looking at the migration, distribution and dissolution of NAPLs.
Details: Sarah Murton, Civil & Structural Engineering, University of Sheffield, Mappin Street, Sheffield
Tel: 0114 222 5712 Email s.l.murton@shef.ac.uk

24-25 March
International Sustainable Development Research Conference, University of Nottingham
Details: ERP Environment, PO Box 75, Shipley, West Yorks, BD17 6EZ
Tel: 01274 530408
Email: Elaine@erpenv.demon.co.uk

19-20 May
LTSN-GEES two day residential workshop for new and recently appointed lecturers

30 June-1 July
LTSN-GEES two day residential conference on 'Teaching and Research'

Education events in Johannesburg

Alongside the official inter-governmental process at the world summit in Johannesburg this summer, education had a serious following within the side events and discussion.

We describe below some of the topics discussed; in the next issue of *Environmental Scientist* we will include some comment on them.

They were held by:

- **UNESCO** and **Department of Education South Africa:** Educating for Sustainable Future: Action, Commitments and Partnerships;
- **IUCN-CEC:** Engaging people in Sustainability;
- **Earth Charter:** Educating for Sustainable Living;
- **Rio Conventions:** Rio Conventions responding to Education. Learning our way to sustainability: the promise of communication technology, in association with Open University.
- **Japan Forum for Johannesburg** held five events on the Movement to Promote the Decade of Education for Sustainable Development.

26 August-2 September

Movement to promote the Decade on Education for Sustainable Development – Japan Forum for Johannesburg.

Five workshops were held over the Summit period. The first four workshops looked at various themes of Education for Sustainable Development: Concept of EE; Experimental education and the role of NGOs; Development Education; Local and Global Perspectives.

This was then brought together in a final workshop to look at all the issues and 'brainstorm' for the Decade of Education on Sustainable Development. By discussing how we could reach the 'unreached people', ideas for a framework of working towards the Decade were presented. It was agreed that a mechanism was needed and that the process needs to be replicated around the world so the UN can be convinced to accept its importance.

owner-esf@sl.sakura.ne.jp

26 August

Educating for Sustainable Living with the Earth Charter

The event had various speakers from a diverse range of backgrounds from inter-governmental organisations to local NGOs working with the Earth Charter.

The event had three main objectives: 1. Share best practices in the use of the Earth Charter in education for sustainability; 2. Promote awareness of UNESCOs Decade of Education for Sustainable Development, and the use of the Earth Charter as an educational resource for the decade; 3. Identify strategic opportunities, including existing and new partnerships, for advancing education for sustainability and the use of the Earth Charter in education.

The main feel of the event was positive and productive, particularly with praise for the use of the Earth Charter. The use of the Earth Charter as an Educational Tool was stressed in all the other education events. The use of the Earth Charter was also mentioned in Governmental Plenary.

www.earthcharter.org/wssd

29-30 August

Engaging people in Sustainability – IUCN-CEC (and ESD group).

This exciting two-day workshop objective was to identify key developments in Education for Sustainable Development since Rio, whilst looking at projects around the world. Speakers as well as participants were also encouraged to share their aspirations on how to move forward in the future. Each speaker had half an hour, the first half on their projects and the second for interactive dialogue, activities and games, to really put the participation and learning by doing back into education!

The speakers ranged from formal education, to community and business learning, whilst also sharing experiences from governments and international organisations. The discussion period was intentionally meant to stimulate further ideas and some of the key areas raised were: How can we engage people in these issues? How do we have meaningful participation? How do we reach out to the wider education community, including leaders? Issues of networking and supporting; Partnerships; Monitoring (longitudinal) and indicators; Issue of language, including the meaning of education/ communication; and Scaling up the projects so ESD is universal.

www.iucn.org/cec/

1 September

Rio Conventions responding to Education. Learning our way to sustainability: the promise of communication technology, in association with the Open University.

This event was to look at education and how we can use communication technology as a tool. It was aimed at being recorded on the web and not as a large event in itself. Steven Peake from the Open University drew together the issues raised during the day and highlighted the following themes: Partnerships can bring people together; There is a large learning community that needs to be brought together; New culture and skills needed for collaborative partnerships; Problem of technical challenges; ICTs might be the way to do some of these- using it as a tool; Integrate ICT with community technologies and knowledge; Challenges for the future! However it was felt that education did have a key role still to play.

www.unfccc.int/wssd

2-3 September

Educating for Sustainable Future: Action, Commitments and Partnerships. UNESCO and South African Department of Education.

This day and a half event was of a high-powered nature. Alongside the Director General of UNESCO and KaderAsmel, Education Minister of South Africa, they had the President of Mongolia, the President of Ecuador, the First Minister of Scotland and Minister of Education, Mexico addressing the event. The other speakers addressed the issues of: Education for All; Role of NGOs; Role of advertising in communicating sustainability; Rural Education and food aid; Education in Africa; Lessons learnt and emerging issues; Context of ESD-HIV, language, role of science and cities; Higher education and reorientation; Gender issues.

The event also launched the following Partnerships and Initiatives: International Marketing/Communications Initiative for Sustainable Development; FAO/ UNESCO EFA Flagship Programme on Education for rural people; UNESCO/ Education International Dissemination Toolkit for UNESCO Programme 'Teaching and learning for a sustainable future.'

Should the higher education sector embrace sustainability?

Stephen Martin and Rolf Jucker

Among the many serious issues facing higher education and the new Secretary of State, it is a fair bet that sustainability will not be one of them! Charles Clarke acknowledges that HE is a 'potentially controversial issue' but so is the challenge of how society handles the destructive effects of human activities on the Earth. The latest catastrophic oil-spill off the coast of Spain is yet another devastating reminder.

Whatever else one might think about the success or failure of the World Summit for Sustainable Development (WSSD) in Johannesburg, it is clear that political leadership the world over is incapable of rising to the challenges of sustainability. And yet in all likelihood most of the hundred or so world leaders who attended will have a higher education degree from some of the world's most prestigious universities.

This raises some serious questions for Mr Clarke and the recently established Sustainability Committee of vice-chancellors and principals. Why is it that those people who contribute most to wreaking havoc on poor communities and the Earth's ecosystems are those with BAs, MScs and PhDs and not the 'ignorant' poor from the South? Why is the illiteracy amongst the world's politicians about how the world works as a bio-physical system so widespread? Why is it so rare that we encounter in our leaders the qualities needed to enable sustainability: humility, respect for all forms of life and future generations, precaution and wisdom? And, more worryingly, on the basis of their performance, what hope of improvement is there for future leaders?

The fact that the higher education sector is seriously failing society by producing leaders incapable of addressing our most pressing problems should trigger some critical consideration about the fundamental role of HE in society, based on three key assumptions:

Firstly: if HE is the nursery of tomorrow's leaders and educates most of the people who develop and manage society's institutions, then the sector bears 'profound responsibilities to increase the awareness, knowledge, technologies, and tools to create a sustainable future', as the Talloires Declaration (signed by many of the world's university leaders) stated in 1995. This clearly implies that graduates of every discipline (whether as engineers, teachers, politicians, lawyers, architects, biologists, bankers, managers, or tour operators, etc) will need a sound working knowledge about sustainability.

Secondly: universities the world over are regarded as the centres of the most advanced knowledge. They should therefore, through their teaching and their institutional practice, embody role models for the wider society and be microcosms of best practice for the future.

And lastly: higher education institutions are allowed academic freedom and a tax-free status to receive public and private resources. In exchange for this privileged position society rightly expects from universities that they contribute as much as possible to the solution of society's problems.

Added to which sustainable development is now a mainstream policy issue in the UK and the EU and there is an increasing demand for graduates with a broad interdisciplinary training in sustainable development and problem solving. Does this not suggest that we should develop strategies on how to turn the HE sector into sustainable institutions?

Such strategies would need to be concerned with all aspects of HE and find answers to the following questions: how is the ecological footprint of these institutions shaping up to sustainability criteria? Is the sector promoting education for sustainable development across the curriculum? Do the colleges and universities fulfil their role in communities and promote sustainable development through outreach and collaboration with industry? What value has the research done in HE when considered in a sustainability framework (i.e. does it contribute to solving the most urgent problems or does it boost unsustainable practices)? And lastly, what do the graduates of these institutions do in the world? Are they contributing to the building of a sustainable society or are they, as one leading commentator says, 'part of the rear guard of a vandal economy'?

There is no question that the HE sector needs to embrace sustainability as urgently as the political and economic sectors and society as a whole. Undoubtedly, there is some good work already under way: the Environmental Association for Universities and Colleges has been a pioneering group in the UK, as has Forum for the Future through its Higher Education Partnership for Sustainability programme. The funding councils are increasingly considering sustainability issues, partly as a result of pressures from bodies such as the Welsh Assembly. Some of the UK's largest professional bodies have recently set up a Sustainability Alliance which will put greater emphasis on the need to include sustainability criteria in their accreditation procedures for degree programmes.

What we really need is a review of the situation in the sector and a strategy to achieve effective change in mainstream educational thinking, policy and practice. We should not only determine where the sector is at present, but also engage as many institutions as possible in the review process, making sure that it is driven by their needs. A lot of expertise has been built up over the past decade, even though it might only be visible in small pockets of good practice. To multiply these efforts we need co-operation and partnership, not only between HE institutions, but also with industry, local authorities and society at large. But this bottom-up approach has to be complemented by Government commitment to a sustainable HE sector, and there is no better way of doing this than linking funding to performance measured against sustainability indicators.

When Charles Clarke starts to ask our Vice-Chancellors and Principals tough questions about sustainability, we might just stand a chance of making a difference to the education of our future leaders. After all, as Minister of State for Education in 1999, it was he who stated that 'It (sustainable development) needs to be at the core of the education system'.

■ *Stephen Martin is a member of the Institution of Environmental Sciences and a visiting professor at the Centre for Complexity and Change at the Open University. Rolf Jucker is Senior Lecturer in German Studies and responsible for making the University of Wales Swansea more sustainable.*

Book Review

Population growth and climate change

The Crowded Greenhouse: Population, Climate Change and Creating a Sustainable World

Authors: *John Firor and Judith E. Jacobsen*

Publisher: *Yale University Press*

ISBN: *0-300-09320-9*
237pp Hardback. £17.95

This is a welcome addition to the growing abundance of environmental literature. There have been many publications dealing with issues of population and of climate change and many more dealing with sustainability. This work is possibly unique in taking two such fundamental but disparate environmental topics, relating them to one another and then exploring the possibilities for sustainability for each.

Both topics are reviewed in terms of background, previous developments and current knowledge, opinion and argument. This establishes the present status of the two issues and how they are related, the importance of which is to create a platform from which the significant parts of the book develop.

The authors explore the policies and steps that could be taken to stabilise population growth building on the policy agreed at the 1994 UN conference. Also explored is the policy agenda considered the most likely to effect reductions in emissions and stem undesirable climate change. Two separate revolutions are foreseen as being necessary, a social revolution improving equity and leading to a stable population and a technical revolution that vastly improves energy and materials use efficiency.

The opening chapter of the book is an interesting projection of one possible scenario for the world situation in the year 2050 and the tone of the arguments used throughout is optimistic and far reaching.

The style is easy and readable and the narrative clear. This is an excellent piece of writing both for the layman and the practitioner and has a potential value in its possible influence on political considerations.

RAF

New members

The IES is pleased to welcome the following to membership of the Institution:

Ms. J. A. Bygraves	Study Co-ordinator, NIBSC	Mr M. R. Foster	Recent Graduate, University of Liverpool
Mr T. Chambers	Group Safety, Health & Environmental Manager, Hazlewood Foods Ltd	Mr A. D. Marriott	Principal Geo-Environmental Consultant OEH Group Ltd
Mr I. P. Forbes	Hydrologist, SEPA	Mr H. Smith	GIS Officer, Cheshire Country Council

Course: Teaching and Learning for a Sustainable Future

Teaching and Learning for a Sustainable Future is one of several programmes initiated by UNESCO: Educating for a Sustainable Future as part of UNESCO's function as task manager for the International Work Programme on Education, Public Awareness and Training for Sustainability of the United Nations Commission on Sustainable Development.

Teaching and Learning for a Sustainable Future is a multimedia teacher education programme published by UNESCO. Its 25 modules provide around 100 hours of highly interactive activities for use in pre-service teacher education courses as well as the in-service education of teachers and other educational professionals.

It will enable teachers to plan learning experiences that respond to student concerns about such issues by developing and evaluating alternative visions of a sustainable future and working creatively with others to help bring their visions into effect.

The programme has been especially prepared to assist teachers to deal with the interdisciplinary, values-laden and sometimes controversial nature of these issues in a professionally ethical way.

Studying the programme will also enhance the computer literacy of teachers and build their skills for using multimedia resources and strategies in teaching.

The world's 60 million teachers are key agents for bringing about the changes needed for a sustainable future.

Pressing global realities demand that we foster – through education – the values, behaviour and lifestyles required for a sustainable future. Teaching and Learning for a Sustainable Future is rooted in a new vision of education, a vision that helps students better understand the world in which they live, and to address the complexity and interconnectedness of problems such as poverty, wasteful consumption, environmental degradation, urban decay, population growth, health, conflict and the violation of human rights that threaten our future.

Copies of the CD-ROM are available free of charge from: UNESCO, Educating for a Sustainable Future, 7 Place de Fontenoy, 75352 Paris 07 SP, France.

Also available at: *www.unesco.org/education/tisf*

All the best for 2003

As Editor and Hon. Secretary may I wish all Institution members and Journal readers seasonal greetings and a happy and prosperous New Year.

I will be catching up on our Institution and professional news in the next issue, which we hope to present in a new style and format.

Diary dates for 2003

13 March **Education Committee** **10.30**

13 March **AGM and Council** **13.30**

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Contributors

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Views expressed in the journal are those of the authors and do not necessarily reflect IES views or policy.

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